

## Does a Gatekeeper Suicide Prevention Program Work in a School Setting? Evaluating Training Outcome and Moderators of Effectiveness

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The suicide prevention gatekeeper training program QPR (Question, Persuade, and Refer) was evaluated among school personnel using a nonequivalent control group design. Substantial gains were demonstrated from pre- to post-test for attitudes, knowledge, and beliefs regarding suicide and suicide prevention. Exploratory analyses revealed the possible moderating effects of age, professional role, prior training, and recent contact with suicidal youth on QPR participants' general knowledge, questioning, attitudes toward suicide and suicide prevention, QPR quiz scores, and self-efficacy. The need for replication using a more rigorous experimental design in the context of strong community collaboration is discussed.

Nationally, suicide is the third leading cause of death among 10- to 19-year-olds (Centers for Disease Control [CDC], 2006) with rates increasing as youth move through adolescence (1.1 per 100,000 among 10- to 14-year-olds and 7.3 per 100,000 among 15- to 19-year-olds). However, examining completed

suicide as a sole indicator of risk provides an incomplete picture of the problem. Oregon, being the only state in the nation to mandate reporting of youth attempts requiring medical services, provides a unique source of data about frequency of youth suicide attempts. Since 1987, hospitals there have been required by law to report attempts to the state health department which systematically tracks and shares the numbers in a database called the Adolescent Suicide Attempt Data System (ASADS). In 2006, 621 youth in the state attempted suicide, a year in which 22 took their own lives (Oregon Department of Human Service, 2009). While attempts greatly outnumber completions, the numbers are thought to be drastically underreported. Surveyed emergency room personnel estimated that in this same year at least 1,400 youth made attempts (Oregon Public Health Division, 2006), which is in line with accepted estimates that for every one documented suicide completion, there are approximately 100 to 200 who have attempted (National Center for Health Statistics as cited in King, 2006).

Recent national surveys provide an additional source of information about the extent of the problem of youth suicide and gen-

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erally reveal alarmingly high rates of non-lethal suicidal behavior. For example, the Youth Risk Behavior Survey (YRBS; CDC, 2008) revealed that during the previous year 28.5% of high school students felt "so sad or hopeless every day for 2 weeks or more in a row" that they stopped engaging in usual activities, 14.5% "seriously considered attempting suicide," 11.3% made a specific plan to attempt, 6.9% reported at least one attempt, and 2% made an attempt which required medical attention. Considering completion rates, attempt data, and surveys of suicidal ideation the magnitude of the problem becomes clear.

Historical trends suggest a decline in youth suicide beginning in the mid 1990s, however, recent data suggest these rates have increased (Bridge, Greenhouse, Weldon, Campo, & Kelleher, 2008). Although the reasons for these trends are not clear, some have implicated shifts in use of selective serotonin reuptake inhibitors (SSRIs) following the 2004 FDA mandated black-box warnings (Gibbons, Hur, Bhaumik, & Mann, 2006). Although this explanation aligns with an 18% increase in youth suicide rates between 2004 and 2005, others suggest the need to explore questions of causality with caution and to consider other potential causal factors such as increasing rates among returning veterans and/or negative influences of social networking sites (Bridge et al., 2008).

Youth suicide prevention programs share the common goals of identifying and referring at-risk youth or decreasing risk factors while promoting protective factors. These efforts have primarily been implemented in the schools or larger community. The *National Strategy for Suicide Prevention* (U.S. Department of Health and Human Services, Public Health Services, 2001) highlights the need for a multifaceted and collaborative response to youth suicide, including the importance of building community and school partnerships. In addition, it calls for increasing the number of evidence-based suicide prevention programs in schools and for providing awareness and educational programs to key gatekeepers, where a gatekeeper is anyone who may recognize and refer some-

one at risk of suicide. Unfortunately, many schools do not appear to be actively engaged in prevention efforts, with just over half of all states requiring that suicide prevention be taught in at least one school grade (Kann, Telljohann, & Wooley, 2007).

Although an extensive empirical literature has examined risk factors, warning signs, and precipitating factors of youth suicide (Bridge, Goldstein, & Brent, 2006; Gould, Greenberg, Velting, & Shaffer, 2006), relatively less is known about the efficacy of key prevention strategies, including the extent to which potential gatekeepers possess adequate knowledge of suicide and suicide prevention. The extant research in the area, in fact, suggests that professionals and educators rarely recognize and/or are able to provide assistance to suicidal youth (King, Price, Telljohann, & Wahl, 1999; Schouller & Smith, 2002). Thus, school personnel, given their access and relationship to youth, are important targets for training.

One widely used gatekeeper training program is QPR (Question, Persuade, Refer). Taught by certified instructors, the 1- to 2-hour session trains individuals to recognize warning signs, question suicidal intent, listen to problems, and refer for help. Although limited in scope, outcome-based research suggests that gatekeeper training may improve knowledge and skills (see Gould, Greenberg, Velting, & Shaffer, 2003, for a review). Thus, improving school personnel's ability to detect and appropriately respond to potentially suicidal youth may serve an important role in suicide prevention efforts.

Heeding the U. S. Surgeon General's call for empirical evaluation, our goal with the current study was to evaluate the short-term effectiveness of QPR in changing knowledge and attitudes toward youth suicide prevention, improving on past studies through inclusion of a control group and thereby sharpening interpretation of prevention effects. In addition to testing the hypothesized effect of QPR, we sought to identify factors that may influence effectiveness including age, professional role, prior training, and past experience with suicidal youth.

## METHOD

### *Participants*

Participants included 106 (75 women, 23 men, 8 not reporting gender) school personnel from a small, rural school district in the Pacific Northwest who were recruited by school administrators to be trained in QPR as a countywide prevention effort. Thirty-five (26 women, 9 men) control group participants who self-identified as having contact with youth were recruited from the community through e-mails and newspaper announcements. Participants in both groups were predominantly (93%) Caucasian and middle-aged.

### *Measures*

The survey was adapted from similar gatekeeper evaluation studies (Organizational Research Services [ORS], 2002; Wyman, personal communication) and inquired about demographics and a variety of other domains. Additionally, QPR participants were asked to evaluate the program (e.g., overall evaluation, effectiveness at meeting training objectives, helpfulness).

*Knowledge of QPR.* A 15-item, multiple-choice quiz was used to assess knowledge of training content gained, with higher scores reflecting greater knowledge of warning signs, ways to appropriately question about suicidal intent, and refer for help.

*Appraisals.* Five scales were used to assess changes in appraisals and attitudes targeted by training. First, attitudes toward suicide and suicide prevention (e.g., suicide is a major issue, should be addressed, preventable) were assessed through three separate items each rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*) with higher scores reflecting more favorable attitudes. Second, participants were asked to rate their levels of knowledge in six areas (e.g., facts about prevention, warning signs, information about resources) on a 5-point scale, ranging from 1 (*very low*) to 5 (*very high*). Scores could range from 6 to 30 with higher

scores reflecting more favorable self-evaluation of knowledge ( $\alpha = .92$ ). Third, five items were used to assess perceived knowledge of and likelihood to question about suicidal intent. Four of the items were rated on a 5-point scale from 1 (*very low/strongly disagree*) to 5 (*very high/strongly agree*) (e.g., "appropriateness of asking someone who may be at risk about suicide," "if someone I knew was showing signs of suicide, I would raise the question of suicide with them"), with the last item (i.e., "how likely would it be for you to 'ask someone if they are suicidal'") rated on a 3-point scale from 1 (*not very likely*) to 3 (*very likely*) ( $\alpha = .84$ ). Fourth, seven items were used to tap participants' likelihood to intervene. Four of the items were rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*) (e.g., "if someone I knew told me that they were thinking of suicide I would want to get more information about their plan"), while the other three (e.g., "how likely would it be for you to 'go with a suicidal person to get help'") were rated on a 3-point scale from 1 (*not very likely*) to 3 (*very likely*) ( $\alpha = .71$ ). Last, general feelings of self-efficacy regarding comfort, competence, and confidence to help a suicidal person were assessed with three items rated on a 5-point scale from 1 (*not at all*) to 5 (*fully*) ( $\alpha = .84$ ).

*Moderators.* In addition to possible demographic factors that were explored as possible moderators of training effects, participants providing information about both prior training (*yes/no*) and personal experience with suicide (*yes/no* in terms of having had someone close to them who attempted or completed).

*Behaviors.* Participants were asked to report on their prior contact with suicidal youth (i.e., number of youth who showed signs of suicidality that they had contact with in past month).

### *Procedure*

Not being able to randomly assign schools or individuals within the schools, to groups, we used a non-equivalent control group design. During an in-service training,

78 school personnel participated in a 1-hour QPR gatekeeper suicide prevention training and completed a paper-and-pencil measure prior to and immediately after training. The QPR certified trainer discussed prevalence of suicide among youth, risk factors for depression and suicidality, appropriate ways to ask if a student is considering suicide, and reviewed the steps that should be taken when intervening and referring a suicidal person for help.

Control participants ( $n = 24$ ) did not receive training, but completed similar pre- and post-test measures on-line or via mail, approximately one day apart. No significant differences in demographic variables were found between participants who completed pre-test measures only and those who completed both pre- and post-test measures.

Additionally, approximately 3 months after participating in the study, both control and QPR participants were asked to complete a follow-up measure. A limited number of controls ( $n = 21$ ) and QPR ( $n = 18$ ) participants completed the follow-up measure on-line or via mail. Participants who completed follow-up measures were significantly more educated and reported more personal experience with suicidal individuals.

## RESULTS

### *Outcome Evaluation: Indications of Program Effectiveness*

Independent samples  $t$  tests and chi-square tests were used to examine possible pre-existing differences between groups. These preliminary analyses suggested that control group participants were significantly older ( $M = 47.09$ ,  $SD = 10.94$ ) than QPR participants ( $M = 42.10$ ,  $SD = 11.34$ ),  $t(132) = -2.26$ ,  $p < .05$ . Similarly, control group participants were more educated (3% high school, 6% some college, 43% Bachelor's degree, and 48% Master's degree or above) relative to QPR participants (16% high school, 23% some college, 29% Bachelor's degree, and 32% Master's degree or above),  $\chi^2(3, N =$

133) = 11.66,  $p < .01$ . Finally, control group participants also reported more personal experience with suicide (74%) in comparison to control group participants (52%),  $\chi^2(1, N = 131) = 5.19$ ,  $p < .05$ . As a result, these variables were used as covariates in all analyses evaluating training effects.

A series of analyses of covariance (ANCOVAs) were conducted to evaluate training effects. Participants demonstrated significant gains relative to controls across multiple domains from pre- to post-test, indicating improvements in knowledge and appraisals (Table 1). Additionally, QPR participants generally responded positively to the training, with 93% rating the program as good to excellent in meeting its objectives, 90% indicating a belief that the training would be helpful in assisting a suicidal individual, and 97% reporting that they would recommend the program to others.

### *Moderators of Program Effectiveness*

A series of repeated measures analyses of variance (ANOVAs) were used to evaluate the possible moderating influence of background factors (e.g., age, professional role, prior training, recent contact with suicidal youth) on gains in knowledge, appraisals, and attitudes toward suicide and suicide prevention. Factors were identified on the basis of their pragmatic importance for informing administrative decision making about school training. There was a significant Age  $\times$  Time interaction,  $F(2, 73) = 3.88$ ,  $p < .05$  (see Figure 1A), suggesting that age significantly influenced QPR participants' attitudes toward identifying youth suicide as a major issue in need of being addressed, with younger groups of school personnel showing positive attitudinal shifts across time,  $t(20) = -2.63$ ,  $p < .05$ . As shown in Figure 1B, professional role significantly moderated training effects on these same attitudes,  $F(1, 58) = 10.93$ ,  $p < .01$ , with teachers and administrators demonstrating positive gains,  $t(46) = -2.87$ ,  $p < .01$ , and support staff showing negative shifts in beliefs about addressing the problem of youth suicide,  $t(12) = 2.31$ ,  $p < .05$ . Profes-

**TABLE 1**

*QPR and Control Group Participants' Average Change in Scores from Pre-Test to Post-Test*

Variable	QPR Group ( <i>n</i> = 76)		Control Group ( <i>n</i> = 24)		<i>F</i> (1, 99)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Knowledge of QPR	1.97	2.31	0.13	1.30	13.58	.001
Suicide is a major issue	0.24	0.83	0.13	0.46	0.15	<i>ns</i>
Suicide is preventable	0.66	1.03	0.13	.54	4.55	.05
Suicide should be addressed	0.11	0.80	0.04	0.96	0.98	<i>ns</i>
Self-evaluation of knowledge	7.80	4.43	-0.71	3.01	59.98	.001
Question	5.21	3.12	-0.42	2.98	48.88	.001
Likelihood to intervene	2.71	3.14	.92	2.77	61.59	.001
Self-efficacy	2.16	2.21	-0.29	1.60	20.20	.001

*Note.* Analyses include age, education, and experience with suicide as covariates.

sional role also moderated training effects on perceptions of whether suicide was a major issue in the community,  $F(1, 58) = 5.68$ ,  $p < .05$  (see Figure 1C), again with teachers and administrators seeing it as a significantly greater problem after training,  $t(47) = -4.11$ ,  $p < .001$ , relative to support staff who experienced no shift in attitudes,  $t(13) = 0.38$ ,  $p > .05$ . Additionally, for knowledge of QPR, there was a significant Professional Role  $\times$  Time interaction,  $F(1, 58) = 15.67$ ,  $p < .001$ , suggesting that teachers and administrators significantly improved their performance on the QPR quiz,  $t(46) = -10.21$ ,  $p < .001$ , while support staff showed no change in performance (see Figure 1D).

Consistent with the one published study investigating the moderating effects of prior training (King & Smith, 2000), the main effect of time,  $F(1, 74) = 65.27$ ,  $p < .001$ , was significantly qualified by prior training,  $F(1, 74) = 3.17$ ,  $p < .05$ , such that individuals with prior suicide prevention training evidenced more modest pre-post changes in questioning about suicide,  $t(8) = -3.29$ ,  $p < .05$ , relative to those with no prior training  $t(66) = -14.36$ ,  $p < .001$  (see Figure 1E). A similar pattern of results was found for self-evaluation of knowledge, with the main effect

of time,  $F(1, 74) = 72.39$ ,  $p < .001$ , being qualified by prior training,  $F(1, 74) = 5.61$ ,  $p < .05$ , such that individuals with no prior training evidenced greater gains across time in their self-evaluation of knowledge of suicide and suicide prevention,  $t(66) = -15.93$ ,  $p < .001$ , relative to those with some prior training,  $t(8) = -3.07$ ,  $p < .05$  (see Figure 1F). However, it should be noted that even for those with prior training significant gains were still noted in both knowledge and questioning.

Similarly, a main effect of time,  $F(1, 61) = 81.41$ ,  $p < .001$ , was significantly qualified by prior contact with suicidal youth,  $F(2, 61) = 4.25$ ,  $p < .05$ , such that individuals with no prior contact with suicidal youth in the past year demonstrated steeper gains in self-evaluation of knowledge,  $t(42) = -13.08$ ,  $p < .001$ , relative to those with limited,  $t(4) = -3.50$ ,  $p < .05$ , or more extensive contact,  $t(15) = -5.95$ ,  $p < .001$  (see Figure 1G). Finally, a similar pattern was noted for self-efficacy whereby a main effect of time,  $F(1, 61) = 26.13$ ,  $p < .001$ , was significantly qualified by prior contact with suicidal youth,  $F(2, 61) = 4.51$ ,  $p < .05$ , such that those with no prior contact evidenced the greatest gains in self-efficacy,  $t(42) = -7.74$ ,  $p < .001$ , relative to

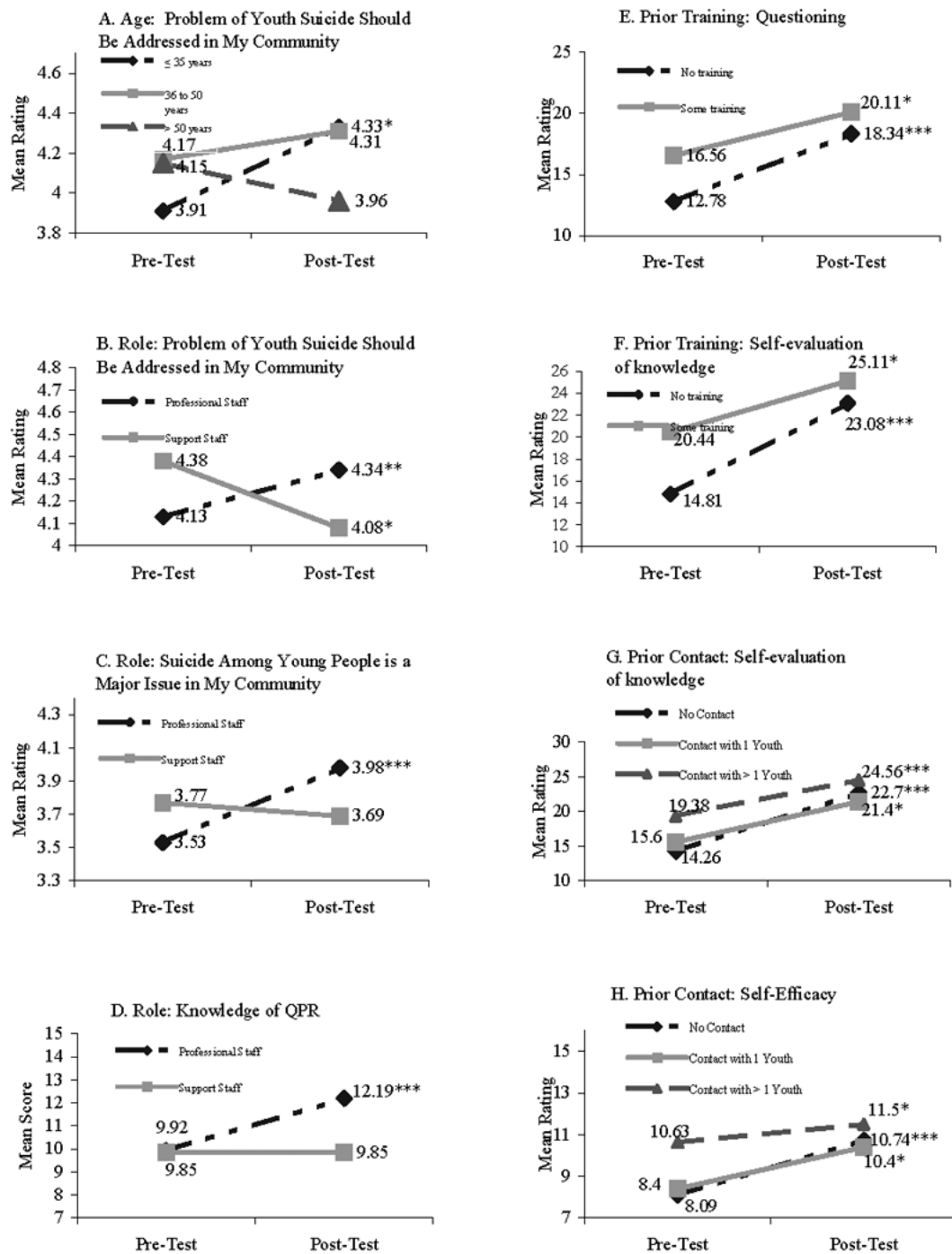


Figure 1. Average change in scores from pre-test to post-test assessment reported by QPR participants ( $n$  = ranges from 34 to 40) as a function of age, professional role, prior training, and prior contact with suicidal youth. \* $p < .05$ ; \*\* $p < .01$ . \*\*\* $p < .001$ .

those with limited,  $t(4) = -2.83$ ,  $p < .05$ , or more extensive contact,  $t(15) = -2.57$ ,  $p < .05$  (see Figure 1H).

#### *Follow-Up Analyses*

A series of repeated measures ANOVAs were used to evaluate short-term durability of prevention outcomes in the limited subsample that completed follow-up measures. As shown in Table 2, prevention training gains were maintained in some domains (self-efficacy, likelihood to intervene, questioning, perceptions of suicide as preventable), but not others (knowledge of QPR, self-evaluation of knowledge). Additionally, control participants also showed limited gains in questioning and likelihood to intervene.

#### **DISCUSSION**

This study involved a preliminary investigation of the effectiveness of a gatekeeper training program among secondary school personnel. It is the first of its kind to evaluate QPR using a nonequivalent control-group design. In general, QPR was positively evaluated and significant gains in suicide-relevant knowledge and attitudes were demonstrated from pre- to post-test, suggesting that QPR is a promising tool in school-based prevention efforts.

Although a public health saturation model of QPR is the penultimate goal (see Quinnett, 2006), pragmatic concerns with school-based intervention may necessitate targeting training to groups who may benefit the most, as administrators are often forced to make practical decisions based on available resources. The results of the current study suggest that younger teachers who have not been previously trained in suicide prevention nor have had much prior contact with suicidal youth are the most likely to benefit from QPR. Unpublished reports from the Washington Youth Suicide Prevention Program similarly found that those with less experience with suicide tended to show more substantial changes in knowledge and atti-

tudes about suicide and suicide prevention (ORS, 2002).

Teachers are often identified as individuals in the community in a unique position to identify at-risk youth and refer them for help. Supporting this view, a substantial number of school personnel in our sample reported having had contact with at least one suicidal youth in the past month (20%) or year (39%), and most indicated they were approachable to students who talked with them about their thoughts and feelings. However, there is evidence to suggest that opportunities for identification and referral may be missed due to lack of knowledge about the signs and symptoms of suicidality (Brown, Wyman, Guo, & Peña, 2006; Schouller & Smith, 2002). Thus, if gatekeeper training is effective, adopting programs that increase knowledge of warning signs and how to appropriately intervene may serve to substantially increase identification and referral of at-risk youth.

Evaluations of prevention efforts typically fail to examine durability of effects. Notable exceptions include two unpublished (Davis, 2001, as cited in Quinnett, 2006; ORS, 2002) evaluations of gatekeeper training that demonstrated maintenance of training gains in knowledge and attitudes up to 18 months post training. Although focused on training peer helpers, Stuart, Waalen, and Haelstromm (2003) similarly found that significant gains were maintained across a 3-month period. Consistent with these prior results, we found that training gains persisted across most domains. Changes in knowledge (e.g., warning signs, risk factors), but not attitudes or appraisals, tended to be relatively more ephemeral among our sample. Although the number of participants who completed pre-test and post-test measures following training were respectable, the limited number of QPR participants (23%) who completed all three assessments restricts conclusions that can be drawn. Stuart et al. (2003) and the ORS group confronted similar problems with high rates of attrition (57% and 39%, respectively), and called for the need to recruit larger samples that are followed over

**TABLE 2**  
*Repeated Measures Analyses of Variance (ANOVA) Results Exploring 3-Month Follow-Up Prevention Outcomes Across Groups*

Variable	QPR Participants	Control Participants	<i>F</i>	
	<i>M (SD)</i>	<i>M (SD)</i>	Time	Interaction
Knowledge of QPR			7.13**	5.52**
Pre-test	11.21 (1.37) <sub>a</sub>	11.70 (1.22)		
Post-test	13.36 (1.78) <sub>a,b</sub>	11.80 (1.61)		
Follow-up	12.43 (1.22) <sub>b</sub>	12.30 (1.42)		
Major issue			1.70	1.20
Pre-test	3.39 (.98)	4.15 (.59)		
Post-test	3.83 (.86)	4.25 (.64)		
Follow-up	3.78 (.94)	4.10 (.55)		
Address problem			1.51	.02
Pre-test	4.17 (.51)	4.38 (.97)		
Post-test	4.17 (.51)	4.43 (.60)		
Follow-up	4.33 (.59)	4.57 (.51)		
Preventable			9.23***	4.87**
Pre-test	3.67 (.67) <sub>a,b</sub>	4.05 (.67)		
Post-test	4.39 (.50) <sub>a</sub>	4.14 (.73)		
Follow-up	4.11 (.47) <sub>b</sub>	4.33 (.48)		
Self-evaluation of knowledge			15.61***	18.89***
Pre-test	16.61 (4.22) <sub>a</sub>	18.38 (4.46)		
Post-test	22.94 (3.78) <sub>a</sub>	17.67 (4.48)		
Follow-up	21.00 (3.74) <sub>a</sub>	19.48 (5.79)		
Questioning			20.77***	14.44***
Pre-test	14.39 (3.11) <sub>a,b</sub>	16.95 (2.89) <sub>a</sub>		
Post-test	18.67 (2.33) <sub>a</sub>	16.57 (3.40) <sub>b</sub>		
Follow-up	19.28 (2.44) <sub>b</sub>	17.95 (2.94) <sub>a,b</sub>		
Likelihood to intervene			12.86***	1.86
Pre-test	18.17 (2.66) <sub>a,b</sub>	18.05 (2.29) <sub>a</sub>		
Post-test	20.11 (.83) <sub>a</sub>	18.76 (1.87)		
Follow-up	20.11 (.96) <sub>b</sub>	19.14 (1.56) <sub>a</sub>		
Self-efficacy			9.46***	7.43***
Pre-test	8.89 (2.85) <sub>a,b</sub>	10.52 (2.48)		
Post-test	10.95 (2.27) <sub>a</sub>	10.48 (2.36)		
Follow-up	10.68 (2.31) <sub>b</sub>	10.90 (2.10)		

*Note.* Means in the same column that share subscripts differ at  $p < .05$  according to post-hoc paired samples  $t$  tests.

time as well as more creative ways to prevent participant drop-out. Interestingly, most participants in the control group (75%) completed the follow-up measure and evidenced significant gains in terms of their intent to intervene and question when encountering suicidal youth. Although supporting evidence is anecdotal in nature (e.g., going to on-line

suicide-related resources after completing the on-line survey), it may be that enhancing awareness can lead to improvements in circumscribed areas for those who are highly educated, motivated, or experienced.

Although this study is the first to empirically evaluate QPR in the school setting there are several limitations that should be



noted. First, a non-equivalent control group design was used and therefore we cannot attribute gains solely to training. Future studies should attempt to evaluate QPR using a more rigorous design in which random assignment can be employed. Additionally, the significant changes in knowledge, while a positive step toward raising awareness of suicide and increasing opportunities for prevention, do not necessarily translate into effective intervention. We attempted to collect follow-up data, including contact with youth and referral practices, to answer these important questions. Unfortunately, few participants chose to respond. Additionally, several of the follow-up responses included summer months which were not directly comparable to post-test responses that focused on experiences and behaviors occurring during the academic school year. Again, future research should recruit large numbers of participants who are followed across time to examine the self-reported number of youth identified, actual referrals to school and community resources, and the maintenance of the gains in knowledge, attitudes, and beliefs. Such a design may also provide opportunities to incorporate and test whether modifications to the training program (e.g., booster sessions, simulated practice, monthly newsletter) differentially enhance outcomes and durability of outcomes.

While QPR training offers one prom-

ising tool, several issues highlight the need to widen gatekeeper training to include peers and parents, and to enact additional prevention strategies. First, recent evidence suggests that friends and parents may be particularly effective gatekeepers. Not only are youth most likely to confide in peers, but both friends and parents of youth who completed suicide also reported being aware of unique sets of risk factors (Moskos, Olson, Halbern, Keller, & Gray, 2005). Recent data has also revealed low rates of both formal and informal resource use among completers (Moskos et al., 2005) and high-risk youth (Gould, Greenberg, Munfakh, Kleinman, & Lubell, 2006). Needed are ways to combat stigma and encourage help-seeking, particularly among those who are socially isolated (Moskos et al., 2005).

In conclusion, effectively tackling the problem of youth suicide requires cooperation and involvement from entire communities. Evaluating those efforts in scientifically meaningful ways requires substantial trust and strong partnerships. In reference to the issue of mental health in the schools, Adelman (2006) writes, "true collaboration involves more than meeting and talking; the point is to produce actions that yield important results" (p. 297). Communities must come together to talk about suicide prevention, identify their weaknesses, build on their strengths, and create plans of action.

## REFERENCES

- ADELMAN, H. (2006). Mental health in schools and public health. *Public Health Reports*, 121, 294–298.
- BRIDGE, J. A., GOLDSTEIN, T. R., & BRENT, D. A. (2006). Adolescent suicide and suicidal behavior. *Journal of Child Psychology and Psychiatry*, 47, 372–394.
- BRIDGE, J. A., GREENHOUSE, J. B., WELDON, A. H., CAMPO, J. V., & KELLEHER, K. J. (2008). Suicide trends among youths aged 10 to 19 years in the United States, 1996–2005. *Journal of the American Medical Association*, 300, 1025–1026.
- BROWN, C., WYMAN, P., GUO, J., & PEÑA, J. (2006). Dynamic wait-listed designs for randomized trials: New designs for prevention of youth suicide. *Clinical Trials*, 3, 259–271.
- CENTERS FOR DISEASE CONTROL AND PREVENTION. (2006). *WISQARS leading causes of death reports*, 2006. [Data file]. Available from Centers for Disease Control Web site, <http://www.cdc.gov/injury/wisqars/index.html>
- CENTERS FOR DISEASE CONTROL AND PREVENTION. (2008, June). Youth risk behavior surveillance—U.S., 2007. *Morbidity and Mortality Weekly Report*, 57 (SS-4), 1–136. Retrieved June 11, 2009, from [http://www.cdc.gov/HealthyYouth/yrbs/pdf/yrbss07\\_mmwr.pdf](http://www.cdc.gov/HealthyYouth/yrbs/pdf/yrbss07_mmwr.pdf)
- GIBBONS, R. D., HUR, K., BHAUMIK, D. K., & MANN, J. J. (2006). The relationship between antidepressant medication use and the rate of suicide. *Archives of General Psychiatry*, 62, 165–172.
- GOULD, M. S., GREENBERG, T., MUNFAKH,

- J.L.H., KLEINMAN, M., & LUBELL, K. (2006). Teenagers' attitudes about seeking help from telephone crisis services (hotlines). *Suicide and Life-Threatening Behavior*, 36, 601-613.
- GOULD, M. S., GREENBERG, T., VELTING, D. M., & SHAFFER, D. (2003). Youth suicide risk and preventive interventions: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42, 386-405.
- GOULD, M. S., GREENBERG, T., VELTING, D. M., & SHAFFER, D. (2006). Youth suicide: A review. *The Prevention Researcher*, 13, 3-7.
- KANN, L., TELLOJHAN, S. K., & WOOLEY, S. F. (2007). Health education: Results from the school health policies and programs study 2006. *Journal of School Health*, 77, 408-434.
- KING, K. A. (2006). Practical strategies for preventing adolescent suicide. *The Prevention Researcher*, 13, 8-11.
- KING, K. A., PRICE, J. H., TELLOJHAN, S. K., & WAHL, J. (1999). High school health teachers' knowledge of adolescent suicide. *American Journal of Health Studies*, 15, 156-163.
- KING, K. A., & SMITH, J. (2000). Project SOAR: A training program to increase school counselor's knowledge and confidence regarding suicide prevention and intervention. *Journal of School Health*, 70, 402-408.
- MOSKOS, M., OLSON, L., HALBERN, S., KELLER, T., & GRAY, D. (2005). Utah youth suicide study: Psychological autopsy. *Suicide and Life-Threatening Behavior*, 35, 536-546.
- OREGON DEPARTMENT OF HUMAN SERVICES. (2009, March). *Youth suicide attempts in Oregon. Adolescent suicide attempt data system: 2007 data report*. Retrieved June 11, 2009, from <http://www.oregon.gov/DHS/ph/ipe/index.shtml>
- OREGON PUBLIC HEALTH DIVISION. (2006, December). *Oregon youth suicide fact sheet*. Retrieved July 1, 2007, from <http://www.oregon.gov/DHS/ph/ipe/ysp/docs/factsheet.pdf>
- ORGANIZATIONAL RESEARCH SERVICES. (2002, July). *Youth suicide prevention program annual evaluation report 2001-2002: Evaluation of program training workshops*. Retrieved January 6, 2006, from <http://www.yspp.org/aboutYSPP/reports/2001-2002Report.pdf>
- QUINNETH, P. (2006). QPR gatekeeper training for suicide prevention: The model, rationale, and theory. Retrieved January 17, 2007, from <http://www.qprinstitute.com/>
- SCHOULLER, K. M., & SMITH, D. I. (2002). Prevention of youth suicide: How well informed are the potential gatekeepers of adolescents in distress? *Suicide and Life-Threatening Behavior*, 32, 67-79.
- STUART, C., WAALEN, J. K., & HAELESTROMM, E. (2003). Many helping hearts: An evaluation of peer gatekeeper training in suicide risk assessment. *Death Studies*, 27, 321-333.
- U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH SERVICES. (2001). *National Strategy for Suicide Prevention: Goals and objectives for action* (DHHS Publication No. 01-3517). Rockville, MD: Government Printing Office. <http://mentalhealth.samhsa.gov/suicideprevention/strategy.asp>

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