

DISSERTATION

TRAINING INDIVIDUALS IN SUICIDE PREVENTION:  
INDIVIDUAL AND ORGANIZATIONAL CHARACTERISTICS OF EFFECTIVE  
GATEKEEPERS

Submitted by

Jeffery Taylor Moore

Department of Psychology

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Doctoral Committee:

Advisor: Jennifer J. Harman

Co-Advisor: Peter Y. Chen

John C. Rosecrance

Benjamin A. Clegg

## ABSTRACT

### EFFICIENTLY TRAINING INDIVIDUALS IN SUICIDE PREVENTION: INDIVIDUAL AND ORGANIZATIONAL CHARACTERISTICS OF EFFECTIVE GATEKEEPERS

Suicide remains a major public health problem in the United States. Training individuals known as gatekeepers to identify the signs and behaviors of suicide risk has been one of the most widely adopted prevention strategies. Due to financial constraints, it is not possible to train all members of a community as gatekeepers. Thus, it is more fiscally responsible to selectively train individuals within a community who possess key characteristics that will make them more effective gatekeepers. In this dissertation, the personality and organizational characteristics of effective gatekeepers were explored. Specifically, personality characteristics: Emotional Intelligence and Altruism, and organizational characteristics: social support, perceived organizational support, and gatekeeper role conflict were investigated as predictors of gatekeeper behavior.

Two hundred and eighteen gatekeepers completed surveys immediately prior, immediately after, and six months following training that consisted of self-report measures of personality and organizational characteristics, and gatekeeper behavior. Poisson regression was employed to analyze the data because of the low-base rate

occurrence of gatekeeper behavior. Analyses were conducted separately for the two gatekeeper training programs (ASIST & QPR).

Mixed results were found in this study. Gatekeepers trained in ASIST were high in Emotional Intelligence and Altruism, resulting in range restriction. Gatekeepers trained in QPR varied more on personality characteristics, and Altruism positively predicted gatekeeper behavior six months following training. In terms of organizational predictors of gatekeeper behavior, supervisor emotional support buffered the relationship between gatekeeper role conflict and gatekeeper behavior for ASIST participants.

The findings have direct implications for the training of community members as gatekeepers. Specifically, how selection principles can be applied to gatekeeper training, as well as how social support can be improved in organizations so that gatekeepers can overcome barriers (such as role conflict) in order to increase the effectiveness of trained gatekeepers. Although a number of limitations were present in the current study (i.e., low response rate and inability to generalize the findings), the potential application of these findings presents the opportunity to significantly change who is selected for training as a gatekeeper and how trainings are conducted. Future research directions include the measurement of gatekeeper behavior and effectiveness of gatekeepers.

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## CHAPTER ONE

### INTRODUCTION

Suicide continues to be one of the leading causes of death in the United States, with 34,598 completed suicides in 2007, the most recent year for which national data are available (Xu, Kochanek, Murphy, & Tejada-Vera, 2010). This translates into one suicide every 15.2 minutes or about 95 suicides each day (McIntosh, 2010). The mountain region (including Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Wyoming, and Utah) consistently has the highest suicide death rate (16.8 per 100,000 in 2007) compared to the other regions (McIntosh, 2010). The east south central region (including Kentucky, Tennessee, Mississippi, and Alabama) had the second highest suicide death rate (13.8 per 100,000 in 2007), while the middle Atlantic region (including New York, New Jersey, and Pennsylvania) had the lowest suicide death rate (8.5 per 100,000 in 2007) (McIntosh, 2010). In Colorado, suicide is a major public health problem. In 2007, Colorado had a suicide death rate of 16.7 per 100,000 with 811 suicide deaths. This suicide death rate represented the 6<sup>th</sup> highest suicide rate in the United States (US) with the national rate being 11.5 per 100,000 (Xu, et al., 2010). Furthermore, suicide is the second leading cause of death among Colorado youth aged 10-24 years. Between 2001 and 2005, Colorado had the 7<sup>th</sup> highest youth suicide rate in the US. A total of 296 suicide deaths occurred among Colorado youth aged 15-18 years from 1999 through 2008, a rate of 11.2

per 100,000, almost double the US rate of 6.76 per 100,000 (Centers for Disease Control and Prevention, 2009).

On the national level, the alarming suicide statistics prompted a call to action and the development of the National Strategy for Suicide Prevention (NSSP; U.S. Department of Health and Human Services [DHHS], 2001) which established suicide prevention as a major public health priority. A number of strategies emerged from the NSSP focusing on identifying the risk and protective factors for suicide in a given population and developing action plans to decrease risk factors and increase protective factors. One common approach is training community members, known as gatekeepers, to identify signs of depression and other behaviors that increase risk for suicide (Centers for Disease Control and Prevention, 1992; Gould & Kramer, 2001; Mann et al., 2005). In theory, higher percentages of members in a given community able to recognize and refer at-risk individuals will lead to fewer suicides (Ramsay & Bagley, 1985; Tierney, Ramsay, Tanney, & Lang, 1990; Quinnett, 1995, 2005). Ideally, all members of a community would be trained in suicide prevention and the result would be a lower number of deaths. However, due to the cost of initial training, as well as retraining (due to low retention of training content), it is not practical to have all community residents trained.

The average cost per trainee for a 90-minute gatekeeper training program is \$25 (QPR Institute, 2010), while the estimated cost for a 16-hour, two day training can exceed \$300 per trainee. Therefore, training all the residents in a community of 10,000 would cost \$250,000 for a 90-minute training and more than \$3,000,000 for two days of training. Hence the cost of training all members in a community is prohibitive. In fact, the total annual budget for the Colorado Office of Suicide Prevention to fund suicide

prevention activities state-wide is only \$300,000. Thus, it is fiscally responsible to be selective about suicide prevention training through targeting individuals in key positions to apply what they have learned.

Furthermore, evaluation of gatekeeper training programs has documented that not all individuals who complete training will use what they learned (e.g., Wyman et al., 2008). According to some estimates in the training evaluation literature, only about ten percent of what is learned in training results in behavior change (Georgenson, 1982). In fact, in one longitudinal evaluation of gatekeeper training (Wyman, et al., 2008), less than 20% of gatekeepers had changed their behaviors one year following training, indicating that refresher training may be useful for more than 80% of those who were trained. Refresher trainings, although less expensive than full trainings, present an additional financial burden for communities hoping to train and maintain effective gatekeepers that makes it impractical to train (and retrain) all members of the community.

Furthermore, for those gatekeepers working within an organizational setting, the lack of behavior change after training programs may result from barriers that inhibit adoption of the training. For example, a lack of time and resources at work can impede a trained gatekeeper from engaging in gatekeeper behaviors (Moore, Cigularov, Chen, Martinez, & Hindman, In Press). Therefore, creating a work environment free of time or resource barriers may increase the effectiveness of gatekeepers.

The Random House Dictionary online (2011) defines the word *efficient* as “achieving maximum productivity with minimum wasted expense” and *effective* as “producing the intended or expected results.” Based on these definitions, an effective gatekeeper is an individual who recognizes the warning signs that a person may be

contemplating suicide and refers that person for assessment and care (Quinnett, 2007). Therefore, efficiently training individuals in suicide prevention refers to maximizing the number of effective gatekeepers who have attended a gatekeeper training. In other words, wasted expenses are minimized when gatekeepers are engaging in gatekeeper behaviors regularly following training. In addition, an efficient training program would encourage selection of initial trainees and not require all community members to be trained. An efficient training program would also monitor the engagement and behavior of trained gatekeepers in order to determine when retraining was needed.

The identification of individual characteristics of effective gatekeepers will inform the selection of appropriate individuals for gatekeeper training, therefore increasing the overall efficiency of the program. Further, identifying organizational characteristics that hinder trained gatekeepers from helping individuals in crisis will aid in the elimination of barriers in the workplace, allowing for more effective gatekeepers. Therefore, the aim of this dissertation is to explore the relationship between individual and organizational characteristics and gatekeeper behavior.

## CHAPTER TWO

### SUICIDE PREVENTION GATEKEEPER TRAINING

The Surgeon General's Call to Action to Prevent Suicide (U.S. Public Health Service, 1999) and the National Strategy for Suicide Prevention (DHHS, 2001) identified gatekeeper training as a promising suicide prevention strategy. Suicide prevention gatekeeper is defined in this study as a community member who is trained to recognize a crisis and the warning signs that a person may be contemplating suicide and to refer that person for assessment and care (Quinnett, 2007).

#### *What is a Gatekeeper Training?*

Although gatekeeper training programs vary in length and have been developed to train a wide range of people, from clinical professionals to the general public, the common goal in training is to teach recognition of suicide warning signs, ways to discuss suicidal intent, offer hope, and ability to refer the person in crisis to appropriate services. The two most widely implemented gatekeeper training programs in the United States are reviewed below.

#### *Gatekeeper Training Programs*

##### ASIST.

Applied Suicide Intervention Skills Training, (ASIST; Tierney, Ramsay, Tanney, & Lang, 1990) is a two-day intensive, interactive gatekeeper training program that uses a systematic model of suicide prevention intervention. The program is based on adult

education principles and primarily uses discussions and role play to help participants learn to recognize warning signs and how to intervene to prevent suicide.

The model includes training to be able to accomplish six tasks. The first task is to recognize warning signs for suicide risk. The second task is to ask directly whether the individual is thinking about suicide. The next step is to listen to the individual's reasons for both living and dying (task three) before reviewing risk factors for suicide (task four). Moving to the assisting phase of the model, the fifth task is to contract a safeplan with the individual in crisis. Lastly, following up on commitments made in a safeplan to keep the at-risk person safe from suicide is the sixth and final task.

#### QPR.

Question, Persuade, and Refer (QPR; Quinnett, 2007) is a one- to three-hour training that teaches individuals how to recognize suicidal warning signs, ask the suicide question, persuade a suicidal person to accept help, and refer someone to get the help that is needed. QPR trainings are typically conducted in a face-to-face classroom setting and involve listening to an instructor, watching videos, and engaging in discussion and role-plays with other trainees.

#### *What is a Gatekeeper's Role in Suicide Prevention?*

Although gatekeeper training programs vary in length and have been developed for differing levels of involvement in suicide prevention, from clinical professionals to the general public, the common purpose of these trainings is to teach gatekeepers to recognize suicide warning signs, discuss suicidal intent, offer hope, and refer the person in crisis to appropriate services. Based on the review of the ASIST and QPR curricula, as well as our own investigation of gatekeeper behavior (Moore, Cigularov, & Chen, In

Prep), six gatekeeper behaviors were identified and will be measured as outcomes in this study. These gatekeeper behaviors include: *Problem Identification, Interaction and Assessment of Risk and Behavior, Listening, Establishing a Trusting and Helping Relationship, Referral Activities, and Follow-up Activities.*

#### *Are Gatekeeper Training Programs Effective?*

Early evaluations of the gatekeeper training program demonstrated effectiveness using single group pretest-posttest designs (e.g., Grossman & Kruesi, 2000; Tierney, 1994) and trained versus untrained comparison group designs (e.g., King & Smith, 2000). However, several recent studies have investigated the effectiveness of gatekeeper training programs using more vigorous evaluation strategies.

In their evaluation of community QPR training, Cross, Matthieu, Cerel, and Knox (2007) found that participants' knowledge and self-efficacy increased after QPR training. Additionally, Cross and colleagues assessed participants' gatekeeper behavioral skills immediately following and six weeks after training using an observational rating scale. The gatekeeper skill measure included six domains: Active listening, clarifying/confirming questions, directly ask about suicide, persuades, and refers. More than half of the participants received satisfactory ratings demonstrating that they possessed adequate gatekeeper skills following training. The small sample size in the study and the lack of a control group, limited the ability to generalize these findings to all community gatekeeper training programs. However, this study is important because the researchers not only measured proximate outcomes (e.g., knowledge and self-efficacy) of training, but also behavioral outcomes (e.g., gatekeeper skills 6-weeks following training), acknowledging the importance of actual behavior change.

In a follow-up study, Cross, Matthieu, Lezine, and Knox (2010) again employed observational methods to assess gatekeeper skills, this time before and after training, of participants in a community QPR training. The Observational Rating Scale of Gatekeeper Skills (ORS-GS), developed previously (Cross, et al., 2007) was refined and used to measure two general and three suicide-specific skills. In addition, the researchers investigated whether pre-training participant characteristics were associated with training outcomes. Specifically, they investigated the Big Five personality factor of Openness to Experience (OTE). The researchers acknowledged that exploring the relationship between pre-training characteristics and post-training gatekeeper skills could improve the cost effectiveness of training through improving the selection of participants (Cross, et al., 2010). The researchers found that observed gatekeeper skills increased from pre-training (10% of participants met criteria for acceptable gatekeeper skills) to post-training (54% of participants met criteria). Although the increase from 10% before training to 54% following training is statistically significant, it is of concern that “46% of participants did not show the ability to ask about suicide and make an adequate referral for help” (p. 156, Cross, et al., 2010). Furthermore, sociodemographic characteristics (i.e., age, gender, education, etc.), prior experience with gatekeeper training, and Openness to Experience, either alone or together, did not significantly predict gatekeeper skills after training. One important limitation of this study was that there was no longitudinal assessment of skills to determine maintenance over time or the relationship between observed gatekeeper skills and actual application of those skills. Nevertheless, this study is important because it is the first to explore personality characteristics as a potential predictor of gatekeeper skills. Further, the researchers argued for using selection



as a strategy to improve the cost effectiveness of gatekeeper training. By selecting those individuals for training whom already possess characteristics that are predictive of gatekeeper skills, the likelihood that the gatekeepers will use their skills following training is greatly increased.

While the previously described evaluations contribute to our knowledge of the effectiveness of gatekeeper trainings, these studies do not achieve the “gold standard” in evaluation by utilizing random assignment. In a randomized trial, Wyman and colleagues (2008) evaluated the impact of the QPR training program in one school district. Schools within the district were randomly assigned to receive training or to a wait-list control group to receive training in the future. Schools were stratified by middle or high school and high versus low rates of student crisis referrals in the previous year. Staff within the schools were stratified by job role and then randomly selected to participate in the study. Participants were followed for one year after training. The researchers found a consistent positive impact of training on participant knowledge and appraisals. However, the training impact on gatekeeper behavior depended on job class (i.e., social service staff, administrator, teacher, and support staff) and a history of communicating with distressed youth about suicide prior to training. At a one-year follow-up, the researchers found a moderate positive training impact on knowledge and large positive effects on perceived preparedness, self-evaluated knowledge, efficacy, and access to services. There was no training effect on gatekeeper behavior after one year. However, there was a significant interaction (training condition by baseline interaction) for the gatekeeper behavior “ask students about suicide”. Staff who entered the training having closer communication with students asked more students about suicide after training. However, only about 14% of

the staff was communicating with students about suicide before training. Thus, the training had little benefit for the remaining 86% of staff in terms of increasing gatekeeper behaviors. Also of importance was a finding of substantial school-level differences in knowledge, appraisals, and gatekeeper behaviors. The researchers attribute these differences to the “shared attitudes and commitment to suicide prevention activities because of school-level contextual influences” (p. 113, Wyman, et al., 2008). Thus, a potential obstacle for school personnel may be the culture within the school.

Cross, et al. (2010) and Wyman, et al. (2008) acknowledged that the brevity of QPR training may result in a lack of behavioral change (i.e., increased communication with at risk individuals) among participants. In other words, QPR training may be too brief to teach communication skills (i.e., active listening, empathy) necessary to “engage others in emotionally charged conversations” (p. 156, Cross, et al., 2010). Thus, one weakness of QPR training, the brevity of training, may be addressed with lengthier, more in depth training programs which incorporate adult learning principles, such as role-play practice (Cross et al., 2010; Wyman et al, 2007). Based on this reasoning, the two-day ASIST training program should have a greater impact on gatekeeper behavior than QPR. Empirical evaluations of ASIST will be examined next.

Initial evaluations (e.g., Tierney, 1994) of the effectiveness of a two-day gatekeeper training program were based on the Suicide Intervention Workshop (SIW; Ramsay et al., 1994), which later developed into the current gatekeeper training known as ASIST. The evidence for effectiveness in the initial investigations of ASIST was limited by the quality of the evaluations (e.g., small sample sizes, methodological weaknesses).

Dolev, Russell, Griesbach, & Lardner (2008), in a review of the effectiveness of ASIST, found 15 formal evaluations of the training program, a majority of them unpublished. According to quality ratings of these studies, only five were considered to be good-quality evaluations. Dolev and colleagues used Kirkpatrick's (1959; 1994) model to summarize the evaluation findings. Kirkpatrick's model considers the effectiveness of trainings at four levels: Reaction (i.e., how did the trainee feel about the training?), Learning (i.e., what knowledge and skills did the trainee gain?), Behavior Change (i.e., has the trainee applied the training to their work?), and Organizational Change (i.e., what have been the outcomes at the organizational/societal level?).

Reactions to training were assessed in seven of the fifteen evaluations. A majority of trainees had positive reactions to training and expressed high levels of satisfaction. Thirteen of the fifteen evaluations found evidence for positive change in suicide intervention knowledge, skills and attitudes following training. Most of the evaluations (11 of 13) used self-report measures; two evaluations measured actual change in knowledge, attitudes, and skills comparing pre-training to post-training scores (Tierney, 1994). Based on the first two levels of training effectiveness, reaction and learning, it appears that ASIST is an effective training program. However, changes in knowledge, skills, and attitudes do not necessarily translate in to changed behavior (Georgenson, 1982). In fact, a meta-analysis of the literature on training outcomes found that the relationship between post-training knowledge and later performance of the trained behavior ranges from .08 to .18 (Alliger, et al., 1997), suggesting that increased knowledge is a relatively ineffective gauge of successful training programs. Keeping in mind that the ultimate goal of ASIST (or any gatekeeper training program for that matter)

is to create effective gatekeepers, or individuals who can successfully apply what they learned in training to help a person in crisis, the most important criteria for effectiveness of the ASIST training program should be actual behavior change, the third level of Kirkpatrick's (1959; 1994) model.

Dolev and colleagues (2008) found that ten of the fifteen studies measured the extent to which trainees applied their acquired knowledge and skills. Eight of these evaluations used a single self-report item to measure the transfer of knowledge and skills into practice. According to the self-report measures, nearly 50% of trainees reported using the training at least once within six months of completing training. However, the conclusions that can be drawn from these self-report measures is limited because there is likely a difference between what people *say* they did and what they *actually* did. Two evaluations used more objective measures of knowledge and skill application.

In a longitudinal evaluation of the impact of ASIST in a large community hospital in Canada, Perry and McAuliffe (2007) employed objective measures of behavior change over a four year period: a) the number of clients that the staff assessed for suicide risk; b) the number of people identified as at-risk for suicide; and c) the admission rate of suicidal patients presenting in the emergency department. Effective knowledge and skill transfer to the workplace was evident in the results. The authors reported a 13% increase in the number of clinicians who assessed all of patients for suicide risk as well as an annual increase of between 14% and 21% in the number of patients identified as at-risk for suicide. Furthermore, there was a significant decrease in suicidal patients' admission rate from 56% to 42%. According to the authors, the decreased admission rate was the result

of staff's ability to effectively assess suicidality, which allowed some admissions to be averted.

In a longitudinal evaluation of ASIST training provided to school staff, Cornell, Williams, & Hague (2006) also used objective measures to examine transfer of knowledge into skills. The researchers measured: a) the number of referrals to mental health services; b) the number of students questioned about suicide; and c) the number of contracts made with potentially suicidal individuals. The researchers found that the control group made more referrals and questioned students about suicide more often than the trainees did during the two years following training. These results suggest that the training was ineffective in changing trainees' behavior. However, the authors did find that the trainees made more contracts with suicidal individuals than did the control group within two years of training. The findings of this study do not present a clear cut conclusion about the effectiveness of ASIST in changing participants' behavior.

Examining the impact of ASIST on the organizational and societal level, the fourth level of Kirkpatrick's (1959; 1994) model, is a complex undertaking. Dolev and colleagues (2008) found three evaluations that attempted to measure this outcome. These evaluations only provided anecdotal evidence of the organizational and societal impact of ASIST. In two different large scale implementations of ASIST, one in a school setting and one in a community hospital, organizational change occurred (Hinbest, 2001; Perry & McAuliffe, 2007). In the school setting (Hinbest, 2001), the evaluator reported improved interactions and relationships between school and community representatives, as well as improved system-wide protocols and school policies. The community hospital gained recognition and a reputation as a leader in suicide prevention training in the

community, with the local community college mandating ASIST training for its nursing students (Perry & McAuliffe, 2007).

Finally, at the community level, one study attempted to examine the impact of ASIST on the suicide rate in a school system (Cornell, et al., 2006). The schools where the staff did not receive ASIST training had almost three times as many students who attempted suicide compared to schools where staff received training. However, because the schools self-selected to receive training, it is impossible to attribute this finding solely to the training.

In summarizing their conclusions, Dolev and colleagues (2008) acknowledged that ASIST was effective in improving participants' suicide intervention knowledge and skills, but also that there was little evidence that participants' knowledge and skills resulted in changes in gatekeeper behaviors. The researchers suggested that further evaluations are needed, especially focused on transfer of learning into practice and long term impacts on communities and organizations.

Isaac and colleagues' (2009) conducted a systematic review of the gatekeeper literature in order to examine the state of the evidence on gatekeeper training for suicide prevention. A search using two databases (MEDLINE and PsychINFO) and search terms *suicide prevention* and *gatekeeper* resulted in 13 studies which presented evaluative evidence of suicide prevention gatekeeper training programs. In general, gatekeeper training programs were found to be successful in positively affecting participants' knowledge, skills, and attitudes. In addition, Isaac and colleagues' (2009) acknowledge that there exists a lack of evidence that gatekeeper training programs are able to positively impact suicide identification and helping behaviors (i.e., gatekeeper behavior).

These conclusions do not mean that gatekeeper training programs should be abandoned as a means of suicide prevention. Instead, they suggest that time and money may be better spent if steps are taken to more efficiently train individuals as gatekeepers. Thus, selecting, based on pre-existing characteristics, those individuals for training who are most likely to use what they learned in training will lead to the most effective gatekeepers. Although, initial investigations of personality characteristics that predict gatekeeper behavior have been unsuccessful (Cross, et al., 2010), further exploration of these predictors will allow for training more effective gatekeepers through selection. Furthermore, evidence that the gatekeepers' work environment impacts gatekeeper behavior (e.g., Wyman et al., 2008) suggests that further investigation of those organizational factors that facilitate gatekeeper behavior is an additional avenue for producing effective gatekeepers.

## CHAPTER THREE

### WHY DO PEOPLE HELP? A SOCIAL PSYCHOLOGICAL PERSPECTIVE

The field of social psychology has been examining the question of why people help each other since the field's inception in the early 20<sup>th</sup> century (e.g., McDougall, 1908), with much of the work in this area occurring in the 1960's and 1970's. Efforts to understand what motivates people to help have focused on three explanations: (a) learning; (b) social and personal norms; and (c) arousal and emotion. Drawing from the basic principles of learning theory, the learning explanation proposes that people are motivated to help others because they have received positive reinforcement (e.g., Moss & Page, 1972) or have observed the benefits of others' helping behaviors (e.g., Hornstein, 1970). According to the social and personal norms approach, an individual's helping behavior is partially a result of personal values or beliefs about expected behaviors in social situations (Warburton & Terry, 2000). Finally, the arousal and emotion approach explores how different emotions can spur helping in different ways. According to the negative state relief model (Cialdini, Kenrick, & Baumann, 1982; Cialdini, Schaller, Houlihan, Arps, Fultz, & Beanman, 1987), when people experience negative emotions they are motivated to reduce them. People have learned through their socialization and experience that helping others can make them feel good (Williamson & Clark, 1989; Yinon & Landau, 1987) and good feelings derived from helping others may relieve negative emotions. In sum, much of the research on why people help has focused on



underlying psychological processes. While each theory is useful in explaining *why* people help, the focus of the current study is not on why, but rather on identification of individual and environmental factors that predict which individuals will engage in helping behaviors, in this case acting as suicide prevention gatekeepers.

One type of helping behavior that has been studied to determine associated individual and environmental characteristics is volunteering, or unpaid service given freely to a nonprofit organization that directly or indirectly delivers goods and services to individuals, groups, or a cause (Wilson, 2000). A considerable amount of research has examined individual characteristics of volunteers. Davis et al., (1999) found that dispositional empathy was related to willingness to engage in volunteering. Penner and colleagues (Penner, 2002; Penner, Fritzsche, Craiger, & Freifeld, 1995) demonstrated that a cluster of personality characteristics (including empathy) are related to volunteering. Two major theoretical models have been developed to identify the factors that predict volunteering: the Volunteer Process Model (Omoto & Snyder, 1995, 2002) and the Role Identity Model (Piliavin, Callero, & Grube, 2002).

The Volunteer Process Model specifies that a helping disposition (personality), volunteer motivations, social support for volunteer activities, satisfaction with the volunteer experience, and integration with the volunteer organization are important factors which predict volunteerism. Omoto and Snyder (1995) tested a model among AIDS volunteers and found that only motives and social support were predictive of length of volunteer activities. Individuals who held egoistic motives volunteered longer, while strong social support was associated with a shorter duration of volunteer activities. Omoto and Snyder (1995) measured social support in terms of network size and

perceived availability of support. These global assessments of support may have been too general to assess the true importance of social support and helping behavior. Individuals who receive little social support from their existing network may volunteer in order to increase the size of their support network. Thus, measuring social support among others volunteering in the organization (i.e., coworkers) may be predictive of the length of volunteering. Personality characteristics, that measured a “helping disposition” were not related to length of volunteering but were related to satisfaction with volunteer experience (Omoto & Snyder, 1995). This was consistent with results from other studies (Penner & Finkelstein, 1998). Davis, Hall, and Meyer (2003) found that satisfaction with volunteer work predicted the number of hours worked. In summary, although the Volunteer Process Model lacks strong empirical support, it is a useful framework for investigating factors that predict volunteering.

The Role Identity Model was originally developed to explain people’s blood donation behavior (Piliavin & Callero, 1991). According to this theoretical model, perceived expectations of others leads to an individual becoming a volunteer, while the experiences of being a volunteer and organizational characteristics lead to the development of a volunteer role identity and that identity is the most immediate predictor of volunteering (Piliavin, et al., 2002). This model was tested by Lee and colleagues (Lee, Piliavin, & Call, 1999) to determine whether it would generalize to volunteer behaviors and to charitable donations. Using a nationally representative sample of over 1,000 respondents, the researchers found support for the Role Identity Model (Lee, Piliavin, & Call, 1999). Finkelstein, Penner, and Brannick (2005) studied how volunteer role identity affected the volunteer behavior of a group of elderly volunteers. They found

that the stronger the participants' volunteer role identity, the more hours they spent volunteering each week. In a three-year longitudinal study conducted by Marta, Manzi, and Vignoles (2005) young adults working as volunteers with children were studied. The researchers found that role identity fully mediated the effects on behavioral intentions of both parental and friends' expectations (subjective norms) and attitudes about volunteering, supporting the propositions of the model.

In summary, both the Volunteer Process Model and the Role Identity Model are adequate explanatory models of factors which predict volunteer behaviors. While the two models are consistent on a number of predictors of volunteering (e.g., organizational variables), the two models diverge in terms of focus and emphasis. The Volunteer Process Model is focused on the intrapersonal factors (such as personality and motives), while the Role Identity Model gives more emphasis to the environmental factors (i.e., social roles and social context in which volunteering occurs). Thus, consideration of individual and environmental characteristics provides a more complete picture of factors which predict planned, long-term helping.

Gatekeeper helping behavior aligns closely with the conceptualization of planned helping and volunteer behavior because a gatekeeper has made the decision to be a long term helper when deciding to complete gatekeeper training. A trained gatekeeper becomes a first responder to individuals at-risk for suicide. Just as volunteers work within the context of a specific organization, gatekeepers typically perform suicide prevention in their primary workplace. Therefore, a gatekeeper's work context will impact the ability to perform as a gatekeeper.

## CHAPTER FOUR

### PREDICTORS OF GATEKEEPER BEHAVIOR

#### *Individual Characteristics*

Using a job analysis approach, Cigularov and colleagues (2009), attempted to identify characteristics of effective gatekeepers. First, the researchers asked subject matter experts in suicide prevention to identify the attributes of effective gatekeeper. Attributes included knowledge, skills, abilities, and other personal characteristics. In order to be comprehensive, the researchers also conducted an in-depth literature review of studies examining the characteristics of gatekeepers and an extensive review of the Occupational Information Network (Peterson, et al., 2001) pertaining to characteristics needed in twelve occupations with a service orientation (e.g., school counselor, social worker), resulting in a list of 59 gatekeeper characteristics. In the second phase of the study, the researchers administered a web-based survey to assess the relative importance of the gatekeeper characteristics among 335 expert gatekeeper trainers from two leading organizations in the field of suicide prevention. Results revealed that attributes that best distinguished between a superior and an average gatekeeper were related to gatekeeper knowledge, skills, and personality. Specifically, Emotional Intelligence and Altruism were the two personality characteristics attributed to effective gatekeepers. Previous evaluations of gatekeeper knowledge and skills as predictors of gatekeeper behavior have demonstrated weak to moderate relationships, at best, (e.g., Cross et al., 2007, 2010;

Wyman et al, 2008), thus necessitating further exploration of the predictors of gatekeeper behavior. Personality characteristics appear to be the next logical place to turn. However, relatively little past research has investigated personality as a predictor of gatekeeper behavior (Cross, et al., 2010). Thus, the current study takes the next step of validating Emotional Intelligence and Altruism as essential personality characteristics for effective gatekeepers by exploring whether they are predictive of gatekeeper behavior. The next two sections will describe the constructs of Emotional Intelligence and Altruism and their relationship with gatekeeper behavior.

Emotional Intelligence. Emotional Intelligence is defined as an individual's ability to regulate personal emotions and the ability to correctly recognize and interpret emotions in others (Mayer & Salovey, 1997). The ability to self-regulate emotions allows gatekeepers to deal with emotionally taxing events, such as dealing with a person in crisis. Furthermore, the ability to correctly perceive emotions in others also allows gatekeepers to better recognize individuals who are experiencing a crisis. Thus, gatekeepers who possess high Emotional Intelligence are likely to perform better as gatekeepers than those who are low in Emotional Intelligence.

Research on the relationship between Emotional Intelligence and helping behaviors has focused on workplace behavior known as organizational citizenship behaviors, or job-related behaviors that exceed formal job requirements (Smith, Organ, & Near, 1983). Charbonneau and Nicol (2002) found a positive correlation between Emotional Intelligence and organizational citizenship behavior. The existing research, albeit scant, offers support for the positive relationship between Emotional Intelligence and helping behavior.

In a study of Emotional Intelligence and helping behavior at work, Carmeli and Josman (2006) provided further support for a relationship between Emotional Intelligence and helping behavior. They posited that Emotional Intelligence boosts helping behaviors as it facilitates an individual's ability to recognize and understand other's feelings, thus allowing more appropriate responses to distress based on an ability to self-regulate mood. Furthermore, engaging in helping behaviors allows one to maintain a positive state of mind making helping behaviors rewarding. In fact, they found that Emotional Intelligence not only predicted performance of job tasks, but also performance of helping behaviors within the organization that was beyond their usual job tasks. Therefore, individuals with higher Emotional Intelligence were better prepared to perceive needs of others for help and responded more appropriately to others' problems.

Altruism. Altruism is defined as helping another person merely to benefit another, with no benefit, and often a cost, to oneself (Aronson, Wilson, & Akert, 2004). Altruism, as defined here, is conceptually different than emotional intelligence; Altruism is related to an individual's motivation for helping others, while Emotional Intelligence is related to an individual's ability to recognize others' emotions and self-regulate emotions. In other words, an individual who is able to recognize the emotions of a distressed person (i.e., a person high in emotional intelligence) does not necessarily offer assistance to the distressed individual out of a purely selfless motivation (i.e., person possessing altruistic personality traits).

While the two constructs may be conceptually distinct, Emotional Intelligence has been criticized as being redundant with the Big Five personality traits (see Davies, Stankov, & Roberts, 2004; Eysenck, 1998). Specifically, Emotional Intelligence is

similar to the Big Five dimension of Agreeableness, of which Altruism is a facet (Costa & McCrae, 1992). Van Rooy, Viswesvaran, and Pluta (2005) addressed these criticisms in a meta-analysis which summarized bivariate relationships between Big Five personality dimensions and overall measures of Emotional Intelligence. They found that the average correlation between Agreeableness and Emotional Intelligence was  $\rho = .27$ , suggesting relatively low colinearity. Thus, Altruism and Emotional Intelligence may be related, but are not completely overlapping constructs.

The literature has suggested a link between Altruism and planned helping behavior (e.g., Allen & Rushton, 1983; Rushton, Chrisjohn, & Fekken, 1981; Oliner & Oliner, 1988). Mowen and Sujun (2005) used hierarchical modeling to investigate traits that predict volunteer behavior and found that Altruism was a significant predictor of general volunteer behavior. Additionally, there is evidence that engaging in altruistic behavior (such as volunteering) in the past predicts future altruistic behavior (Lee, Piliavin & Call, 1999; Marta et al, 2005). Donating blood may be considered one of the most altruistic forms of volunteering. Donors give blood to benefit others, without receiving any personal benefit. On occasion, a donor will experience costs in the form of fainting, dizziness, fatigue, nausea, bruising, and pain. Nevertheless, many donors return again and again. In a recent study of more than 179,000 first-time donors, those donors who gave blood more frequently in the first year were more likely to become regular donors (Schreiber et al., 2005).

The current study explores the relationship of Emotional Intelligence and Altruism with gatekeeper behavior. Specifically, I hypothesize that Emotional Intelligence and Altruism will positively predict performance of gatekeeper behaviors.

### *Environmental Characteristics*

A plethora of evidence exists in the organizational psychology literature which demonstrates the importance of environmental, or workplace, factors in predicting workers' motivation and performance. In the occupational stress literature, the job demand-control-support (JDCS) model (Karasek, 1979; Johnson & Hall, 1988) has been used to explain how the demands of one's job interacts with the ability one has to affect their work (job control), and the level of work-related social support one receives to affect job performance and psychological well-being. The JDCS model predicts both direct and indirect relationships of job demands on performance. The relationship of one type of job demand, role conflict, with performance of gatekeeper behavior was examined in the current study. Similarly, the relationship of social support from co-workers, supervisors, and the organization on gatekeeper behavior was also explored.

Role Conflict. As previously mentioned, most gatekeepers are employed in an organization that offers some form of social service (e.g., probation officer, counselor, social worker). However, the role of gatekeeper comes after job duties (i.e., job description). Therefore a potential conflict exists between their primary job and their role as gatekeeper. Role conflict has been defined as "incompatibility in the requirements of the role, where a set of standards or conditions impinge upon performance" (Rizzo, House, & Lirtzman, 1970). Thus, for an individual whose primary job is elementary school teacher, taking time to engage in gatekeeper behavior, such as listening and establishing a trusting and helping relationship, will likely conflict with one of his or her primary job duties of managing a classroom of students. Thus, the gatekeeper might



experience role conflict between their job duties and the gatekeeper activities. This conflict may negatively impact a gatekeeper's ability to help an individual in crisis.

Previous research has demonstrated the deleterious effects of role conflict on performance at work (Jackson & Schuler, 1985; Fried, Ben-David, Tiegs, Avital, & Yeverechyahu, 1998). In a recent meta-analysis of work demand stressors and job performance, Gilboa, Shirom, Fried, and Cooper (2008) found a negative relationship between role conflict and general performance. More closely related to performance of gatekeeper behavior, Tompson and Werner (1997) found that workers who experienced role conflict in their jobs were less likely to help others at work.

Based on the above rationale and previous findings in the literature, I hypothesized that greater role conflict would predict engaging in fewer of the trained gatekeeper behaviors. This hypothesis was tested in the current study.

Social Support. Social support has been described as “coping assistance that reduces the harmful impacts of job stressors and strains” (Chen, Popovich, & Kogan, 1999, p. 55). According to the literature, the social context at work can support transfer of training through rewarding individuals for applying learned skills. Noe (1986) (cited in Fecteau, Dobbins, Russell, Ladd, & Kudisch, 1995) described a supportive social context as “one in which employees are provided opportunities and reinforcement for practicing skills or for using knowledge acquired in training.” The reinforcing social support can be obtained from supervisors and from co-workers (Baldwin & Ford, 1988; Noe, 1986; Noe & Schmitt, 1986; Rouiller & Goldstein, 1993). For instance, Fecteau et al. (1995) found that managers participating in a management training who received support from their peers and their supervisors reported higher levels of knowledge gain and skill acquisition.

In their study of Air Force graduates, Quinones, Ford, Segó, & Smith (1995) found that trainees' reports of supervisor and peer support were influential in the actual use of skills acquired during training.

Overall, the above review suggests that social support, either from a supervisor or co-worker, will be positively related to gatekeeper behavior. Previous research on determinants of gatekeeper behavior (Moore, et al., In Press) found a positive relationship between supervisor support and gatekeeper behavior but co-worker support was not significantly related to gatekeeper behavior. In the proposed study, an improved measure of social support was used to overcome the measurement shortcomings of the previous study while also exploring the differential impact of two types of social support on gatekeeper behavior.

The theoretical literature typically distinguishes two types of social support: emotional and instrumental (see Buunk, 1990; Cutrona & Russell, 1990; Wills & Shinar, 2000). However, there is no clear consensus that one type of social support is more effective than the other. Some have argued that emotional support is the most important type (Berkman, 1995; House, Umberson, & Landis, 1988; Thoits, 1995), while one meta-analysis found that instrumental support was the strongest predictor of work performance (Schwarzer & Leppin, 1991). However, a recent meta-analysis focusing on the workplace found emotional support to be a stronger predictor than instrumental support of a number of work outcomes, including job performance (Viswesvaran, Sanchez, & Fisher, 1999).

Emotional support was defined in this dissertation as sympathetic caring directed towards a distressed gatekeeper. Instrumental support was defined in this dissertation as tangible assistance that aids the distressed gatekeeper to overcome the stressful event.

The literature also recognizes the importance of the source of social support, which has typically been divided into three groups: the employee's supervisor, the employee's co-workers, and the employee's family and friends (e.g., Caplan, Cobb, French, Harrison, & Pinneau, 1975; Kaufmann & Beehr, 1986). Furthermore, support from supervisors and co-workers are considered to be more effective sources for dealing with work-related stress because these work-related sources of support originate in the same context as the stressful situation (Beehr, 1985). However, the supervisor typically has more power to influence the employee's work environment than a co-worker. Thus, social support from the supervisor is expected to have a greater impact on performance of gatekeeper behavior than co-worker support, but co-worker will also be related to gatekeeper behavior.

According to the specificity hypothesis, the right type of support (i.e., emotional vs. instrumental) from the right source of support will determine whether barriers are mitigated and performance is enhanced (Cohen & Wills, 1985). Unfortunately, few studies have tested the specificity hypothesis and a consensus has not been reached in the literature (Viswesvaran et al., 1999). However, based on the previously reviewed literature, expected relationships among types of social support, sources of social support and gatekeeper behavior are proposed. First, emotional support will be a stronger predictor of gatekeeper behavior than instrumental support, regardless of the source. Second, as for the interaction among type and source of support, I hypothesize an order of magnitude of effects such that: (a) emotional support from a supervisor will be the strongest predictor of gatekeeper behavior, (b) emotional support from a co-worker will be the second strongest predictor of gatekeeper behavior, and (c) instrumental support

will be the third strongest predictor of gatekeeper behavior. No difference between the sources of support for instrumental support is hypothesized.

Perceived Organizational Support (POS). The organization itself can also support gatekeepers' performance based on the practices and procedures within the organization that signal to employees what is important (Schneider, 1975). Organizational support can be measured in terms of employees' perceptions of their organization, otherwise known as perceived organizational support (POS; Eisenberger, Huntington, Huntington, & Sowa, 1986). Perceptions that the organization values and is committed to the employees can lead to employees engaging in beneficial actions for the organization, including better performance (Eisenberger, Fasolo, & Davis-LaMastro, 1990). Therefore, I hypothesized that gatekeepers who perceived high levels of social support from their organization will perform more gatekeeper behaviors.

#### *Buffering Effect of Social Support*

In addition to the direct effects of social support on gatekeeper behavior, social support will likely interact with role conflict to predict gatekeeper behavior. According to the literature, social support interacts with stressors (e.g., role conflict) such that the relationship between stressors and outcomes is stronger for individuals with low levels of support than for individuals with high levels of support. This has been dubbed the buffering hypothesis (Cohen & Wills, 1985; Ganster, Fusilier, & Mayes, 1986). In fact, social support has been shown to buffer the negative effects of stressors on work outcomes (e.g., job performance; Karasek, 1979; Karasek, Triantis, & Chaudry, 1982).

Empirical support for the buffering hypothesis has been mixed across studies. A number of studies have found moderating effects (e.g., Abdul-Halim, 1982; LaRocco,

House, & French, 1980), while other studies have found no support (e.g., Ganster, et al., 1986) or a reverse moderating effect (e.g., Kaufmann & Beehr, 1986). However, in their meta-analysis of the social support literature, Viswesvaran, et al., (1999) found evidence for the moderating effect of social support on the stressor-strain relationship.

In a previous study of situational obstacles for suicide prevention gatekeepers (Moore et al., In Press), social support buffered the relationship between situational obstacles and gatekeeper behavior. However, only the interactions of supervisor support and organizational support (POS) with situational obstacles were significant predictors of gatekeeper behavior. As mentioned previously, the methodological issue of the previous study may have prevented adequate measurement of the co-worker social support construct. Role conflict in the current study is a more specific type of situational obstacle, as measured in the previous study. Additionally, with the improvements to the measurement strategy in the current study, I expect to find that co-worker support will buffer the relationship between role conflict and gatekeeper behavior.

In examining the interaction of social supports and gatekeeper role conflict on gatekeeper behavior, following hypotheses will be investigated. First, emotional support from supervisor and co-worker will moderate the relationship between role conflict and gatekeeper behavior. Second, perceived organizational support will moderate the relationship between role conflict and gatekeeper behavior. Specifically, the strength of the negative relationship between gatekeeper role conflict and suicide gatekeeper behavior will be stronger when emotional support (either from supervisor or co-worker) is low compared to when support is high. Neither instrumental support from supervisor,

nor instrumental support from co-workers is expected to moderate the relationship between role conflict and gatekeeper behavior.

The hypothesized interaction is displayed in Figure 1. The line representing low support has a steep, negative slope compared to the line representing high support, which has a shallow, negative slope. It is also important to compare the end points of the two lines, as they indicate low and high gatekeeper role conflict. When there is low gatekeeper conflict, the mean difference between high and low support on gatekeeper behavior is expected to be small. However, under high gatekeeper role conflict, the mean difference between high and low support is much larger.

## *Research Questions & Hypotheses*

The following section reviews the specific research questions and hypotheses that were tested in the current study.

Research Question 1: Do gatekeeper personality characteristics predict gatekeeper behavior?

*Hypothesis 1*: Gatekeepers' Emotional Intelligence will positively predict gatekeeper behaviors.

*Hypothesis 2*: Gatekeepers' Altruism will positively predict gatekeeper behaviors.

Research Question 2: Do organizational characteristics predict gatekeeper behavior?

*Hypothesis 3*: Gatekeeper role conflict will negatively predict gatekeeper behaviors.

*Hypothesis 4*: Social support will positively predict gatekeeper behaviors.

*Hypothesis 5*: POS will positively predict gatekeeper behavior.

*Hypothesis 6*: Emotional support will moderate the relationship between gatekeeper role conflict and gatekeeper behavior.

*Hypothesis 7*: POS will moderate the relationship between gatekeeper role conflict and gatekeeper behavior.

## CHAPTER FIVE

### METHODS

#### *Participants*

Six hundred and thirty-six participants who attended gatekeeper training (either ASIST or QPR) between January 2010 and December 2010 completed a survey immediately prior to training (pre-test). Six hundred and nineteen participants then completed a survey immediately following gatekeeper training (post-test). Finally, two hundred and eighteen participants completed an electronic follow-up survey via Survey Monkey within six months following training. However, not all 218 participants who completed the follow-up had complete data (i.e., data for both pre- and post-test) or the follow-up data could not be properly matched to either pre- or post-test data due to an incorrect identification number. Thus, only one hundred and sixty-nine participants had complete data across the three time points. The final response rate for participants who had complete data was 26.6%.

Participants were predominantly female (77.6%) and Caucasian (83.5%). Participants ranged in age from 18 to 81, with a mean age of about 43 ( $SD = 13.12$ ). Participants reported that they primarily served youth in the Education (36%), Child Welfare (20%), and Mental Health (19%) settings. Table 1 provides a profile of participants broken down by type of training.



### *Responders versus Non-Responders*

Due to the relatively low response rate mentioned previously, analyses were conducted to determine whether the participants who completed all three surveys (responders) were significantly different from those who did not complete all three surveys (non-responders) on key demographic and background variables. Specifically comparisons of responders to non-responders were made in terms of age, gender, ethnicity, gatekeeper experience (i.e., completed a previous gatekeeper training and performed gatekeeper behavior in the past), intentions to intervene with a suicidal individual, utility reactions to training (i.e., how useful the training is), and affective reactions to training (i.e., level of satisfaction with training). These variables were chosen because of their direct link to gatekeeper behavior. In other words, previous experience as a gatekeeper, intentions, and reactions to training would likely impact training transfer (e.g., Cheng & Ho, 2001). Therefore, a difference between responders and non-responders would indicate an inability to generalize the results of this study.

However, no mean differences were found in terms of the distribution of responders versus non-responders in terms of their gender, ethnicity, or age. Additionally, no mean differences were found for participants' training reactions (affective and utility) or intentions to intervene following training. Finally, no mean differences were found for past gatekeeper training or past gatekeeper behavior.

Next, analyses were conducted to determine whether there were differences between responders and non-responders in terms of Emotional Intelligence and Altruism. (The other study variables were collected on the follow-up survey and therefore only completed by responders.) No mean differences were found for Emotional Intelligence or

Altruism, indicating that responders' levels of Emotional Intelligence and Altruism were similar to those of non-responders' levels. Thus, our ability to generalize the results of this study beyond just those participants who completed the follow-up survey is preserved; results can be generalized to at least all participants who complete gatekeeper training and complete the evaluation (pre-test & post-test).

### *Procedure*

Participants completed paper surveys immediately before and immediately following the gatekeeper training. Along with the pre-training and post-training surveys, participants were asked to participate in a follow-up survey. Participants gave consent by providing their contact information (name and email address) on a Contact Information Form, which was kept separate from the paper surveys to maintain confidentiality. Those participants who provided their email address were contacted via email six months following training and asked to complete an online follow-up survey. A five digit unique identification number was completed by the participant on each of the surveys in order to link participants' data across time points while maintaining confidentiality.

### *Measures*

*Emotional Intelligence.* Emotional Intelligence was measured using the *Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF)*. This 30-item questionnaire designed to measure *global* trait emotional intelligence (trait EI) is based on the long form of the TEIQue (Petrides & Furnham, 2001). Two items from each of the 15 subscales of the TEIQue were selected for inclusion, based primarily on their correlations with the corresponding total subscale scores. This procedure was followed in order to ensure adequate internal consistencies and broad coverage of the sampling

domain of the construct. The TEIQue has been constructed with the aim of providing comprehensive coverage of the trait Emotional Intelligence domain (Petrides & Furnham, 2001). Participants rated each item on a 5-point Likert scale, from strongly disagree (1) to strongly agree (5). Thus, a higher score indicates a greater level of trait emotional intelligence. Internal consistency reliability was .88 for the 30-item *TEIQue-SF*. The full scale is included in Appendix A with notations indicating whether the item is reverse-scored.

*Altruism.* Altruism was measured using the Altruism subscale drawn from the International Personality Item Pool (IPIP; Goldberg, 2006) measure of the Agreeableness facet from the NEO-Personality Inventory (Costa & McCrae, 1992). The IPIP ten item scale of Altruism is similar to the NEO version, with comparable coefficient alphas (0.77 for IPIP; 0.72 for NEO) and mean item intercorrelations (0.25 for IPIP; 0.26 for NEO). Participants rated each item on a 5-point Likert scale, from strongly disagree (1) to strongly agree (5). Thus, a higher score indicates a greater level of Altruism. Internal consistency reliability was .79 for the Altruism scale. The entire Altruism measure is included in Appendix B with notations indicating whether the item is reverse-scored.

*Gatekeeper Role Conflict.* Role conflict for gatekeepers was measured with five items adopted from Rizzo, House, and Lirtzman's (1970) *Role Conflict and Ambiguity Scale*. According to Tracy and Johnson (1981), this scale is the most widely used in the measurement of role stress. Murphy and Gable (1988) found the 14-item abridged scale to be a parsimonious and reliable measure of the constructs. An example item for Gatekeeper Role Conflict is: "I receive incompatible messages from two or more people at work about how to handle a person in crisis." Participants will rate each item on a 5-

point Likert scale, from strongly disagree (1) to strongly agree (5). Thus, a higher score indicates a greater gatekeeper role conflict. Internal consistency reliability was .84 for the gatekeeper role conflict scale. The entire Gatekeeper Role Conflict measure is included in Appendix C with notations indicating whether the item is reverse-scored.

*Social Support.* Two types of social support (emotional and instrumental) from two sources (co-worker and supervisor) were measured in this study. Six items measure support from supervisor; three tapping emotional support and three tapping instrumental support. An example item for supervisor support is: *“If I had to intervene with a suicidal individual while at work, my supervisor would show understanding.”* Similarly, six items measure social support from co-workers; three tapping emotional support and three tapping instrumental support. This multi-dimensional measure of social support was modified from the one used by Carver, Scheier, and Weintraub (1989). An example item for co-worker support is: *“If I had to intervene with a suicidal individual while at work, my co-worker would provide me with sufficient resources.”* Participants will rate each item on a 5-point Likert scale indicating the frequency of occurrence, from “Never” (1) to “Always” (5). Thus, a higher score indicates greater social support. Internal consistency reliabilities for social support measures ranged from .92, for supervisor instrumental support, to .97 for co-worker emotional support. The entire social support measure is included in Appendix D.

*Perceived Organizational Support (POS).* Perceived Organizational Support was measured with six items that were previously developed and used in my investigation of situational obstacles (Moore, et al., In Press). The six items used in this study were reduced from nine items used in the previous study based on scale statistics and the need

to refine (i.e., reduce the number of items) the scale. An example item for POS is: “The organization does not value my contribution to suicide prevention efforts.” Participants will rate each item on a 5-point Likert scale, from strongly disagree (1) to strongly agree (5). Thus, a higher score indicates greater perceived organizational support. Internal consistency reliability was .80 for the POS scale. The entire POS measure is included in Appendix E with notations indicating whether the item is reverse-scored.

*Gatekeeper Behavior.* Gatekeeper behavior was measured with 10 items developed in a previous evaluation of gatekeeper training programs (Chen, Cigularov, Moore, & Gibbs, 2007). First, participants were asked, “How many young people, who showed signs of being suicidal, did you directly intervene with in the last 6 months?” Responses to this question comprised the outcome variable “number of interventions.” Next, participants were asked to indicate the number of times that they had engaged in nine specific types of gatekeeper intervention behavior. The frequency indicated for each of these nine questions was summed and made up the outcome measure “number of gatekeeper behaviors.” This measure of gatekeeper behavior is comprised of items that measure each of the six gatekeeper behaviors: problem identification, interaction and assessment of risk behavior, listening, establishing a trusting and helping relationship, referral activities, and follow-up activities. Because this outcome measure of gatekeeper behavior is a sum of the number of times the participant has engaged in series of unrelated behaviors, it does not make sense to calculate internal consistency reliability. The entire Gatekeeper Behavior measure is included in Appendix F.

## *Data Analysis*

In order to test the proposed hypotheses, it was necessary to use a form of non-linear regression: Poisson. A member of the generalized linear model (GLM; see Dobson, 2002) family of analyses, Poisson regression is typically used when the outcome variable is a count, where large counts are rare events and the mean is low (Gardner, Mulvey, & Shaw, 1995). The gatekeeper behavior measure in this dissertation is a count variable, and due to the relatively low occurrence of encountering an individual in crisis, the mean for this variable is low. Thus, Poisson regression was chosen to analyze the data in this dissertation. Furthermore, Poisson regression is preferred over standard ordinary least squares (OLS) regression when violations of the major assumptions occur. For example, OLS regression assumes constant variance (or homoscedacity). However, count outcome variables often display increasing conditional variances with increases in the value of the predictor, known as heteroscedacity, which can lead to biased standard errors and biased tests of significance in OLS regression. (For further discussion of the assumption of OLS regression in the context of count variables, see Coxe, West, & Aiken, 2009). Although this dissertation is not meant to be a tutorial on statistical analysis, an overview of essential information pertinent to the interpretation of Poisson regression analyses is provided below.

*Interpretation of Coefficients.* Essentially, the interpretation of the regression coefficients in Poisson regression is the same as in OLS regression. However, the straightforward interpretation is in terms of the natural logarithm of the predicted outcome. Thus, using some basic algebraic manipulation of the regression equation allows for interpretation in terms of the number of times the event occurs. The resulting

equation demonstrates that “changes in a predictor result in multiplicative changes in the predicted count” (p. 124, Coxe, et al., 2009).

*Model Fit and Gain in Prediction.* In Poisson regression (and all GLM regression) parameter estimation uses maximum likelihood methods, as opposed to OLS regression which employs OLS estimation. (See Enders, 2005, for a more extensive explanation of maximum likelihood estimation.) Because of this major difference, there does not exist an analog to the squared multiple correlation, or  $R^2$ , of OLS regression for Poisson regression. However, a measure of how adequately the model accounts for the data is available. A *deviance* value is produced when maximum likelihood is used to estimate a model, which can be used to assess fit of the model. However, the deviance value has two major differences than  $R^2$ . First, deviance is a relative measure of how well the model fits. While  $R^2$  indicates the absolute fit of the OLS model, deviance can only be interpreted in relation to another model. Second, whereas  $R^2$  reflects the goodness of fit of the model, “deviance represents *badness* of fit or how much worse the model is than a perfectly fitting model” (p. 126, Coxe, et al., 2009). The deviance score can be used to calculate a pseudo-  $R^2$  measure that represents the “proportional reduction in deviance due to the inclusion of the predictors” (p. 126, Coxe, et al., 2009). This pseudo-  $R^2$  is measure is one way to assess how well the model predicts the outcome, and it essentially represents the % reduction in deviance due to the inclusion of additional predictors (i.e., gain in prediction).

In order to test whether the pseudo-  $R^2$ , as well as the gain in prediction by the addition of predictors is significant, a chi-square test is employed. In this case, the chi-square test is the difference between two deviances; deviance of the base model minus

the deviance of a model with the addition of predictors. Thus, a significant chi-square test indicates that the addition of predictors makes a significant contribution to the gain in prediction of the model. Deviance scores, pseudo-  $R^2$ , and chi-square tests will be reported for Poisson regression analyses conducted in this dissertation.



## CHAPTER SIX

### RESULTS

In this section, analyses were conducted to examine the relationships between individual characteristics (Altruism and Emotional Intelligence), organizational characteristics (gatekeeper role conflict, social supports, and perceived organizational support) and gatekeeper behaviors. First, background analyses were conducted to investigate the accuracy of data entry and to check assumptions of multivariate analysis. Next, Poisson regression analyses were conducted to test the association between individual and organizational characteristics and outcome variables: number of interventions and number of gatekeeper behaviors. Specifically, stepwise regression procedures were followed, with individual characteristics entered first, then organizational characteristics, in order to determine the predictive utility of the models relative to the control model. Finally, post hoc analyses were conducted, as needed, to further examine the hypothesized relationships.

#### *Background Analyses*

Descriptive statistics, including possible ranges, obtained ranges, means, standard deviations, estimates of reliability, and correlations for the study's variables are presented in Table 2. Altruism and Emotional Intelligence were significantly correlated with one another ( $r = 0.52, p < .05$ ). Also, the mean scores for Altruism and Emotional Intelligence were at the higher end of the possible ranges for each of the scales,

suggesting range restriction. Likewise, the mean scale scores for social supports and perceived organizational support were at the higher end of the possible ranges of scores, again suggesting potential range restriction. These scales demonstrated sufficient univariate normality based on their skewness and kurtosis values. Skewness absolute values of 0 to 2 and kurtosis absolute values of 0 to 7 demonstrate univariate normality, according to Curran, West, and French (1996). However, skewness and kurtosis scores for the gatekeeper behavior measure fell outside of these acceptable values for demonstrating normality. Gatekeeper behavior was highly negatively skewed, such that most participants reported performing very few gatekeeper behaviors, and very few participants report performing many gatekeeper behaviors. The need to employ special data analysis techniques to deal with the non-normal distribution of this outcome variable was discussed previously in the data analysis section.

#### *ASIST versus QPR Participants*

In order to determine whether participants who attended ASIST were different than those who attended QPR gatekeeper training in terms of the independent variables, a series of *t*-tests were conducted. Differences between ASIST and QPR participants were found in five of the eight independent variables. ASIST participants ( $M = 42.93$ ) were significantly higher than QPR participants ( $M = 41.96$ ) on Altruism,  $t(632) = 3.21, p < .05$ . Similarly, ASIST participants ( $M = 119.26$ ) possessed significantly higher levels of Emotional Intelligence than QPR participants ( $M = 116.78, t(631) = 2.97, p < .05$ ). For social support measures, ASIST participants reported higher levels of support from their supervisor for both emotional and instrumental types of support ( $M = 13.49$  &  $M = 12.94$ , respectively) compared to QPR participants ( $M = 12.54$  &  $M = 12.10$ , respectively).

However, no differences were found between ASIST and QPR participants for co-worker support for either emotional or instrumental support. One additional difference between ASIST and QPR participants was on level of perceived organizational support; ASIST participants ( $M = 21.83$ ) perceived greater organizational support than QPR participants ( $M = 20.66$ ,  $t(208) = 2.03$ ,  $p < .05$ ).

In addition, analyses were conducted to determine whether there were differences in the number of interventions and number of gatekeeper behaviors performed based on which training the participant completed (ASIST or QPR). ASIST participants, on average, intervened with more youth ( $M = 1.03$ ) than did QPR participants ( $M = .41$ ,  $t(203) = 3.51$ ,  $p < .05$ ). Likewise, ASIST participants reported performing almost three times more gatekeeper behaviors, on average, ( $M = 8.99$ ) than did QPR participants ( $M = 3.11$ ,  $t(203) = 4.00$ ,  $p < .05$ ). Due to the significant differences between ASIST and QPR participants on both the independent and dependent variables, type of training was entered as a control variable (Model 1) in the following analyses in order to account for these differences.

### *Main Effects Analyses*

#### *Relationship between Personality Characteristics and Gatekeeper Behavior.*

The first research question under investigation in this dissertation was whether personality characteristics of gatekeepers would predict gatekeeper behavior. Specifically, it was hypothesized that gatekeeper behavior is (a) positively associated with Emotional Intelligence (H1) and (b) positively associated with Altruism (H2).

The results of the multivariate Poisson regression analyses testing Hypotheses 1 and 2 are presented in Model 2 (Personality Main Effects Model) of Tables 3 and 4 for number of interventions and number of gatekeeper behaviors, respectively. The personality model, which included Altruism, Emotional Intelligence, and Training as predictors, was statistically significant for both number of interventions ( $\chi^2(3, N = 175) = 227.10, p < .05$ ) and number of gatekeeper behaviors ( $\chi^2(3, N = 175) = 20.05, p < .05$ ). Furthermore, contrast analyses indicate that after controlling for the effects of Training (Model 1), personality characteristics significantly add to the predictive utility of the models predicting number of interventions ( $\Delta R^2 = 0.13, p < .05$ ) and number of gatekeeper behaviors ( $\Delta R^2 = 0.13, p < .05$ ). However, of the individual predictors in this model, only Training was a significant predictor of the outcomes. Thus, these results only provide partial support for Hypotheses 1 and 2.

*Relationship between Organizational Characteristics and Gatekeeper Behavior.*

The second research question of interest in this dissertation was whether organizational characteristics would predict gatekeeper behavior. Specifically, it was hypothesized that gatekeeper behavior is (a) negatively associated with gatekeeper role conflict (H3), (b) positively associated with social supports (H4), and (c) positively associated with POS (H5).

The results of the multivariate Poisson regression analyses testing Hypotheses 3 through 5 are presented in Model 3 (Organizational Main Effects Model) of Tables 3 and 4 for number of interventions and number of gatekeeper behaviors, respectively. The organizational model included the addition of the following predictors to the personality model (Model 2): gatekeeper role conflict, supervisor support (emotional and

instrumental), co-worker support (emotional and instrumental), and POS. Model 3 was statistically significant for both number of interventions ( $\chi^2(9, N = 168) = 26.28, p < .05$ ) and number of gatekeeper behaviors ( $\chi^2(9, N = 168) = 305.70, p < .05$ ). Furthermore, contrast analyses indicate that after controlling for the effects of Training and personality characteristics (Model 2), organizational characteristics significantly add to the predictive utility of the models predicting number of interventions ( $\Delta R^2 = 0.04, p < .05$ ) and number of gatekeeper behaviors ( $\Delta R^2 = 0.03, p < .05$ ). Of the individual predictors in this model, only Training was a significant predictor of the outcomes. Thus, these results only provide partial support for Hypotheses 3, 4, and 5.

#### *Training Effect Analyses*

The above finding that type of training was the only significant predictor in the main effect models (Models 1 and 2) prompted the investigation of the interaction of Training and predictor variables. To compute interaction terms, the predictor variables were first centered and then multiplied by the Training variable (Aiken & West, 1991). Next, these interaction terms were incorporated into the main effect models. Model 4 of Tables 3 and 4 display the results of the multivariate Poisson regression analysis testing the interaction of Training and predictor variables. The Training by Altruism interaction term was a significant predictor of both the number of interventions ( $B = .344, p < .05$ ), and the number of gatekeeper behaviors ( $B = .361, p < .05$ ), while the Training by Gatekeeper Role Conflict interaction term was only a significant predictor of number of interventions ( $B = .202, p < .05$ ). These significant interactions further confirm the differences between ASIST and QPR participants found in the preliminary analyses.

### *Follow-up Analyses: Relationship between Altruism and Gatekeeper Behavior*

In order to untangle the true relationships between variables, follow-up analyses were performed for those variables found to be significant in the main effects models. Furthermore, due to the significant differences between trainings, these follow-up analyses will be conducted separately for participants of ASIST and QPR trainings.

#### ASIST Participants.

The Poisson regression model predicting number of interventions from Altruism was statistically significant with likelihood ratio  $\chi^2(1, N = 108) = 6.91, p < .05$ . For these data, the expected log count for a one-unit increase in Altruism was -0.071. For easier interpretation, the log count was translated into a more meaningful scale: number of gatekeeper behaviors. Therefore, a one standard deviation increase in Altruism translates into a decrease of about 0.23 gatekeeper behaviors. This finding is in the opposite direction of what was predicted in Hypothesis 2. Results of this Poisson regression analysis are presented in Table 5.

Similarly, the Poisson regression model predicting Gatekeeper Behavior from Altruism was statistically significant with likelihood ratio  $\chi^2(1, N = 108) = 58.04, p < .05$ . For these data, the expected log count for a one-unit increase in Altruism was -0.065. This translates into a decrease of about 1.86 gatekeeper behaviors for a one standard deviation increase in Altruism. This finding is again in the opposite direction of what was predicted in Hypothesis 2. Results of this Poisson regression analysis are presented in Table 6.

### QPR Participants.

The Poisson regression model predicting number of interventions from Altruism was statistically significant with likelihood ratio  $\chi^2(1, N = 71) = 17.42, p < .05$ . For these data, the expected log count for a one-unit increase in Altruism was 0.195. This translates into an increase of about 0.37 gatekeeper behaviors for a one standard deviation increase in Altruism. Results of this Poisson regression analysis are presented in Table 7.

Again, the Poisson regression model predicting Gatekeeper Behavior from Altruism was statistically significant with likelihood ratio  $\chi^2(1, N = 71) = 118.93, p < .05$ . For these data, the expected log count for a one-unit increase in Altruism was 0.19. This translates into an increase of about 2.79 gatekeeper behaviors for a one standard deviation increase in Altruism. Results of this Poisson regression analysis are presented in Table 8. The results of the Poisson regression analyses for QPR participants support Hypothesis 2.

### *Buffering Effect of Social Support*

In order to test Hypotheses 6 (positing that the negative relationship between gatekeeper role conflict and gatekeeper behavior would be moderated by emotional support) and 7 (positing that the negative relationship between gatekeeper role conflict and gatekeeper behavior would be moderated by perceived organizational support), the individual predictors were first centered, and then these centered values were multiplied to create the interaction terms (Aiken & West, 1991). These terms were then incorporated into the main effects model described previously.

The buffering effect model (Model 5 of Tables 3 & 4) was statistically significant for both number of interventions ( $\chi^2(14, N = 163) = 605.23, p < .05$ ) and number of

gatekeeper behaviors ( $\chi^2(14, N = 163) = 51.46, p < .05$ ). Furthermore, contrast analyses indicate that after controlling for the effects of Training, Personality, and Organizational characteristics (Model 3), the cross-terms significantly add to the predictive utility of the models predicting number of interventions ( $\Delta R^2 = 0.09, p < .05$ ) and number of gatekeeper behaviors ( $\Delta R^2 = 0.13, p < .05$ ). However, of the interaction terms in this model, only gatekeeper role conflict by supervisor emotional support and gatekeeper role conflict by supervisor instrumental support were significant predictors of number of interventions ( $B = 0.08$  and  $B = -0.06$ , respectively;  $p < 0.05$ ) and number of gatekeeper behaviors ( $B = 0.08$  and  $B = -0.07$ , respectively;  $p < 0.05$ ). These results provide partial support for Hypothesis 6.

To further investigate whether supervisor support (both emotional and instrumental) moderated the relationship between gatekeeper role conflict and gatekeeper behavior, the hierarchical regression procedures outlined by Cohen and Cohen (1983) were followed and applied to Poisson regression. First, gatekeeper behavior was regressed on gatekeeper role conflict and one of two types of supervisor support (emotional or instrumental). At the second step, an interaction term of gatekeeper role conflict by either supervisor emotional support or supervisor instrumental support was entered. Due to the training differences found previously, analyses were conducted separately for ASIST and QPR participants.

#### ASIST Participants.

For gatekeeper behavior, the interaction between supervisor emotional support and gatekeeper role conflict was significant, ( $\Delta \text{Pseudo-}R^2 = .03, p < .05$ ). Results of this moderated regression analysis are displayed in Table 9. To further investigate whether



the interaction was in the expected direction, the interaction was graphed by choosing values for high and low supervisor emotional support at one standard deviation above and below the mean score. As Figure 2 illustrates, for gatekeepers with low supervisor emotional support (i.e., 1 *SD* below the mean), there is the expected negative relationship between gatekeeper role conflict and gatekeeper behavior. However, for gatekeepers with high levels of supervisor emotional support (i.e., 1 *SD* above the mean), the relationship between gatekeeper role conflict and gatekeeper behavior appears to be positive. Simple slopes analyses were conducted on the gatekeeper role conflict/ gatekeeper behavior relationship under three levels of supervisor emotional support (i.e., 1 *SD* below the mean, mean, and 1 *SD* above the mean). In support of Hypothesis 6, the association between supervisor emotional support and gatekeeper role conflict is negative (estimated slope = -0.08,  $p < 0.05$ ) when supervisor emotional support is low (i.e., 1 *SD* below the mean). However, when supervisor emotional support is moderate or high (i.e., mean and 1 *SD* above the mean), the association between gatekeeper role conflict and gatekeeper behavior is not significant.

The interaction between supervisor instrumental support and gatekeeper role conflict was non-significant, ( $\Delta Pseudo-R^2 = 0.01$ ,  $p > .05$ ). Results of this moderated regression analysis are displayed in Table 10. Again, the interaction was graphed by choosing values for high and low supervisor instrumental support at one standard deviation above and below the mean score. As Figure 3 illustrates, for gatekeepers with low supervisor instrumental support (i.e., 1 *SD* below the mean), there is the expected negative relationship between gatekeeper role conflict and gatekeeper behavior. However, for gatekeepers with high levels of supervisor instrumental support (i.e., 1 *SD*

below the mean), the relationship between gatekeeper role conflict and gatekeeper behavior is less negative. Although the interaction and subsequent simple slopes analyses are not significant, the expected trend emerges in the estimated slopes. The association between gatekeeper role conflict and gatekeeper behavior is more negative (estimated slope = -0.08,  $p > 0.05$ ) when supervisor instrumental support is low than when supervisor instrumental support is moderate (estimated slope = -0.04,  $p > 0.05$ ) or high (estimated slope = -0.01,  $p > 0.05$ ).

#### QPR Participants.

The same hierarchical regression procedures outlined above were followed to investigate whether supervisor support (both emotional and instrumental) moderated the relationship between gatekeeper role conflict and gatekeeper behavior for QPR participants. However, the predicted interactions were non-significant. The results of the moderated regression analyses for QPR participants are displayed in Tables 11 and 12.

## CHAPTER SEVEN

### DISCUSSION

Limited monetary resources for the prevention of suicide heighten the need for strategies to improve the cost effectiveness of current prevention strategies, such as gatekeeper training. The aim of this study was to investigate whether individual characteristics of gatekeepers and the organizational characteristics of their work environment predict the performance of trained gatekeepers. The findings presented above partly support the hypothesized model.

First, Altruism positively predicted gatekeeper behavior in QPR participants, in line with previous findings that Altruism predicts helping behavior in general (e.g., Mowen & Sujan, 2005). Additionally, individuals in this study scored high on measures of Emotional Intelligence and Altruism, indicating that the participants possessed high levels of the two personality characteristics and resulting in range restriction. Thus, there is evidence of self-selection of participants possessing important individual characteristics associated with gatekeeper behavior.

The results also confirm that role conflict created when there is a clash between a participant's primary job role and their role as a gatekeeper may interfere with the ability to perform gatekeeper behaviors. This finding is consistent with previous research (Moore, et al., 2011) investigating the negative effect of situational obstacles on gatekeeper behaviors. Gatekeeper role conflict is a specific situational obstacle. In the job

performance literature, a consistent negative relationship between role conflict and performance is found (see Gilboa, Shirom, Fried, & Cooper, 2008). The results are also consistent with Tompson and Werner's (1997) finding that workers who experienced role conflict were less likely to assist their colleagues, suggesting that gatekeepers who experience role conflict are less likely to be an effective gatekeeper.

The results also provide evidence, albeit limited to ASIST participants, that supervisor emotional support buffers the deleterious effects of gatekeeper role conflict on gatekeeper behavior. This investigation of the buffering effect of social support was a replication and extension of previous work that found supervisor support buffered the relationship between situational obstacles and gatekeeper behavior (Moore, et al., 2011). The current study extends this previous work by shedding light on the specific type of supervisor support (emotional support) which buffers the gatekeeper role conflict/gatekeeper behavior relationship. This study's findings are also in line with previous empirical studies that have demonstrated that supervisor support is an important predictor of job performance (e.g., Peters, O'Connor, & Eulberg, 1995; Chiaburu & Marinova, 2005; Velada, Caetano, Michel, Lyons & Kavanagh, 2007). Most importantly, the different types of support prescribe different strategies for increasing social support in the workplace and will be described below.

Although the results of this study demonstrate some evidence that individual and organizational characteristics are predictive of gatekeeper behavior, the most significant finding (both statistically and theoretically) was that the type of training was the best predictor of gatekeeper behavior following training. This finding is exemplified by the significant difference in performance of gatekeeper behavior found between the two

groups: fifty-three percent ( $N = 62$ ) of ASIST participants reported performing at least one gatekeeper behavior compared to less than 20% ( $N = 17$ ) of QPR participants.

The findings in this dissertation can be discussed in the broader context of the training evaluation literature. Based on the training transfer literature (Baldwin & Ford, 1988; Holton, 1996, 2005; Tracey, Tannenbaum, and Kavanagh, 1995), three types of factors affect whether trainees apply their knowledge, skills, and attitudes gained during training to real world situations: 1) training designs (e.g., lecture or role play), 2) trainee characteristics (e.g., motivation or personality), and 3) environmental factors (e.g., support from co-workers, supervisors, and the organization). Although these factors have not been systematically studied in the suicide prevention literature, this study focused directly on two of them (trainee characteristics and environmental factors) and indirectly on the third (training design). The major difference is the training designs of ASIST and QPR appear to have led to significant differences in training transfer for participants in the current study.

### *Implications*

According to the results of this study, Altruism and Emotional Intelligence are not strong predictors of gatekeeper behavior, indicating that these two personality characteristics may not be the most appropriate variables to be used in selecting who should be selected for training. Thus, the implication of these findings is that Altruism and Emotional Intelligence can be crossed off the list of potential predictors and we can move on to investigating other individual characteristics (such as motivation) as predictors of gatekeeper behavior. However, the concept of selection as a means of improving the cost effectiveness of training programs will still be discussed because

future research may discover the appropriate individual predictors which can be applied in the selection paradigm. In addition, the application of organizational characteristics as predictors of gatekeeper behavior will be discussed in this section, focusing on how social support can be improved in the organization so that gatekeepers can overcome barriers (such as role conflict) in order to perform more gatekeeper behaviors.

*Selection.* As mentioned previously in this dissertation, selection is one potential way for picking the appropriate individuals to attend gatekeeper training. Just as human resource departments use personality inventories to identify the appropriate job candidates, the same selection principles may be applied to choose who should receive gatekeeper training. Applying the selection paradigm to the results of this study would mean picking individuals who met a minimum score on the measures of personality characteristics. Individuals who met or exceeded this threshold would be granted the opportunity to participate in gatekeeper training.

In order to demonstrate the effects of applying selection, the current study sample was used as an exemplar. Due to the unpredicted and non-significant results for ASIST participants, only QPR participants were used in this simulation. In simulating this type of selection and testing its effectiveness, cut-off scores which qualified or disqualified individuals for gatekeeper training were chosen for both Altruism and Emotional Intelligence. Although somewhat subjective, cut-off scores of 45 (out of a possible high score of 50) for Altruism and 120 (out of 160) for Emotional Intelligence were chosen. These cut-off scores were placed at the 90<sup>th</sup> and 75<sup>th</sup> percentile for Altruism and Emotional Intelligence, respectively. Information on whether the measures of Altruism and Emotional Intelligence were normed with respect to the general population was not

available. However, choosing cut-off scores which narrow the perspective pool of participants is more important than selecting participants based on their population ranking on a given personality measure. The chosen cut-off scores effectively narrowed the pool of participants from 71 to 22. Thus, if limited funds prevented the training of all 71 individuals who had signed up, selecting those who qualify based on their scores on personality measure would make for a more manageable and affordable number of participants for training.

However, being satisfied that you have narrowed the pool of participants is not enough if the measures you are using to select participants do not also predict outcomes after training. Thus, we would expect that the number of gatekeeper behaviors performed after training by those who met selection criteria would be greater than the number of gatekeeper behaviors performed by those who did not meet selection criteria. Indeed this prediction was supported. For Altruism, participants who meet selection criteria ( $M = 6.36$ ) performed significantly more gatekeeper behaviors than did participants who did not meet selection criteria ( $M = 1.92$ ,  $t(69) = -2.31$ ,  $p < .05$ ). Similarly for Emotional Intelligence, participants who meet selection criteria ( $M = 5.89$ ) performed significantly more gatekeeper behaviors than did participants who did not meet selection criteria ( $M = 1.70$ ,  $t(69) = -2.28$ ,  $p < .05$ ). These findings lend support to the usefulness of using selection for gatekeeper training, though a number of questions remain about whether selection is truly effective and even ethical.

The first major concern has to do with those who did not “qualify” for training in the simulation based on their scores on personality measures. Participants in the non-selected group also performed gatekeeper behaviors following training. Each gatekeeper

behavior performed is potentially life-saving. So, if these non-selected participants had not received gatekeeper training, it is possible that these potentially life-saving gatekeeper behaviors would not have been performed. Hence, just because individuals who do not score highly on personality measures perform fewer gatekeeper behaviors, does this mean that those gatekeeper behaviors that they perform are not just as important? Based on this potential ethical dilemma, it makes sense to consider alternatives to completely withholding gatekeeper training from those who do not “qualify.”

An alternative for selecting individuals to either participate in training or not participate in training would be to use the personality measures to screen individuals for different types of training. In other words, we could apply the same selection paradigm to filter participants to varying intensities of gatekeeper training based on their scores on personality measures. To put this into context, individuals who scored highest on Altruism and Emotional Intelligence would be recommended to attend the two day long ASIST training. Whereas, individuals who scored lower, or outside the high scoring group, would be recommended to attend the 90 minute QPR training. This idea is based on the assumption that Altruism and Emotional Intelligence are stable, un-trainable personality characteristics that predispose individuals to be better gatekeepers. The results of this study provide some support for this assumption. Additionally, anecdotal evidence from this study also supports this claim. It appears that some self-selection is already taking place, with individuals who are high on Altruism and Emotional Intelligence choosing to attend ASIST training over QPR training. Also, the ASIST participants are performing significantly more gatekeeper behaviors than QPR



participants. In conclusion, using personality measures as a selection tool for recommending types of gatekeeper training for individuals interested in being a part of suicide prevention efforts seems a promising approach, although further studies are needed to confirm its true utility.

*Social Support for Gatekeepers.* A gatekeeper's personality is not the sole factor in determining their effectiveness. Characteristics of the work environment will also play a prominent role in a gatekeeper's ability to perform gatekeeper behaviors. In this study, the role conflict that a gatekeeper experienced impeded their ability to perform gatekeeper behaviors. Ideally barriers to performance would simply be eliminated; however gatekeeper role conflict may not be so easily removed. Fortunately, this study demonstrates one avenue in which the negative effects of gatekeeper role conflict can be countered: with social support. In fact this study's findings demonstrate that high social support can buffer the effect of gatekeeper role conflict on gatekeeper behaviors. While similar effects have been demonstrated previously (Moore, et al., 2011), the main contribution of the current study was investigating the type (emotional versus instrumental) of social support by source (coworker versus supervisor) of support. The two types of social supports, instrumental and supervisor, implicate specific and differing ways for supervisors to foster support in the workplace.

Simply increasing the number of interactions between the supervisor and workers is one approach that has demonstrated the ability to improve supervisor support (Zohar, 2002). Merely by interacting with the subordinate workers, a supervisor lets the workers know that they support them. Furthermore, based on the findings in this study, the

supervisor should attempt to convey emotional support, or sympathetic caring for the wellbeing of the gatekeeper, during this interaction.

In contrast, improving co-worker support may not be as easy as increasing the frequency of interactions. Likely, co-workers interact on a frequent and ongoing basis in order to accomplish their daily work. Instead, the content of these interactions is where intervention is possible. Interactions between co-workers should focus on tangible assistance that aids the distressed gatekeeper. Thus, instead of commiserating with a co-worker about the difficulties of performing gatekeeper behaviors, a co-worker should focus on giving advice (i.e., instrumental support) on how to overcome obstacles that impede performance. Through the use of selection procedures and improving workplace support for gatekeepers, training will be more efficient because gatekeepers will perform more gatekeeper behaviors.

### *Limitations*

Although the current study contributes to the understanding of individual and organizational characteristics that predict gatekeepers' behaviors, several limitations of the research must be considered. First, the results of this study cannot be generalized to all suicide prevention gatekeepers. In this study, only individuals who attended ASIST and QPR gatekeeper training programs were included as participants. While these are two of the most widely used gatekeeper training programs for community members, a number of other gatekeeper training programs also exist. Thus, the findings in this study cannot be generalized to individuals trained in gatekeeper models that are not ASIST or QPR.

Similarly, participants were not randomly assigned to ASIST or QPR trainings, but rather each person selected which training they wanted to attend. Due to the

significant differences in time commitment for each of the trainings (16 hours vs. 90 minutes for ASIST and QPR trainings, respectively), selection of training is likely positively correlated with personality characteristics. In other words, individuals who choose to spend 16 hours on suicide prevention training are not only likely to possess higher levels of Altruism and Emotional Intelligence, but are also likely to be performing gatekeeper behaviors consistently already. Thus, this non-random selection likely attenuated the effects, such that it is difficult to attribute significant findings to the variables being investigated because explanation by a third variable has not been controlled for and eliminated.

Another limitation related to our ability to generalize our results is the low response rate obtained in this study. A meta-analysis of response rates for internet-based surveys found a mean response rate of about 30% (Cook, Heath, & Thompson, 2000). The 27% response rate in this study did not meet our goal of obtaining a 30% or higher response rate, but it exceeded our previously obtained response rate with a community sample (22%) in a similar study (see Moore, et al., 2011).

While previous studies have demonstrated the utility of assessing personality constructs (Goldberg, 2006; Costa & McCrae, 1992) and role conflict (Murphy & Gable, 1988) using self-report measures, the use of self-report measures to assess gatekeeper behavior may have resulted in over reporting of gatekeeper behaviors, another limitation. Self-report measures of behavior are usually faulted for inducing socially desirable responses. If participants were over reporting their behavior in order to “look good”, we would expect that close to 100% of participants would report performing gatekeeper behavior. However, in the current study, 53% of ASIST participants and 20% of QPR

participants who completed a follow-up survey reported performing at least one gatekeeper behavior since training. These percentages are also in line with previous studies that found a range in the percentage of participants who reported performing at least one gatekeeper behavior in the last six months, from 72% to 1%, depending on job role (Wyman, et al., 2008). Therefore, it is unlikely that participants in the current study over reported gatekeeper behavior.

In addition, organizational variables in this study were assessed using individual-level measures. In reality, these constructs that are labeled as organizational characteristics in this study are more appropriately the individual's perceptions of these constructs within the organizational context. True organizational-level variables would be second-order measures consisting of a number of observations from individuals within the same organization to determine a single organizational score for the variable. A potential solution would be to measure these variables at the organizational level, using multi-level analyses to compare the cultures of various workplaces in order to determine the ideal characteristics of a workplace that is supportive of gatekeepers.

The statistical approach used in this dissertation may have also limited the ability to discover the predictive characteristics of gatekeepers who would be considered high-performing. Most statistical approaches demand that outliers be excluded from the analyses. Thus, two individuals, who reported extremely high numbers of gatekeeper behaviors, were excluded from the analyses. The idea is that one or two outliers are erroneous data points in a regression and that they can skew the results for the larger majority. Hence, the "average" participant is a better indicator of the underlying relationship within the population being studied. In the current study, by applying these

statistical methods, the assumption is that personality characteristics are predictive of average performance. However, it is equally as likely that the predicted relationships may only exist for those individuals at the extremes. In other words, the exceptional performers, although less common, may better demonstrate the relationship between personality characteristics and gatekeeper behaviors. Although this is an interesting theoretical limitation and a potential area for future research, studying the one or two exceptional performers does not lend itself to the application of research findings to improve the cost effectiveness of gatekeeper training programs designed for the population at large.

Another potential limitation of this study is the use of gatekeeper behavior as the outcome measure. Intended to assess the behaviors that are taught in the gatekeeper training programs, this measure assesses discrete numbers of behaviors performed following training. This is a limitation because the number of suicidal individuals in the general population is small, making the chances of encountering a suicidal individual a low base-rate activity. Statistical tests designed to handle low occurrence outcome variables were employed in the current study to account for this.

Because much of the implications section of this dissertation was devoted to demonstrating how selection could be applied to gatekeeper training, it is also necessary to acknowledge the limitations associated with applying selection to gatekeeper trainings that occur in the community setting. First, the amount of time in relation to the length of training may be an inefficient use of participants' time. Employing the selection process would require that participants first complete a battery of questions that assess the various personality characteristics. If the battery takes 30 minutes to complete and participants

are then granted access to a 90-minute training, participants may be frustrated that their time was wasted. More importantly, the 30 minutes that were spent completing a questionnaire is the equivalent of one third of the training time, but participants gain no knowledge of suicide prevention by completing a personality assessment. In this dissertation, short-form measures of both Altruism and Emotional Intelligence were chosen with this limitation in mind.

The second limitation to using selection in the community setting is the challenge of recruiting enough participants to hold the training. Through conversations with community coordinators who are responsible for recruiting individuals for training, this researcher has learned of the challenge of filling the training with willing participants. Thus, if selection procedures were implemented at the community level, efforts would need to be made to gain buy in from the community coordinators to implement a pre-training questionnaire, especially if it could further deter individuals from participating in the training. For this reason, it may make more practical sense to implement a non-formal selection procedure, where participants are chosen who are perceived to possess these characteristics of Altruism or Emotional Intelligence. This non-formal selection procedure would augment the traditional approach of recruiting individuals from occupations that have frequent contact with at-risk individuals. In reality these two methods should be used in conjunction with one another, such that the altruistic, emotionally intelligent teacher is selected for training instead of just selecting all teachers or all altruistic individuals.

### *Future Directions*

The measurement issues in the current study, noted above, along with the mixed support for the hypotheses demonstrate a need for further investigation of the personality and organizational predictors of gatekeeper behavior using improved measurement techniques. In this dissertation, only two personality characteristics and three organizational characteristics were included. However, there is the potential that predictors not included in the current study may also be important predictors of gatekeeper behavior. Previous research has demonstrated that past experience working with individuals in crisis is a significant predictor for future gatekeeper behavior (Wyman, et al., 2008). This finding is also supported in the helping literature where past helping behavior is a strong predictor of future helping behavior (e.g., *volunteering*: Lee, Piliavin & Call, 1999; Marta, et al, 2005; *blood donation*: Schreiber et al., 2005). Therefore, previous experience helping an individual in crisis should be included in future investigations of the predictors of gatekeeper behavior.

Another potential predictor to be included in future studies is gatekeeper's attitudes towards suicide and suicide prevention. Drawing from the social psychological literature, an individual's helping behavior is partially a result of their personal values or beliefs about what is accepted and expected behavior in social situations (Warburton & Terry, 2000). A previous evaluation of gatekeeper training programs examined changes in attitudes towards suicide as a result of training (Keller, Schut, Puddy, Williams, Stephens, McKeon, & Lubell, 2009), but did not investigate their relationship with gatekeeper behavior after training. In another study, Wyman and colleagues (Wyman, et al., 2008) found that attitudes toward suicide prevention, or as they call it *Gatekeeper*

*Reluctance*, also changed as a result of gatekeeper training, but were not investigated as a direct predictor of gatekeeper behavior. Thus, social norms and attitudes about suicide and suicide prevention should be investigated as predictors of gatekeeper behavior in future studies.

While the primary focus of this dissertation has been on the predictors of gatekeeper behavior, future research in the area of gatekeeper suicide prevention should shift focus to better understanding and measuring gatekeeper behavior. The current study's measurement of gatekeeper behavior assumes that all gatekeepers will perform these behaviors following training, and unfortunately, treats the reporting of zero gatekeeper behaviors as a failure. As mentioned, previously, encountering a suicidal individual is a low base-rate occurrence in the general population, and thus the lack of performing gatekeeper may be the result of never having the opportunity to do so.

Furthermore, the current measurement of gatekeeper behavior ignores the decision making process that a gatekeeper must go through in order to correctly identify a person in crisis. The identification phase is a critical first step of any gatekeeper model, but is often not measured. Although a gatekeeper may be able to adequately perform gatekeeper behaviors, they may lack the ability to identify whether the person is in need of help. Therefore, future research should focus on the decision making process of a gatekeeper in identifying individuals in crisis, as well as improving the accuracy of gatekeepers' identification of individuals in crisis.

*Gatekeeper Decision Making.* According to the helping literature, we know that a person must make five decisions before they will engage in an act of helping another person (Latane & Darley, 1970). According to Latane & Darley the five decisions are: 1)



notice the situation; 2) interpret the situation as an emergency; 3) decide to take personal responsibility; 4) decide how to help; and 5) decide to implement decision. Further explanation and elaboration of the gatekeeper decision making process can be found in the author's unpublished thesis manuscript (Moore, 2009).

*Identifying Individuals in Crisis.* Gatekeepers are considered effective when they are able to correctly recognize the warning signs of an individual in crisis; in other words, correctly identify a suicidal individual. Therefore, the gatekeeper identification task involves a two-alternative task (Swets, 1998) in which there are two possible realities that need to be considered and two predictions that can be made. In a gatekeeper scenario, for example, an individual is either suicidal or not, and the gatekeeper must decide whether the individual is suicidal or not. Hence, the principles of signal detection theory can be applied to measure gatekeepers' ability to identify individuals in crisis.

In a signal detection task, two of the outcomes are correct (hits and correct rejections) and two outcomes are incorrect (false alarms and misses). This resulting matrix of four possible decision outcomes represents the signal detection theory model (Green & Swets, 1966). In the gatekeeper scenario, a "hit" would represent correctly identifying a suicidal individual, while a "correct rejection" would mean the gatekeeper did not identify an individual who was not suicidal. For the incorrect outcomes, a "false alarm" would occur when an individual is identified as suicidal, but is not in fact suicidal; a "miss" would be not identifying an individual that was in fact suicidal. Thus, improving a gatekeepers ability to correctly identify suicidal and non-suicidal individuals (hits and correct rejections) while minimizing the number of incorrect diagnoses (false alarms) and missed diagnoses (misses), will lead to a more effective gatekeeper.

There are two independent cognitive processes to consider when using signal detection theory to improve decision making, response bias and sensitivity. Response bias refers to the probability of making each of the four decisions outlined previously. A person's response bias may be liberal, and therefore detect most of the signals, but also make many false alarms. Oppositely, a person's response bias may be conservative, and therefore miss most signals but make very few false alarms. Thus, there is a trade-off for a liberal versus conservative response bias. Sensitivity, on the other hand refers to the "keenness or resolution of the decision mechanisms" (p. 25, Wickens & Hollands, 2000). In other words, sensitivity is the ability to separate the signal from the background noise. To better understand the difference between response bias and sensitivity, imagine two probability distributions that correspond to a set of diagnostic alternatives. In the gatekeeper example, one distribution represents a suicidal individual and the other represents a non-suicidal individual. Values on the x-axis represent the increasing amount of "evidence." The height of each of the curves for a given value X represents the probability of the decision outcome at that point. Response bias changes as you move from left to right on the plot, from lenient to conservative. The amount of overlap between the two curves is representative of the sensitivity of the criterion being used to distinguish between the two types of individuals, suicidal and non-suicidal.

Signal detection theory has been applied to various diagnostic scenarios such as the detection of cancer in a mammogram (Swets, 1998), eyewitness testimony (e.g., Ellison & Buckhout, 1981), and industrial inspection (Swets, 1992). More closely related to gatekeepers, signal detection theory has been applied to decision making for police officers. Bennell (2005) describes ways in which to use an ROC analysis to improve both

the accuracy and utility of decision making. His description of “accuracy” is in line with what I have previously defined as sensitivity. In order to improve decision making accuracy, the distributions of the two groups should be moved apart, as to minimize the amount of overlap between them. This can be done by choosing a criteria in which the two groups are less likely to overlap. Bennell’s description of decision making utility is in line with what I have previously called response bias. Utility in this sense is the threshold along the continuum of evidence that serves as the cut-off point between the decisions that the signal is not present below that point and is present above that point. To improve the utility, Bennell suggests considering the costs and benefits of setting certain thresholds for different contexts. In the context of gatekeeper behavior, a lenient threshold is preferable because of the great benefit in identifying a suicidal individual, even if that means identifying some people who are not suicidal. Thus, employing signal detection theory, future research should focus on ways to increase the accuracy of gatekeeper decision making.

### *Conclusions*

Understanding the predictors of effective gatekeepers has the potential to improve the cost effectiveness of gatekeeper training programs. The current investigation of Altruism and Emotional Intelligence as individual-level predictors of gatekeeper behavior, although unsuccessful, informs future investigations of personality characteristics. Thus, the potential for utilizing personality characteristics in selecting appropriate individuals to be trained as gatekeepers makes this an important area for future research. In addition, organizational variables (e.g., gatekeeper role conflict) that impede gatekeeper behavior need to be addressed in order to foster an effective

gatekeeper within the organization. Finally, social support assists a gatekeeper to overcoming role conflict in order to become a more effective gatekeeper. By making strides in research related to the understanding of the predictors of gatekeeper behavior, investigating the decision making process of gatekeepers, and improving the accuracy of gatekeeper decision making, researchers will be better able to determine the efficacy of gatekeeper training programs, how to strengthen and improve the programs, and ultimately reduce the burden of suicide deaths.

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## APPENDIX A

### Items Measuring Emotional Intelligence

<i>This section asks you to respond to statements about your opinions and behaviors. Please use the rating scale below to describe the extent to which you agree or disagree with each statement. There are no right or wrong answers. Simply describe yourself honestly as you are generally are now, not as you wish to be in the future.</i>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
Expressing my emotions with words is not a problem for me.					
I often find it difficult to see things from another person's viewpoint. (R)					
On the whole, I'm a highly motivated person.					
I usually find it difficult to regulate my emotions. (R)					
I generally don't find life enjoyable. (R)					
I can deal effectively with people.					
I tend to change my mind frequently. (R)					
Many times, I can't figure out what emotion I'm feeling. (R)					
I feel that I have a number of good qualities.					
I often find it difficult to stand up for my rights. (R)					
I'm usually able to influence the way other people feel.					
On the whole, I have a gloomy perspective on most things. (R)					
Those close to me often complain that I don't treat them right. (R)					
I often find it difficult to adjust my life according to the circumstances. (R)					
On the whole, I'm able to deal with stress.					
I often find it difficult to show my affection to those close to me. (R)					
I'm normally able to "get into someone's shoes" and experience their emotions.					

I normally find it difficult to keep myself motivated. (R)					
I'm usually able to find ways to control my emotions when I want to.					
On the whole, I'm pleased with my life.					
I would describe myself as a good negotiator.					
<i>This section asks you to respond to statements about your opinions and behaviors. Please use the rating scale below to describe the extent to which you agree or disagree with each statement. There are no right or wrong answers. Simply describe yourself honestly as you are generally are now, not as you wish to be in the future.</i>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
I tend to get involved in things I later wish I could get out of. (R)					
I often pause and think about my feelings.					
I believe I'm full of personal strengths.					
I tend to "back down" even if I know I'm right. (R)					
I don't seem to have any power at all over other people's feelings. (R)					
I generally believe that things will work out fine in my life.					
I find it difficult to bond well even with those close to me. (R)					
Generally, I'm able to adapt to new environments.					
Others admire me for being relaxed.					

(R) = Reverse scored items

## APPENDIX B

### Items Measuring Altruism

<i>This section asks you to respond to statements about your opinions and behaviors. Please use the rating scale below to describe the extent to which you agree or disagree with each statement. There are no right or wrong answers. Simply describe yourself honestly as you are generally are now, not as you wish to be in the future.</i>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
I make people feel welcome.					
I anticipate the needs of others.					
I love to help others.					
I am concerned about others.					
I have a good word for everyone.					
I look down on others. (R)					
I am indifferent to the feelings of others. (R)					
I make people feel uncomfortable. (R)					
I turn my back on others. (R)					
I take no time for others. (R)					

(R) = Reverse scored items

## APPENDIX C

### Items Measuring Gatekeeper Role Conflict

<i>For the following statements indicate the degree to which the condition exists for you.</i>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
Policies in my organization conflict with what I learned in training.					
I do not have enough time at work to adequately help a person in crisis.					
I have to buck a rule or policy in order to help a person in crisis.					
I have to do things that are apt to be accepted by one person and not accepted by others in order to help a person in crisis.					
I receive incompatible messages from two or more people at work about how to handle a person in crisis.					



APPENDIX D

Items Measuring Social Support

<i>If I had to intervene with a suicidal individual while at work, my SUPERVISOR would...</i>	<b>Construct</b>	<b>Never</b>	<b>Occasionally</b>	<b>Fairly Many Times</b>	<b>Very Often</b>	<b>Always</b>
... show understanding.	Emotional Support for Suicide Prevention (Supervisor)					
... listen to my concerns.	Emotional Support for Suicide Prevention (Supervisor)					
... be emotionally supportive.	Emotional Support for Suicide Prevention (Supervisor)					
... provide me with sufficient resources.	Instrumental Support for Suicide Prevention (Supervisor)					
... give me helpful advice.	Instrumental Support for Suicide Prevention (Supervisor)					
... support my actions/decisions in front of others if needed.	Instrumental Support for Suicide Prevention (Supervisor)					

<i>If I had to intervene with a suicidal individual while at work, my COWORKERS would...</i>	<b>Construct</b>	<b>Never</b>	<b>Occasionally</b>	<b>Fairly Many Times</b>	<b>Very Often</b>	<b>Always</b>
... show understanding.	Emotional Support for Suicide Prevention (Coworker)					
... listen to my concerns.	Emotional Support for Suicide Prevention (Coworker)					
... be emotionally supportive.	Emotional Support for Suicide Prevention (Coworker)					
... provide me with sufficient resources.	Instrumental Support for Suicide Prevention (Coworker)					
... give me helpful advice.	Instrumental Support for Suicide Prevention (Coworker)					
... support my actions/decisions in front of others if needed.	Instrumental Support for Suicide Prevention (Coworker)					

APPENDIX E

Items Measuring Perceived Organizational Support

<p><i>For each of following statements, please indicate how much you agree or disagree with it using the scale below.</i></p>	<p><b>Strongly Disagree</b></p>	<p><b>Disagree</b></p>	<p><b>Neutral</b></p>	<p><b>Agree</b></p>	<p><b>Strongly Agree</b></p>
<p>My organization insists on employees completing gatekeeper training.</p>					
<p>My organization invests enough time and money into gatekeeper training for workers.</p>					
<p>My organization values my contribution to suicide prevention efforts.</p>					
<p>My organization appreciates the extra effort it takes for me to perform the role of gatekeeper.</p>					
<p>My organization would ignore my efforts in suicide prevention. (R)</p>					
<p>Even if I applied all the knowledge and skills from gatekeeper training, the management in my organization would fail to notice. (R)</p>					

(R) = Reverse scored items

## APPENDIX F

### Items Measuring Gatekeeper Behavior

<i>In this last section we would like to know about your experiences helping young people. For this evaluation, a young person is considered someone who is 17-year-old or younger.</i>
<i>Please answer the remaining questions only if you circled “Yes” above.</i>
How many young people, who showed signs of being suicidal, did you directly intervene with in the <u>last 6 months</u> ?
<i>In how many of these instances did you ... (please write actual number, e.g., 0, 1, 2)</i>
... ask them directly if they were thinking about harming themselves or attempting suicide? (Problem Identification)
... encourage them to talk about their reasons for dying? (Listening)
... encourage them to talk about their reasons for living? (Listening)
... ask them questions to find out about their suicide plan? (Interaction and Assessment of Risk and Behavior)
... ask them questions to find out if they felt alone and what resources were (un)available to them (e.g., family and friends)? (Interaction and Assessment of Risk and Behavior)
... ask them if they had attempted suicide before? (Interaction and Assessment of Risk and Behavior)
... contract a safeplan with them? (Establishing a Trusting and Helping Relationship)
... refer them to get further help? (Referral Activities)
... follow-up with them later? (Follow-up Activities)

Table 1: *Participant Demographics by Training*

	ASIST		QPR		Total	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
<b>Gender</b>						
Female	241	77.99	237	77.20	478	77.60
Male	68	22.01	70	22.80	138	22.40
Total	309	100.00	307	100.00	616	100.00
Missing					20	
<b>Age</b>						
Mean (SD)	41.3	12.38	43.9	13.76	42.56	13.12
<b>Ethnicity</b>						
Hispanic/Latino	56	18.12	35	11.40	91	14.31
<b>Race</b>						
American Indian/Alaska Native	10	3.24	8	2.61	18	2.83
Asian	3	0.97	1	0.33	4	0.63
Black or African-American	13	4.21	5	1.63	18	2.83
Native Hawaiian/Pacific Islander	1	0.32	0	0.00	1	0.16
White/Caucasian	259	83.82	272	88.60	531	83.49
Missing	23	7.44	21	6.84	64	10.06
Total	309	100.00	307	100.00	636	100.00
<b>Primary Setting*</b>						
Education	139	44.98	92	29.97	231	36.32
Substance Abuse	52	16.83	26	8.47	78	12.26
Juvenile justice/Probation	28	9.06	16	5.21	44	6.92
Higher Education	21	6.80	17	5.54	38	5.97
Child Welfare	44	14.24	80	26.06	124	19.50
Mental Health	65	21.04	55	17.92	120	18.87
Primary Healthcare	12	3.88	27	8.79	39	6.13
Emergency Response	44	14.24	9	2.93	53	8.33
Other Community Setting	117	37.86	107	34.85	224	35.22

\*could choose more than one

Table 2: *Descriptive Statistics and Correlations for All Variables and All Participants*

	<i>N</i>	Possible Range	Observed Range	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. Altruism	634	10 – 50	32 – 50	42.43	3.87	(0.79)									
2. Emotional Intelligence	633	30 – 150	76 – 146	117.99	10.59	0.52*	(0.88)								
3. Intentions to Ask	218	2 – 10	2 – 10	8.93	1.70	0.09*	0.17*	(0.93)							
4. Gatekeeper Role Conflict	207	5 – 25	5 – 21	10.71	3.75	-0.11	-0.12	-0.12	(0.84)						
5. Supervisor Emotional Support	217	3 – 15	3 – 15	13.08	2.84	0.04	0.18*	0.27*	-0.48*	(0.95)					
6. Supervisor Instrumental Support	217	3 – 15	3 – 15	12.58	3.08	0.07	0.14*	0.23*	-0.49*	0.89*	(0.92)				
7. Co-Worker Emotional Support	217	3 – 15	3 – 15	12.87	2.65	0.02	0.21*	0.28*	-0.47*	0.64*	0.62*	(0.97)			
8. Co-Worker Instrumental Support	217	3 – 15	3 – 15	12.31	3.00	0.06	0.12	0.17*	-0.47*	0.56*	0.62*	0.89*	(0.94)		
9. POS	210	6 – 30	9 – 30	21.33	4.19	0.09	0.10	0.16*	-0.54*	0.47*	0.54*	0.42*	0.46*	(0.80)	
10. Gatekeeper Behavior	205	any whole number	0 – 49	6.50	10.76	0.03	0.08	-0.10	-0.05	0.01	-0.02	0.10	0.10	0.07	N/A

Note: Values on diagonal in parentheses contain coefficient alphas.

\*  $p < .05$

Table 3: *Poisson Regression Testing the Association between Individual and Organizational Characteristics and Number of Interventions for ASIST Participants*

Model Variable	(1) Control model	(2) Personality main effect model	(3) Organization main effect model	(4) Training Interaction Model	(5) Buffering Effect Model
Training (1 = ASIST, 0 = QPR)	.916*	.848*	.863*	15.391*	.880*
Altruism		-.007	-.006	-.440*	-.006
Emotional Intelligence		.002	.000	.068	-.008
Training X Altruism				.344*	
Training X Emotional Intelligence				-.054	
Gatekeeper Role Conflict			.022	-.141	-.001
Supervisor Emotional Support			-.020	-.283	-.060
Supervisor Instrumental Support			-.041	.107	.011
Coworker Emotional Support			.053	-.100	.150
Coworker Instrumental Support			.051	.015	-.030
POS			.017	-.036	.009
Training X Gatekeeper Role Conflict				.137	
Training X Super. Emot. Support				.145	
Training X Super. Instr. Support				-.057	
Training X Coworker Emot. Support				.193	
Training X Coworker Instr. Support				-.033	
Training X POS				.049	
Role Conflict X Super. Emot. Support					.077*
Role Conflict X Super. Instr. Support					-.055*
Role Conflict X Coworker Emot. Support					.001
Role Conflict X Coworker Instr. Support					.007
Role Conflict X POS					-.006
Model Summary (Contrast Analyses)					
$R^2_{\text{deviance}}$	0.073	0.904	0.906	0.918	0.914
$\Delta R^2_{\text{deviance}}$		0.131 <sup>a,*</sup>	0.026 <sup>b,*</sup>	0.130 <sup>c,*</sup>	0.088 <sup>c,*</sup>

<sup>a</sup> Relative to Model 1. <sup>b</sup> Relative to Model 2. <sup>c</sup> Relative to Model 3.

\*  $p < .05$

Table 4: *Poisson Regression Testing the Association between Individual and Organizational Characteristics and Number of Gatekeeper Behaviors*

Model Variable	(1) Control model	(2) Personality main effect model	(3) Organization main effect model	(4) Training Interaction Model	(5) Buffering Effect Model
Training (1 = ASIST, 2 = QPR)	1.060*	.980*	1.000*	17.437*	1.059*
Altruism		-.018	-.010	-.449*	-.013
Emotional Intelligence		.009	.003	.062	-.007
Training X Altruism				.361*	
Training X Emotional Intelligence				-.051	
Gatekeeper Role Conflict			.001	-.244*	-.033
Supervisor Emotional Support			.034	-.431	.002
Supervisor Instrumental Support			-.109	.173	-.043
Coworker Emotional Support			.115	-.355	.205
Coworker Instrumental Support			.010	.180	-.055
POS			.012	.075	.000
Training X Gatekeeper Role Conflict				.202*	
Training X Super. Emot. Support				.318	
Training X Super. Instr. Support				-.148	
Training X Coworker Emot. Support				.428	
Training X Coworker Instr. Support				-.183	
Training X POS				-.062	
Role Conflict X Super. Emot. Support					.083*
Role Conflict X Super. Instr. Support					-.065*
Role Conflict X Coworker Emot. Support					.020
Role Conflict X Coworker Instr. Support					-.009
Role Conflict X POS					-.007
Model Summary (Contrast Analyses)					
$R^2_{\text{deviance}}$	0.095	0.210	0.240	0.361	0.338
$\Delta R^2_{\text{deviance}}$		0.128 <sup>a,*</sup>	0.038 <sup>b,*</sup>	0.158 <sup>c,*</sup>	0.129 <sup>c,*</sup>

<sup>a</sup> Relative to Model 1. <sup>b</sup> Relative to Model 2. <sup>c</sup> Relative to Model 3.

\*  $p < .05$



Table 5: *Relationship between Altruism and Number of Interventions for ASIST*

*Participants*

Variable	B	Std. Error	Wald		
			Chi-Square	Sig.	Deviance
Intercept	3.056	1.1439	7.136	.008	181.930
Altruism	-.071	.0268	6.954	.008	

Table 6: *Relationship between Altruism and Number of Gatekeeper Behaviors for ASIST*

*Participants*

Variable	B	Std. Error	Wald		
			Chi-Square	Sig.	Deviance
Intercept	4.960	.3889	162.642	.000	1576.977
Altruism	-.065	.0091	50.461	.000	

Table 7: *Relationship between Altruism and Number of Interventions for QPR*

*Participants*

Variable	B	Std. Error	Wald Chi-Square	Sig.	Deviance
Intercept	-9.33	2.15	18.85	0.00	89.10
Altruism	0.20	0.05	16.82	0.00	

Table 8: *Relationship between Altruism and Number of Gatekeeper Behaviors for QPR*

*Participants*

Variable	B	Std. Error	Wald Chi-Square	Sig.	Deviance
Intercept	-6.87	0.78	78.35	0.00	682.37
Altruism	0.19	0.02	115.67	0.00	

Table 9: *Effects of Gatekeeper Role Conflict and Supervisor Emotional Support on Gatekeeper Behavior for ASIST*

*Participants*

Step	Variable	B	SE	Wald Chi-		Deviance	$R^2_{\text{deviance}}$	$\Delta R^2_{\text{deviance}}$	$\chi^2$
				Square	<i>p</i> value				
1	Intercept	2.29	0.12	343.11	0.00	1982.91	0.02		
	GK Role Conflict	-0.05	0.04	1.48	0.22				
	Super. Emo. Support	-0.06	0.05	1.11	0.29				
2	Intercept	2.36	0.12	373.47	0.00	1920.89	0.05	0.03	62.02*
	GK Role Conflict	-0.03	0.04	0.61	0.44				
	Super. Emo. Support	-0.06	0.03	3.14	0.08				
	GK Role Conflict X Super. Emo. Support	0.02	0.01	5.79	0.02				

\*  $p < .05$

Table 10: *Effects of Gatekeeper Role Conflict and Supervisor Instrumental Support on Gatekeeper Behavior for ASIST*

*Participants*

Step	Variable	B	SE	Wald Chi-		Deviance	$R^2_{\text{deviance}}$	$\Delta R^2_{\text{deviance}}$	$\chi^2$
				Square	$p$ value				
1	Intercept	2.29	0.12	344.59	0.00	1993.11	0.02		
	GK Role Conflict	-0.05	0.04	1.29	0.26				
	Super. Emo. Support	-0.04	0.05	0.60	0.44				
2	Intercept	2.34	0.13	327.51	0.00	1977.79	0.02	0.01	15.33*
	GK Role Conflict	-0.04	0.04	1.11	0.29				
	Super. Emo. Support	-0.05	0.05	1.21	0.27				
	GK Role Conflict X Super. Emo. Support	0.01	0.01	0.95	0.33				

\*  $p < .05$

Table 11: *Effects of Gatekeeper Role Conflict and Supervisor Emotional Support on Gatekeeper Behavior for QPR*

*Participants*

Step	Variable	B	SE	Wald Chi-		Deviance	$R^2_{\text{deviance}}$	$\Delta R^2_{\text{deviance}}$	$\chi^2$
				Square	$p$ value				
1	Intercept	1.16	0.26	20.06	0.00	1023.86	0.04		
	GK Role Conflict	0.11	0.06	3.53	0.06				
	Super. Emo. Support	0.05	0.10	0.31	0.58				
2	Intercept	1.16	0.27	19.10	0.00	1023.86	0.04	0.00	0.00
	GK Role Conflict	0.11	0.06	3.88	0.05				
	Super. Emo. Support	0.05	0.11	0.24	0.62				
	GK Role Conflict X Super. Emo. Support	0.00	0.01	0.00	1.00				

\*  $p < .05$

Table 12: *Effects of Gatekeeper Role Conflict and Supervisor Instrumental Support on Gatekeeper Behavior for QPR*

*Participants*

Step	Variable	B	SE	Wald Chi-		Deviance	$R^2_{\text{deviance}}$	$\Delta R^2_{\text{deviance}}$	$\chi^2$
				Square	<i>p</i> value				
1	Intercept	1.19	0.25	22.44	0.00	1024.72	0.04		
	GK Role Conflict	0.07	0.06	1.40	0.24				
	Super. Emo. Support	-0.04	0.09	0.23	0.63				
2	Intercept	1.15	0.26	20.26	0.00	1022.71	0.04	0.00	2.01
	GK Role Conflict	0.06	0.06	1.07	0.30				
	Super. Emo. Support	-0.03	0.10	0.07	0.80				
	GK Role Conflict X								
	Super. Emo. Support	-0.01	0.01	0.17	0.68				

\*  $p < .05$



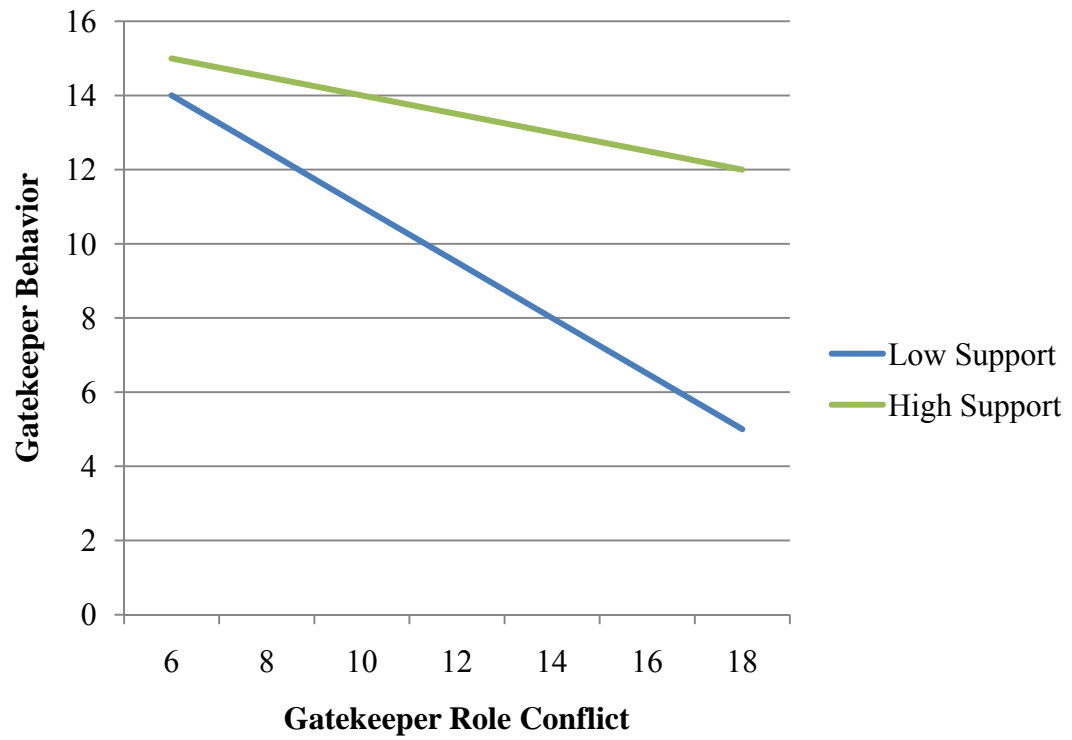


Figure 1: *Proposed Interaction for Gatekeeper Role Conflict and Social Support for Gatekeeper Behavior*

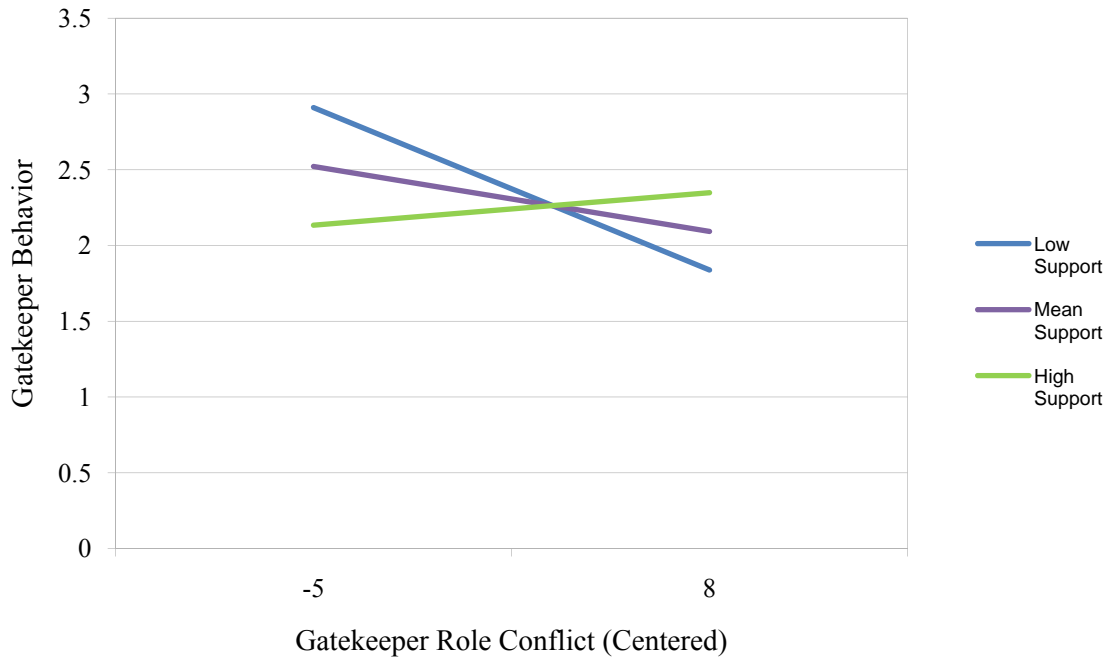


Figure 2: *Interaction of Gatekeeper Role Conflict and Supervisor Emotional Support for Gatekeeper Behavior (ASIST Participants).*

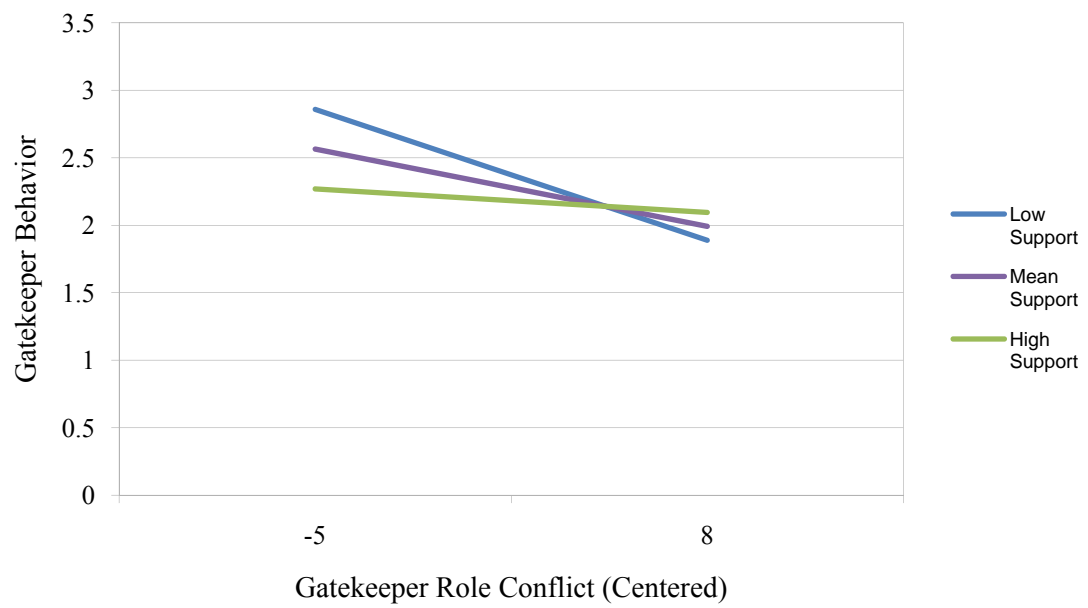


Figure 3: *Interaction of Gatekeeper Role Conflict and Supervisor Instrumental Support for Gatekeeper Behavior (ASIST Participants).*