

The Impact of Gatekeeper Training for Suicide Prevention on University Resident Assistants

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Abstract:

Resident assistants (RAs) can serve as important suicide prevention gatekeepers. The purpose of the study was to determine if training improved RAs' crisis communications skills and suicide-related knowledge and to determine if the knowledge elements predicted crisis communications skills. New RAs showed significant improvement in all areas from pretest to posttest, whereas returning RAs showed no significant increase in any of the areas. None of the knowledge areas predicted communications skills for either group.

Keywords: suicide | gatekeeper training | resident assistants

Article:

Suicide is a significant problem in the college population (Kisch, Leino, & Silverman, 2005; Westefeld et al., 2006). It is the second leading cause of death among the U.S. college-age population (National Mental Health Association & the Jed Foundation, 2002), and it is estimated that there are 100 to 200 suicide attempts for every suicide completion (American Association of Suicidology, 2004). The National College Health Assessment conducted in Spring 2008 ($N=80,121$) illustrated widespread suicide risk factors in the U.S. college population (American College Health Association [ACHA], 2009). Depression was the fourth ranked health problem during the past school year as self-reported by respondents. Furthermore, 36.7% reported feeling frequently overwhelmed, about 62% reported feeling hopeless, and 43% reported feeling so depressed at times that it was difficult to function (ACHA, 2009). It is clear that anxiety, depression, and other risk factors for suicide are present in current college students. More specific to suicide, 1.3% of participants reported that they had attempted suicide at least once during the past school year, and 9.0% of participants reported that they had seriously considered suicide (ACHA, 2009). Clearly, suicide prevention for college students is important.

Unfortunately, a service gap exists between the students who could benefit from counseling and those who seek it (Kadison & DiGeronimo, 2004; Kisch et al., 2005). On average, 10.4% of the students at campuses with counseling centers use the counseling center (Gallagher, 2009). According to Kisch et al. (2005), 80% to 90% of college students who die by suicide did not seek services at their college counseling center.

Gatekeeper training has been identified as a key strategy in suicide prevention in youth (Centers for Disease Control and Prevention, 1992; Chagnon, Houle, Marcoux, & Renaud, 2001; Gould & Kramer, 2001). The resident assistants (RAs) who live and work within the residence halls on college and university campuses are critical targets for gatekeeper training. However, little is known about best practices in training RAs (or other gatekeepers) to serve as a safety net for at-risk students. In the present study, we examined a brief suicide prevention curriculum provided to the RAs employed within a large university residential life system, to better understand their potential role as gatekeepers in campus suicide prevention.

Gatekeepers are naturally occurring helpers who come into contact with those who might be at risk and are in a position to observe warning signs and make referrals to help. In the college environment, RAs are one key group of gatekeepers (Taub & Servaty-Seib, 2011). RAs interact with students more than other student affairs professionals and are therefore in a position to intervene more directly in students' lives (Eichenfield, Graves, Haslund, & Slief, 1988; Schuh, Stage, & Westfall, 1991). RAs are seen as "natural helpers" (Lindsey, 1997, p. 231). Students' proximity to and familiarity with RAs can be especially helpful in crisis situations because students can readily seek them out for assistance (Blimling, 2003). Bailey and Grandpre (1997) identified two important RA roles as those of counselor and crisis manager. Acting as paraprofessionals, RAs can offer short-term remedial services, including crisis intervention, and refer students to mental health resources as necessary (Upcraft & Pilato, 1982). Also, given the number of students with whom a single RA interacts, the training of RAs to be more attuned to suicide-related issues is an efficient way to benefit a large number of students.

Although gatekeeper training is considered an evidence-based prevention strategy, research on the effectiveness of such training programs is limited (Gould & Kramer, 2001).

The purpose of gatekeeper training is to develop the knowledge, attitudes, and skills to identify students at risk; to determine the levels of risk; to manage the situations; and to make a referral when necessary. Typically, the training covers risk factors for suicide, how to identify adolescents at risk, case studies of suicidal youth, and information on referral techniques and community mental health resources (Garland & Zigler, 1993; Kalafat & Elias, 1995). (Gould & Kramer, 2001, p. 15)

The content, goals, and modes of delivery of gatekeeper training programs, as well as the gatekeepers targeted, all vary widely. Despite the variations, researchers who have studied gatekeeper training programs have generally found improvements in one or more of the

following: attitudes, knowledge, intentions to help, and crisis communications skills (Botega et al., 2007; Chagnon et al., 2001; Davidson & Range, 1999; Kalafat & Elias, 1994; Maine, Shute, & Martin, 2001).

RAs are clearly an excellent target group to receive gatekeeper training; however, RA training is a rather complicated undertaking. The time typically available for RA training is limited, and the topics that must be covered for this complex job are numerous (Blimling, 2003; Heppner & Reeder, 1984; Jaeger & Caison, 2006). In addition, the current outcome data on RA training offer little about how such training may have an impact on RAs' helping or interpersonal skills. Particularly lacking is any indication of the effectiveness of training designed to assist RAs in becoming more effective in crisis situations. Rather, training has been found to increase RAs' perceived seriousness of their job and to provide a means to disseminate the benefits of educational trainings throughout the residence hall (Bertschy, 1974). Upcraft and Pilato (1982) found that the job performance of trained RAs exceeded that of nontrained RAs in every criterion measured. Furthermore, researchers suggest that job effectiveness may not increase simply by the amount of experience one has as an RA (Dickson, Ponikvar, Bertschy, & Tomlinson, 1981; Winston & Buckner, 1984). Although limited research does exist, there is evidence to suggest that RA training can serve as a foundation that promotes RA competency and continued growth throughout their experience working with students.

The purpose of the present investigation was to assess the effectiveness of suicide prevention gatekeeper training provided to RAs at a large midwestern university. Particular aspects of note regarding the campus housing system in question include the following: More than 10,000 students live on campus in 15 residence halls, residential life employs approximately 300 RAs and staff residents (senior RAs: all referred to as RAs in this study), and there are no professional staff who live in the halls. With regard to this final point, RAs have even greater responsibility for the welfare of their residents because they are the only staff members present after-hours. Therefore, they were an even more important group of gatekeepers than RAs at many comparable universities.

To provide effective RA training, we considered many factors in the development of the gatekeeper training program used in the present investigation. These factors included the length of training, timing of the training, the approach to the training, and the individual differences among RA participants.

Numerous researchers have shown that even brief or short-term RA training interventions can be effective. For example, after attending a 90-minute session designed to increase assertiveness, participants in the training were able to offer higher quality assertive responses and be assertive more frequently than participants in a control group (Layne, Layne, & Schoch, 1977). Results from another study showed a significant increase in interpersonal functioning among RAs following a single session of systematic human relations training (Schroeder, Hill, Gormally, & Anthony, 1973). In a more recent study (Murray, Snider, & Midkiff, 1999), conflict resolution

skills among RAs were bolstered following a single training session, and these gains remained 4 weeks after the training. Findings such as these indicate that a single training session can be effective in increasing RA job performance and that these gains can persist over time.

RAs who were trained prior to assuming their duties benefited more from their training than RAs who were trained after assuming their RA duties (Winston & Buckner, 1984). Experiential, hands-on, and scenario- or situation-based training is very popular among RAs (Twale & Muse, 1996), and Murray, Kagan, and Snider (2001) found that training programs that are practical in nature are especially appreciated by inexperienced RAs.

Although the duration, timing, and approach of the training are important, individual differences among participants also affect the degree of training effectiveness. Previous experience in the RA role has been shown to influence one's receptivity to training. Murray et al. (2001), for example, found that experienced RAs' self-confidence declined following a theoretically oriented program whereas inexperienced RAs' self-confidence was increased. An individual's skill level, whether perceived or real, may also contribute to training effectiveness. RAs who see themselves as most confident, having the most personal control, and being willing to approach rather than avoid problems have rated training as more useful than RAs who scored lower on these categories (Heppner & Reeder, 1984). The researchers hypothesized that those more willing to approach problems were more likely to apply the training content and thus rated it as being more helpful (Heppner & Reeder, 1984).

The specific gatekeeper training program used in the present investigation took into account the factors of duration, timing, approach, and RA individual differences. More specifically, the training offered was 2 hours in length, occurred prior to RAs beginning their work for the academic year (in August), and included significant experiential elements. In addition, two separate gatekeeper training programs were offered: training for new RAs and training for returning RAs. The returning RAs had received the new RA training the summer before. A two-track training model was adopted to address RA differences in experience and to maintain the interest and engagement of the returning RAs during training.

The gatekeeper training programs used in this study included information about college student suicide, suicide warning signs, campus resources, and how to respond to individuals in crisis (Wallack, 2007). The training program also included opportunities to practice paraphrasing thoughts and feelings and understanding the experience of crisis. Finally, the training program included one or more role plays.

Three primary research questions guided the present investigation:

- *Research Question 1:* Does training improve new RAs' (a) crisis communications skills, (b) suicide knowledge, (c) knowledge of suicide warning signs, and (d) knowledge of places to refer?

- *Research Question 2:* Does training improve returning RAs' (a) crisis communications skills, (b) suicide knowledge, (c) knowledge of suicide warning signs, and (d) knowledge of places to refer?
- *Research Question 3:* Do suicide knowledge, suicide warning signs, and places to refer predict the crisis communication skills of either new RAs or returning RAs?

Method

Participants

The ALIVE @ [institution name] team trained approximately 300 RAs during August 2008. Eighty-one RAs (47 new and 34 returning) completed pretraining evaluations. Out of the 81 RAs who completed the pretest, 48 completed the posttest (30 out of 47 new RAs and 18 out of 34 returning RAs). One hundred sixty-six RAs (103 new and 63 returning) completed the posttraining evaluations. Of the 166 who completed the posttest, 30 of the 103 new RAs and 18 of the 63 returning RAs had completed the pretest. Because new RAs and returning RAs received separate trainings with different content, we examined them separately. Overall, the returning RAs' response rate (pretest: 23%; posttest: 42%) was lower than the response rate of the new RAs (pretest: 31%; posttest: 69%).

Because a significant portion of RAs did not complete either the pretest or posttest, multivariate analyses of variance (MANOVAs) were conducted to determine if there were any group differences in posttest scores between RAs who completed the pretest and those who did not complete the pretest. For the new RAs, a MANOVA indicated there were significant differences between new RAs who completed the pretest and those who did not complete the pretest, $F(4, 98) = 4.95, p = .001$. The results indicated that new RAs who completed the pretest had more posttest of suicide knowledge than new RAs who did not complete the pretest, but the effect size was small ($\eta_p^2 = .09$). It could be that completing the pretest questions may have influenced these individuals to attend more to the suicide knowledge material when it was discussed during the training. For the returning RAs, the MANOVA indicated there were no significant differences on variables between returning RAs who did complete the pretest and those who did not complete the pretest, $F(4, 39) = 0.46, p = .76$.

In the sample of new RAs and returning RAs who completed both the pretest and the posttest there were 24 women and 24 men. Age of participants ranged from 19 to 32 years ($M = 21.79, SD = 1.92$). In terms of race/ethnicity, the group consisted of 36 White, 5 Asian, 2 Hispanic, 3 biracial, and 2 international students. Regarding the item assessing sexual orientation, most of the RAs ($n = 42$) reported that they were heterosexual, with 4 gay/lesbian responses and 2 responses categorized as "other." RAs indicated their class standing as either sophomore ($n = 1$), junior ($n = 14$), senior ($n = 25$), master's level ($n = 5$), or doctoral level ($n = 3$). With regard to area of study, there were 11 in engineering, nine in liberal arts, eight in technology, five in science, four in consumer sciences, four in pharmacy, two in education, two

in management, one in agriculture, one in forestry and natural resources, and one in health science.

Instruments

The evaluation packet included a demographic form, the Suicide Intervention Response Inventory–2 (SIRI-2; Neimeyer & Bonnelle, 1997), the Knowledge of Suicide Scale, and a single question asking participants to list potential places to refer students who are emotionally overwhelmed.

Demographic information. The demographic information form consisted of questions assessing age, sex, race, sexual orientation, year in the university, major, and a question asking if they were a new or returning RA.

SIRI-2 (Neimeyer & Bonnelle, 1997). Participants' crisis communication skills were measured using the SIRI-2 (Neimeyer & Bonnelle, 1997). The Suicide Intervention Response Inventory (SIRI; Neimeyer & MacInnes, 1981) was initially developed for assessing counselors' ability to communicate with suicidal clients. The original SIRI consists of 25 items, made up of a series of hypothetical client statements followed by two possible "helper" replies. One of the helper responses is considered facilitative for suicide prevention and the other response is considered not appropriate. Respondents are instructed to select one of the two potential helper responses as the more optimal response to each suicidal client comment.

Although the SIRI exhibited strong psychometrics (Cotton & Range, 1992; Neimeyer & MacInnes, 1981), Neimeyer and Bonnelle (1997) concluded that the original scoring system had a ceiling effect with highly experienced counselors; expert groups scored near the upper limit of the scale, and, therefore, the scale appeared less sensitive to training effects.

To eliminate the ceiling effect with skilled counselors, a second version of the SIRI (i.e., SIRI-2; Neimeyer & Bonnelle, 1997) was developed. Whereas the original SIRI directs respondents to choose one of the two responses offered, the SIRI-2 directs respondents to rate each of the helper responses using a 7-point scale to indicate the appropriateness of each. The authors argued that this process allows more subtle judgments about each potential helper response. Each item is scored from +3 (*highly appropriate response strongly agree*) to -3 (*highly inappropriate response strongly disagree*). Rather than totaling respondents' ratings of each item directly, Neimeyer and Bonnelle (1997) recommended calculating the discrepancy between respondents' ratings of each item and the mean item ratings endorsed by a panel of experts (see the authors' article for a table with these means). The process of calculating a total skills score for each respondent is then done by summing the absolute values of these discrepancy scores. Using this approach, lower scores indicate greater response skills in the SIRI-2.

As with the original scale, the SIRI-2 exhibits encouraging psychometric properties. The construct validity of the SIRI-2 was tested by comparing the scores of introductory psychology

students and master's-level counseling psychology trainees. The SIRI-2 discriminated between the crisis communication skills of these two groups (Neimeyer & Bonnelle, 1997). To compare the sensitivity of the original SIRI and SIRI-2, we compared the master's-level counseling students' scores on both measures before and after they received suicide intervention training. With the original scoring system (for SIRI), no training effect was found (pretest $M= 23.13$, $SD= 1.99$; posttest $M= 24.29$, $SD= 1.69$), $F(1, 31) = 2.55$, $p= .115$, but with the scoring approach developed for the SIRI-2, scores improved significantly (pretest $M= 54.66$, $SD= 17.86$; posttest $M= 41.02$, $SD= 9.95$), $F(1, 31) = 30.65$, $p < .001$ (Neimeyer & Bonnelle, 1997). The SIRI-2 is reported to have high internal consistency reliability, with Cronbach's alphas ranging from .90 to .93, and a high test-retest reliability over a 2-week period ($r= .92$; Neimeyer & Bonnelle, 1997). In the present sample, Cronbach's alphas for the SIRI-2 were .81 and .79 for pretest and posttest, respectively.

Suicide knowledge. Suicide knowledge was measured using a five-item true-false scale developed by selecting a subset of items (selected by ALIVE @ Purdue team) from Fremouw, de Perczel, and Ellis's (1990) list of suicide myths and risk factors. The following is an example item: "People who talk about suicide won't really do it." In addition, we added an open-ended item directing respondents to list as many warning signs of suicide as they could recall. The scores from the true-false scale and the list of warning signs were used as separate indicators of suicide knowledge. Each of the items used was tied directly to the content of the gatekeeper training program.

Knowledge of place to refer. Knowledge of place to refer was assessed by a single question directing respondents to list as many places as they could recall where they could refer students to speak with a mental health professional. We summed the number of places respondents listed to see how many places they were aware of for referring students.

Procedure

An online procedure was used for pretest data collection and a pen-and-paper approach was used for collecting posttest data. For the pretest, a web-based survey was designed (firewall and password protected) to collect data anonymously (i.e., no Internet protocol addresses were collected). RAs were contacted via direct e-mail 1 week prior to the suicide prevention training. The e-mail explained the nature of this study and provided a link to the survey. Immediately following the training, a paper-and-pencil version of the research packet was distributed to RAs, and they were asked to fill out the evaluation form if they were willing to participate. At both data collection points, RAs were asked to provide the last three digits of their phone numbers and the month of their birth to match their pretest and posttest responses. RAs were informed that participation was completely voluntary, and they were not required to complete the evaluation form to be involved in the program. An incentive of a \$100 Amazon.com gift certificate, with 1 in 300 odds of winning, was offered to all participants at pretest and posttest points.

Results

Because new and returning RAs received different training, it was necessary to analyze the data for each group separately rather than treating new or returning as another variable. The pretest and posttest means and standard deviations for each variable are presented in Table 1. Two one-way MANOVAs indicated there were no significant differences for new RAs on pretest variables (i.e., crisis communication skills, suicide knowledge, and places to refer) based on sex, $F(4, 25) = 0.77, p = .56$, or ethnicity (White vs. non-White), $F(4, 25) = 2.31, p = .086$. Two one-way MANOVAs indicated there were no significant differences for returning RAs on pretest variables based on sex, $F(4, 13) = 0.30, p = .875$, or ethnicity, $F(4, 13) = 2.17, p = .129$.

Table 1. Means and Standard Deviations for New and Returning Resident Assistants (RAs)

Variable	Pretest		Posttest	
	M	SD	M	SD
New RAs (n = 30)				
SIRI-2	86.84	27.86	59.08	15.81
Suicide knowledge	4.37	0.72	4.73	0.52
Suicide warning signs	2.43	1.33	3.59	1.52
Places to refer	1.90	1.24	2.26	1.13
Returning RAs (n = 18)				
SIRI-2	74.96	34.23	71.37	26.76
Suicide knowledge	4.50	0.62	4.53	0.72
Suicide warning signs	2.33	1.50	2.29	1.80
Places to refer	2.61	1.04	2.71	1.21

Note. SIRI-2 = Suicide Intervention Response Inventory–2.

A series of four repeated-measures analyses of variance (ANOVAs) were performed with data from the new RAs ($n = 30$), one analysis for each primary variable. Results indicated training effects for crisis communication skills scores, $F(1, 29) = 47.35, p = .000, \eta_p^2 = .62$; knowledge of suicide, $F(1, 29) = 5.58, p = .025, \eta_p^2 = .16$; suicide warning signs, $F(1, 29) = 8.77, p = .006, \eta_p^2 = .24$; and places to refer, $F(1, 29) = 12.36, p = .001, \eta_p^2 = .30$. As indicated in Table 1, the mean scores of the SIRI-2 significantly decreased from pretest to posttest for new RAs. As the low scales indicate greater crisis communication skills in the SIRI-2, the decreased scores in SIRI-2 reflect increase in skills. As is indicated by the standard deviations in Table 1, new RAs became much more similar to one another in their crisis communication skills following the training.

A series of four repeated-measures ANOVAs were performed with data from the returning RAs ($n= 18$), one analysis for each primary variable. Results indicated no significant training effects for any of the variables: crisis communication skills, $F(1, 17) = 0.86, p= .368, \eta_p^2= .05$; suicide knowledge, $F(1, 17) = 0.00, p= 1.000, \eta_p^2= .00$; suicide warning signs, $F(1, 17) = 0.01, p= .923, \eta_p^2= .00$; and places to refer, $F(1, 17) = 0.02, p= .878, \eta_p^2= .00$.

Two simultaneous regression analyses were performed to determine which, if any, posttest variables (i.e., suicide knowledge, suicide warning signs, and places to refer) contributed to the prediction of the posttest communication skills of new and returning RAs. The results indicated that none of the variables contributed to the prediction of crisis communication skills for new RAs, $R= .47; R^2= .23$ (adjusted $R^2= .13$), $F(3, 28) = 2.42, p= .09$, or returning RAs, $R= .38; R^2= .14$ (adjusted $R^2= .06$), $F(3, 16) = 0.71, p= .562$ (see Table 2). The results suggest that crisis communication skills and knowledge-related assessments were significantly affected by training. However, it is important to note that the knowledge variables did not predict skill at posttest.

Table 2. Simultaneous Regression Analysis Predicting Posttest Communication Skills of New and Returning Resident Assistants (RAs)

Variable	New RAs ^a			Returning RAs ^b		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Suicide knowledge	-7.30	5.40	-.25	-10.02	10.19	-.27
Suicide warning signs	-2.25	2.16	-.22	-2.91	4.07	-.20
Places to refer	-2.57	2.88	-.19	-1.42	6.37	-.06

^a $n= 30; R^2= .23$. ^b $n= 18; R^2= .14$.

Discussion

Gatekeeper training in suicide prevention typically focuses on gatekeeper attitudes, skills, and knowledge necessary to recognize individuals at risk and make effective referrals to available sources of assistance (Gould & Kramer, 2001). Prior researchers studying the effectiveness of gatekeeper training with a variety of audiences (Botega et al., 2007; Chagnon et al., 2001; Davidson & Range, 1999; Kalafat & Elias, 1994; Maine et al., 2001) have found improvements in one or more of the following: attitudes, knowledge, intentions to help, and crisis communications skills. In the current study, we focused on an important group of university gatekeepers—RAs—and the impact of training on their knowledge and crisis communications skills.

In the current study, new RAs showed significant improvements in their knowledge of suicide, knowledge of suicide warning signs, knowledge of places to refer, and crisis communications skills. This is consistent with previous literature on gatekeeper training (Botega et al., 2007; Chagnon et al., 2001; Davidson & Range, 1999; Kalafat & Elias, 1994; Maine et al., 2001). This finding also is consistent with the RA training literature that has found training to be effective at increasing skills in RAs (Layne et al., 1977; Murray et al., 1999; Schroeder et al.,

1973). The finding further supports previous research that has found that single-session trainings can effect significant change in a variety of areas of RA performance (Layne et al., 1977; Murray et al., 1999; Schroeder et al., 1973).

Returning RAs, however, showed no significant improvements on any of the variables. It is not surprising that the scores of the new RAs changed more than those of the returning RAs because all returning RAs had received the new RA training in the previous year's training. Their pretest scores indicate that they were already more knowledgeable and skilled than new RAs prior to the current round of training. It may be that, despite efforts to design an engaging program that would refresh returning RAs' knowledge and skills without repeating old material, returning RAs perceived the training to be a repetition of what they had previously learned and, therefore, did not attend to the training as carefully as new RAs. It also may be that the returning RA program is not as effective at increasing knowledge and skills as the program for new RAs, or at least not as effective at raising the skill level above that already possessed by experienced RAs.

Of interest is the finding that none of the knowledge areas (suicide, warning signs, and places to refer) predicted communications skills for either group. This finding suggests that knowledge about suicide and crisis communication skills are quite separate domains. If this is the case, gatekeeper training needs to address skills directly in addition to addressing knowledge in order to increase gatekeeper skills. On the basis of the training provided here, an experiential format that allows RAs to role-play a crisis situation is a likely effective way in which to address crisis communication skill development.

Limitations of the Study

There are several limitations to the study that should be noted. Of primary importance is the low participation rate of RAs completing both the pretest and posttest instruments. It may be that a large number of RAs were simply too busy with preparing to return to the university for training to check their e-mail or to respond to the pretest. Because the pretest was distributed through e-mail, it is possible that RAs who did not regularly check e-mail or were less technologically savvy could be particularly underrepresented. However, the strong effect sizes of the new RA training outcomes do suggest that meaningful change occurred. Instrumentation was all self-report, and data were thus subject to self-report and social desirability biases. Also, all participation was voluntary in nature, and RAs who opted to participate might differ from those who chose not to participate.

Implications for Practice and Ongoing Implementation

There are several implications for college counselors and student housing professionals. First, gatekeeper training of RAs is a component of at least two other primary efforts that take place on college campus: suicide prevention efforts and the relationship between college counseling centers and residence life. The focus on RA gatekeeper training is just one piece of both of those efforts and needs to be understood in that context. Furthermore, this gatekeeper training involves

other systems, which should be in place to support the gatekeeper training effort (e.g., liaison relationships between counseling centers and residence life, campus counseling on call). This gatekeeper training does not supplant counseling services; rather, it is one piece of the ongoing collaboration between the counseling center and residential life.

Second, it is vital for counseling center clinicians to be involved in the training of RA gatekeepers for skill development around communication. College counselors are skilled clinicians who are well poised to model and train communication skills. Because the findings of this study suggest that knowledge did not predict the development of communication skills, those skills need to be addressed directly in training. College counselors may be among the best equipped people on the campus to provide that direct skill modeling and training.

Furthermore, there is an important role for college counselors to play in the development of the gatekeeper training curriculum. On the campus in question in this study, two college counselors played integral roles in helping to adapt the selected gatekeeper training curriculum to the circumstances and characteristics of this campus and this student body.

In addition, this project addresses the role of counseling centers in receiving students who are in distress. Gatekeepers may make the initial connection (e.g., identifying students in distress), but this is done to help ensure that referrals are made through appropriate channels and in specific circumstances. To expedite the referrals of students in need of services, it makes sense that college counselors be involved with training the gatekeepers who will be making those referrals.

Additionally, given the prevalence of college student suicide and the demonstrated increases in knowledge and skill related to suicide referral, this study underscores the benefit of providing gatekeeper training on suicide prevention to RA staff. With their ongoing contact with students living on campus, many of whom are 1st-year students who are particularly at risk (Brenner, Hassan, & Barrios, 1999), gatekeeper training of RAs is an efficient and potentially valuable way to provide suicide prevention services. Particularly relevant is the inclusion of a practical component—a role play that allowed RAs to apply specific crisis communication skills—in addition to material geared toward increasing knowledge. Although follow-up on whether RAs trained with the ALIVE @ Purdue program are subsequently more able than their peers to use these skills during a crisis situation on their hall is beyond the scope of this study, the increase in crisis communication skills suggests that they are more equipped to use these skills than they would have been prior to training.

RAs, however, are not the only individuals who serve as gatekeepers. Academic advisors, orientation leaders, Greek and other nonresidence hall housing staff, and university faculty are all individuals who might also benefit from suicide prevention training, because of their contact with students. Those who serve populations of students shown to be most vulnerable should be particularly targeted for gatekeeper training.

An additional factor to consider in development of training programs is how to address skill development directly, rather than assuming that increased knowledge will result in acquisition of new skills. Ways to do this include having RAs watch the skills being modeled by an experienced RA or a professional staff member and then discussing what they have observed, viewing and discussing a videotaped demonstration, and practicing skills through a role play (Taub & Servaty-Seib, 2011). The current training program included a group role play that allowed RAs to both contribute and hear other RAs' responses followed by a debriefing of the strengths and challenges experienced by RAs during the role play.

Two practical issues are key to consider for ongoing implementation of campus gatekeeper training. One is the issue of who on campus will provide gatekeeper training and the resources for training. The other practical issue is that of adequacy of existing counseling resources to respond to a likely increase in referrals created by gatekeeper training. The increase in demand for services faced by college counseling centers is well-documented (Gallagher, 2009; Smith et al., 2007). At the same time, the majority of counseling centers have not seen concomitant increases in resources to keep up with this demand (Gallagher, 2009) and as a result are being asked to "do more with less" (Smith et al., 2007, p. 64). Therefore, a suicide prevention gatekeeper training program designed to increase referrals to the counseling center needs to be paired with plans for dealing with an even more greatly increased demand for services. As gatekeepers are being trained to make referrals of at-risk students, it is important that college counseling centers be closely involved because they will be receiving those referrals. Plans to respond to increased demand created by gatekeeper referrals could include imposing session limits (Ghetie, 2007) or decreasing the number of sessions available to clients, increasing the amount of counselor time devoted to direct services, increasing the use of group counseling to serve more clients, and referring clients to other resources (Smith et al., 2007). Furthermore, it is important for counseling centers to monitor increases in referrals and use of services that occur as a result of gatekeeper training. Figuring out how to triage and serve students so that RAs continue to refer overwhelmed students to campus counseling resources is vital. Otherwise, frustration at a perceived lack of responsiveness to referred students might reduce RAs' willingness to refer students to the campus counseling center.

When considering who on campus will provide gatekeeper training and resources for the training, it is important to consider the resources of each individual campus, especially given the demands already placed on college counseling centers (Gallagher, 2009; Smith et al., 2007). Perhaps student affairs professionals on campus, such as those working in residence life or the dean of students office, might be able to collaborate to provide components of gatekeeper training. Questions would be the following: What kind of training or background do those professionals possess? What kind of training or background is necessary and what training or background is desired? The campus may have academic or professional training units with areas of expertise around gatekeeper training or other suicide prevention activities or faculty members with such expertise. There may be resources in the community, such as a community mental

health association, for provision of training opportunities. Seeing this as a potential opportunity for sharing responsibility and resources might increase the overall feasibility of providing RA gatekeeper training. For example, the program evaluated in this study was made possible through a partnership between two academic programs on campus and a college counseling center (see Wachter Morris et al., 2010).

Implications for Further Research

The present study provides initial data regarding the effectiveness of one gatekeeper training program in increasing RAs' suicide knowledge and crisis communication skills. However, additional research is necessary to determine whether (a) findings would generalize to other campuses, (b) gains made persist over time, and (c) changes in RA skill result in higher rates of identification and referral of at-risk students.

Also, it would be beneficial to understand how suicide gatekeeper training relates to gatekeeper suicide prevention and referral self-efficacy, to determine whether RAs with higher levels of prevention or referral self-efficacy are more likely to intervene or refer their residents. Trainees' levels of self-efficacy around referral could be measured prior to and after the training to determine if self-efficacy was raised by training; furthermore, the possible relationship between self-efficacy and referral could be explored.

Finally, this study focused solely on the perceptions of RAs. The residents they serve, however, are another important population to study. What are the residents' perceptions of their RAs' suicide prevention knowledge, crisis communication skill, and likelihood to refer? Similarly, the perceptions of RAs' supervisors could be studied to determine how professional staff who supervise RAs rate the RAs' knowledge, skills, and likelihood to refer. It would be interesting to compare such ratings to residents' ratings and to the RAs' posttraining scores measuring these constructs.

Conclusion

RAs are a relatively untapped resource for provision of suicide prevention services. In this study, new RAs who trained through a specific suicide gatekeeper training program demonstrated gains in knowledge of suicide, knowledge of suicide warning signs, knowledge of places to refer, and crisis communications skills. The finding that knowledge was not correlated with crisis communications skills provides important information for the design of gatekeeper trainings for populations such as RAs. Specifically, the findings suggest that such trainings must focus on both knowledge and skills. Although additional research is necessary to understand the persistence and impact of these gains, this study provides support that training can increase RAs' knowledge and skills necessary to serve as gatekeepers and, therefore, provides impetus for consideration of RAs as an important population of suicide prevention gatekeepers on college campuses.

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