

Fostering Higher Education: A postsecondary access and retention intervention for youth with foster care experience



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ABSTRACT

Most youth in foster care aspire to obtain higher education, but face daunting obstacles in doing so. While societal interest and effort to support foster youth in achieving higher education has grown, very few supports have evidence to show that they are effective at improving postsecondary outcomes. In an effort to address the dearth of clearly articulated, evidence-based postsecondary support approaches for foster youth, we have developed Fostering Higher Education (FHE), a comprehensive, structured, and evaluable postsecondary access and retention intervention composed of elements (professional educational advocacy, substance abuse prevention, mentoring) that are either evidence based or promising based on the scientific literature and their ability to address the outcomes of interest. This paper describes the development and youth usability and practitioner feasibility testing of the FHE intervention approach, which was developed through funding from the National Institute on Drug Abuse. Youth usability feedback was primarily positive, with the majority of participants indicating they found the FHE activities interesting and useful, and were comfortable participating in them. Practitioner feasibility feedback was also primarily positive, with almost unanimous ratings of the FHE intervention components as very important to provide to youth and that all would be feasible for an organization to implement, though the mentoring components were seen as slightly less feasible than other components. Next steps and implications of this intervention development process are discussed.

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1. Introduction

It is well documented that most youth in foster care aspire to obtain higher education and, at the same time, face daunting obstacles in doing so; some of these obstacles include a lack of supportive adults, insufficient financial resources, mental health challenges, and parenting responsibilities, among others (Batsche et al., 2014; Courtney, Terao, & Bost, 2004; Day, Riebschleger, Dworsky, Damashek, & Fogarty, 2012; Gillum, Lindsay, Murray, & Wells, 2016; McMillen, Auslander, Elze, White, & Thompson, 2003; Merdinger, Hines, Osterling, & Wyatt, 2005; Rios & Rocco, 2014; Salazar, 2012). Encouragingly, societal interest and investment in supporting these youth in achieving their postsecondary educational goals have increased substantially over the past few years. A recent Web of Science search on the topic of foster youth and higher education found no publications prior to 2003, and a building literature on the topic since then. State legislative efforts to secure tuition remission for foster youth who attend public colleges and universities has been a trend across the country, as has the establishment of foster

youth-focused campus support programs (Dworsky & Pérez, 2010; Geiger, Hanrahan, Cheung, & Lietz, 2016; Hernandez & Naccarato, 2010). These efforts build on the resources made available by the federal John H. Chafee Foster Care Independence Program, which provides states with funding to provide postsecondary support services and Education and Training Vouchers (ETV) for foster youth pursuing higher education.

While interest and effort to address this challenge has grown, very few approaches have rigorous evidence to show that they are effective at improving postsecondary outcomes of youth with foster care experience. A review of the California Evidence-Based Clearinghouse for Child Welfare, for example, found no programs receiving even a marginal scientific rating in the entire “Youth Transitioning into Adulthood Programs” topic area. The lack of an evidence base leaves organizations and agencies without tested and effective approaches that they can employ to improve postsecondary outcomes for youth in care, and leaves unanswered the question of whether the programs being offered are in fact making the difference in postsecondary outcomes that they intend to make. This in turn leaves organizations with few options other than to develop their own postsecondary support programs from scratch, which rarely have clearly articulated program models that can be evaluated or replicated, resulting in more and more similar yet unevaluable programs that have little to offer in terms of advancing

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what we know about how to effectively support foster youth in achieving their higher education goals.

1.1. Current study

In an effort to address the dearth of clearly articulated, evidence-based postsecondary support approaches for use with foster youth, our research team has developed the Fostering Higher Education (FHE) intervention. FHE is a comprehensive, structured, and evaluable postsecondary access and retention intervention composed of elements that are either evidence based or promising based on the scientific literature and their ability to address the outcomes of interest. The intent of this work is to provide an evidence-based approach to providing postsecondary supports to youth in foster care if it is found to be effective through future rigorous testing.

This paper describes the development and youth usability and practitioner feasibility testing of the FHE intervention approach, which was developed through funding from the National Institute on Drug Abuse. More information about the challenges youth face in accessing and succeeding in higher education, the background of the intervention elements chosen to be part of the intervention, and detailed findings of the focus groups informing part of the intervention development process can be found in Salazar et al. (2016).

2. Intervention development background and overview

2.1. Intervention theory of change

Two theoretical frameworks are woven together to inform FHE's theory of change: the social development model (SDM; Catalano & Hawkins, 1996) and self-determination theory (Deci & Ryan, 2002; Ryan & Deci, 2000). The social development model incorporates a risk and protective factor framework that has been used to understand healthy development and problem behaviors in youth (e.g., Catalano, Kosterman, Hawkins, Newcomb, & Abbott, 1996; Huang, White, Kosterman, Catalano, & Hawkins, 2001). The SDM posits that an individual's behavior will be prosocial or antisocial depending on the degree of association and bonding with prosocial or antisocial individuals and subsequent adoption of their beliefs. Based on the SDM, we hypothesize that students' participation in FHE will lead to increased educational monitoring and postsecondary educational opportunities and skills, and that students' connection with the educational advocate and mentors in the FHE program will result in bonding with prosocial others and, in turn, increased commitment to higher education. These proximal outcomes should in turn, according to the SDM, lead to improved distal outcomes including postsecondary preparation, enrollment, persistence, progress, and performance, as well as prevention of alcohol and substance disorders and other risky behaviors that interfere with educational attainment.

Self-determination theory builds on the foundation of the SDM by providing a framework for understanding the complex, unjust, and often disempowering situations that youth in foster care often find themselves in, such as experiences of maltreatment and trauma, being removed from their families of origin, and becoming a ward of a system that has struggled at every level to find and implement effective procedures for improving the lives of the youth it oversees. Self-determination theory proposes that individuals are naturally motivated to be engaged and overcome challenges, but that this natural drive can be inhibited by external factors such as social environments. Social conditions that meet an individual's innate psychological needs for autonomy, competence, and relatedness are believed to be essential for driving self-motivation and fostering overall well-being. Based on this theory and a similar utilization of it in another study (Geenen et al., 2015), we anticipate that participation in FHE will help students gain self-determination skills and believe in their ability to be successful in college.

2.2. Intervention development framework

The Deployment-Focused Model of Intervention Development and Testing (Weisz, 2004) was used to guide the FHE intervention development process. The Deployment-Focused Model guides intervention development in the context of the actual settings in which they would take place, so that they fit easily into practice once tested and ready for dissemination. More about this framework can be found in Salazar et al. (2016).

Our intervention development process consists of seven key steps, which are summarized in Table 1. The current paper details Steps 1 and 3 through 6; Step 2 is summarized in the current paper, but is described in detail in Salazar et al. (2016). Future work will involve rigorous efficacy testing (Step 7).

3. Intervention development process

3.1. Step 1: review intervention elements

Three primary intervention elements included in FHE are educational advocacy (EA), substance abuse prevention programming, and mentoring. These three intervention elements have been used in a variety of different forms to support the educational goals of youth in foster care and other vulnerable and at-risk populations. They were chosen to be included in the FHE intervention because of their ability to address a host of challenges that youth may experience in relation to both accessing and participating in higher education, as well as their ability to be highly structured yet flexible in meeting the unique needs of individual youth. Literature reviews and program searches were conducted to identify the wide variety of existing EA, mentoring, and substance abuse prevention intervention approaches and the evidence for each so we could make a more informed decision about what form and structure of each intervention element to include in FHE. For example, our literature review on mentoring programs revealed that mentoring relationships lasting less than a year can actually lead to negative youth outcomes; thus, we decided that our mentoring program element would need to be implemented for a minimum of one year. Table 2 summarizes some of the conclusions drawn from our literature reviews that we used to inform the FHE intervention design.

Table 1
Fostering Higher Education (FHE) intervention development steps.

Development step	Purpose
1. Review intervention elements	Review various existing educational advocacy, mentoring, and substance abuse prevention intervention approaches to explore the variety of forms each approach can take and help inform our approach to each intervention element
2. Focus groups	Community stakeholders (practitioners, youth with foster care experience) were asked for their recommendations for structuring and delivering FHE to maximize its effectiveness
3. Develop initial intervention approach	Convene expert workgroup to develop intervention design based on information collected in Steps 1 and 2 as well as feedback from research and practice professionals with expertise in key topical areas
4. Youth theater testing	Assess youth usability and acceptability of the intervention
5. Practitioner feasibility testing	Assess perceived feasibility of the intervention being implemented in community organizations
6. Finalize intervention design	Articulate near-final intervention design and implementation instructions in implementation manual form; have content experts review the manual and provide final feedback on the design; develop training manual
7. Effectiveness testing	Rigorously test whether FHE is effective at bringing about intended outcomes

Table 2
Summary of conclusions from literature review of intervention components.

Educational advocacy (EA)	Substance abuse prevention	Mentoring
<ul style="list-style-type: none"> Professional EAs (as opposed to volunteer EAs) are better equipped to handle complex educational challenges because of their professional qualifications and dedicated time to do the work EAs should have knowledge and experience in education policies, child welfare, and legal issues Common EA services include ensuring students are enrolled in school and making academic progress, are receiving appropriate education services, and students' education rights are not being violated (e.g., <i>Advocates for Children of New York, 2005; Riverside County Office of Education, 2014; Treehouse, n.d.</i>) 	<ul style="list-style-type: none"> Brief substance misuse interventions have evidence of effectiveness with college students (<i>Baer, Kivlahan, Blume, McKnight, & Marlatt, 2001; Borsari & Carey, 2000</i>) and other at-risk populations (<i>Peterson, Baer, Wells, Ginzler, & Garrett, 2006</i>) Many brief interventions use a motivational interviewing approach to elicit behavior change among participants, (e.g., <i>BASICS; Dimeff, Baer, Kivlahan, & Marlatt, 1999; Teen Marijuana Check Up; Swan et al., 2008</i>) Brief interventions have been effective in reducing a range of substance use behaviors including alcohol and marijuana use (<i>Dimeff et al., 1999; Lee et al., 2013</i>) 	<ul style="list-style-type: none"> Natural mentors can be an especially powerful mentor option for foster youth (<i>Schwartz, Rhodes, Spencer, & Grossman, 2013; Thompson, Greeson, & Brunsink, 2016</i>) Building trust is an essential component of a successful mentoring relationship (<i>Ahrens et al., 2011; Sipe, 2002</i>) Longer match duration is associated with better academic, psychosocial, and behavioral outcomes for youth (<i>Gaddis, 2012; Grossman, Chan, Schwartz, & Rhodes, 2012; Grossman & Rhodes, 2002</i>) Regular, consistent mentor-mentee contact facilitates the development of a stronger relationship (<i>Ahrens et al., 2011; Sipe, 2002; Spencer, Collins, Ward, & Smashnaya, 2010</i>)

3.2. Step 2: focus groups

In our next intervention development step, focus groups were conducted with community stakeholders from child welfare, independent living, local colleges and universities, other youth-serving nonprofits, and youth with foster care experience to explore recommendations for how these intervention elements might be structured and delivered to maximize their effectiveness in supporting youth with foster care experience to access and succeed in higher education. Between December 2014 and January 2015, 37 participants (27 adult professionals and 10 youth) attended four focus groups held in two major Pacific Northwest cities. Each focus group had between 8 and 10 participants including two to three youth. All youth were between the ages of 18 to 21 and had recent foster care experience. Participants were asked to provide feedback on each intervention component and specific recommendations regarding program structure and delivery. Detailed focus group findings are reported in *Salazar et al. (2016)*. *Table 3*, which can also be found in *Salazar et al. (2016)*, provides examples of focus group findings that informed the FHE intervention design.

3.3. Step 3: develop initial intervention approach

Next, we convened an expert workgroup of ten researchers and practitioners from substance abuse prevention, foster care, youth mentoring, EA programs, intervention development and testing, and campus support programs for youth transitioning from foster care in Washington, Oregon, and Michigan, as well as youth with foster care experience, to create a clear design plan for the FHE intervention. The expert workgroup attended a 2-day meeting during which each intervention element was designed based on the program reviews and focus group findings from Steps 1 and 2, in addition to the research and practice expertise of those in the workgroup. The intervention approach derived from this process is described below.

Table 3
Example ways focus group findings have informed the FHE intervention design.

Selected findings	How this finding informed the FHE intervention design
Cohort element for youth	Include group mentoring in addition to one-on-one mentoring to give youth the opportunity to connect with youth with similar experiences
Intervention should be strengths based, youth centered, and youth empowering	Education goal planning will be centered around youths' self-identified strengths; training for mentors and EAs will include youth-empowerment and strengths-based youth work modules
Recommendations regarding program interventionists' knowledge and skills	Key knowledge areas and skills such as trauma-informed youth work, pertinent child welfare policies, and working with students who are parents will be included as training areas all interventionists must complete prior to working with youth
Importance of early, intentional, ongoing relationship building between youth and staff/mentor	All program staff and mentors must receive initial and ongoing training in intentional relationship-building techniques
Reducing number of new people introduced into youths' lives; acknowledging natural supports	Two types of mentors will be used: natural mentors and community mentors. First, students will be given the opportunity to identify an adult already in their life to become their mentor. In cases where no eligible natural mentor exists, youth will be matched with a volunteer mentor from the community based on youths' interests.
Substance abuse intervention element – sensitivity to experiences of youth in foster care	Present substance abuse as a risk for ALL youth; delivery must be intentional, well thought out, and sensitive to the needs, experiences, and potential triggers of youth in care; deliver this component as information we are offering to help youth be informed rather than to make them feel targeted based on their foster care status

3.3.1. Intervention overview

Fostering Higher Education (FHE) is a 2-year prevention intervention that is designed to take place from late in the junior year of high school (or while students are in a GED program) through the first semester or two quarters of a postsecondary program. The program consists of two phases: the high school/GED/summer phase (which lasts until the youth begins their postsecondary program) and the postsecondary program phase. Key to the intervention's structure is bridging the transition period from high school/GED to the postsecondary program, a crucial feature that many other programs do not provide. *Fig. 1* shows the FHE intervention overview. *Table 4* shows an example month-by-month schedule of FHE activities laid out by program phase.

3.3.2. Guiding principles

One guiding principle of the FHE intervention approach is relationship building. Youth in foster care have often (and many times, repeatedly) been failed by the adults responsible for caring for and protecting them. The most devastating failure is often that of the biological parents (in the form of child abuse and neglect), but can also include failures of extended family members, case workers, foster parents, and other service providers to keep youth safe and contribute to their well-being after being removed from their bio parents' care. Understandably, these failures of such crucial relationships often translate to difficulties in building trusting relationships with other people that come into a youth's life (*Ahrens et al., 2011; Samuels & Pryce, 2008; Spencer et al., 2010*). Because of this, a key part of the FHE model focuses on intentional relationship building between interventionists and youth. EAs,

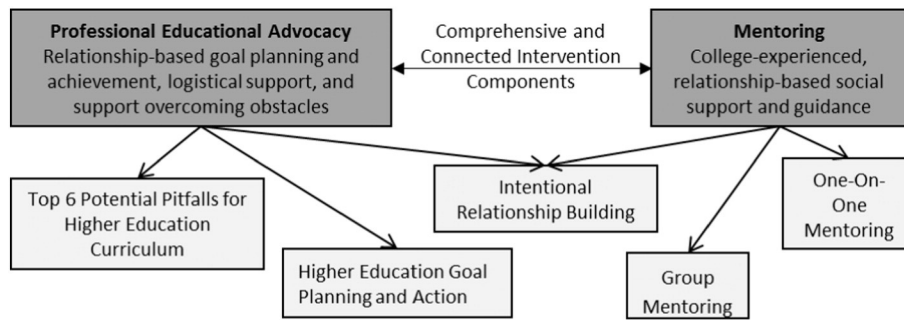


Fig. 1. Fostering Higher Education intervention overview.

mentor coordinators, and mentors will receive training and ongoing support in intentional relationship building, and will be instructed to make this a part of every interaction they have with the youth.

Motivational Interviewing (MI; Miller & Rollnick, 2012) is another key guiding principle of FHE. MI is a behavior change approach that aims to help individuals develop their own argument and plan for change. It has consistently been shown to be effective through numerous randomized controlled trials (e.g., Lundahl & Burke, 2009; Rubak, Sandbaek, Lauritzen, & Christensen, 2005). One underlying concept of MI is that individuals are more likely to change their behavior when the motivation comes from within. Therefore, to encourage change, information is delivered in an empathetic, non-confrontational, and non-judgmental manner in order to reveal the discrepancy between an individual's goals and values and any behaviors they have that may interfere with or contradict those goals and values. Based on information provided to the individual, it is entirely up to the individual to decide what, if any, changes they want to make. In FHE, the EA will use a motivational interviewing approach to work with youth by giving them information and support they can use to make informed decisions about their lives, especially as this relates to achieving their postsecondary goals.

3.3.3. Intervention components

There are three primary components of the FHE intervention: (1) the Higher Education Goal Planning and Action procedure, (2) the Top 6 Potential Pitfalls for Higher Education curriculum, and (3) mentoring, which includes both one-on-one and group elements. Components 1 and 2 are implemented by the EA, while Component 3 is implemented by the mentor coordinator. Key recommended qualifications for the EA include a college degree in social work, psychology, education, or related field; experience working with and advocating for at-risk youth; and an ability to work from a youth-focused, strengths-based perspective. One full-time EA could serve approximately 20–30 youth in FHE. This position could also be filled by a qualified individual already providing similar services, such as an independent living program case worker, as long as they have the time available for providing this specific service model.

In running the mentoring portion of FHE, the mentor coordinator will recruit and train mentors, supervise and provide guidance for mentor pairs, facilitate group mentor activities, and meet regularly with the EA to ensure youth needs are being met. Key recommended qualifications for the mentor coordinator include successful postsecondary experience, experience recruiting and managing volunteers, and an ability to work from a youth-focused, strengths-based perspective. One full-time mentor coordinator could serve approximately 30–40 mentor-mentee pairs.

3.3.3.1. Component 1: Higher Education Goal Planning and Action procedure. The purpose of this component is to support youth in identifying and completing the steps they need to take to reach their goals of enrolling in and successfully completing a postsecondary program. This process is composed of three core elements: (1) identifying educational goals, (2) creating a To-Do list for each goal, and (3) identifying and planning around individual strengths and potential obstacles that might help or hurt the student's progress towards achieving their goals. EAs will meet with youth a minimum of once per month for the full extent of the program, and at least twice a month during the first 2 months of each phase of the program to facilitate the Goal Planning and Action procedure. At each meeting, progress will be reviewed and celebrated and next steps will be updated. Table 5 provides a list of key goals the EA will support the youth in planning around. Table 6 provides an example To-Do list for the Higher Education Program Selection goal.

3.3.3.2. Component 2: Top 6 Potential Pitfalls for Higher Education curriculum. The Top 6 Potential Pitfalls for Higher Education are several common challenges that, according to scientific research (American College Health Association, 2014; Courtney et al., 2011; Salazar, 2012), are most likely to have a negative impact on students' overall well-being and academic performance. These include (1) sleep, (2) physical health/ getting sick, (3) mental health/ stress, (4) family/ friend/ relationship challenges, (5) alcohol and drugs, and (6) financial challenges. The alcohol and drugs module of the Top 6 Potential Pitfalls curriculum is adapted from the Brief Alcohol Screening and Intervention for College

Table 4 Example FHE activity layout and frequencies.

	Phase 1: High school/summer phase														Phase 2: higher ed. phase								
	Junior year high school							Senior year high school/GED							1st semester/2 quarters of higher ed.								
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
EA activities																							
Educational goal planning	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1
Top 6 Pitfalls curriculum	0	1	0	0	1	0	1	0	0	1	0	1	0	1	0	1	1	1	1	1	1	0	0
Mentor activities																							
One-on-one	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Group	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

Note: Numbers in boxes indicate minimum number of times this activity is expected to take place.

Table 5
Key postsecondary-related goals for EA goal planning procedure.

Key goals to consider	Current status			
	Don't need to do	Not working on yet	In progress	Achieved!
Phase 1: High school/summer before higher ed.				
1. High school graduation/GED completion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Higher ed. program selection (<i>Identify higher ed. institutions and academic programs of best fit</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Higher ed. application (<i>Identify and complete admission requirements for selected postsecondary program(s)</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Higher ed. enrollment (<i>Complete all steps for enrolling in higher ed. program</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Higher ed. preparation (<i>Prepare for life during college</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase 2: Higher ed.				
1. Higher ed. persistence (<i>Maintaining enrollment</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Higher ed. progress (<i>Accumulating credits required for graduation</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Higher ed. performance (<i>Performing at your best</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Career/next higher ed. program knowledge (<i>Learning about next steps for education/career</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Career/next higher ed. program preparation (<i>Preparing for education/career next steps</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Higher ed. completion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Students (BASICS; Dimeff et al., 1999) and the Individual Choices for Alcohol and Marijuana Project (ICHAMP; Lee et al., 2013) and addresses other substance abuse in addition to alcohol and marijuana. Each Top 6 Potential Pitfalls curriculum module uses a motivational interviewing and personalized feedback approach based on the brief intervention

Table 6
Example “To Do” list for Phase 1 Goal 2: Higher education program selection.

To do's	Current status				Next steps for to do's in progress	
	Don't need to do	Not working on yet	In progress	Achieved!	By when: Timeline	Notes and who does what
1. Meet with high school counselor to discuss higher education options	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2. Explore postsecondary options through attending college fairs or researching programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3. Identify one or a few academic areas of interest/potential majors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4. Identify one or a few potential career goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5. Identify what kind of degree you want to earn (e.g., AA/BA/certificate)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
6. Identify characteristics you are looking for in a school (in-state/out-of-state, urban/rural/suburban, large/small, public/private, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
7. Identify costs associated with attending each potential institution (tuition, fees, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
8. Identify living situation options for each potential institution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
9. Identify admission criteria for each potential institution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
10. Contact selected institutions to request admission application, additional information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
11. Visit institutions you are interested in applying to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
12. Decide how many programs it would be reasonable to apply to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
13. Finalize the list of program(s) that you will apply to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

framework used in BASICS and ICHAMP. This approach aims to build students' awareness of these pitfalls, provide students with strategies and resources to manage these potential challenges, and empower students to decide what, if any, changes they would like to make regarding their own behaviors. During each curriculum module, students are reminded that the goal of the curriculum is not to preach, judge, or tell students what to do, but only to equip them with knowledge so they can make informed choices that can help them achieve their educational goals. Each curriculum module is composed of three elements: (1) The Big Picture, during which EAs and students discuss why each Potential Pitfall may become problematic and what scientists have found in regard to this being a pitfall for academic success; (2) a Brief Assessment that youth fill out so they can see how they are doing in relation to this Potential Pitfall, and (3) Personalized Feedback and Discussion, where the EA will provide personalized feedback to youth based on their assessment responses and what is known regarding sleep habits from the scholarly literature. The EA and student will have a discussion about what, if anything, the youth would like to do differently in order to ensure this Potential Pitfall does not become problematic for them.

The Top 6 Potential Pitfalls curriculum will be delivered one module at a time by the EA during their regular meetings with students, after progress has been made in relation to building a trusting relationship with the student. Each module should be delivered once during the high school/GED/summer phase to prepare youth before their entry into higher education, and once again as a booster session after youth have transitioned to higher education.

3.3.3.3. *Component 3: mentoring.* Students will be paired with a higher education-experienced mentor for the full extent of the intervention. Two mentor pairing procedures will be employed. First, if a youth already has someone in their life that meets the mentor qualifications (including recent successful postsecondary experience), they can choose to have this person be their natural mentor. If this is not an option for a youth, the mentor coordinator will recruit a postsecondary-experienced mentor from the community based on youth preferences (such as gender, the postsecondary institution the mentor has attended, and hobbies). Community mentors will be recruited from local colleges and universities, professional organizations, pertinent local employer, and similar sources. In addition to ensuring that mentors are able to pass a background check and have recent postsecondary experience, volunteers should also be screened for their ability to commit to their role as a mentor for the full extent of a youth's time in FHE and their overall fit with the program, as well as their ability to be personable and connect with others during an interview.

Mentor-mentee pairs will be expected to meet a minimum of once per month for the full extent of the program, and at least twice a month during the first 2 months of the program. Activities will be decided by the pairs, but recommended activities fall within 5 categories: (1) academic-focused, (2) extracurriculars/college integration, (3) social support, (4) career exploration, and (5) fun.

Mentor-mentee pairs will also be grouped based on similar characteristics (such as the college they are interested in attending) with 5–10 other mentor-mentee pairs to create mentor groups. These groups will participate in a once-every-other-month activity together for the purposes of (1) helping youth grow their social networks with other college-interested foster youth and college-experienced adults, and (2) connecting mentors with each other as sources of program support. Group activities will be led by the mentor coordinator, and their content will be based on ideas and recommendations from the mentor-mentee pairs but will also fall within one of the 5 categories outlined for pair activities above.

The remaining development steps involved efforts to refine this intervention design through consultation with youth with foster care experience, practitioners, and field experts.

3.4. Step 4: youth theater testing

The next intervention development step involved conducting youth usability testing in the form of theater tests. Theater testing is a research technique commonly used in market research to evaluate materials and messages with target audiences. It has been recommended as an effective methodological approach to adapting evidence-based interventions and has been used in prior studies with youth (e.g., Barkan et al., 2014). The theater testing process used in this study was similar to that described in Barkan et al. (2014), and involved having participants role-play key intervention elements in an effort to collect feedback on the intervention's usability for the young people it is being designed to target. For this study, we conducted two theater tests with youth in two major Pacific Northwestern cities to collect feedback and recommendations for refining our FHE intervention activities and overall design.

3.4.1. Sample

To participate in the theater test, youth had to be between the ages of 18 and 21 and have foster care experience. In addition, youth from one city were ineligible to participate if they indicated that they were in extended foster care at the time of the theater test. This was due to different research participation permission procedures for youth in extended foster care used by the two states. Youth were recruited from Step 2 focus group participants and through independent living, non-profit, and college support programs for foster care alumni. Each theater test had six to seven participants and was approximately 4 h in length. Participants were given a \$75 incentive for their participation.

Thirteen youth participated in the theater tests. The majority were female ($N = 9$; two did not identify as male or female) and identified as mixed race/ethnicity ($N = 7$). Three youth identified as White, two as African American/Black, and two as Hispanic. Participants' ages ranged from 18 to 21.

3.4.2. Theater test process

The theater test protocol and activities to be tested were developed by the research team and reviewed by members of the expert workgroup. Following the first theater test, minor changes were made to the protocol and activities to improve overall clarity and incorporate recommendations made by theater test participants and facilitators.

At the theater test, participants were first provided with an overview of the FHE intervention and its purpose, an outline of the theater test process and goals, and a brief description of four role-playing activities they would be participating in. Each activity was led by four small-group facilitators who had completed a 1-day training on motivational interviewing and theater test activity implementation. Facilitators were positioned at separate work stations, which allowed participants to complete activities individually or in groups of two. Participants were paired with a different small-group facilitator for each activity. The four activities selected for testing covered key elements of the three intervention components described earlier. Each activity was role played for 20 to 30 min. These four activities were:

1. *Higher ed. planning procedure.* The small-group facilitator played the role of the EA. The EA and student role played the first education planning meeting. The EA described the educational planning procedure to the student, and then led the student through a mini version of the goal planning procedure, where they decided to focus on planning for enrolling in a postsecondary education program. EAs and students then completed the "To-Do" checklist corresponding with this goal, discussed how each To Do would be accomplished, identified some of the student's personal strengths and anticipated obstacles related to this goal, and created a plan to address these potential obstacles.
2. *Top 6 Potential Pitfalls curriculum overview and sleep module.* Again playing the role of EA, the small-group facilitator introduced the Top 6 Potential Pitfalls curriculum to the student, which included

explaining the purpose of the curriculum, what the Top 6 Potential Pitfalls are, and what each curriculum module entailed. After this introduction to the curriculum, they completed the sleep module. The sleep module started with a Big Picture discussion on why sleep is considered to be a potential pitfall and a review and discussion of a fact sheet about sleep and its association with academic outcomes. The EA then had the student fill out the sleep assessment (an example assessment question was "What is your sleep environment like?"). The EA then gave the student personalized feedback on their sleep habits based on their assessment and the scientific literature. The EA and student had a brief discussion about how the student felt about this feedback and if there were any sleep-related changes the student wanted to make to ensure sleep did not become a pitfall for them.

3. *Substance misuse module.* Similar to the sleep module, the substance misuse module started with a Big Picture discussion regarding how alcohol and drug use may become a pitfall for academic outcomes and reasons why people misuse substances (EAs started by asking students what are some of the "good" things about alcohol or drug use, and what are some of the reasons alcohol and drug use can become a pitfall in college). Students then completed a substance use assessment. Following this assessment, the EA gave the student personalized feedback based on their responses. Similar to the approach used in BASICS (Dimeff et al., 1999) and ICHAMP (Lee et al., 2013), this feedback included comparisons of participant use with normative rates of other youth their age, as well as comparisons of how much the youth thought that other youth used and how much other youth were actually using according to nationally representative research studies. The EA and student then had a discussion about this feedback and whether there were any steps the student felt they wanted to take to ensure alcohol and drug use did not become a pitfall for them. If a student's assessment indicated they were at moderate or high risk of an alcohol or substance abuse disorder, the EA also provided referrals for clinical support.
4. *Mentee intake procedure.* For this activity, the small-group facilitator played the role of mentor coordinator and led students through the mentee intake procedure. Students were introduced to the mentoring component of the intervention and explored the purpose and potential benefits of having a mentor. Mentor coordinators then had students explore whether there were people already in the student's life who they may be interested in having serve as their mentor (i.e., natural mentors). Next, the mentor coordinator had students reflect on a variety of characteristics that they may prefer in a mentor from the community if they are unable to be matched with a natural mentor. These included characteristics such as hobbies, gender, race, career area, or whether or not they had lived foster care experience. Last, mentor coordinators led students through completion of a Memorandum of Understanding (MOU), in which the roles of the mentor coordinator, mentor, and EA were clarified and the student indicated what kinds of information s/he did and did not want to be shared among these positions.

3.4.3. Data collection and analysis

Immediately following each activity, participants completed a brief written survey to provide feedback on what they liked and disliked about the activity. The survey also asked participants to rate on a scale of 1 to 7 their interest level and comfort level related to participating in the activity. Participants were then convened for a brief facilitated discussion. Participants were asked to reflect on the activity, describe their reactions to the materials, discuss how effective they perceived the activity to be, and provide suggestions for improvements. At the end of the theater test, the group convened for one final discussion to elicit their impressions of the overall intervention as it had been presented to them. Two note-takers took notes on the discussion sessions. Data analysis included descriptive statistics (means, frequencies) of

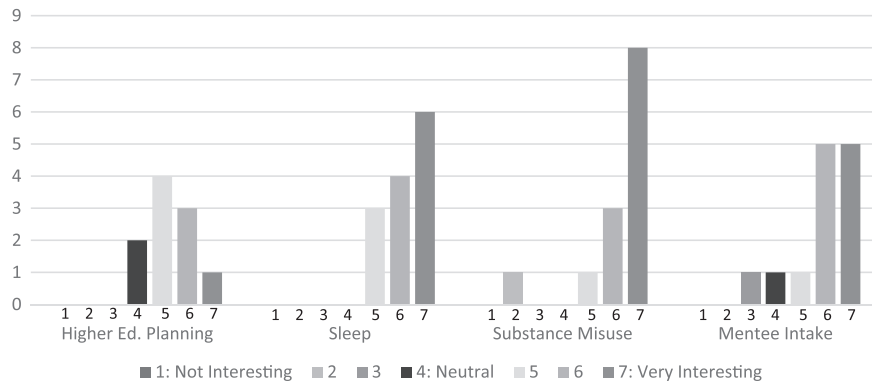


Fig. 2. The activity material was...

quantitative survey items and review of open-ended survey responses and discussion notes for representative feedback and quotes.

3.4.4. Findings

Participant feedback was primarily positive. Survey results indicated that as a group, participants found the activities interesting and useful, and were comfortable in participating in them. On a scale from 1 (Not Interesting) to 7 (Very Interesting), with 4 being Neutral, participants' mean interest rating for all activities ranged from 5.3 to 6.2, with the highest for the sleep and substance abuse activities; see Fig. 2 for participant interest ratings for each activity. Mean ratings of comfort level in participating in all four activities ranged from 6.1 to 6.8; see Fig. 3 for participant comfort ratings for each activity.

In the group discussions and open-ended survey feedback, participants gave consistently positive feedback for the higher education planning activity. The activity was described as being “important,” “helpful,” and “very accurate” in identifying specific tasks students must accomplish when applying to college. Several participants liked the approach of incorporating personal strengths into goal planning and overcoming obstacles. One participant explained, “I like it because for me it's finding the good qualities about myself; it builds my self-esteem and motivates me.”

Participants also had positive reactions to both the Sleep and Substance Misuse activities, as well as some concerns. They particularly liked the “use of science” and found information on substance use norms and estimated cost and calories related to alcohol and substance use to be “very informative” and “a good resource.” Participants also expressed their appreciation for the nonjudgmental approach of these activities: “I didn't feel like I was in the wrong, [it was] more like, here's what you're doing and what you could be doing.” Some participants cautioned that some students may not feel comfortable sharing personal

information, while others felt that they wanted more time to discuss their underlying motivations for substance use. Participants also expressed that some of these problems might not have easy solutions, and that this should be made very clear in the discussion in order to make the student feel empowered rather than overwhelmed.

Finally, participants found the Mentee Intake activity to be “useful” and “important” and liked how the mentor matching process considered both natural and volunteer mentors. Participants commented that the MOU was an important element that made them feel like they had an active role in the decision-making process. Participants also suggested adding clear language on confidentiality and mandatory reporting laws to ensure that youth fully understand what information will be shared and how it may be used if there is a perceived risk to youth. For all activities, participants emphasized the critical role of developing positive relationships with the EA, mentor, and other youth in the program for ensuring youth interest and participation retention.

3.5. Step 5: practitioner feasibility testing

3.5.1. Procedure

We then convened practice professionals in two Pacific Northwest cities to give feedback on the feasibility of implementing FHE in various types of organizations in the community. We invited practice professionals from the types of organizations that we believe would be most suitable for implementing FHE: foster care independent living programs, child welfare offices, local colleges and universities, and other nonprofits that serve youth transitioning from foster care. Twenty-six professionals participated in the presentation and subsequent feasibility survey. These included 10 from local colleges and universities, 7 from child welfare agencies, 3 from foster care independent living programs, and 6 from other foster youth-serving organizations.

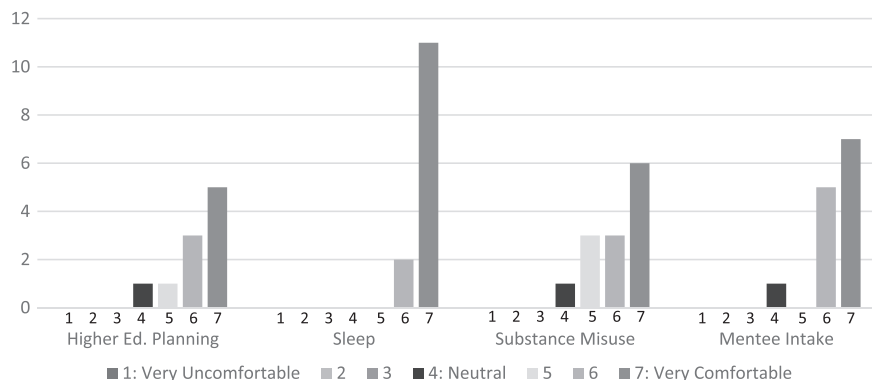


Fig. 3. How comfortable were you doing this activity?

At our feasibility testing events, we first gave a presentation of our intervention design, which included explaining the development process, describing the intervention components, summarizing the findings from our youth theater testing, and discussing the logistics of implementing FHE, including potential organization types that may be well suited to offer the intervention and strategies for recruiting youth. Following the presentation, we had participants fill out a survey that assessed how feasible they felt it would be to implement FHE in the community.

3.5.2. Findings

Participants were asked to rate (1) how important, and (2) how feasible, it would be for an organization to provide each component of the FHE intervention on a scale from 1 (not important/feasible at all) to 7 (very important/feasible). There was very little variability in the perceived importance of each intervention element, all of which were very high, as can be seen in Fig. 4. However, there was some notable variability in feasibility of implementing elements. The mentoring components of the intervention, and more specifically one-on-one mentoring, were rated as less feasible (although still perceived as feasible) for organizations to implement than the other intervention components. In terms of specific obstacles to implementation, cost was the most commonly perceived challenge.

Participants were also asked to assess the feasibility of implementing FHE in various organizational settings. The two settings explored most thoroughly were foster care independent living programs (ILPs) and local colleges/universities. All participants felt that both ILPs and local colleges/universities would be advantageous settings for a program like FHE. When asked about specific ways these organizations might be advantageous, they were perceived similarly (see Fig. 5), except that more participants felt that ILPs would be a setting in which FHE would reach youth who need it the most.

Participants were also asked how likely they felt each organization type would be able to accomplish a variety of tasks related to the successful adoption and implementation of FHE (see Fig. 6). Across tasks, participants were slightly more confident in an ILP's ability to successfully complete tasks related to successfully implementing FHE, with the biggest differences indicated in ILPs being perceived as more able to collaborate with other systems and organizations, recruit and engage eligible youth, and sustain the program for the long term. Across all tasks, however, only one (a college's ability to collaborate with other organizations/systems to fund FHE) was rated by less than 50% of respondents as Strongly or Somewhat Agree.

Finally, participants were asked what other types of programs or organizations might be best suited to offer a program such as FHE. The most common suggestions were youth-serving nonprofits that addressed college access, academic success, and other youth-related needs. Participants also suggested housing FHE in local high schools and alternative education programs, housing facilities and shelters for

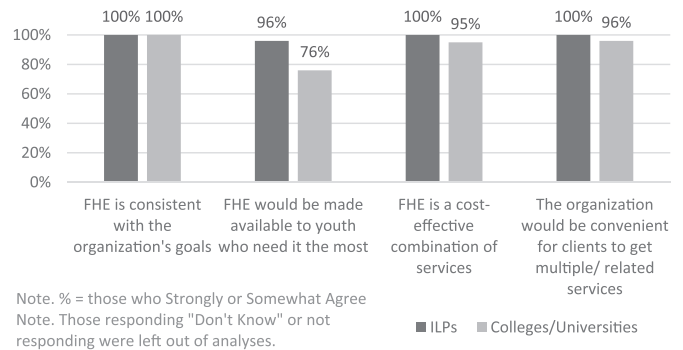


Fig. 5. Advantages to hosting FHE at an ILP or college/university.

youth, community centers, and various organizations and agencies partnering with each other to provide FHE through pooled funding.

3.6. Step 6: finalize intervention design

Last, we took the findings from Steps 4 and 5 and refined our FHE intervention implementation manual. This manual details each element of the FHE intervention and provides the information, protocols, handouts, and other tools needed to deliver it with fidelity. We then recruited five content experts with expertise in child welfare, foster care independent living programs, postsecondary supports for older youth in care, substance abuse prevention interventions, and youth mentoring to review the implementation manual and give feedback on its content and approach to instructing professionals in how to implement FHE. In particular, reviewers were asked to assess whether the manual was clear and easy to follow; whether key information was missing in relation to key background information, intervention content, and implementation instructions; and if they had suggestions for content reorganization that would make it easier or more useful for organizations implementing FHE. We incorporated this expert feedback into the manual, resulting in a final draft detailing the FHE implementation process. Finally, we developed a training manual for the 22 training topics identified throughout the intervention development process as key topics on which to train EAs, mentor coordinators, and mentors in order to prepare them to implement FHE. Table 7 shows the training topics covered in the training manual.

4. Discussion

Young people with foster care experience are much less likely to earn a college degree than their non-foster peers (National Working Group on Foster Care and Education, 2014). This disparity in higher education achievement contributes to a variety of other disparities that continue throughout the lifespan in areas such as income, quality of life, health, and incarceration, among others (Baum, Ma, & Payea, 2013; Institute for Higher Education Policy, 1998; Porter, 2002). Developing an evidence-informed approach to supporting youth aging out of foster care in achieving their postsecondary goals is an area of need that is becoming acknowledged more and more widely. The development of Fostering Higher Education that has been described here involved an approach that combined a strong research base with youth and practitioner stakeholder input to develop and test the usability and feasibility of a coordinated approach to supporting the postsecondary goals of foster youth in transition.

What is notable about this study is the strong and intentional inclusion of practice stakeholders and youth with foster care experience to complement knowledge gleaned from scholarly research in the development of FHE. This helps to ensure that, once tested for effectiveness and ready for use in the field, the FHE approach will be palatable to

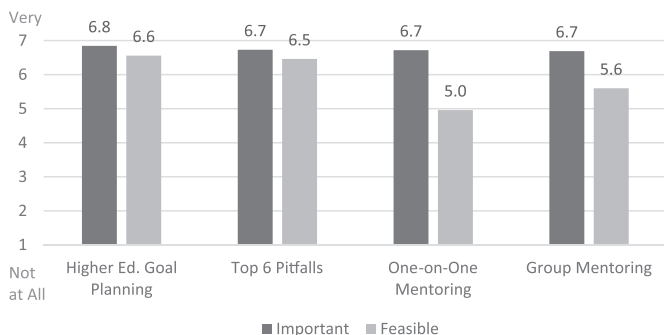


Fig. 4. Importance and feasibility of implementing each FHE element.

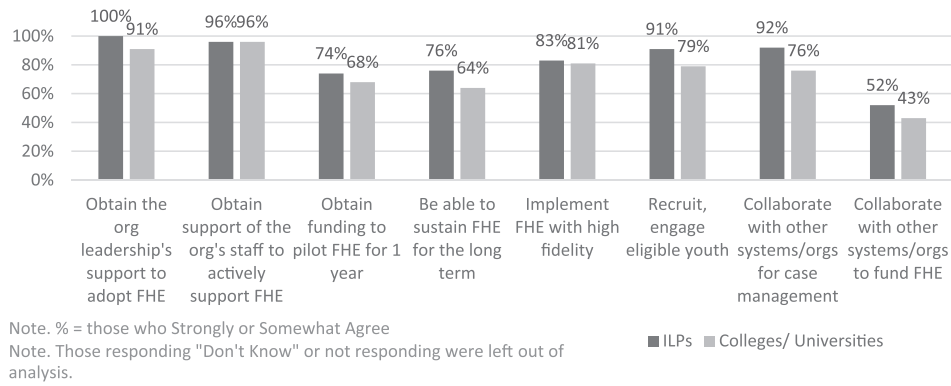


Fig. 6. How likely is it this type of organization would be able to...

those who will implement it and benefit from its use. The youth theater test participants found all FHE intervention components to be both interesting and comfortable to participate in. It is noteworthy that youth participants found the substance abuse module most interesting, despite some of the concerns from practitioners in the focus groups that discussing substance abuse could potentially be triggering for youth (see more on this in Salazar et al. (2016)). This suggests that providing young people with objective information about college substance abuse in general and how their own use relates to this, if done thoughtfully and intentionally, may not be as troubling to youth as practitioners fear and that the information may be important in helping youth make informed decisions about their behavior and how it relates to achieving the postsecondary goals they have set for themselves. The overall interest and comfort with the FHE activities tested in the theater test was encouraging and suggests that the design of the program appeals to young adults with foster care experience.

Despite being a well-supported and research-based approach, the challenge of such a comprehensive approach lies in real-world implementation. The area identified by community stakeholders during the practitioner feasibility testing as least feasible was the one-on-one mentoring component. This is likely because they know that high-quality one-on-one mentoring requires strong training, matching, long-term commitment, and regular contacts (Ahrens et al., 2011; Gaddis, 2012; Grossman et al., 2012; Grossman & Rhodes, 2002; Sipe, 2002; Spencer et al., 2010) from a large number of unpaid volunteers, making this component more challenging to deliver with high fidelity than the components delivered by the paid professional EA. Feasibility reviews from community practitioner stakeholders identified Independent Living Programs (ILP) as the organization with slightly more promise for high-fidelity implementation of this comprehensive approach than a college or university. This is because many ILPs already receive funding to serve this hard-to-reach population and they are community based rather than college specific. They also already provide services to these youth beginning in their mid-teens—so offering FHE services from students' time in high school or a GED program through the first semester or two quarters of college may be more realistic for an ILP than for colleges or universities who often do not connect with students until they enroll.

Another challenge that participants endorsed was the perceived difficulty that colleges would have collaborating with other organizations to fund FHE – this is the one item in Fig. 6 that less than half of participants felt would be likely. The bureaucratic complexities of inter-organizational funding partnerships can be understandably daunting; yet, separate from funding complications, it is encouraging to see that participants were much more confident that (1) colleges would be able to obtain funding to provide FHE on their own, and that (2) colleges would be able to collaborate well with other systems on case management. So while inter-organizational funding strategies may not be perceived as likely to be fruitful for colleges hosting FHE, other avenues to

funding FHE and providing it in collaboration with key organizations still seemed feasible to most participants.

4.1. Limitations

We describe a systematic approach to intervention development and feasibility testing. While this approach has many strengths that include being built from a strong research base and using consumer and practitioner input via focus groups, content expert reviews, theater testing, and practitioner feasibility testing, there are some limitations. While we were able to effectively recruit both a broad range of youth and stakeholders from two different communities, the focus groups, theater tests, and practitioner feasibility tests all relied on small, primarily female, relatively motivated samples which may limit the generalizability of the findings. Highly intentional approaches to recruiting and engaging a wide range of students for actual FHE implementation will likely need to be employed; strategies for achieving this are included in the FHE implementation manual. Second, the highly favorable responses we received in our usability and feasibility testing could have potentially been a function of participant response bias, or wanting to

Table 7 Training topics for FHE interventionists.

Training topic	Training level		
	EA	Mentor coord.	Mentor
<i>Background info modules</i>			
Overview of aging out of foster care	T	T	T
Child welfare system overview	T	T	T
High school and GED policies	T	O	O
SPED/IEP/504 policies	T	O	O
Getting into higher education	T	O	O
Paying for higher education	T	O	O
Educational policies pertinent to youth in foster care	T	O	O
Trauma and its effects	T	T	T
Adolescent brain development	T	T	T
Cultural responsiveness (incl. racial, ethnic, and LGBTQ disproportionality in the child welfare system)	T	T	T
Students who are parents	T	T	T
Working with other service providers	T	X	X
Mandatory reporting	T	T	T
<i>FHE program delivery modules</i>			
Motivational interviewing	T	T	X
Being strengths based and youth empowering	T	T	T
Building relationships	T	T	T
FHE overview	T	T	T
Education goal planning procedure	T	O	O
SBIRT/BASICS/brief interventions	T	X	X
Top 6 Potential Pitfalls curriculum	T	O	O
Mentoring component	O	T	T
Assessing implementation fidelity	T	T	T

T = fully trained; O = overview training; X = not trained on this topic.

please the researchers. Finally, the approach that we describe, though based on strong research and theory, and having strong support, has not yet been tested in a rigorous trial.

4.2. Next steps

A crucial next step for this work is thus conducting rigorous testing of the FHE intervention approach in order to determine whether it in fact has the intended impacts on substance abuse and postsecondary educational attainment for youth with foster care experience. Since FHE may be appropriate for implementation in a variety of settings, testing its effectiveness in different key settings, such as independent living programs and on college campuses, would be beneficial. Another potentially beneficial next step would be to test whether all of the FHE intervention components are necessary for achieving the maximum impact on outcomes of interest, or if a simpler intervention with fewer components can achieve comparable advantages. A simpler design that can achieve comparable effects would be less expensive and easier for organizations with limited resources (as many of the intended organizational targets are) to implement. If FHE is found to be effective in improving substance abuse- and postsecondary-related outcomes, an additional key next step would be to disseminate this information so organizations are aware of its availability and can put to use an evidence-based practice for supporting these youth.

5. Conclusions

Young people transitioning from foster care to adulthood have faced multiple types of adversity. As stewards of their well-being, we as a society are responsible for devising effective supports that enable them to have opportunities and experience successes similar to those of their peers. Developing and testing interventions to increase the evidence base for services for youth transitioning from foster care is a crucial need in a field with a severe lack of evidence-based practices. Interventions that are able to effectively support youth in achieving postsecondary success will provide them with assets that will have positive impacts throughout the rest of their lives. The Fostering Higher Education intervention, if found to be effective, may offer one of the first evidence-based solutions to achieving this goal.

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