
Career Education Programming in Three Diverse High Schools: A Critical Psychology—Case Study Research Approach

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Abstract

From a critical psychology perspective, Prilleltensky and Nelson advocate for research that has explicit focus on social change and can allow for full participation and empowerment of those under study. The current article describes the collaborative development, implementation, and evaluation of a career education program within three ethnically and economically diverse rural high schools. Using case study methodology, the authors examined the effects of the “A Future in Iowa Career Education” (FICE) program using three different sources of data (pre–post test results, student evaluations, and focus groups). Context-specific results indicated the program was associated with increases in self-efficacy and career aspirations and had practical strengths and weaknesses. Results are discussed in terms of current literature and practical implications are provided.

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Evidence suggests that career interventions are generally effective in assisting adolescents with their concerns about career-related decisions (Baker & Taylor, 1998; Brown & Ryan Krane, 2000) yet, scholars (e.g., Whiston, 2003) have made calls for more outcome-based research that would provide the evidence needed for career interventions to be considered an empirically supported treatment. While it seems logical that more empirical support is needed to determine the characteristics of what makes career interventions effective, it is also important to understand that career intervention research that solely focuses on scientific inquiry as the outcome is problematic. Career intervention programming does not happen in a vacuum. Within public school systems in the United States, there are a myriad of needs, issues, problems, and systemic interactions that can enhance or interfere with the delivery of programming. For example, researchers need to consider both contextual issues (e.g., ethnic background, community affiliation, location, local resources, and economic conditions) and practical issues (e.g., economic, labor, time constraints in public high schools, and the specific needs of the participants) that can have a tremendous impact on the effectiveness and successful dissemination of career interventions.

Further, research that focuses on both the outcomes of the interventions and the process of the research (e.g., promotion of empowerment and collaboration and social change) is sorely needed. Several scholars within the fields of vocational psychology and community psychology have articulated the importance of “research that can lead to greater equity and social justice” (Blustein, 2006, p. 209) and “research that advances knowledge that helps create social change for the benefit of marginalized people” (Prilleltensky & Nelson, 2002, p. 50).

Critical Psychology Research and Career Education

Proponents of a critical psychology research approach suggest that research conducted “on disadvantaged people, not ‘with them’” (Prilleltensky & Nelson, 2002, p. 50) runs a great risk of reinforcing the status quo, not changing it. The critical psychology approach to research provides a framework for how to conduct research that focuses on collaboration between researchers and stakeholders is attuned to power issues with the goal of ultimately affecting social change (Prilleltensky & Nelson, 2002). Currently, there is a critical mass of meta-analyses that provide mixed support for the effectiveness of career interventions (e.g., Whiston, Brecheisen, & Stephens, 2003). However, within this important effectiveness research, there is a myopic focus on traditional outcome measurement and a lack of acknowledgement or discussion about the process of implementing

programming. Specifically, there is no discussion about the sociopolitical realities of collaborating with school systems, adolescents, and families to help improve career options for marginalized adolescents.

A critical psychology approach to career education research provides the basis to conduct research that allows for greater understanding of how to effectively and collaboratively develop, implement, and evaluate career education programs in high school settings at a time when many contextual, political, and social forces are affecting career service delivery in schools. The main proponents of this type of research, Prilleltensky and Nelson (2002) suggest that “The focus of critical psychology research at the individual level is on the transition from oppression through empowerment to the well-being of disadvantaged people” (p. 57).

Prilleltensky and Nelson (2002) further assert that it is important that the people who are the focus of the research be involved in the development of research studies. In terms of career education programming in high schools, it is important to have the participants (students) and their representatives (high school personnel and families) be a part of the development process. Further, Prilleltensky and Nelson do not disparage traditional quantitative and qualitative methods of research and suggest that these methods can be used within a critical psychology approach. They propose that research should be conducted using supportive research teams, steering committees to ensure participation of people from oppressed groups, clarification of roles, responsibilities, values, vision, and emphasis on clear communication that is jargon free. From this perspective, current research using traditional methods can be an important starting point in the designing of collaborative career interventions in high schools, but research in this area needs to be expanded to ensure participation of stakeholders and to attend to the important contextual issues that are part of the high school system. Next, we will review some of the traditional career research that helped to frame the current study.

Current Research on Career Interventions in High School

In a comprehensive and influential meta-analysis, Brown and Ryan Krane (2000) analyzed data from 62 career intervention studies. The results yielded five essential components of career interventions that are effective in enhancing the career development and exploration of adolescents and young adults, including (a) written exercises, (b) individualized interpretation and feedback of career inventories, (c) information on the world of work, (d) modeling, and (e) attention to building support. Brown and Ryan Krane (2000) suggested that the effectiveness of career programs can be markedly improved through the inclusion of these five components.

As a relatively newly developed career theory, Social Cognitive Career Theory (SCCT; Lent, Brown, Hackett, 1994, 2000) has demonstrated some utility in the development and evaluation of career intervention programs for high school students. This theory’s constructs are easily measurable and take into account both external environmental and individual internal factors in the career development

process. SCCT posits that the career choice process occurs as a result of adolescents' exposure to a variety of activities and people that have career-related value. This exposure is a function of the individual's environment, their individual characteristics, and socialization processes. Additionally, adolescents are reinforced for pursuing and achieving satisfactory performance in certain activities. Through repeated activity, modeling, support, and feedback from significant others, children and adolescents develop specific skills, set performance standards, develop confidence for specific activities and tasks (i.e., self-efficacy), while simultaneously forming expectations about future outcomes of their performance (i.e., outcome expectations). Through these mechanisms, individuals develop particular vocational and educational interests over time. These developing interests lead to choices of further activities and eventually to career (vocational) decisions (Lent et al., 1994). SCCT also posits that support for overcoming barriers or obstacles to pursuing vocational and educational plans (background contextual factors) could be among the most powerful predictors of career choice behavior. In the SCCT model, career supports and barriers are hypothesized to directly influence career-related learning experiences (i.e., role models, vicarious learning, and performance abilities), which in turn influence the development of self-efficacy beliefs and outcome expectations.

There have been very few studies that explicitly use SCCT as a guiding theory for career education programming in high schools. McWhirter, Rasheed, and Crothers (2000) investigated the influence of a 9-week career education class for high school sophomores on the SCCT variables of career decision-making self-efficacy, vocational skills self-efficacy, perceived educational barriers, outcome expectations, educational plans, and career expectations. The career education course was designed to introduce students to vocational decision-making skills; such as the ability to identify career interests, locate information about the world of work, and acquire skills relevant to interviewing and job searching. The post-test and follow-up results indicated that the career education class resulted in increased career decision self-efficacy, vocational skills self-efficacy, and short-term gains in outcome expectations but did not influence perceived educational barriers (McWhirter et al., 2000). In a mixed methods study, Perry, DeWine, Duffy, and Vance (2007) evaluated the Tools for Tomorrow (TFT) Program effectiveness for increasing academic self-efficacy among diverse urban high school students. It should be noted that the TFT program was not explicitly designed from an SCCT perspective but elements of the program incorporated the connection between academic success and career achievement. While Perry et al. reported that there was no change in academic self-efficacy for the students, qualitative data revealed students reporting gaining important academic skills and clearer articulation of goals.

Despite these two exceptions, there seems to be a paucity of research that demonstrates that career interventions are effective with high school students. Research suggests that rural high school students have an even greater need for career interventions and guidance. These students often face geographic isolation, a lack of occupational role models, and economic barriers that inhibit employment and

educational opportunities (Ali & McWhirter, 2006; Lapan, Tucker, Kim, & Kosciulek, 2003). For example, Church, Teresa, Rosebrook, and Szendre (1992) found that youth from farming families had less confidence in vocational decision-making abilities, which significantly influenced decisions to pursue or reject certain types of careers. Wettersen et al. (2005) found that rural youth who report more connection to long-term career plans also indicate stronger engagement in school.

Given the feasibility issues in most schools, it is important that researchers collaborate with high schools in order to implement and evaluate career education programming. Walsh and Galassi (2002) emphasize the need for interprofessional collaboration between researchers and schools that transcends rhetoric and incorporates teams of service providers across disciplines. Solberg, Howard, Blustein, and Close (2002) describe the importance of school personnel's input into the design and implementation of career education programming. We further argue that a critical psychology approach extends this type collaboration to include those who are the targets of the service, namely K-12 students.

Research Aims

The purpose of the current article is to describe a critical psychology case study approach in the development and evaluation of the effects of a pilot career education program within three different ethnically diverse rural high schools. The Future in Iowa Career Education (FICE) program was collaboratively developed and implemented by the research team, school personnel, and ninth-grade students and a multiple-case (holistic) case study design was used to understand the impact of the program within the school context.

Method

Rational for the Use of the Case Study Approach

Case study methodology is commonly used in program evaluation research because it allows the researcher to understand a real-life phenomenon in depth within a specific context and can be a good methodological compliment to a critical psychology approach. In contrast to an experimental approach in which researchers attempt to control the environment to improve the internal validity of a study; a case study approach can be used when the investigator has no actual control over behavioral and contextual events but is more interested in studying a phenomenon in its natural environment (Yin, 2008). Yin (2008) suggests that case designs are most appropriate: for research questions based on "how" and "why;" for sound theoretical propositions; the appropriate unit of analysis is a collective unit (e.g., school) and multiple sources of data collection are used; when the researcher does not seek to have control over the environment; and when the researcher is not interested in statistical generalization but in analytic generalization, "previously developed theory is

used as a template with which to compare the empirical results of a case study” (Yin, 2008, p. 38).

The current study utilized a multiple case (holistic) design with replication. Each school in the study represented a case in which the FICE program was replicated. The rationale for the use of multiple case study design was based on the following: (a) the researchers were interested in understanding how the FICE program affected students and how school personnel and students experienced the collaborative program development and implementation, (b) the current study’s propositions are based in prior research and theory, (c) the unit of analysis was at the collective level (school), specifically, we were interested in understanding changes within groups of students in three different schools (we were not interested in comparing the students across schools) and multiple sources of data were collected including survey methods, student evaluations, and focus group data, (d) the researchers did not seek to control the environment but were more interested in the program’s implementation in collaboration with environmental resources, and (e) the researchers were interested in analytic generalization (e.g., How was the FICE collaborative curriculum model replicated in the three schools?). This study was guided by the following research questions: How did the SCCT variables of self-efficacy beliefs, outcome expectations, career aspirations, and perceptions of barriers change from pre-intervention to post-intervention for students who participated in the program? How did the students/school personnel experience the collaborative program development and implementation within the context of their school system?

Data

To address these research questions, three different types of data were collected for each school. First, the team conducted a pre–post survey with each student who participated in the FICE program to examine the change in SCCT variables from pre to post intervention. Second, at the end of each of the program in each of the schools, student evaluations of the program were collected. Third, focus groups were conducted with students and school personnel at each school to understand their perceptions of the collaborative implementation the FICE program.

FICE

Collaborative development. The FICE program was developed by a team of researchers comprised of the lead author and four graduate research assistants and school personnel (guidance counselors, teachers, and principals) and ninth-grade students. The lead author contacted all of the schools and set up numerous separate meetings to discuss the FICE program. During these meetings, lead author and graduate students elicited feedback from school personnel on the ways they believed the team could contribute to their school and the vision they had for their student body. Next, the school personnel from all three schools and research team met and

collaboratively identified the following goals for the FICE program to increase participants' (a) awareness of self (career interests, personal strengths, barriers, support systems, role models, and expectations about the future), (b) knowledge of the world of work (education/training required for careers and financial assistance for education/training), (c) confidence in students' ability to complete career-related tasks (resume writing, choosing a major in college, and filling out financial aid forms), (d) expectations for outcomes (increase expectations that planning and preparation will assist them in reaching their goals), (e) awareness of, and ability to cope with, barriers to pursuing postsecondary education/training and employment, and (f) identification of and access to support systems (e.g., parents, peers, and school personnel). During this meeting, teams split off into three groups representing each of the three high schools to strategize about the most effective way of implementing FICE within the context of the particular school.

After identifying the goals and implementation strategy of the FICE program, the lead author and graduate students developed an age-appropriate/goal-directed curriculum based in the tenets of SCCT (Lent et al., 1994) and including the essential components of effective career interventions (Brown & Ryan Krane, 2000). During the development of the program, the entire team and ninth-grade students were consulted numerous times to ensure that the components of the career education program were consistent with the interests, values, and aspirations of the group. After the curriculum was developed, the entire team, once again, met to further refine the interventions comprising the FICE program. The goals of this second meeting were to ensure that the activities were age appropriate, would be well received by ninth-grade students and to discuss roles and responsibilities of all the team members. Following the second meeting, the graduate assistants and lead author revised the curriculum to be consistent with the feedback received by school personnel. During the implementation of the FICE program, team members met with school personnel at each school to discuss the continuous refinement of the program. Input was also sought from students who were participants in the program and adjustments were made according to their feedback. The FICE program's curriculum consisted of nine sessions. The program was intended to be flexible in its delivery format so as to accommodate the needs and constraints in a variety of schools. The activities comprising the FICE program are described in Table 1.

Case Study I (School I)

School 1 is a small high school of approximately 300 students located in a rural area of a midwestern state. The demographics of the high school indicate that about 43.4% of the students identify themselves as White and approximately 52.9% identify themselves as "Hispanic" (termed used by students). Approximately 54% of students are eligible for free and reduced lunch and 20.9% are

Table 1. FICE Program Curriculum

Lesson Title	Activities	Purpose	SCCT/Critical Components
Introduction	Pre-test survey and brief introduction to facilitators	Assessment/evaluation	Baseline on SCCT measures
“What’s Up”	Game to name all of the occupations that went into making a music CD-students divided into teams and discussion of reactions.	Introduce participants to world of work and broaden their understanding of the variety and diversity of occupations that comprise a single career field	World of Work Information
Holland Party	SDS completion; self-assessment using Holland party exercise. SDS Occupational Finder Search	Identify at least three occupations that are of interest to students; compare results of Holland Party to SDS results and discuss possible discrepancies; Find occupations that match Holland Code in Occupations Finder	Interest Assessment and Feedback; World of Work Information
Career Related Influences	Graduate Assistant use timeline activity to discuss his/her career path illustrating supports and barriers; students then created their own timelines and facilitated discussion	Help students identify who/what influences their career decisions; brainstorm about how to overcome barriers by using support systems	Supports and Barriers-overcoming barriers; Written Exercise; Attention to Building Support and Self-Efficacy
DISCOVER (ACT, 2005) activity	Instructional overview of DISCOVER; Explore one or two of the occupations from their list generated in lesson 3.	Provide students with the experience of finding world of work information within a supportive environment	World of Work Information

(continued)

Table 1 (continued)

Lesson Title	Activities	Purpose	SCCT/Critical Components
Panel of Experts	Roundtable format that included admissions counselors from university and community college; financial aid officers, college students; local workers, bank professionals	Provide students with role models; information on supports and resources	World of work information; Attention to building support; Vicarious Learning;
Mock Resume	Future oriented resume worksheet; group sharing	Identify goals and objectives and plan of how to achieve them; support and feedback from others	Goal planning; Attention to Building Support; Written Exercise
Mock Interviews	Interview with graduate students who role played employers or admissions officers; Graduate students provided feedback after the interview	Identify personal strengths and areas of improvement; opportunity for performance accomplishment	Performance Accomplishment; Attention to building support; Personalized Feedback
The Real World	Field Trip to University or Local Business	Broaden students' understanding of occupations and educational opportunities	Access to role models; information about world of work

considered English as a second language (ESL) students (Iowa Department of Education, 2010). The demographic information of the students who participated in the program and for whom survey data and student evaluation data were collected is included in Table 2 for each of the three schools. The focus group data included 5 student participants (three identified as Hispanic and two identified as Caucasian) and reported their age as 14 years. These students were chosen at random and asked to participate in the focus group part of the study. The focus group of school personnel consisted of the high school principal and two teachers from School 1, all three participants identified as Caucasian American and were between the ages of 25 and 50.

Case Study 2 (School 2)

School 2 is a small high school of approximately 300 students located in a rural area of a midwestern state. The demographics of the high school indicate that about 33% of the students identify themselves as White and approximately 67% identify themselves as Hispanic. Approximately 70% of students are eligible for free or reduced lunch and 20.9% are considered ESL students (Iowa Department of Education, 2010). The focus group data included 3 student participants (three identified as Hispanic) and reported their age as 14 years. These students were chosen at random and asked to participate in the focus group as part of the study. The focus group of school personnel consisted of male high school teacher and a female guidance counselor, both of whom identified as Caucasian American and whose ages were 37 and 35, respectively.

Case Study 3 (School 3)

School 3 is a large high school of approximately 1,400 students located in a semi-rural area of a midwestern state. The demographics of the high school indicate that about 73% of the students identify themselves as White and approximately 26% identify themselves as Hispanic. Approximately 46% of students are eligible for free or reduced lunch and 6.5% are considered ESL students (Iowa Department of Education, 2010). The focus group data included 21 student participants (5 identified as Hispanic and 16 identified as White) and reported their age as 14 years. These students were chosen at random by school personnel to participate in the FICE program and were also asked to participate in the focus group as part of the study. The focus group of school personnel consisted of a female high school assistant principal and a female guidance counselor from School 3, both of whom identified as Caucasian American and whose ages were 48 and 62, respectively.

Survey Instruments

Demographic information. A background questionnaire asked respondents to indicate their age, sex, race/ethnicity, parent educational level, and grades. Sex and

Table 2. Demographic Information in Three Participating Schools

	School 1	School 2	School 3
Gender			
Male	27	17	19
Female	25	13	32
Age			
M	14.50	14.34	14.47
SD	0.58	0.48	0.54
Range	13–16	14–15	13–15
Ethnicity			
Caucasian	25	15	38
Hispanic	23	15	7
Other	4	0	6
Valid sample	52	30	51
Total participants	83	56	67

age were assessed by having respondents circle *male* or *female* and by having participants write in their age in the appropriate space. Participants indicated their race/ethnicity by circling the response options that most accurately described them. The response options included 1 = *White*, 2 = *African American*, 3 = *Hispanic/Latino*, 4 = *Asian American*, 5 = *Native American*, and 6 = *Other*. Participants who indicated “Other” were provided a space with which to describe their race/ethnicity. For students who circled more than one response, they were coded as a 7 = *Multiracial*.

Academic self-efficacy beliefs. Academic Self-Efficacy Beliefs were assessed using the Academic Self-Efficacy Scale (ASE; Hoover-Dempsey & Sandler, 2005), which is a 3-item measure used to assess participants’ pre/post-intervention level of self-reported beliefs about their personal ability to complete schoolwork and produce successful outcomes. The scales asks students to respond on a 4-point Likert-type scale ranging from 1 = *not true* to 4 = *very true*. A Cronbach’s alpha of .71 among 358 public elementary students in grades four to six was reported for the ASE (Hoover-Dempsey & Sandler, 2005). This scale was created and used as part of a larger grant study on parent–school partnerships. No validity data were available for the scale. Cronbach’s alphas for this instrument, as well as the following instruments used in the samples of the present study are reported in Tables 3, 4, and 5 for each school, respectively.

Vocational skills self-efficacy beliefs. The Vocational Skills Self-efficacy measure (VSSE; McWhirter et al., 2000) was used to assess vocational skill self-efficacy. VSSE is a 37-item measure used to determine students’ self-reported confidence in their abilities to complete specific vocational tasks (e.g., identify

occupations they are interested in). The VSSE was originally developed by McWhirter et al. for the purpose of the evaluating a 9-week career intervention among a group of semirural high school sophomores. Participants are asked to rate their degree of confidence in their personal ability to complete domain-specific tasks. Response options range from 0 = *no confidence at all* to 9 = *complete confidence*. McWhirter et al. (2000) report the correlation coefficient for test–retest reliability for a 9-week interval was .68 and the VSSE were correlated with CDMSE scores as an indicator of convergent validity, yielding correlation coefficients of .84–.91 with samples of sophomores at a semirural high school. McWhirter et al. reported Cronbach’s alpha of .97 with a sample of sophomore high school students. Sample items from the VSSE include “Complete a job application correctly” and “Describe my academic strengths.”

Career decision outcome expectations. The career decision outcome expectations scale (CDOE; Betz & Vuyten, 1997) was used to measure CDOE. Career decision outcome expectations refer to the long-term results of successes in educational and career decision-making behaviors. The CDOE is a 9-item scale answered on a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*). Betz and Vuyten (1997) constructed the scale to assess (a) the relevance of educational performance to career options and success (using 5 items) and (b) outcome expectations for career decision-making behaviors (using 4 items). A sample item from the educational outcome items includes “If I try hard enough, I will get good grades” and a sample item from the career outcome items includes “If I learn more about different careers, I will make a better career decision.” For the purpose of this study, the two scales were combined to yield one total score. Higher scores on the combined score suggest higher outcome expectations. Ali and Saunders (2009) reported a Cronbach’s alpha of .85 for a sample of rural Appalachian high school students.

Perceptions of educational barriers. Perceptions of educational barriers were assessed using the PEB (McWhirter et al., 2000), which is a 56-item measure designed to assess two dimensions of barriers to the pursuit of postsecondary education (Likelihood of Encountering Barriers or Likelihood and Difficulty Overcoming Barriers or Difficulty). Items were based on previous research on perceived educational barriers (McWhirter et al., 2000). Respondents rate 28 potential barrier items with respect to (a) the likelihood that it will occur (with 4 Likert-type response options anchored by “A. Not at all Likely” [one point] to “D. Definitely” [four points]) and (b) the estimated difficulty of overcoming this barrier (with four response options anchored by “A. Not At All” [one point] to “D. Extremely Difficult” [four points]). Each of the 28 barriers was rated twice, with points assigned to each response and totaled for two subscales (i.e., Likelihood and Difficulty). The 2 item stems are “How likely is it that this will be a barrier for you” and “If you in fact encounter this barrier, how difficult will it be for you to overcome it.” Sample items include “Not

talented enough” and “Racial/ethnic discrimination.” Total scores for each subscale range from 28 to 112, with low scores corresponding to lower likelihood of encountering educational barriers (Likelihood subscale) and less anticipated difficulty of overcoming barriers (Difficulty subscale). McWhirter et al. (2000) reported the concurrent validity estimates were collected using a separate sample of sophomores. Each subscale was significantly correlated ($p < .01$) with a 10-item measure of the job opportunity structure by Howell, Frese, and Sollie (1984), with r s of .40 and .39 for the Likelihood and Difficulty subscales, respectively. McWhirter et al. also reported Cronbach’s alphas for the likelihood and difficulty subscales were .96 and .89, respectively.

Career aspirations. Career aspirations were assessed using the Career Aspirations Scale (CAS: O’Brien, 1996) that is a 10-item scale developed by O’Brien (1996) who based on the examination of the literature proposed that the CAS should include items related to aspiring to leadership and promotion, training and managing others, and pursuing further education. The CAS consists of 10 items that are rated on a 5-point Likert-type scale indicating how true each item was for them (0 = *not at all true of me* to 4 = *very true of me*). Sample items include “I hope to become a leader in my field.” And “When I am established in my career, I hope to manage other employees.” Four items are reversed scored and items are summed and a total score of these items used. O’Brien reported evidence for the validity of this measure with 282 twelfth-grade female students. She reported significant positive correlations ($p > .01$) between scores on the CAS and measures of career salience ($r = .47$) and academic achievement ($r = .16$). O’Brien reported an internal consistency coefficient of .74 with the sample of female 12th-grade students and Ali and Saunders (2009) reported a Cronbach’s alpha of .69 with a group of rural Appalachian high school students. Higher scores indicate higher career aspirations or greater commitment to achievement within one’s career.

Procedures

FICE program implementation. Prior to the FICE implementation, the researchers obtained approval by the University’s Institutional Review Board to conduct the study. Two weeks prior to the implementation of FICE, students returned informed consent forms that had been signed by one of their parents and the students themselves. The FICE program was implemented in each school in a different format. Each of the school personnel in consultation with parents and other administrators determined the length of delivery and in which setting (e.g., classroom and learning center) the program would be implemented. Each school made the decision based on their own unique needs (e.g., number of students, instruction time, and scheduling issues). School 1 opted to have the FICE curriculum implemented within the English course with all of the ninth-grade

students over a 9-week period; once a week for 1 hr. School 2 opted to have the curriculum implemented with all of the ninth-grade students in an American history course over an 18-week period; every 2 weeks for 75 min. School 3 opted to have the students complete the curriculum in a 3-day workshop format at a local learning center with a randomly selected group of ninth-grade students. Graduate student facilitators led each of the sessions in collaboration with school personnel.

Survey administration. The participants enrolled in the FICE program completed the pre-test measures on the first day of the FICE program prior to the delivery of any activities. Post-test questionnaires were completed by participants immediately following the completion of the field trip. Participants were surveyed in intact classroom groups using standardized administration procedures.

Student evaluations. Student evaluations were conducted at the end of FICE by asking students to respond anonymously in writing to two open-ended questions: (1) One thing I learned from this program is . . . and (2) One thing I found helpful from this program was. The graduate student provided the students with a piece of paper with these two questions typed on it or told the students verbally the two questions. After the student completed the evaluations, a teacher/guidance counselor collected the evaluations and gave them to the graduate student so that the evaluations remained anonymous.

Focus groups. Focus groups were conducted to evaluate and understand how the school personnel and students experienced the collaborative, development, implementation, and evaluation of FICE. Focus groups are one qualitative research methodology that has been used in different clinical settings (Kress & Shoffner, 2007) using a moderator to gather information. The main purpose of the moderator of a focus group is to ask open-ended questions that facilitate an exchange of information between participants (Kress & Shoffner, 2007). In the present study, focus group moderators were third-year graduate students who were a part of the research team and the participated in the implementation of the FICE program. Four open-ended questions were asked in each of the focus groups. Participants were asked to identify (a) strengths of the FICE program (b) weaknesses of the FICE program, (c) suggestions for improvements, and (d) general information on how they experienced the program in their school. Prior to the start of each of the focus groups, moderators described the purpose of the group to the participants as gathering information about the impact of FICE on the students and school system. Focus group discussion lasted approximately 40 min and for school personnel, it was conducted in an office inside the school. For the students from School 3, focus groups were conducted in a large room at the field trip destination and for those in Schools 1 and 2 focus groups were conducted in a separate room at their school. All focus groups were audiotaped and transcribed verbatim.

Table 3. Pearson Correlation Coefficients and Descriptive Statistics of the Measured Variables at Time 1 and Time 2 in School 1

Variable	1	2	3	4	5	6
1. Vocational Skills Self-Efficacy		-.341*	-.245	.170	.539**	.191
2. Perceived Barrier Likely	-.456**		.765**	.010	-.414**	-.015
3. Perceived Barrier Difficult	-.496**	.629**		.066	-.230	-.038
4. Career Decision Outcome Expectations	.452**	-.375**	-.307*		.028	.090
5. Academic Self-Efficacy	.375**	-.398**	-.303*	.321*		.011
6. Career Aspirations	.223	.044	-.048	.130	.255	
Time 1						
M	220.96	54.10	58.88	39.67	9.56	33.73
SD	57.11	14.53	19.21	6.01	1.95	6.39
Minimum	30	31	25	9	4	20
Maximum	319	97	104	45	12	50
Cronbach's α	.975	.928	.959	.924	.833	.732
Time 2						
M	241.96	55.06	58.25	38.50	9.77	36.25
SD	59.54	14.83	19.70	7.03	1.85	5.81
Minimum	60	28	28	9	6	21
Maximum	333	97	109	45	12	50
Cronbach's α	.986	.937	.968	.929	.794	.678

Note: Correlation coefficients at Time 1 were displayed in the upper corner and those at Time 2 were displayed in the lower corner.

* $p < .05$. ** $p < .01$.

Results

Survey Data

Relevant demographic information for each participating school was reported in Table 2. The number of total participants denotes the number of students who participated in the FICE program with parental consent, whereas the number of valid sample size indicates the number of students who provided a full scale of data. Participants with missing data were not included in the following analyses. A summary of bivariate correlations and descriptive statistics of six continuous variables at Time 1 and Time 2 were reported in Tables 3, 4, and 5 for each school, respectively.

In order to assess for the change between pre-intervention (Time 1) and post-intervention (Time 2) for all the measures, a multivariate paired comparison of six mean differences was conducted initially at each school (see Table 6). The T^2 statistic (Johnson & Wichern, 2002) was constructed from the differences of paired observations at Time 1 (pre-intervention) and Time 2 (post-intervention) for three schools, separately. Since the respective T^2 statistic for each school is larger than their corresponding critical value at the level of $\alpha = .05$, we conclude that there

Table 4. Pearson Correlation Coefficients and Descriptive Statistics of the Measured Variables at Time 1 and Time 2 in School 2

Variable	1	2	3	4	5	6
1. Vocational Skills Self-Efficacy		-.125	-.036	-.212	-.219	.303
2. Perceived Barrier Likely	-.168		.762**	-.064	.221	-.095
3. Perceived Barrier Difficult	.101	.679**		-.082	.193	.166
4. Career Decision Outcome Expectations	.183	-.039	.092		.460*	-.369*
5. Academic Self-Efficacy	.193	-.144	-.129	.170		-.081
6. Career Aspirations	.246	-.230	-.317	-.169	-.035	
Time 1						
M	189.83	54.17	55.50	36.87	8.03	24.23
SD	58.53	16.69	20.46	7.59	2.13	4.85
Minimum	65	28	28	9	3	15
Maximum	303	95	107	45	12	34
Cronbach's α	.977	.950	.970	.949	.814	.551
Time 2						
M	223.17	55.60	60.53	37.97	9.13	37.90
SD	57.83	12.74	18.62	6.05	1.98	5.22
Minimum	93	30	30	18	5	28
Maximum	311	76	112	45	12	50
Cronbach's α	.977	.919	.969	.931	.846	.650

Note: Correlation coefficients for Time 1 were displayed in the upper corner and those for Time 2 were displayed in the lower corner.

* $p < .05$. ** $p < .01$.

is significant improvement at each school among the six measures from the Time 1 to Time 2. The Šidák correction (or Dunn-Šidák correction) was used in post hoc individual comparisons to maintain the family-wise Type I error rate as .05 (since the individual comparisons in this study were independent). Results of post hoc comparisons on individual measures were reported in Table 7 and discussed as below, for each school separately.

Post hoc individual comparisons among measurements in School 1 (see Table 7) revealed an increase in VSSE (as measured by the VSSE; McWhirter et al., 2000) and CAS (O'Brien, 1996) from Time 1 to Time 2. Cohen's d was calculated to reflect the relevant effect size for each measure. The effect size of the improvement in VSSE was 0.36 and 0.46 for CAS. Within School 2, post hoc individual comparisons (see Table 7) revealed that VSSE, ASE, and CAS rose from Time 1 to Time 2, with the effect sizes of 0.44 for VSSE, 0.55 for ASE, and a large effect size of 2.58 for CAS. Similarly to School 2, VSSE and ASE rose from Time 1 to Time 2 with effect sizes of 0.70 and 0.56, respectively. In addition, for the students in School 3, a significant reduction in the students' perceptions of barriers they are likely encounter (PEB likelihood) decreased from Time 1 to Time 2, although with a small effect size ($ES = 0.11$).

Table 5. Pearson Correlation Coefficients and Descriptive Statistics of the Measured Variables at Time 1 and Time 2 in School 3

Variable	1	2	3	4	5	6
1. Vocational Skills Self-Efficacy		-.467**	-.389**	.366**	.586**	.266
2. Perceived Barrier Likely	-.323*		.722**	-.203	-.584**	-.197
3. Perceived Barrier Difficult	-.206	.769**		-.263	-.476**	-.184
4. Career Decision Outcome Expectations	.519**	-.370**	-.355*		.284*	.187
5. Academic Self-Efficacy	.494**	-.576**	-.478**	.518**		.123
6. Career Aspirations	.164	-.332*	-.260	.249	.232	
Time 1						
M	221.98	53.55	51.82	39.86	9.55	25.37
SD	51.07	13.86	17.68	4.72	1.67	7.30
Minimum	75	28	2	24	4	7
Maximum	311	95	95	45	12	42
Cronbach's α	.970	.936	.965	.829	.758	.810
Time 2						
M	248.57	49.41	52.20	39.12	10.27	26.51
SD	57.11	14.82	16.84	4.85	1.87	9.18
Minimum	111	28	28	26	4	11
Maximum	333	89	94	45	12	50
Cronbach's α	.985	.962	.968	.896	.851	.886

Note: Correlation coefficients for Time 1 were displayed in the upper corner and those for Time 2 were displayed in the lower corner.

* $p < .05$. ** $p < .01$.

Psychological intervention studies are often characterized by high sampling variation and small sample sizes. Therefore, calculating retrospective power can be useful to determine whether the study meets a prespecified effect size (Cohen, 1988; Thomas, 1997). As we expected improvement from Time 1 to Time 2 (i.e., one-tailed test), given $\alpha = .05$, the power of the study for School 1 (with the sample size as $N = 52$) to detect a medium effect size ($ES = 0.30$) was .69. Similarly, given the same circumstances, the power of the studies for School 2 ($N = 30$) and School 3 ($N = 51$) was .48 and .68, respectively. As certain observed effect sizes were higher than the expected small effect size

Table 6. Paired Comparisons of Several Multivariate Means in Three Schools

Schools	Number of Pairs	Number of Measures	T^2 Statistic	Critical Value for T^2 ($\alpha = .05$)
School 1	52	6	22.95	15.32
School 2	30	6	223.89	18.18
School 3	51	6	55.08	15.39

Table 7. Post Hoc Paired Comparisons Across Three Participating Schools

	Vocational Skills Self-Efficacy	Perceived Barrier Likely	Perceived Barrier Difficult	Career Decision Outcome Expectations	Academic Self-Efficacy	Career Aspirations
School 1						
Mean				difference	21.00	0.96
0.63	1.17	0.21	2.52			
Effect size	0.36	0.07	0.05	0.15	0.13	0.46
t	-2.57*	-0.53	0.36	1.06	-0.91	-3.33**
df	51	51	51	51	51	51
School 2						
Mean				difference	33.33	1.43
5.03	1.10	1.10	13.67			
Effect size	0.44	0.13	0.29	0.27	0.55	2.58
t	-2.43*	-0.71	-1.60	-1.45	-3.03**	-14.16**
df	29	29	29	29	29	29
School 3						
Mean				difference	26.59	4.14
0.37	0.75	0.73	1.14			
Effect size	0.70	0.11	0.03	0.17	0.56	0.23
t	-5.01**	2.69*	-0.18	1.20	-3.99**	-1.61
df	50	50	50	50	50	50

Note: The Šidák correction (or Dunn-Šidák correction) is used to maintain the family-wise Type I error rate as .05 (assuming the individual comparisons are independent).

* $p < .05$. ** $p < .01$.

($ES = 0.3$), the power of those statistical analyses increased as the observed effect sizes increased.

Student Evaluations

Responses to the student evaluations were independently coded into categories by the lead author and a graduate student who was not originally part of the research team to ensure a less biased coding. After both had independently categorized the data from all three schools, the lead author and graduate student met to discuss the coding scheme and how the data were categorized. The graduate student and lead author then collectively agreed upon seven independent categories for the data for the first question and four categories for the second question. This was done through an extensive discussion of each of the independently generated categories until agreement was reached on the categories that best fit the data. The categories for Question 1 were identified as Confidence,

Interview Skills, Barriers, Specific Information, Interests, and General Career Information. The categories for Question 2 were Panels, Discover, Interviewing, the Entire Curriculum.

School 1. Seven students identified learning about their specific career interests as the “one thing that they learned from the program” and 10 students identified general information (e.g., I learned a lot about different types of careers) as the one thing they had learned. Four students from School 1 identified the mock interviews as the most helpful activity and five students identified the Discover Program as the most helpful activity. One student reported the Panel of Experts as the most helpful activity.

School 2. One student from School 2 identified interview skills as the one thing they learned, eight students identified specific type of information about colleges or careers (how to apply for college) and two students identified general information (e.g., “there are lots of different job opportunities out there”). One student reported learning about how to overcome barriers (e.g., I have to try hard and work hard to deal with obstacles). In terms of Question 2, six students identified “the entire thing” as the most helpful activity and one student identified the mock interviews as the most helpful. Four students identified the Discover Program and four students reported the Panel as the most helpful.

School 3. Four students from School 3 identified confidence as the one thing they had learned. For example, one participant wrote: One thing that I learned from the program was “to be yourself and be confident about what you do.” Nine students identified interview skills as the one thing they learned. For example, one student wrote the one thing I learned, “that you have to be very positive in an interview and you have to be prepared.” Four students wrote about barriers, in particular how to overcome barriers. One student wrote: “I learned that money should not be a barrier and you have so many opportunities to get college scholarships.” Four students identified they had learned specific type of information (e.g., where to find information on careers, how to apply for college, and salary for a specific job) and two students identified general information as the one thing they learned (e.g., lots of different career opportunities are out there). For Question 2, seven students identified the mock interviews, six students identified the Discover Program, and four students identified the Panel of experts as the activity that was most helpful.

Focus Groups

In order to obtain qualitative information pertaining to the effectiveness of the current career intervention, focus group interviews were conducted with school personnel and participating students from each of the high schools. The lead author and a graduate student, who was not part of the original study, separately served as the

coders and reviewed the transcripts and then met to generate a list of code words and patterns that arose across the three different groups and independently coded the transcripts for frequency of specific code words and patterns. Code words were identified as words that were frequently repeated over all of the transcripts (frequency = five or more times) and were key to understanding the experience of the school personnel and students. Examples of code words included collaboration, relationships, strengths, weaknesses, opinions, and observations. These code words were then examined by each of the coders independently to create overarching themes from the data. The coders then met to discuss the themes and to identify data from the transcripts (e.g., phrases and comments) that fit the themes. If a theme had more than two comments or phrases, it was included in the final list of themes. If it did not have two or more phrases/comments, the coders determined if the theme could be collapsed in another theme. This was done through extensive discussion and agreement between the two coders until both coders agreed on the final list of themes.

Themes consistent across all three schools. In terms of the experience of how the FICE program was developed and implemented, each of the three high school personnel mentioned the collaboration among the team members. Specifically, they described the relationship established between the graduate student facilitators and participating high school students in terms of a “personal connection” (School 1) that was characterized by respect and interest on the part of the students. School personnel described the facilitators as “role models” (School 3) who served to connect the students with higher education through the use of enthusiasm, humor, and relevant personal examples. It was noted that facilitators attempted to relate “on the students’ level” (School 2), which helped to draw out students who may have been more “difficult to reach.” All three groups of school personnel also indicated that they appreciated the collaborative effort among all the team members to accommodate and adapt to school needs in terms of delivery and curriculum integration.

A consistent theme from all three schools regarding the specific strengths of FICE included the breadth of information provided by the FICE program, in particular all the school personnel from the three schools indicated that information pertaining to colleges (4 year schools), 2-year and technical colleges, apprenticeships, and those interested in proceeding directly into the workforce following high school was covered. All three of the school personnel groups identified that the FICE program was able to provide information that would be of benefit to a larger number of students who may not have been interested in pursuing a college degree. Furthermore, school personnel commented that in addition to providing information that would be beneficial to course selection and academic planning, the intervention connected well with the already-established academic curriculum of their respective schools.

In general, all three school personnel groups reported observing that the students’ responding in an inquisitive and enthusiastic manner. Specifically, one teacher from School 1 described students who participated in the 9-week format as becoming “more motivated and confident about career goals, individual strengths, and

interests.” School 2 personnel indicated that students seemed to be excited by the variety of activities.

All three school personnel were asked specifically about the format of delivery for the FICE program. All three groups indicated that they preferred the specific way that the FICE program was implemented in their specific school but that they believed “booster sessions” (School 3 personnel) and “more visits after the program ended” (School 2) and “more contact after the program to allow for continued relationships between students and graduate student facilitators” (School 1) would have been beneficial to maximize the gains made. Feedback from school personnel from all three groups suggested that a weekly and semester- or year-long program held in school classrooms would provide students with a more cohesive experience that could be more successfully integrated with students’ individual needs/interests and academic coursework. When asked about their willingness to participate in a future career program, student and school personnel focus groups from each of the three schools expressed definitive interest in future school-based interventions.

One theme that emerged in response to the program’s primary weaknesses from all three school personnel groups was related to the language (i.e., vocabulary and sentence structure) used on the pre- and post-test measures and by individuals participating in the program as guest speakers. All three school personnel groups remarked that in many instances, the language was too advanced for students who often had difficulty understanding and/or keeping up with the pace of the surveys or information presented by guests. Program strengths mentioned by students from all three schools included interactive and hands-on activities such as guest speakers (panels), mock interviews, and the job shadowing experience (i.e., field trip). Students from Schools 1, 2, and 3 also reported that they learned practical information about how to access information concerning careers-of-interest via ACT’s DISCOVER computer program (American College Testing Program, 2005). Students also provided information on the experience of the FICE program. Students from School 1 mentioned that they enjoyed the personal information that the graduate student facilitator’s shared about their personal journey and it motivated them to ask their family members more questions about their career paths. In terms of weaknesses students from Schools 1, 2, and 3 indicated that some aspects of the program were difficult to understand and/or too lengthy and they would have appreciated shorter time segments for certain activities (e.g., expert panel and certain guest speakers). They also reported that the guest speakers during the field trip were “dry” and used language that was too difficult for them to understand.

Themes specific to Schools 1 and 2. Schools 1 and 2 also emphasized the fact that the intervention highlighted many avenues for overcoming financial barriers to pursuing college and other career paths, which they believed was of particular importance to students at their school. They reported that students are often not aware of the many opportunities for financial aid or the array of different job opportunities beyond their small community. School personnel from both Schools 1 and 2

mentioned that the students seemed to be conveying to their parents information they had learned in the FICE program. School one teacher stated, "Parents have been saying to me that all of sudden their child is coming home asking all kinds of questions about careers." One weakness of the program identified by school personnel from Schools 1 and 2 was that due to failing academic grades, several students who may have benefited the most from the program were not permitted to participate. Students from School 1 and 2 reported that it helped to broaden their understanding of other jobs that were not represented in their community. Students from School 2 mentioned that they would often forget the material from one session to the next and that a 2-week delay from one session to the next was not helpful.

Themes specific to School 3. School personnel indicated that they were particularly "grateful" to the research team for accommodating them in terms of the delivery format (3-day workshop) of the FICE program. They indicated that because they are a large school that it was not feasible to take away instruction time for an hour a week in a particular class. Students also indicated that the information provided during the career intervention was helpful in identifying what courses to take in high school to reach different career goals. Students also commonly reported learning about their personal strengths and how to combine their strengths and interests to find a career in which they could be most happy and successful. In terms of weaknesses, students from School 3 specifically responded that they would have preferred to select a variety of different careers that suited their personal interests for the field trip experience.

Discussion

The purpose of the current study was to apply a critical psychology research perspective to the development, implementation, and evaluation of the FICE program. The use of critical psychology theory helped to frame the development of the program to allow for collaboration among researchers, school personnel, and ninth-grade students in three high schools in a midwestern state. Case study methodology was used to evaluate the FICE program within the three ethnically diverse rural high schools. One of the primary purposes for using the case study methodology was to allow for a unique understanding of the implementation and evaluation of the FICE program in three and unique school contexts.

School 1. School 1 is a small rural school in which over half of the students identify as "Hispanic." For the ninth-grade students in School 1, the FICE curriculum was implemented in a ninth-grade English course in collaboration with the teacher who was present for all of the sessions. The findings from the survey reveal that vocational skills self-efficacy and career aspirations rose from pre- to post-test. One possible explanation for the observed increases in vocational skills self-efficacy is that the FICE program participants were exposed to activities that were derived

directly from SCCT and focused on helping them to obtain vocational skills in the area information seeking, interviewing, and information about self. These theoretically based activities were designed to fit distinctively with the curriculum for each school and enhance students' confidence in their abilities to formulate and achieve individual career goals through performance accomplishments (i.e., mock interviews), vicarious learning (i.e., role models), instrumental support (e.g., specific information on how to reach both occupational and educational goals), and verbal encouragement (e.g., praise and support). In addition, program facilitators tried to increase students' awareness of career opportunities beyond those of the small rural town in which they lived. The student evaluations partially support the findings of the survey with the majority of the students reporting that the one thing they learned from the FICE program was about a wide variety of different career opportunities. This is consistent with the rise in career aspirations from Time 1 to Time 2, as the CAS (O'Brien, 1996) seeks to measure the degree to which students desire to further their career and educational opportunities.

The focus group data indicated that school personnel were pleased with the types of information that was offered to the students, specifically that a "breadth" of information was available to the students. For a small school in a rural town, it might be very important to expand the understanding of occupations beyond that of what is observable to students in the community in which they live. A broader understanding of these opportunities may help students to plan further ahead and to provide specific information on how to reach more distal goals. Students and school personnel both reported that they felt a personal connection between themselves and the graduate student facilitators. School personnel also indicated that the FICE program connected well with their existing academic curriculum. However, within School 1, one important theme that emerged from the focus groups was that students who were academically struggling were not allowed to participate. After the program was implemented in the school, the school personnel believed that these students may have benefited from the program. As Wettersen et al. (2005) have suggested at risk students may benefit from programs that help them link their specific career interests to school possibly enhancing their school engagement.

In the present study, focus group questions and student evaluation data were somewhat limited. To gain a better understanding of how the students and school personnel viewed the content of the program in relation to aspects of SCCT more detailed questions need to be asked. Further, questions that put into context the pre-post test findings could provide a richer understanding of the underlying mechanisms of SCCT that may be operating. Questions regarding the students' feelings of confidence, their expectations about the future, and if there was any change in the perceptions of barriers or an increase in their strategies to overcome barriers may provide a more nuanced way of understanding the specific learning processes of SCCT. For example, did the relationships that were formed between the graduate student facilitators and students serve as an important vicarious learning opportunity that contributed to increased vocational skills self-efficacy?

School 2. School 2 is also a small rural school and can arguably be the most in need of services. The majority of the students enrolled in this school identify as “Hispanic,” and this school has the highest percentage of students eligible for free and reduced lunch subsidies. The results of the survey for School 2 indicate that similar to School 1, vocational skills self-efficacy beliefs and career aspirations rose from Time 1 to Time 2. This rise may also be attributed similarly to the content of the program, as discussed in School 1. The difference is for School 2, academic self-efficacy beliefs also rose significantly from Time 1 to Time 2. Perhaps within this school, students were able to make a stronger connection between the existing curricula and the FICE program. Student evaluations and focus group data reveal that the majority of the students’ identified specific type of information about colleges or careers (e.g., how to apply for college) as the “one thing they most found most helpful.” Perhaps the specific information they were able to glean from the program helped to increase their confidence in academic achievement.

Within this school, students’ career aspirations rose from Time 1 to Time 2 with a rather large effect size (2.58) observed. School 2 personnel also reported that students seemed to be generalizing the knowledge they learned from the career education program to other venues. For example, school personnel reported that parents were commenting on students’ inquisitiveness about career opportunities. Students reported learning about the “different types of career opportunities out there” and this could have contributed to the observed effect size for career aspirations. However, these results should be interpreted with caution because students who were at risk of failing academically were withheld from participating in the program and the results could be an artifact of this. The results of the survey are somewhat surprising, given that the students reported that the 18-week format (2-week delay between sessions) was problematic and they would often forget information from one session to the next.

School 3. School 3 had the most unique delivery format for the implementation of the FICE program. Within this school, the program was implemented in an intensive 3-day workshop. The survey results reveal that the students’ vocational skills self-efficacy beliefs and academic self-efficacy beliefs rose from Time 1 to Time 2, while there was a slight decrease in the students’ perceptions of barriers to postsecondary education. Student evaluations reveal that a sizable portion (relative to the sample size) of the students did report that the one thing they had learned from the program was about overcoming barriers and felt that the graduate student facilitators had provided specific information on how to overcome barriers. School personnel also reported the specific information on financial aid, scholarships, and so on was a key part of the FICE program. Within School 3, findings need to be put into the context of the delivery format. Findings may have been the result of the format delivery, within this format students were provided with a 7-hr program for 3 days in which they had intense exposure to the graduate student facilitators and the pre- and post-test time gap was very small (3 days). While the school personnel reported that they felt this was the most appropriate method of implementing the FICE program within

their school, they also acknowledged that more time spent working on aspects of the program over the course of the school year may have yielded better results.

Implications for Practice

Research in the area of intervention development for school-aged children has identified a number of factors that may enhance the success of programs for students. It has also been argued that in order to target the larger social issues affecting students' career development, it is important to collaborate with not only students but also classroom teachers, parents, and community members who are instrumental in promoting positive changes for youth (Prilleltensky & Nelson, 2002). Interprofessional collaboration (Solberg et al., 2002; Walsh et al., 2002) has been identified as one of the most important ingredients in successful career intervention programming in schools. Further, Prilleltensky and Nelson (2002) argue that involving the participants or stakeholders themselves is also critically important if the goal is to empower individuals and communities.

One of the aspects of the current intervention that may have contributed not only to increased academic and vocational skills self-efficacy among participating students but also enhanced the degree to which it was positively viewed and accepted by those involved is that it was designed intentionally to target change at individual, school, and community levels. While the individual activities of the intervention are designed to enhance students' awareness and understanding of interests, strengths, personal barriers, and support systems, the career program also sought to enhance students' support networks and access to information through connections with local business owners, financial aid consultants, and university admissions personnel. Furthermore, the program was designed to target a number of the predominant barriers to academic and career planning experienced by students attending diverse midwestern high schools. Interviews conducted prior to the onset of the program's development were instrumental in identifying some of the common, system-level barriers faced by students, such as their parents' income and educational attainment.

It is difficult to generalize the findings of the current study to provide a menu of best practice activities. However, for all of the schools, a difference was observed from Time 1 (pre-test) to Time 2 (post-test) in several of the SCCT variables of interest. Specifically, for Schools 2 and 3, academic self-efficacy beliefs rose from Time 1 to Time 2. This is a somewhat different finding from previous research evaluating the effectiveness of career education programming on academic self-efficacy (e.g., Perry et al., 2007). While the rise in ASE in the present study could be attributed to measurement differences, it may also be related to the specific SCCT-based content of the FICE program. Because of the flexibility of the SCCT model and focus on task and environment-specific information, it proved to be a useful theory to design the FICE program. The research team was able to collaborate with each school to fit the program to each of the school's needs and yet retained theoretical integrity. In

general, SCCT may be a useful theory to use as a basis for career interventions and adapt to different school cultures. However, it would be important to gather evidence on whether other theories may be equally as useful/flexible and effective.

Limitations

The predominant limitation of this study is the lack of internal validity. In particular, the absence of data from control groups at each of three high schools does not allow for comparisons to be made. The lack of internal control in this study makes it impossible to determine whether the observed differences from pre- to post-test can be attributed to the FICE program. Further, the measures in the survey were self-report and limited validity information is available for a few of the measures (e.g., ASE and CDOE). Lack of follow-up data also contributes to limited information in this study. Future investigations of the current program need to incorporate data that follow students over a period of years to determine if gains made are maintained over long periods of time. Finally, the findings from the focus groups and student evaluation data suggest a strong need for greater depth to fully understand the components of career education programming that are the most effective and the specific mechanisms of SCCT that may be operating.

To conclude, findings of this study have extended our understanding of how to develop, implement, and evaluate a career education program in distinct and diverse high schools. Collaboration and the emphasis on how the FICE program could be successfully implemented to meet the unique needs of the school was a strong emphasis of the current study. The findings from these data suggest that it is possible to feasibly implement a school-based career intervention within the context of existing demands on schools and their surrounding communities. This study provides support for combining a critical psychology approach with a case study methodology that can lead to an empowerment-focused method for gathering outcome evidence for the effectiveness of career interventions in diverse high schools.

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Bios

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