

Fidelity and Its Importance to Experiential and Outdoor Education

Ryan J. Gagnon
Clemson University

Matthew F. Bumpus
Washington State University

Abstract

Fidelity is an important factor in the assessment and delivery of programs. However, few researchers have examined predictors of fidelity. In this study, we examined the relationship of fidelity to facilitator characteristics in a leadership program oriented toward the development of new university students. The study consisted of 25 program facilitators and 78 first-year university students. Self-report data were collected from facilitators 1 week prior to program implementation and immediately following program completion. Study results indicate that facilitator fidelity beliefs and buy-in are positively correlated with fidelity, but negatively correlated with facilitator experience and training levels. These results complement and build on prior investigation into facilitator characteristics and their contribution to fidelity.

KEYWORDS: fidelity; adaptation; implementation; facilitation; participant responsiveness

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The importance of fidelity has been established in many fields, including violence prevention (Mihalic, Fagan, & Argamaso, 2008), drug abuse treatment, mental and behavioral disorder treatment (Dusenbury, Brannigan, Falco, & Hansen, 2003), employment training (Becker, Smith, Tanzman, Drake, & Tremblay, 2001), classroom management (Webster-Stratton, Reinke, Herman, & Newcomer, 2011), and obesity reduction (Kahwati et al., 2011). Although the importance of fidelity has been established in experiential and outdoor education (Hirsch & Sugerman, 2007), few studies and even fewer program models account for the importance of implementing programs with high fidelity (Mainieri & Anderson, 2014; Tucker & Rheingold, 2010). Given that fidelity is a key dimension of program implementation and evaluation, more attention is needed on the circumstances that promote high or low program fidelity. Thus, the focus of this study is on characteristics of facilitators that may be related to program fidelity in the context of a university leadership program for incoming first-year students.

Importance of Fidelity

Fidelity refers to the degree to which facilitators implement programs as designed (Dusenbury et al., 2003). An examination of fidelity allows researchers to recognize if a program has been delivered as planned or if adapted how such adaptations moderate the associations between program implementation and outcomes. Adaptations generally occur when a facilitator changes, adapts, adds to, or omits material from the program as developed by the original program designers (Mowbray, Holter, Teague, & Bybee, 2003). An understanding of how fidelity might affect program outcomes can be crucial to guiding improvements as assessing fidelity can help identify program components that are central to program success as well as components that may need to be altered or eliminated. Additionally, attention to fidelity may also emphasize that when a program is delivered as designed, but fails to generate desired effects, the program may be flawed in its design or a poor fit for the needs of a particular group of participants. (Dusenbury et al., 2003; Johnson, Mellard, Fuchs, & McKnight, 2006; O'Donnell, 2008)

Factors That Influence Fidelity

Many in the field of experiential and outdoor education believe that it is too difficult to implement a program with fidelity for a variety of factors, including inclement weather, differing group dynamics, and dissimilar individual student needs (Tucker & Rheingold, 2010). However, this is not necessarily the case; if a program has clear objectives, protocols, and strategies, facilitators will be able to implement a program with fidelity (Tucker & Rheingold, 2010). Experiential and outdoor education program designers may not be able to control the weather, group dynamics, or needs of each participant, but one area they can influence is the degree to which facilitators are implementing the program as intended, by focusing on the program facilitators and their characteristics. Many facilitator characteristics may influence whether a program will be implemented with fidelity, including the experience level of the facilitators (Nobel et al., 2006), facilitator buy-in (Cunningham, McCalister, & MacVicar, 2011), the level and quality of program training the facilitators receive, and the level of participant responsiveness and engagement with the program (Dusenbury et al., 2003).

Facilitator experience level plays an important role in how facilitators approach and implement programs (Nobel et al., 2006) and may also play a key role in whether a program succeeds or fails (Dusenbury, Brannigan, Hansen, Walsh, & Falco, 2005). Additionally, facilitator experience may have an unintended effect when considering fidelity; a few studies have demonstrated that experience level may be negatively associated with fidelity. For example, Macmillan (1998) found that facilitators with high experience levels were less bought-in to programs and were less adaptable to change. Similarly, Dusenbury et al. (2005) found that program facilitators with more experience had more negative attitudes about programs than those with less experience

delivering programs. Additional research is needed to navigate the conditions under which facilitator experience is associated with program fidelity so program developers and trainers can better anticipate how programs may be delivered differently by facilitators with varying levels of experience.

Facilitator beliefs about program goals are another important predictor of the effectiveness of their facilitation (Cunningham et al., 2011). This construct is sometimes referred to as buy-in (Johnson et al., 2006) and can reflect facilitator beliefs that (a) program goals are worthy and (b) that the program can achieve the desired goals. In a study of facilitators implementing school-based drug abuse prevention programs, Dusenbury et al. (2005) found that facilitator attitudes regarding the program were positively correlated with their level of implementation; specifically, implementers who felt more positive about the program delivered the program with higher levels of fidelity. In other words, there is evidence that if facilitators believe that a program will produce the desired results, they are more likely to implement a program with high fidelity (Durlak & DuPre, 2008). However, research on the association between facilitator buy-in and implementation fidelity is still relatively developmental, particularly in the fields of experiential and outdoor education.

Researchers examining facilitator characteristics that are predictive of fidelity have also focused on the importance of facilitator training, particularly when program structure is more involved or complex (Durlak & DuPre, 2008). Training provides the opportunity for facilitators to learn and apply the program, to understand program theory and goals better, and to develop an understanding of the importance of program fidelity (Tucker & Rheingold, 2010). When facilitators feel secure in their capacity to do what is expected and believe that they have the skills needed to execute a program, they may be more apt to implement a program with fidelity (Franck-Cyr, 2008; Dufrene, Noell, Gilbertson, & Duhon, 2005). Training should not only occur prior to the implementation of a program, but should also be an ongoing process (Durlak & DuPre, 2008). Early monitoring of program implementation followed promptly by retraining (if necessary) can have a significant positive effect on future program fidelity (Dufrene et al., 2005). Correspondingly, facilitator training should be a process that necessitates practice, assessment, feedback, and repetition (Bylund et al., 2009).

Another related domain that may be an important predictor of facilitator fidelity is participant responsiveness. According to James Bell Associates (2009),

Participant responsiveness refers to the manner in which participants react to or engage in a program. Aspects of participant responsiveness can include participants' level of interest; perceptions about the relevance and usefulness of a program; and their level of engagement. (p. 2)

These participant characteristics may promote program fidelity and, alternatively, facilitators may be more prone to deviate from program plans when they perceive that participants are disengaged or uninterested in program activities. In other words, participant responsiveness may be indirectly related to program outcomes via its effect on facilitator fidelity. As Carroll et al. (2007) proposed (but did not test empirically), "The less enthusiastic participants are about an intervention, the less likely the intervention is to be implemented properly and fully" (p. 3). In this study, we examined participant responsiveness as a potential predictor of facilitator fidelity.

Measuring Fidelity

Facilitator fidelity is typically measured using indirect, direct, and/or hybrid strategies. Indirect assessments include quantitative or qualitative facilitator self-reports of fidelity, journal entries, and written homework assignments completed by participants and facilitators (Gresham, 1989; Hansen, 2014). Direct assessments involve observations of facilitation by a qualified staff member or researcher (Hansen, 2014). Hybrid strategies generally include indirect and direct

measures of fidelity, for which comparisons between self-reports and observations can be drawn (Gresham, 1989, 2009; Perepletchikova, Treat, & Kazdin, 2007). Direct assessments are labor intensive in that they require highly skilled and trained raters to ensure a reliable and valid assessment of implementation fidelity (Gresham, MacMillan, Beebe-Frankenberger, & Bocian, 2000). Additionally, reactivity is a concern when measuring fidelity through direct assessment as facilitators may behave differently as a function of being observed. More simply put, observations can alter performance of a facilitator and may result in higher adherence during observational sessions than during unobserved sessions (Perepletchikova et al., 2007).

Another approach to measuring fidelity is facilitator self-report (e.g., an indirect strategy). Self-reports require fewer resources compared to observation, but asking facilitators to report on their own implementation behaviors may also be prone to measurement problems because social desirability concerns may prompt facilitators to inflate their reports of fidelity to the program design (Gresham et al., 2000). However, social desirability bias is less of a concern when confidentiality is assured and when participants are reporting on less sensitive or taboo topics (Krumpal, 2013). Indeed, there is some evidence that program facilitators are accurate reporters of their fidelity to program design (Hagermoser-Sanetti & Kratochwill, 2009). As a result, in this study we used facilitator self-reports of fidelity.

In summary, facilitator fidelity to program design is an important component of program success, but relatively little is known about the conditions under which experiential and outdoor programs are implemented with high or low fidelity. In this study, we examined facilitator characteristics (e.g., experience level, buy-in to program design and goals, training, and fidelity beliefs) and participant responsiveness (all measured prior to program initiation) as potential predictors of facilitator fidelity (measured after program completion), among facilitators delivering a 2-day leadership development program to first-year university students. Student program outcome data are not presented as part of this study.

Method

Program Design and Goals

The program being examined for implementation quality used experiential education in an outdoor setting, to help new university students identify their core values, develop self-awareness, improve their communication skills, and enhance their personal leadership. Throughout the 2-day program, activities took place in the form of games, initiatives, and interactive presentations that were oriented toward the program goals. The program was developed over a 1-year period prior to its implementation and utilized the Social Change Model (SCM) of leadership as its theoretical framework. The SCM is focused on the idea that leadership is a collaborative process and nonpositional, with an orientation toward social justice (Wagner, 1996). The goals of the program were to utilize the SCM of leadership to enhance collaboration among new students, help students identify personal values, and improve their communication skills. The achievement of these goals was attempted through experiential education. For the purposes of this program, experiential education was informed using Kolb's 1984 model (see Figure 1). The primary idea behind experiential education in this sense is to *learn by doing*.

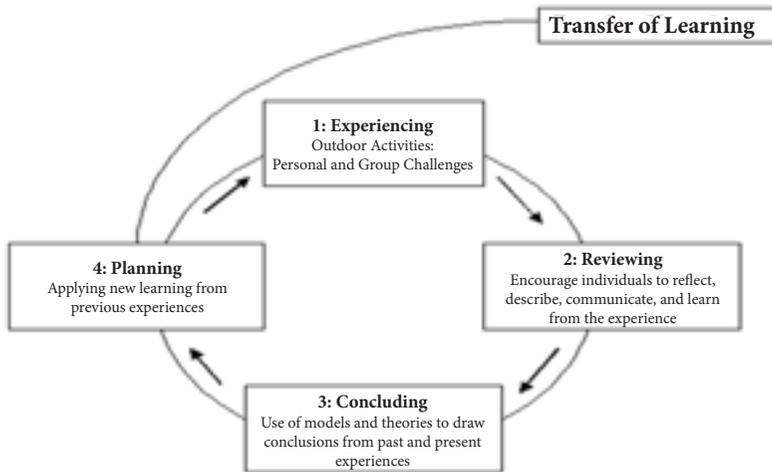


Figure 1. Kolb's model of experiential education. Adapted from *Experiential Learning*, by D. Kolb, 1984, Englewood Cliffs, NJ: Prentice Hall.

Procedures

Sample information. Lead program facilitators were recruited from university staff employed in the area of student life. Cofacilitators were high performing student employees who were identified and recruited by professional staff working in their area of student life. For the purpose of this study, lead and cofacilitator data are combined. Facilitators ($N = 25$; see Table 1) were 48% male ($n = 12$) and 52% female ($n = 13$) and had a mean age of 25.25 years ($SD = 5.93$; range = 20–42). Seventy-two percent of facilitators reported their ethnicity as European American. All facilitators reported having completed at least some college, 20% reported completing a master's degree, and an additional 20% reported completing a bachelor's degree. Facilitators reported a mean of 363 hr of general experience in facilitating groups ($SD = 476$; range = 8–2,000), a mean of 4.24 program-specific trainings attended ($SD = 3.63$, range = 0–15), and a mean of 26.36 hr of general challenge course-specific training ($SD = 54$, range = 0–250).

Student program participants were recruited through an information packet included in their "welcome to the university" mailing and self-selected to the program by registering through a website developed for the program. Student participants ($N = 78$) had graduated from high school the previous spring, 42% were male ($n = 33$), 55% were female ($n = 43$), and 3% did not provide a response ($n = 2$). Almost all students were 18 years old (88%), with a standard deviation of .36 years (range 17–19). Ethnically the student group was more diverse than the facilitator group; 62% reported their ethnicity as European American ($n = 48$), 8% Asian ($n = 6$), 5% African American ($n = 4$), 5% mixed race ($n = 4$), 3% Latino ($n = 2$), 1% Pacific Islander ($n = 1$), and 17% did not provide a response ($n = 13$). No other demographic information was collected from participants.

Facilitator training. The leadership program was designed to use professional and student staff as facilitators. Facilitators who were professional staff attended and successfully passed Facilitator Level One training that meets or exceeds the standards set by the Association for Challenge Course Technology (ACCT). The ACCT is the largest association of challenge course professionals in the United States and serves as the national governing body.

Facilitator Level One training as sanctioned by the ACCT covers the frontloading, debriefing, and sequencing of activities for new facilitators, including games and group initiatives (ACCT, 2012). Cofacilitators received training through an efficacy test of the program (modified for time and content revision) in the form of a pilot program with some undergraduate students acting as participants 1 week prior to the implementation of the full program.

Table 1
Sample Demographics (Facilitator and Student)

Demographic	N	%	M	Range	SD
Facilitators	25				
Male	12	48			
Female	13	52			
Age (Years)			25.25	20–42	5.93
Ethnic Group					
White	18	72			
African American	1	4			
Latino	2	8			
Mixed	1	4			
Pacific Islander	1	4			
No Response	2	8			
Education Level					
Some College	13	52			
Associate's Degree	1	4			
Bachelor's Degree	5	20			
Master's Degree	5	20			
Doctorate	1	4			
Students	78				
Male	33	42			
Female	43	55			
No Response	2	3			
Age (Years)			17.97	17–19	.36
Ethnic Group					
White	48	62			
African American	4	5			
Latino	2	3			
Pacific Islander	1	1			
Mixed	4	5			
Asian	6	8			
No Response	13	17			

Data. Facilitators completed questionnaires at two times: 1 day prior to the implementation of the program and immediately following its conclusion. The pre- and postprogram facilitator instruments were developed after substantial research into the aspects that may influence fidelity for this type of program. The preprogram facilitator instrument was intended to measure facilitator characteristics such as experience level, program buy-in, training, and beliefs about fidelity using a 7-point Likert scale with possible answers ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Examples of items included “I believe in the goals of the program I am about to facilitate” and “I follow predesigned program plans” (see Table 2). In addition to questions on a Likert scale, facilitators responded to questions such as “In number of hours estimate your experience facilitating groups” and “Please estimate how many program-specific trainings you have attended relating to the program you are facilitating today.” Facilitators were also asked to report demographic information such as their education level, gender, and ethnic group. The intent behind the postprogram facilitator instrument was to measure fidelity (adherence) to the program design. The postprogram facilitator instrument also used a 7-point Likert scale with possible answers ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Program participant outcome data are not presented in this article. However, participant responsiveness to the program was collected postprogram from facilitators and student participants. Facilitators answered a 7-point Likert scale question with a response scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) asking if the “participants bought into the program.” Student participants also answered questions related to their level of buy-in on a postprogram instrument on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) asking questions such as “I was able to engage with the program activities.”

We first conducted an exploratory factor analysis on the preprogram facilitator data and found evidence for the presence of a three-factor solution: buy-in, beliefs about experience/training, and beliefs about fidelity (see Table 2). We initially anticipated a four-factor solution (training, buy-in, experience, fidelity beliefs), but found that the three-factor solution better fit the data; items pertaining to experience and training loaded onto the same factor. We did not do a postprogram facilitator factor analysis as we were only examining the means of specific items rather than the whole instrument in these measures. For all subscales, we reported means, standard deviations, and alphas (when appropriate) of all items in each subscale. For variables in more than one item, we calculated composite scores by adding all related items and dividing by the number of items.

Preprogram variables. Data related to 10 factors were collected prior to program implementation from program facilitators: buy-in to the program; beliefs about the importance of fidelity; beliefs about training and experience levels; hours of experience facilitating; number of program-specific trainings attended (PSTA); number of challenge course trainings (CCT) attended in hours; as well as gender, education level, ethnic group, and age. See Table 2 for items in each subscale. Buy-in to the program consisted of six items ($\alpha = .96$, $M = 6.01$, $SD = 1.21$). Fidelity beliefs consisted of five items ($\alpha = .87$, $M = 5.35$, $SD = 1.20$); training and experience consisted of six items ($\alpha = .91$, $M = 5.77$, $SD = .93$). Hours of experience facilitating was measured with one item (“In number of hours estimate your experience level in facilitating groups. This could include but is not limited to staff trainings, teaching fitness classes, leading group trips, etc.”; $M = 375.67$, $SD = 489.44$); values on this item ranged from 8–2,000 hr. PSTA consisted of one item (“Please estimate how many program-specific trainings you have attended relating to the program you are facilitating today”; $M = 4.25$, $SD = 3.51$); values ranged from 0–15 program-specific trainings attended. CCT was assessed with one item: “In number of hours please estimate how many challenge course-specific trainings have you attended (example: facilitator level one). If you have attended the same training more than once please count both.” Values ranged from 0–250 hr ($M = 32.29$, $SD = 63.50$). Responses related to facilitator gender, education level, ethnic group, and age are available in Table 1.

Table 2

Summary of Exploratory Factor Analysis Results for Facilitator Measure (Preprogram) Using Maximum Likelihood Estimation (N = 28)

Item	Factor loadings		
	Buy-in	Belief about experience	Fidelity beliefs
I consider myself experienced in facilitating groups	-.11	.83	-.18
I believe in the goals of the program I am about to facilitate	.95	.05	.20
I follow predesigned program plans	.59	-.18	.62
I believe that I have enough training to facilitate a group for this program	.11	.79	.15
I trust in the program I am about to facilitate	.92	-.01	.19
I am "bought-in" to the Step One Leadership Program	.81	-.03	.13
I feel prepared for this program due to my general facilitating experience	.21	.79	-.14
I feel well trained to facilitate this program	.17	.75	.06
I would be better able to facilitate this program if I had more experience	-.36	.63	.24
Deviating from the program plan allows facilitators to meet program goals	.08	.29	.85
Participants will not buy into a program like this	.89	.13	.04
A program plan limits my ability to facilitate	.19	-.05	.78
The training I received has prepared me to successfully facilitate this program	.18	.77	.07
I would recommend this program to other groups	.91	.11	.17
Students will be highly engaged in this program	.78	.33	.00
It is important to deliver this program as it is designed	.46	-.02	.72
I have a high level of experience facilitating groups	-.03	.86	-.22

Note. Factor loadings over .60 appear in bold.

Postprogram variables. Two variables were collected postprogram from facilitators: facilitator-reported fidelity in terms of adherence to the program design and facilitator-reported participant responsiveness. Facilitator-reported fidelity was assessed on a 7-point Likert scale, consisted of five items ($\alpha = .77$, $M = 4.95$, $SD = 1.23$), and contained the following items: "I deviated from the program design," "I followed the predesigned program plans," "Deviating from program plans allows facilitators to meet program goals," "The program plan limited my ability to facilitate the program," and "It was important to deliver the program as designed." There were two items in facilitator-reported participant responsiveness ($r = .70$, $p < .001$, $M = 5.09$, $SD = 1.22$): "The participants were excited to be a part of this program" and "Participants did not buy into this program." These were assessed on a 7-point Likert scale. The student participant re-

sponsiveness question was assessed on a 5-point Likert scale and contained one item: "I was able to engage with the program activities" ($M = 4.09$, $SD = .69$). Facilitator- and participant-reported responsiveness were not associated (see Table 3).

Table 3
Descriptive Statistics

Variables	<i>M</i>	<i>SD</i>	Range	<i>n</i> of items	α
Facilitator Reports of Characteristics, Demographic Data, and Participant Responsiveness ($N = 28$)					
Facilitator Buy-In to Program (Pre)	6.01	1.21	1-7	6	.96
Facilitator Beliefs About Experience and Training (Pre)	5.77	0.93	1-7	6	.91
Facilitator Beliefs About Fidelity (Pre)	5.35	1.20	1-7	5	.87
Facilitator-Reported Fidelity (Post)	4.95	1.23	1-7	5	.77
Hours of Experience Facilitating (Pre)	375.67	489.44	8-2000	1	
Program-Specific Trainings Attended (Pre)	4.25	3.51	0-15	1	
Challenge Course-Specific Trainings Attended (Pre)	32.29	63.50	0-250	1	
Facilitator-Reported Responsiveness (Post)	5.09	1.22	1-7	2	
Student Reports of Responsiveness to the Program ($N = 78$)					
Participant-Reported Responsiveness (Post)	4.09	.69	1-5	1	

Results

We first ran a series of independent samples *t* tests to examine possible gender differences in beliefs about fidelity, beliefs about training and experience, program buy-in, fidelity, hours of reported facilitation experience, PSTA, CCT, and education level. Male and female facilitators did not differ on the following variables: beliefs about fidelity: males ($M = 5.1$, $SD = 1.50$), females ($M = 5.6$, $SD = .67$); beliefs about experience and training: males ($M = 5.6$, $SD = .97$), females ($M = 5.9$, $SD = .90$); program buy-in: males ($M = 5.7$, $SD = 1.48$), females ($M = 6.37$, $SD = .68$); fidelity: males ($M = 4.69$, $SD = 1.25$), females ($M = 5.22$, $SD = 1.20$); hours of reported facilitation experience: males ($M = 493.20$, $SD = 602.70$), females ($M = 228.80$, $SD = 248.10$); PSTA: males ($M = 5.13$, $SD = 2.88$), females ($M = 3.23$, $SD = 4.00$); CCT: males ($M = 43.53$, $SD = 80.03$), females ($M = 19.30$, $SD = 35.52$). However, facilitator education level differed by gender, $t(26) = 3.42$, $p = .002$, males ($M = 4.07$, $SD = 3.30$), females ($M = 2.54$, $SD = 2.01$).

Relationships between facilitator characteristics and reported fidelity are presented in Table 4. Facilitator beliefs about fidelity was associated with several other facilitator characteristics including fidelity ($r = .56$, $p = .01$), education level ($r = -.58$, $p = .002$), and CCT ($r = -.40$, $p = .04$).

Table 4
Relationships Between Facilitator Characteristics and Participant Responsiveness

Facilitator characteristics	1	2	3	4	5	6	7	8	9	10
1. Belief About Fidelity	1.00									
2. Belief About Experience	-.01	1.00								
3. Buy-In	.46*	.16	1.00							
4. Fidelity	.56**	-.16	.36	1.00						
5. Education Level	-.38*	-.21	-.34	-.19	1.00					
6. Experience Facilitating	-.58**	.40*	-.19	-.25	.37	1.00				
7. PSTA	-.33	-.12	-.35	-.29	.58**	.31	1.00			
8. CCT	-.40*	.18	-.59**	-.40*	.23	.42*	.20	1.00		
9. FRPR	.24	.15	.51**	.38	-.44*	-.07	-.55**	-.18	1.00	
10. PRR	-.11	.24*	-.16	-.16	-.03	-.04	-.03	.19	.10	1.00

Note. PSTA = program-specific training attended by facilitator; CCT = challenge course-specific training attended by facilitator; FRPR = facilitator-reported participant responsiveness; PRR = participant-reported responsiveness.

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

In summary, facilitators who believed that fidelity was important were more likely to facilitate with fidelity, were less educated, and received less challenge course- and program-specific training. Facilitator beliefs about experience and training were modestly associated with participant-reported responsiveness ($r = .24, p = .043$); this was the only significant association involving participant-reported responsiveness. Facilitator buy-in was correlated with the following variables: CCT ($r = -.59, p = .001$) and facilitator-reported participant responsiveness ($r = .51, p = .01$). Beliefs about fidelity was negatively correlated with hours of experience facilitating ($r = -.58, p = .002$) and CCT ($r = -.40, p = 0.04$). Beliefs about fidelity were positively correlated with buy-in ($r = .46, p = .01$). To examine the possibility that experience would moderate the association between buy-in and fidelity, we separated facilitators into two groups: high experience and low experience, with 12 facilitators in the low training/experience group and 13 facilitators in the high training/experience group. We found that in the low experience group, facilitator buy-in was not related to fidelity ($r = -.31, p = .33$); however, in the high experience group, facilitator buy-in was related to fidelity ($r = .62, p = .02$).

Discussion and Conclusions

The purpose of this study was to investigate the potential relationships between facilitator characteristics, participant responsiveness, and facilitator fidelity in terms of fidelity to the program design. Education level, although not a primary topic of this study, was related to some central variables in ways that warrant further discussion. Facilitator education level and its association with fidelity and other facilitator characteristics is an area that is underexamined (Larsen & Samdal, 2007) or in some cases thought of as congruent with facilitator experience. Conceptualizing experience and education as one variable may not always be accurate because these indicators may be somewhat orthogonal, especially in studies such as this one in which facilitators are all university students and/or employees. That said, in this study there was a significant positive correlation between hours of experience facilitating and education level. Furthermore, the education level of facilitators was negatively correlated with their beliefs about fidelity. These results may indicate a pattern such that facilitators who are more educated buy into a program less and correspondingly have less fidelity. In this program, the cofacilitators (student staff) were almost exclusively younger and had completed less education than lead facilitators—professional staff often with education beyond an undergraduate degree. This leads to the potential conclusion that more educated and experienced facilitators were more critical and/or cynical regarding the efficacy of program theory than were their less experienced peers and as such had lower fidelity to program design. This result provides additional context for research showing that facilitators who are more experienced may have lower program buy-in (Berkel, Mauricio, Schoenfelder, & Sandler, 2011; Durlak & DuPre, 2008). With their higher level of experience and education, they may have been able to recognize programmatic shortcomings that their less experienced peers could not. Another possibility is that “education” in this study reflects the age and life experience difference between the lead facilitators and cofacilitators. Cofacilitators were undergraduate students; they were different from the lead facilitators not only in education level, but also in professional status, age, and level of life experience. The cofacilitators were closer in age to the participants and may have been more relatable to participants than were their more experienced and older peers. This finding warrants further investigation to understand better under what conditions facilitator education level is related to their beliefs about program efficacy and, ultimately, program fidelity.

No relationship was found between reported fidelity and experience level in hours, nor was a significant relationship found between beliefs about training/experience and fidelity. However, we found significant negative correlations between fidelity beliefs and both facilitation experience and challenge course-specific trainings attended. These results somewhat parallel the perspectives of Dusenbury et al. (2003) and Rohrbach, Graham, and Hansen (1993), who posited

that experience levels could negatively influence fidelity. These results underscore the need for future investigations to distinguish between low fidelity (perhaps due to factors such as cynicism or burnout) and adaptation (in which facilitators with more experience make improvements to program design that enhance participant experience). Facilitators with more experience may be adept at making effective program adaptations by using their past experience with similar programs and judgment. Furthermore, Dusenbury et al. (2005), Hill, Maucione, and Hood (2007), and Mihalic et al. (2008) found that facilitator experience has a positive effect on fidelity. Additionally, education level was associated with beliefs about fidelity in general (assessed before the program), not fidelity to this specific program as measured immediately following the program. The combination of education and experience may be a factor that leads facilitators to be more predisposed to adapt or deviate from a program design when they see fit, which it seems that they did not do in the case of this program. An important goal of future research in this domain would be to examine systematically the conditions under which general beliefs about the importance of fidelity are, or are not, predictive of fidelity to a specific program design.

Facilitator buy-in was positively associated with beliefs about fidelity in this study. These results are consistent with the literature demonstrating that high facilitator buy-in should have a positive effect on fidelity (Durlak & DuPre, 2008; Johnson et al., 2006; Stein et al., 2008). This finding is consistent with the literature in that the more facilitators believe a program will be beneficial, the more likely they are to deliver it as designed (Durlak & DuPre, 2008; Stein et al., 2008). Participant responsiveness (whether rated by facilitators or participants) was unrelated to fidelity in this study, a pattern that is counter to other investigations (Century, Freeman, & Rudnick, 2008). Measurement and sampling issues may be a factor here because these constructs were measured with one (participant report) or two (facilitator report) among a relatively small sample.

We found that buy-in was unrelated to fidelity in the low experience group. However, in the high experience group, buy-in was positively associated with fidelity. The correlation between buy-in and fidelity is interesting. It is concurrent with the literature that buy-in is related to fidelity (Dusenbury et al., 2005). However, this is the first study to our knowledge demonstrating that buy-in may be particularly salient (at least in terms of implementing with high fidelity) for facilitators who are more experienced. Although these results are preliminary, it is possible that when facilitators are more experienced, their buy-in is more critical than that of their less experienced peers to maintain fidelity. Perhaps trainings should be designed such that facilitators with more experience are more involved with programming decisions. This strategy has been shown to enhance facilitator buy-in (Durlak & DuPre, 2008). Furthermore, it is possible that less experienced facilitators are more likely to adhere to a program plan, regardless of their buy-in, than are their more experienced peers. Facilitators with higher levels of experience may have a better sense of program efficacy (or at least they may believe that they have a better sense), and they may question program efficacy more; they may also have better ideas to improve a program. In other words, perhaps facilitators who are more educated and experienced make adaptations in ways that they believe improve program quality and may be especially likely to do so when they question program theory or goals.

Strengths and Limitations

Some important study limitations should be noted. First, one benefit of measuring fidelity is that it allows program evaluators to identify fidelity of specific program components and, in turn, identify which components are most strongly related to program outcomes (Johnson et al., 2006; O'Donnell, 2008). However, in this study we were not able to measure facilitator fidelity in this way. We had to measure global program fidelity, and as such, we were not able to identify specific components that were implemented with low or high fidelity. Although the program plan was conceptualized months before implementation, the final edition was not fully complete

until about 1 week prior to program implementation. This short time did not allow the design of a measure that accurately reflected facilitator fidelity on a component-by-component basis. This information could have improved our understanding of which components were delivered with fidelity and which areas were more challenging. Additionally, this information would be helpful in our understanding of the relationships between facilitator characteristics and specific program types and delivery methods. For example, do facilitators with higher buy-in deliver a particular activity or component with more fidelity than those with lower buy-in?

A second limitation involves the sample size. This study was designed with a larger sample in mind. The intended study sample was much larger (40 facilitators, 200 student participants) than the actual study sample (25 facilitators, 78 students). However, because of issues with recruiting student participants, the number of facilitators delivering the program was cut to reflect the number of student participants. The resulting low statistical power associated with the smaller sample limited our ability to detect statistically significant associations and increased the likelihood of type II error.

This is the first study to our knowledge in which the relationships among facilitator characteristics as well as their relationship to fidelity and participant responsiveness have been examined. A focus on facilitator experience levels, training, and buy-in allows for program developers, researchers, and administrators to understand better which factors contribute to fidelity and, in turn, the best outcomes for program participants. These results also may assist in facilitator selection, screening, and development. One advantage of the design of this study is that nearly all of the information related to facilitator characteristics was collected prior to program implementation; this strategy indicates that if potential issues or shortcomings are discovered, program modification or further training of facilitators is still possible. This study benefited from having both pre- and posttest data as well as a diverse group of facilitators who varied across a range of characteristics, including their experience levels and buy-in to the program. The measure of facilitator beliefs about their training, fidelity, and experience was also the first to our knowledge, further contributing to the field of implementation assessment. These measures complement the robustness of a fidelity assessment and give evaluators a more accurate representation of what occurred in their program.

The primary goal of this study was to explore the relationships among facilitator characteristics and fidelity. The knowledge gained from the understanding of facilitator characteristics and their relationship with each other can aid in facilitator selection and training for programs, which may directly influence program quality and participant outcomes. With this information, we may be able to develop training to address the specialized training needs of individual facilitators, rather than designing a one-size-fits-all approach to training. Additionally, the assessment of facilitator beliefs about a program may help to improve it because it can reveal potential weaknesses unseen by the program designers.

This study revealed information regarding not only the more conventionally examined areas of fidelity research such as buy-in, experience, and training, but also the areas of facilitator beliefs about their own experience, the importance of fidelity, and their training. Facilitator beliefs about training and experience were positively correlated with reported experience, and facilitator beliefs about fidelity were highly correlated with reported fidelity. More research into facilitator beliefs is needed, but in the future it may be important to consider how facilitators' implementation beliefs affect how programs are delivered.

The negative association of buy-in and select program outcomes is not consistent with past research (Dusenbury et al., 2003), nor is the negative association of training with buy-in (Durlak & DuPre, 2008). Future investigation into these associations may lead to different findings. It is unclear why in this study these associations were atypical. Buy-in had a weaker positive relationship with reported fidelity, and there was also a more significant positive correlation with beliefs about fidelity and buy-in. This finding is consistent with prior research (Dusenbury et al., 2005;

Johnson et al., 2006) and indicates the importance of developing and maintaining the buy-in of program facilitators to ensure better program fidelity.

The relationship of facilitator education level to other variables was less clear. Although this variable has been investigated (Larsen & Samdal, 2007), the research in this area is relatively unexplored. In this study, all facilitators had at least some college and many had advanced degrees, but in a college setting this may not be unusual. Given the negative relationship between education and several variables, this area is also worthy of future investigation. Although not a topic of this article, another area worthy of future investigation in regard to program implementation, fidelity, and level of training is facilitator competency, defined as the level of skill and understanding a facilitator possesses when delivering a program (Milligan, 1998). Indeed, in an investigation of Extension program facilitators, Franck-Cyr (2008) found that quality training enhanced facilitator competency and contributed to facilitators feeling more confident about their efficacy as facilitators, although the author did not explicitly link confidence with fidelity or implementation quality.

Fidelity research is wide open for development, particularly in experiential, outdoor, and adventure education (Tucker & Rheingold, 2010). The concept of fidelity is complex, is multidimensional, and is influenced at many levels from the design of the program to the characteristics of the facilitators and participants. The questions regarding when program change reflects adaptation and when it represents low fidelity also contribute to the complications of this construct. Future development into how facilitator beliefs, general and specific competence, and characteristics influence fidelity and participants could lead to programmatic improvement in outcomes for participants and enhanced training for facilitators. Additionally, given the recognized importance of fidelity in many fields of social science research, additional exploration into these constructs will enhance conclusions that can be made about the benefits and viability of programs.

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