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Amanda Gean Garcia-Williams	Date

Suicide behavior in college students and peers' response

By

Amanda Gean Garcia-Williams
Doctor of Philosophy

Behavioral Sciences and Health Education

_____
Nadine Kaslow, PhD ABPP
Advisor

_____
Hannah Cooper, ScD
Committee Member

_____
Nancy Thompson, PhD MPH
Committee Member

Accepted:

_____
Lisa A. Tedesco, Ph.D.
Dean of the James T. Laney School of Graduate Studies

_____
Date

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By

Amanda Gean Garcia-Williams
BS, Tufts University, 2005
MPH, Emory University, 2009

Advisor: Nadine Kaslow, PhD

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Abstract

Suicide behavior in college students and peers' response

By Amanda Gean Garcia-Williams, MPH

Suicide is a significant public health problem among college students. Suicidal college students generally do not seek help during their time of crisis but when they do, they tend to turn to their peers. There is growing evidence that college students have considerable exposure to suicidal people, with many students experiencing a suicidal communication event. Currently there is minimal understanding of what college students do when a peer discloses to them that they are suicidal, how they react, or the factors that shape their behavioral response toward the peer. The aim of this mixed methods dissertation project was to fill this gap in the literature and gain a comprehensive understanding of how college students experience suicidal peers from both an experimental and lived-experience perspective. The long-term objective of this project was to identify factors that predict helping behavior towards suicidal peers so that these factors can be targeted in behavioral interventions. Three studies were conducted as part of this dissertation. Study 1 examined the effect ambiguity of a suicide communication event and number of bystanders to a suicide communication event has on college student intention to engage in helping behaviors. Study 2 tested the efficacy of the Arousal: Cost/Reward Model (ACRM) to explain college student intention to seek advice about a suicidal peer. Study 3 developed a grounded theory based on data collected from in-depth interviews among college students with previous experience with a suicidal peer. Results of this dissertation suggest that interacting with, and providing support to, a suicidal peer is complicated. Across all three studies, aspects of the situation and the bystander shape the behavior of college students confronted with hypothetical and real suicidal peers. College students may assume an informal caregiving role when faced with a suicidal peer and as such, the ACRM may not be an ideal theoretical framework to use. Future work should incorporate a behavioral-systems perspective of prosocial behavior to understand why college students help suicidal peers, and utilize models of stress and coping to evaluate how students cope with the provision of care to a peer in crisis.

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Chapter 1: Introductory Literature Review

As of 2009, there were 20 million individuals enrolled in American institutions of higher education (U.S. Census Bureau, 2011), with 41% of all American 18 to 24 year olds attending college in 2012 (U.S. Department of Education, 2012). The number of young adults enrolling in public and private institutions is forecasted to increase by 14% between 2011 and 2022 (Hussar & Bailey, 2013). Therefore college students represent a large proportion of all young adults in the United States. There is a growing consensus among college counseling centers that the number of college students with mental health problems is increasing, and students are presenting with more complex problems (Benton, Robertson, Tseng, Netwon, & Benton, 2003; Gallagher, 2013). Overall, college students have been found to have lower levels of mental health problems than non-college attending peers; however, this does not mean that mental health complaints are not still a significant problem in this population (Blanco et al., 2008). The 12-month prevalence of psychiatric problems among college students is estimated to be approximately 45.79%, with over a third (39.84%) of students reporting an Axis I Disorder in the past year (e.g., mood, anxiety, eating, and substance use disorders) (Blanco et al., 2008).

In addition to mental health problems, college students are a population with considerable risk for suicide and suicidal behavior (Blanco et al., 2008; Drum, Brownson, Burton Denmark, & Smith, 2009; Schwartz, 2006b; Silverman, Meyer, Sloane, Raffel, & Pratt, 1997). Suicide is the 3rd leading cause of death among college-aged young adults (Centers for Disease Control and Prevention, 2012), with over 1000 students dying by suicide in 2002 (Schwartz, 2006b). The rate of suicide among college students is 7.5

deaths per 100,000 students per year (Silverman et al., 1997), a rate variable depending on age and gender. Furthermore, students attending four-year universities on a part-time basis and students at two-year schools (regardless of part/full-time status) have higher suicide rates than full-time students at four-year schools (Schwartz, 2006b). With regard to suicide attempts, the prevalence of attempts in the past 12-months has been found to range between 0.5% and 0.85% (American College Health Association, 2012; Downs & Eisenberg, 2012; Drum et al., 2009).

Suicidal ideation is the most common form of suicidal behavior among college students with 4.3 to 5% of students endorsing seriously considering suicide in the past 12-months (American College Health Association, 2012; Drum et al., 2009). Of those students who had considered suicide in the past 12-months, most reported the periods of suicidal thoughts as being brief (lasting for one day or less), with close to half (45%) reporting these periods as intense enough to interfere with their academics (Drum et al., 2009). Furthermore, of those who seriously considered suicide in the past 12-months, most (54%) had thought of some way to kill themselves, with a smaller proportion (38%) having a specific plan. The types of preparation for suicide these students engaged in included gathering materials to kill self, starting an attempt then changing mind, and writing a suicide note.

Risk and Protective Factors

There are myriad risk factors for the range of suicidal behaviors among college students. First, mental health complaints often co-occur with suicidal thoughts among college students, with students that screened positive for a mental disorder more likely to report suicidal ideation (Keyes et al., 2012). Mental health problems and complaints

associated with suicide behavior include depression (Arria et al., 2009; Cranford, Eisenberg, & Serras, 2009; Eisenberg, Gollust, Golberstein, & Hefner, 2007; Garlow et al., 2008; Hirsch, Visser, Chang, & Jeglic, 2012; Kisch, Leino, & Silverman, 2005; Klibert, Langhinrichsen-Rohling, Luna, & Robichaux, 2011; Konick & Gutierrez, 2005; Mackenzie et al., 2011; Morrison & Downey, 2000; Nadorff, Nazem, & Fiske, 2011; Westefeld et al., 2005), alcohol use and binge drinking (Arria et al., 2009; Brener, Hassan, & Barrios, 1999; Cranford et al., 2009; Kisch et al., 2005; Lamis & Malone, 2011; Schaffer, Jeglic, & Stanley, 2008; Skala et al., 2012), smoking cigarettes, using amphetamines (Kisch et al., 2005), prescription drug use such as Adderall and Ritalin (Zullig & Divin, 2012), anxiety (Garlow et al., 2008; Morrison & Downey, 2000; Nadorff et al., 2011), insomnia, nightmares, and post-traumatic stress disorder symptoms (Nadorff et al., 2011).

Second, emotional and dispositional factors have been found to be associated with suicidal behavior. Specifically the construct of hopelessness has been studied widely (Drum et al., 2009; Gibb, Andover, & Beach, 2006; Hirsch et al., 2012; Kisch et al., 2005; Konick & Gutierrez, 2005) and has been found to have a positive linear relationship with suicide ideation, with higher levels of hopelessness associated with higher levels of suicide ideation (Hirsch, Conner, & Duberstein, 2007; Konick & Gutierrez, 2005). Hopelessness is a common emotional state among college students, with an estimated 33.4% to 45.2% of students feeling hopeless in the past year (American College Health Association, 2012; Kisch et al., 2005). Other important emotional and dispositional states associated with suicide behavior include procrastination, low self-esteem (Klibert et al., 2011), low levels of optimism and low forgiveness of others

(Hirsch et al., 2007), languishing (or not endorsing any items associated with good emotional well-being and positive functioning) (Keyes et al., 2012), low levels of religious coping (Marion & Range, 2003), irritability, feeling out of control (Garlow et al., 2008), rage/anger, and desperation (Drum et al., 2009; Garlow et al., 2008).

Finally, social support (including emotional, informational, tangible, and social) has been found to be an important protective factor against suicidal behavior among college students (Arria et al., 2009; Downs & Eisenberg, 2012; Hirsch & Barton, 2011; Lamis & Malone, 2011; Marion & Range, 2003; Westefeld et al., 2005; Wong, Koo, Tran, Chiu, & Mok, 2011; Yakunina, Rogers, Waehler, & Werth, 2010). Social support also may prevent students from attempting suicide, with some formerly suicidal college students reporting that they did not make an attempt because they did not want to disappoint or hurt their family and friends, and/or that the support they received from family and friends prevented them from attempting (Drum et al., 2009). The opposite of social support, social isolation, is a common precipitating factor for suicidal crises (Westefeld et al., 2005), and suicidal students have reported significantly lower levels of perceived "warm and trusting relationships with others" when compared to non-suicidal students (Downs & Eisenberg, 2012, p. 108).

Aspects of campus life may provide social support to college students, and therefore, could serve as a protective factor (Drum et al., 2009). Specifically, the risk of suicide ideation was found to increase significantly over the summer semester months when college students are not living on campus or around their peers (Van Orden et al., 2008). Moreover, students active in their universities have been found to be significantly less likely than those who were not active in campus life to consider suicide (Drum et al.,

2009). Therefore, being involved with the campus community may provide a sense of social support for students, and this could be associated with less suicide behavior. On the other hand, interpersonal conflict with family, peers, or intimate partners can represent a breakdown in social support networks, and, as such, they have also been found to be important risk factors for suicidal behavior (Van Orden et al., 2010). This includes childhood or adolescent exposure to domestic violence and maternal depression (Wilcox et al., 2010), and exposure to intimate partner violence (Blosnich & Bossarte, 2012; Kisch et al., 2005). Furthermore, students have reported that romantic problems, loss of interpersonal relationships, and family problems were the primary precipitating factors for suicide ideation and attempt (Drum et al., 2009; Mishara, 1982; Westefeld et al., 2005).

Service Utilization and Help Seeking

There is limited understanding of the level of service utilization among suicidal college students. Among students that have died by suicide, 77% were found not to be clients at the school's counseling center (Schwartz, 2006a). Among students who endorsed suicidal ideation in the past 12-months, 51.5% have reported receiving treatment in the past year, 40.9% reported receiving psychotherapy, and 35.8% reported receiving medication (Downs & Eisenberg, 2012). When looking at students who had seriously considered attempting suicide in the past 12-months, more than half (52%) never received professional help, and only a quarter (25%) reported receiving treatment after having suicidal thoughts (Drum et al., 2009). Finally, between 13.6% and 24.1% of students with current suicide ideation were on medication, and between 12.4% and 19.1% were in psychotherapy (Downs & Eisenberg, 2012; Garlow et al., 2008). Broadly, these

findings suggest that the rate of service utilization among college students experiencing suicidal ideation may be higher than the estimated mean usage rate of counseling centers by all college students (irrespective of suicidality), which is close to 9.9% (Schwartz, 2006a), but still low considering the severity of their mental health crisis.

Suicidal college students tend not to seek help from either formal (professional mental health providers) or informal sources (peers, family, friends, partners) of support during their time of crisis (Deane, Wilson, & Ciarrochi, 2001; Wilson & Deane, 2009; Yakunina et al., 2010). Factors associated with seeking help from formal sources of support include being female (Drum et al., 2009), having symptoms of depression and anxiety, and having more lifetime episodes of psychological distress and lifetime stressful events (Arria et al., 2011). Factors associated with less help seeking include being a racial/ethnic minority (Morrison & Downey, 2000), lack of time (including lack of time to undergo treatment, or lack of time to go), lack of knowledge about counseling and therapeutic sources of help (Arria et al., 2011; Downs & Eisenberg, 2012; Westefeld et al., 2005), and lack of financial resources (Arria et al., 2011; Eisenberg, Speer, & Hunt, 2012).

There are myriad barriers for college students to disclose suicidal ideation and seek help from either formal or informal sources of support. College students who are suicidal have reported that they did not seek treatment because they perceived they were at low risk, were uncertain about their need for help, did not perceive they had a need for services, or believed that they would get better by themselves (Arria et al., 2011; Denmark, Hess, & Becker, 2012; Downs & Eisenberg, 2012; Eisenberg et al., 2012; Eisenberg, Downs, Golberstein, & Zivin, 2009). Students also value privacy and report

that they want to keep their emotional distress to themselves to maintain a sense of privacy about their personal life, and have expressed a preference to deal with their problems on their own (Arria et al., 2011; Denmark et al., 2012; Downs & Eisenberg, 2012; Eisenberg et al., 2012). There is also a belief among college students that are suicidal that telling someone about their suicidal thoughts would be "pointless" because it would not result in any positive effect (Denmark et al., 2012). College students that are suicidal are less likely than non-suicidal students to perceive that medication or therapy are helpful (Arria et al., 2011; Downs & Eisenberg, 2012), and students with a lifetime history of suicidal ideation are generally uncertain of the potential efficacy or importance of treatment (Arria et al., 2011). Students also fear that disclosing suicidal ideation or seeking help would have negative repercussions, such as the information being placed on their academic record, their parents being told, being forced into treatment, or the potential loss of autonomy/privacy (Denmark et al., 2012).

Other barriers, with less widespread empirical support, that have been identified include solicitude, shame, interference and perceived lack of confidants (Denmark et al., 2012). Solicitude refers to the desire to protect the well being of others; specifically the worry that the person being told about the suicidal thoughts would be burdened by the knowledge. Solicitude was also related to not wanting the person told to feel any guilt if the student were to take her own life. Shame refers to a student's internal belief that suicide was wrong and, therefore, the student could not disclose because she viewed her suicidal thoughts as incorrect. Finally, college students have reported that they did not disclose because they wanted to retain the ability to attempt and complete suicide without

interference from others, and/or the student did not have anyone to disclose their thoughts to.

Exposure to and Perceptions of Suicide

There is growing evidence that college students have considerable experience with suicidal individuals (Cerel, Bolin, & Moore, 2013; Curtis, 2010; Dunham, 2004; Garcia-Williams & McGee, 2014; King, Vidourek, & Strader, 2008; Mishara, 1982; Westefeld et al., 2005). Five studies found that between 26% and 59% of college students have known someone who has attempted suicide, and between 12% and 39% have known someone who has died by suicide (Cerel et al., 2013; Dunham, 2004; King et al., 2008; Mishara, 1982; Westefeld et al., 2005). Furthermore, three studies found between 36.1% and 38.6% of college students reported experiencing a direct suicide communication event (Garcia-Williams & McGee, 2014; King et al., 2008; Mishara, 1982), with one Australian study finding that 37% of their sample of college students had specific knowledge of someone who was suicidal and 18% had provided the suicidal person with support (Curtis, 2010). There is also evidence that college students may prefer to seek help from informal sources of support, such as peers, rather than going to a mental health professional for help (Arria et al., 2011; Drum et al., 2009).

In addition to gauging how common it is for college students to experience suicidal individuals, some work has explored the perceptions and attitudes students have towards the spectrum of suicidal behavior. In general, college students have been found to strongly agree that suicide is a significant problem among college students (Cerel et al., 2013; Westefeld et al., 2005), and that it is important to prevent friends from killing themselves and reduce the chance that a friend could kill themselves (King et al., 2008).

Most college students (80%) believe that suicidal people display warning signs prior to killing themselves (Cerel et al., 2013), with between 33% and 62% of students believing they could recognize warning signs for suicide (Cerel et al., 2013; King et al., 2008). Overall, college students have been found to agree or strongly agree that helping a suicidal friend see a professional counselor/mental health provider and providing support to a suicidal friend could prevent the friend from completing suicide (King et al., 2008).

Helping Behaviors Towards Suicidal Peers

Although there is considerable evidence that many college students have previous experience with suicidal people (Cerel et al., 2013; Dunham, 2004; Garcia-Williams & McGee, 2014; King et al., 2008; Westefeld et al., 2005) and college students may prefer to disclose and seek help from their peers (Arria et al., 2011; Drum et al., 2009), there is limited research exploring how college students respond to suicidal peers. To date, only one study has directly asked college students what they did in response to someone's disclosure of suicidal thoughts or plans (Mishara, 1982). Mishara (1982) found that most students in his sample had been disclosed to more than once, and that they used a range of reactions to the verbal disclosure. This included "open reactions" such as encouraging their peers to discuss their feelings further or listening and trying to understand, and "closed reactions" such as cutting off further discussion by making jokes, telling the peer to seek professional help, or ignoring the communication event. Students in this study went on to describe their emotional responses to a peer's death by suicide, saying they felt a range of emotions including shock, anger, confusion, guilt, sorrow, sadness, repulsion, helplessness, and disbelief.

Prosocial Behavior and the Arousal: Cost/Reward Model (ACRM)

Research in prosocial behavior may be a useful paradigm for understanding under what conditions college students will assist a suicidal peer and what influences the manner with which the student will help their peer (Banyard, Plante, & Moynihan, 2005; Kalafat, Elias, & Gara, 1993). Prosocial behavior is the opposite of antisocial behavior (Batson & Powell, 2003), and includes interpersonal actions or behaviors that are characterized, by the broader community, as beneficial to other people (Penner, Dovidio, Piliavin, & Schroeder, 2005). In the case of suicidal behavior, a prosocial behavior with regard to a suicidal peer may be to provide the suicidal individual with comfort, counseling, or assist in help seeking. However in cultures or contexts where suicide is an acceptable or appropriate behavior, the prosocial response may be different. This is because what is considered prosocial is influenced by context and culture (Dovidio, Piliavin, Schroeder, & Penner, 2006). For example, attitudes and behaviors have been found to differ between Swedish and Turkish students with regards to suicide (Eskin, 1999; 2003). Turkish adolescents have been found to be more likely to disclose that they are thinking about suicide than Swedish students (Eskin, 2003). This is hypothesized to be due to the importance of interpersonal relationships to Turkish culture, while autonomy is strongly valued in Swedish culture. Swedish adolescents have also been found to be less likely to become emotionally involved with and take personal responsibility for a suicidal peer (including telling a parent about the peer, encouraging help seeking and assisting with growing social network of peer), when compared to Turkish students; again, with this difference believed to be shaped by the cultural, religious, and attitudinal differences between the two countries (Eskin, 1999).

The study of prosocial behavior grew out of an incident that occurred in the 1960's when a woman named Kitty Genovese was attacked and repeatedly stabbed in the Queens borough of New York (Batson & Powell, 2003; Penner et al., 2005). Although there were 38 witnesses to the 30-minute long attack, no one helped Kitty either passively (such as calling the police) or actively (such as fighting the attacker). The field also was influenced by the protest movements of the time, with individuals engaged in prosocial behavior by protesting both the war in Vietnam and against racial segregation. This confluence of events prompted a desire in the research community to understand why people help or do not help others, when does an individual decide to help another person, and what are the factors that motivate or inhibit interpersonally prosocial behaviors.

Many conceptual models and middle-range theories have been developed and used to understand prosocial behavior (Batson & Powell, 2003; Clark, 1991; Dovidio et al., 2006; Mikulincer & Shaver, 2010). The Arousal/Cost-Reward model (ACRM) is one prominent theory of prosocial behavior and it takes an egoistic, or selfish, perspective as to why people help others (Batson & Powell, 2003; Dovidio et al., 2006). It was originally developed in 1969, but has gone through considerable development and elaboration throughout the 1980's and 1990's (Batson & Powell, 2003). In addition to being one of the most popular and empirically supported prosocial theories, the ACRM may be particularly appropriate to understanding prosocial helping behavior among college students with regards to suicidal peers (Dovidio et al., 2006; Fritzsche, Finkelstein, & Penner, 2000; Penner et al., 2005). This is because the ACRM proposes that helping behavior is strongly linked to the individual's emotional response in a crisis (Dovidio et al., 2006). Having a peer die by suicide has been found to be associated with

an emotional reaction (Mishara, 1982), and within the ACRM framework, this emotional arousal is one of the key motivators for a bystander to take action (Dovidio et al., 2006). Witnessing the distress of another person is an uncomfortable experience that can result in empathic/emotional arousal, and the potential helper (henceforth referred to as a bystander) will engage in behaviors that will reduce these negative emotions. Reducing one's empathic arousal can take the form of helping, but can also take the form of not helping or escape behavior (Dovidio et al., 2006; Fritzsche et al., 2000).

Overall, the ACRM posits that an individual's helping response is a product of five broad concepts: situational, bystander, and victim characteristics, emotional arousal, and the perceived costs and rewards of helping (Figure 1.1) (Dovidio et al., 2006). Together these concepts explain why an individual does or does not decide to respond to a situation prosocially.

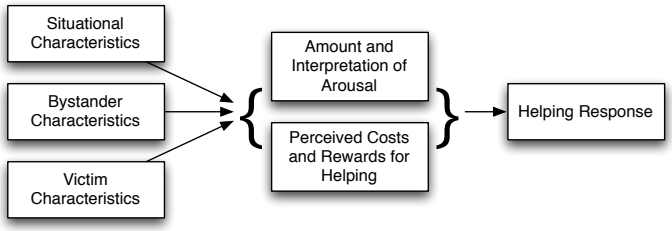

Figure 1.1 Modified version of Arousal/Cost-Reward Model.

Situational characteristics. Situational characteristics are aspects of the environment that enhance a bystander's ability to notice an event as one in which a victim needs help (Dovidio et al., 2006). This includes the bystander's mood, the clarity and severity of the event, and the number of witnesses. When a bystander is in a good mood, she is more likely to help another person, and if the bystander is in a context that engenders good feelings (such as being in a comfortable, good smelling room), then she will be more likely to help others. The clarity and severity of the event refer to how clear

it is that help is needed. When a situation is one where there is an obvious need for help (such as an emergency) and there are clear "distress cues," such as screaming, a bystander is more likely to notice the problem and provide assistance (Dovidio et al., 2006; Penner et al., 2005). The bystander needs to interpret the situation as one that requires help/is an emergency, and the individual will look for clues to determine if that is true. Therefore, in ambiguous situations without distress cues, a bystander is less likely to engage in prosocial behavior. Also, if there are considerable environmental stimuli (such as competing noises, or many people screaming) the bystander can become overloaded and may not be able to clearly notice the situation is one in which help is needed. Finally, how other potential bystanders act in response to a situation also influences an individual's decision to engage in prosocial behavior (Dovidio et al., 2006). It consistently has been found that when more people are present in a crisis, a bystander is much less likely to help or engage in prosocial behavior. This is called the Bystander Effect and is particularly true in new or unusual environments, or situations that are ambiguous.

There are two theories that explain why this phenomenon occurs (Kalafat et al., 1993). The first is Pluralistic Innocence, and it is most salient when bystanders can see one another (Dovidio et al., 2006). As most emergency situations are new to an individual, she does not have a script to pull from to know the appropriate way to respond. Therefore, she relies on other people to establish a new social norm for how to act. As other bystanders struggle to learn how to respond to the situation, the individual will often put on a calm exterior that can indicate to other bystanders that the situation is a non-emergency. The other bystanders will then put on a calm exterior, which reinforces

to all involved that the situation is a non-emergency. An individual is more likely to be influenced by bystanders that they perceive are similar to themselves; therefore, whom the bystanders are can also influence Bystander Effect given this theory.

The other theory to explain the Bystander Effect is Diffusion of Responsibility and it is most salient when an individual cannot see other bystanders (Dovidio et al., 2006). When an individual cannot see other bystanders, then the individual's behavior cannot be influenced by the behavior of other bystanders. However when an individual cannot see what the other bystanders are doing, the individual may feel less personal responsibility to help, and may also convince themselves that someone else will help/is helping. The individual may diffuse, or pass on, the responsibility onto other bystanders if she believes the other bystanders will help or are better able to help. However if the individual is placed in an authority role (such as a resident advisor), she is less likely to diffuse responsibility because she knows that she is the one assigned with responsibility for helping.

Bystander characteristics. Bystander characteristics are aspects of the potential helper that influence the bystander's perception of an emergency situation and shape the bystander's emotional arousal and helping behaviors. These characteristics include prosocial personality, empathy, willingness to accept responsibility, and self-efficacy (Dovidio et al., 2006; Penner et al., 2005). First, prosocial personality refers to the social sensitivity of the bystander. Certain types of people become emotionally aroused in a crisis situation, while others may experience no emotional arousal. The prosocial personality of the bystander is therefore tied to the level of emotional arousal that occurs in response to a stressful event, and this ultimately impacts when and how the bystander

will assist another person. Prosocial personality is influenced by the bystander's level of agreeableness, conscientiousness, openness, extraversion, and neuroticism. Second, bystander empathy refers to an individual's ability to understand the point of view or emotional experience of another person(s). A bystander who is more empathic is more likely to feel the pain of the victim, and this will generate more emotional arousal. The increase in emotional arousal, according to the ACRM, will go on to partially motivate a prosocial action. Third, willingness to accept responsibility is the capacity of the bystander to believe that she needs to help. When a bystander decides that she is required to help she will be more likely to assist than if she thinks it is the responsibility of another person/group. Fourth, self-efficacy is the ability and confidence of the bystander to help in a crisis situation. When a bystander knows what to do during an emergency, she will be more likely to provide support and pull from her abilities and knowledge base. Overall, a bystander will be more likely to help another person when she has a prosocial personality, has a high level of empathy, is willing to take responsibility for helping another person, and has the confidence and ability to engage in a helping behavior.

Victim characteristics. Victim characteristics are aspects of the individual in need of help that make him more or less likely to be assisted by a bystander (Dovidio et al., 2006). These characteristics include attraction, similarity, quality of the relationship, and shared group membership. Attraction can play a large role in predicting prosocial behavior because it can add a potential reward to helping beyond reducing the stressful stimuli or reducing the pain of the person in need. For example if the person in need of help is physically attractive to the bystander, helping that person may allow the bystander to get to know the person and create a relationship. This also is true if the victim appears

to be friendly, or has some other desirable personal qualities that would be useful for the bystander. Although rewards may not necessarily be tangible, research has shown that people are more likely to help physically attractive individuals than less physically attractive individuals.

Bystanders are also more likely to help other individuals who are similar to them in dress, attitude, nationality, or personality (Dovidio et al., 2006). This is because people are generally attracted to people similar to themselves because similar people can represent an extension of the bystander's conception of self. When deciding to help another person who is similar, the bystander may be better able to predict what the victim's response to the helping would be. In general, individuals tend to perceive the behavior of dissimilar people to be unpredictable, and therefore, helping dissimilar people could result in more cost to the bystander (such as physical harm). Finally, similar people may engender more feelings of distress and guilt on the part of bystander, which will increase her overall emotional arousal. As is predicted by the ACRM, more emotional arousal will provide greater impetus to behave prosocially as a means of reducing the cause of the negative arousal.

The type and quality of the relationship between the bystander and the person in need of help is another significant predictor of prosocial behavior (Dovidio et al., 2006). When the relationship is deep, close, sustained, or strong, then the bystander is more likely to help. This is because seeing a close friend in distress will create more emotional arousal, and the possible reward for helping is enhanced. This includes more positive affect received as a result of the helping, and the act can maintain or strengthen the existing relationship. As was discussed before in the section about Bystander Effect,

people are more likely to help people who are members of their own group. Individuals create for themselves a social identity that they align with and they tend to perceive other group members more positively than those outside that social group. This sense of belonging is associated with more helping because there is a perception that what happens to one member of the group, happens to all members of the group. From an evolutionary perspective, bystanders may be more likely to offer help to close relatives rather than distant relatives, however this is more likely to occur in life or death situations rather than everyday helping. Furthermore, there is an argument that bystanders may equate similarity to "genetic closeness" and this may explain why bystanders are more likely to help individuals that they perceive are similar to themselves (Dovidio et al., 2006, p. 49). In summary, when a victim is attractive, similar and/or of a close relation to the bystander, she will be more likely to engage in direct acts of help because the distress of this type of victim is more emotionally arousing and, therefore, there is a larger benefit to helping.

Amount of interpersonal arousal. The amount a bystander becomes emotionally aroused is a product of the situation, victim, and bystander characteristics (Dovidio et al., 2006). The more emotionally aroused the bystander gets, the more likely she is to help. This pattern of behavior is widely supported in the prosocial literature and is based on the assumption that humans become emotionally aroused upon seeing the distress of another person. The bystander can feel both empathic (emotional) and physiological arousal, which leads the bystander to both feel bad for the person in need, and feel bad *with* the person in need. Although the level of arousal is important, according to the ACRM it does not directly lead to a helping response. First the bystander must weigh the costs and

benefits of her response against what she knows about the victim and situation characteristics. Only then will the bystander engage in a helping action to remove the stressful stimuli (which can involve helping or not helping/escape). Finally, the total amount of emotional arousal that the bystander attributes to the victim's situation, also influences when the bystander will help the victim. If the bystander does not attribute her emotional arousal to the victim's situation, then she will be unlikely to help the victim.

Perceived costs and rewards. Situational, bystander and victim characteristics all impact the level of emotional arousal, and this, in turn, impacts how the bystander weighs the perceived costs of helping or not helping (Dovidio et al., 2006; Penner et al., 2005). These costs can include effort and time, distress, risk of injury to bystander or victim, stigma, and social disapproval.

Engaging in prosocial behavior is difficult and requires effort. Given the characteristics of the situation, victim, and bystander, the bystander may not feel she has the time or energy to effectively help another person (Dovidio et al., 2006; Gailliot, 2010). If another obligation is competing for the bystander's time (e.g., she has an appointment to go to), the benefits of helping may not outweigh the risks (Dovidio et al., 2006). Helping may also result in distress on the part of the bystander because she is being asked to engage in a behavior that may be new to her, or to become part of a potentially dangerous or stressful situation. Engaging in an unfamiliar behavior will create some stress on the part of the bystander, and in the case of emergency situations, there may be additional stressors such as seeing the victim injured, bleeding, or in pain. If the bystander anticipates that helping will be a negative experience (associated with stress), she will be likely to perceive that the costs outweigh the potential rewards. The

potential for personal harm to the bystander can also serve as another potential cost of helping. If a situation involves a perpetrator and victim, the bystander may worry for her own safety if the perpetrator were to attack. Finally, there is the potential for stigma or social disapproval when helping. By assisting an individual who is stigmatized or disliked by the bystander's social group (e.g., drug abusers, homeless), the bystander may open herself up to being chastised by her social group or the helping could result in some other form of negative social evaluation.

There is potential for reward when engaging in prosocial behavior beyond simply helping an individual or reducing the negative/stressful stimuli of witnessing a person in distress. Bystanders are more likely to help when they believe that helping will enhance their mood, if helping can serve as an opportunity to learn a new skill, if there is some potential for personal gain, and if helping will increase their social standing (such making them more popular) (Dovidio et al., 2006). Also, if the bystander can see that her effort is improving a situation then she is more likely to continue helping based on that positive reinforcement.

Helping response. Helping response is used as a way of reducing the amount of emotional arousal caused by the situation, while at the same time maximizing benefits and minimizing the risks to both victim and bystander (Dovidio et al., 2006; Penner et al., 2005). Helping is defined as taking an action that will have a beneficial impact on the receiver and can be categorized as casual, substantial personal, emotional, or emergency helping (Dovidio et al., 2006). Casual helping refers to small favors (such as lending clothing), substantial personal helping refers to supplying another person with tangible benefits (such as financial support), emotional helping refers to providing social support

(such as listening to another's problems), and emergency helping refers to aiding a stranger in a crisis situation (such as helping an injured person). Helping also can be defined as being planned/formal (e.g., being a volunteer at an organization) or being spontaneous/informal (e.g., helping a person with their grocery bags) and/or as indirect (e.g., giving to charity) or direct (e.g., pulling someone from a burning building). Ultimately, the type of helping provided is strongly influenced by the seriousness of the situation.

ACRM and Helping Behavior Towards Suicidal Peers

The ACRM has never been tested specifically for its utility in understanding how college students perceive and intend to help suicidal peers; however, constructs of the ACRM have been evaluated individually in several small studies. Two studies have examined how the situational characteristics of ambiguity and level of diffusion shape high school and college students' response to a hypothetical peer with symptoms of suicidal ideation (Dunham, 2004; Kalafat et al., 1993). In one study, diffusion of responsibility was found to be significantly related to how high school students responded to a hypothetical suicidal peer (Kalafat et al., 1993). Students were shown two vignettes of peers disclosing their suicidality with bystanders present (high diffusion) and without bystanders present (low diffusion). Participants were much more concerned about the peer in the low diffusion (no bystanders) than the high diffusion (more bystanders) vignette. Furthermore, in response to the low diffusion situations both males and female students were more likely to tell an adult or talk to the peer themselves, with very few reporting that they would do nothing. In high diffusion scenarios, male students

were equally likely to tell an adult, talk to the peer themselves, or do nothing while female students were more likely to tell an adult or talk to the peer alone than do nothing.

Ambiguity of the disclosure also was found to be an important factor in student helping behavior towards a hypothetical suicidal peer (Dunham, 2004; Kalafat et al., 1993). Students were given a vignette of a peer presenting unambiguous symptoms of suicide (e.g., peer says "I plan to kill myself tomorrow"), and another vignette of a peer with ambiguous symptoms (e.g., a student has been depressed due to a breakup and has been writing a lot of goodbye messages on Facebook). High school students were found to be more likely to intend to seek help from an adult in response to the unambiguous vignette than in response to the ambiguous vignette (Kalafat et al., 1993). Among college students, they were more likely to intend to talk with a student themselves in response to the ambiguous situations, and more likely to intend to tell a person in authority (like a professor) in response to the unambiguous vignette (Dunham, 2004). When college students were shown vignettes of peers with behavioral (e.g., giving away prized possessions, change in sleeping/eating behavior, academic problems) or affective (e.g., loneliness, depression, anger) symptoms indicative of suicide ideation/planning, they perceived the behavioral vignettes as more serious than the affective vignettes (Mueller & Waas, 2002). Also, students were more likely to intend to provide direct support or inform someone about the hypothetical suicidal peer presenting with behavioral symptoms than a peer with affective symptoms.

Bystander characteristics also have been found to be associated with helping behavior towards hypothetical suicidal peers. Mueller and Waas (2002) found that college students with higher levels of empathy were more likely to perceive vignettes of

hypothetical peers as more serious than those with lower levels of empathy. Another study found that college students with previous personal experience with suicide were more likely to intend to provide emotional support to a hypothetical suicidal peer rather than tell someone about the peer's behavior (Dunham, 2004). Finally, college students with higher levels of knowledge about campus mental health resources have also reported higher levels of perceived self-efficacy, or confidence, to assist a suicidal peer (Cerel et al., 2013).

Rational for Research

Little is known about how college students experience a suicidal peer or the factors that influence their engagement in helping behaviors. Gaining a deeper understanding of how college students perceive and decide to help a suicidal peer could be important to suicide prevention efforts on college campuses. Suicidal college students prefer to seek help from informal sources of support, such as friends (Arria et al., 2011; Drum et al., 2009), and the individuals they disclose their suicidal plans to may be in a unique position to provide help (Gould & Kramer, 2001; Hunt & Eisenberg, 2010). As the evidence suggests that students typically disclose their suicidal ideation or plans to one person (Drum et al., 2009), it is critical that those they disclose to engage in appropriate responses. Throughout the United States, college campuses have begun to educate campus community members with a form of peer education called gatekeeper training, to ensure that college students will have the knowledge and skills to respond to a suicidal peer (Goldston et al., 2010). Gatekeeper training programs teach individuals how to recognize warning signs for suicide, how to convince suicidal people to seek help, and how to support suicidal people, and provide information about resources students can

direct at-risk individuals to (Isaac et al., 2009; Suicide Prevention Research Center, 2013). To date limited work has been done to examine how college students experience and respond to suicidal peers (Abrutyn & Mueller, 2014; Cerel et al., 2013; Dunham, 2004; Mishara, 1982), and this may inhibit the field's ability to develop peer education programs that are grounded in a comprehensive empirical understanding of how students naturally respond to suicidal peers. The objective of this mixed-method dissertation was to help overcome this gap in the literature and advance our understanding of college students' helping behavior towards suicidal peers. Convergent parallel mixed-methods were used to shape the overall dissertation, and this was done so that independent quantitative and qualitative studies could inform one another and provide a more comprehensive understanding (Creswell, 2011). The knowledge generated by this dissertation has significant implications for suicide prevention practices on college campuses and provides insight as to how current gatekeeper training programs can be modified and improved to ensure they are safe for students supporting suicidal peers and are effective at educating the campus community about suicide prevention.

Three independent studies were conducted for this dissertation and the ACRM was used as the overall theoretical guide. Chapter 2 presents the first study, an extension of previous experimental work (Dunham, 2004; Kalafat et al., 1993; Mueller & Waas, 2002) that focused on the role ambiguity of a disclosure and number of bystanders to a disclosure had on college students' intention to help a hypothetical suicidal peer. This paper also evaluated the role ambiguity and bystanders had on key constructs of the ACRM. Chapter 3 presents the second study that explicitly tested the applicability of the ACRM to explain college students' intention to seek advice when faced with a

hypothetical suicidal peer. Specifically, the mediating role of perceived costs of helping a suicidal peer was explored; with three individual mediation models conducted to test ACRM propositions. Chapter 4 presents the third study, which is qualitative in nature. It used in-depth interviews to obtain a rich description of the first-hand experience of 20 college students who had interactions with suicidal peers. A grounded theory was developed from these data to explain the complex and cyclical nature of providing support to, and coping with, a suicidal peer. Finally, Chapter 5 presents a discussion of this dissertation as a body of work by comparing and contrasting the findings of each independent study and providing the research, practice, and clinical implications of the project as a whole.

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Chapter 2: Relationship between bystanders and ambiguity on college students' perceptions and behavioral intention towards suicidal peers

Abstract

The purpose of this experimental study was to understand the association between the context of a suicide disclosure and college students' perception of the severity of the disclosure, perception of the costs associated with helping, and intention to engage in helping behaviors. A total of 461 college students completed an online survey between January and August 2013. Students were assigned randomly to two survey conditions, each condition presenting two hypothetical vignettes of peers disclosing suicidal ideation with contextual factors manipulated. These factors included the ambiguity of the disclosure (low vs. high ambiguity) and the number of witnesses/bystanders to the suicide disclosure (multiple vs. no bystanders). Student perceptions and behavioral intentions in response to each vignette were assessed. Across all vignettes, students had low perceived costs with helping and were likely to intend to talk with the peer themselves to see if they could help or encourage the peer to seek professional resources. Ambiguity and number of bystanders were found to be associated with intention to engage in helping behavior and perceived severity of the situation, but not with perceived costs of helping. For example, students were more likely to seek advice from a counselor when the disclosure was unambiguous (peer clearly verbalizes their intention to kill themselves) and no witnesses/bystanders were present compared to ambiguous vignettes with multiple bystanders present. The results of this study demonstrate that the context of a suicide disclosure is important to how college students perceive and intend to respond to suicidal peers. College-based suicide prevention programs should include discussions about the impact multiple witnesses/bystanders to a peer's disclosure of suicide ideation can have

on perceptions and behavior, and programs should encourage students to seek advice from counselors and resident advisors even when they are unsure if a peer is suicidal.

Introduction

College students are at risk for death by suicide and suicidal behavior (Drum, Brownson, Burton Denmark, & Smith, 2009; Silverman, Meyer, Sloane, Raffel, & Pratt, 1997). Although the rate of death by suicide among college students is half of that of their age matched non-college attending peers (Schwartz, 2006), suicidal behavior still represents one of the leading causes of death among college aged young adults (Centers for Disease Control and Prevention, 2012). Factors associated with suicidal behavior include mental health problems, such as depression and substance use (Arria et al., 2009; Cranford, Eisenberg, & Serras, 2009; Lamis & Malone, 2011); emotional risk factors, such as hopelessness and low levels of optimism (Drum et al., 2009; Gibb, Andover, & Beach, 2006; Hirsch, Conner, & Duberstein, 2007; Kisch, Leino, & Silverman, 2005; Konick & Gutierrez, 2005); and interpersonal factors, such as lack of social support and interpersonal conflict (Arria et al., 2009; Downs & Eisenberg, 2012; Drum et al., 2009; Hirsch & Barton, 2011; Lamis & Malone, 2011).

Help seeking and service utilization are highly adaptive behaviors among suicidal college students, and have been found to be associated with lower rates of suicide attempts (Drum et al., 2009; Silverman et al., 1997). College students with more severe suicidal ideation are less likely to seek help than those with less severe ideation (Deane, Wilson, & Ciarrochi, 2001; Drum et al., 2009; Kisch et al., 2005; Wilson & Deane, 2009; Yakunina, Rogers, Waehler, & Werth, 2010). Moreover, students may prefer to seek help from informal sources (family, friends) rather than formal sources (professional mental health providers) (Arria et al., 2011; Deane et al., 2001; Drum et al., 2009; Yakunina et al., 2010). This suggests that peer education programs, which include gatekeeper training

(Lipson, Speer, Brunwasser, Hahn, & Eisenberg, 2014), are potentially useful strategies to use on college campuses. Gatekeeper training is a recommended suicide prevention intervention that educates community members to recognize the signs of suicide and to provide social and informational support to the suicidal person (Isaac et al., 2009; Lipson et al., 2014). These programs promise to create a more collective approach to suicide prevention so that help seeking is not the exclusive responsibility of the suicidal student (Drum et al., 2009). There is, however, currently a limited understanding of how college students experience suicidal peers, and of the factors that predict helping behavior toward suicidal peers. These limitations may challenge the development, adaptation and implementation of effective gatekeeper programs on college campuses.

Experimental research on prosocial behavior has generated some understanding of the situational factors associated with college students' helping behavior towards suicidal peers (Dovidio, Piliavin, Schroeder, & Penner, 2006). Prosocial behavior refers to actions engaged in to help another individual. Within this literature, multiple factors have been found to be associated with helping behavior, including the clarity of the situation and the presence of bystanders. When a situation is clearly one where help is needed, an individual is more likely to respond. However, when the situation is ambiguous, then the individual will experience doubt about how to act, and may require additional information prior to deciding what to do. The presence of bystanders also can impact helping. Specifically, when there are other witnesses to a situation that requires helping, it is less likely that the individual will assist the person in need (Dovidio et al., 2006). This phenomenon is known as bystander effect. It is theorized that this effect may be due to the individual's ability diffuse the responsibility to help/respond onto the other

bystanders present, which can provide the individual with justification for not helping. The bystander effect also may be due to the individual looking at the response of the other witnesses as a way to gauge what the normative/appropriate action should be (Dovidio et al., 2006).

The relationship between level of ambiguity and presence of bystanders has been explored experimentally among high school and college students with regard to suicidal peers. In these studies, students were presented with hypothetical vignettes where the level of ambiguity and number of bystanders were manipulated (Dunham, 2004; Kalafat, Elias, & Gara, 1993; Mueller & Waas, 2002). When the situation was presented as unambiguous (i.e., the peer directly verbalized their desire to kill herself), both high school and college students were more likely to tell an adult about the suicidal peer. When the situation was ambiguous (i.e., the peer exhibited behavioral or affective indications of a desire to kill herself without direct verbalization), high school students were equally likely to tell an adult, counsel the peer themselves, or do nothing (Kalafat et al., 1993), whereas college students were more likely to counsel the peer themselves (Dunham, 2004). When the vignettes presented different types of ambiguous suicide disclosures, college students were more likely to intend to provide direct support or tell someone when a peer presented behavioral symptoms (such as giving away prized possessions), and were more likely to intend to use distraction strategies when the peer presented affective symptoms (such as depression) (Mueller & Waas, 2002). This may have been because vignettes presenting students with behavioral symptoms were perceived to be more severe than those presenting emotional symptoms. Among high school students, number of bystanders also was found to be associated with intention to

engage in a helping response towards a hypothetical suicidal peer; students were more concerned when the disclosure was one-on-one and no bystanders were presented in the vignette (Kalafat et al., 1993).

One theory in the field of prosocial helping behavior suggests other important constructs, beyond ambiguity and number of bystanders, can shape helping behavior in an emergency situation. The Arousal: Cost Reward Model (ACRM) posits that perceived severity of a situation and the perception of the costs associated with helping are both important factors associated with helping behavior (Dovidio et al., 2006). Perceived severity refers to how life-threatening or dangerous an emergency situation is. When an individual believes a situation is serious and one where their help is needed, then they are more likely to engage in a helping response. Perception of the costs associated with helping refers to the negative outcomes that could occur if an individual decides to assist in an emergency situation. These negative outcomes can be physical (e.g., getting injured while helping), emotional (e.g., getting embarrassed if the situation was not an emergency), or social (e.g., getting into trouble for helping). When there are many costs associated with helping in an emergency situation, then an individual will be less likely to assist, even when they perceive that their help is needed.

The purpose of this study was to further explore the relationship bystanders and ambiguity have on college students' intentions to engage in helping behavior toward a suicidal peer by incorporating the constructs of perceived severity and perceived costs into the analyses. To meet this objective of the following three hypotheses were tested: (1) Level of ambiguity and number of bystanders will be associated with perceived severity of suicidal peer's behavior; (2) Level of ambiguity and number of bystanders

will be associated with perceived costs to intervening with suicidal peer; (3) Level of ambiguity and number of bystanders will be associated with student intention to engage in various behaviors in response to a hypothetical suicidal peer. This study also will help determine if constructs gleaned from prosocial theories, like the ACRM, may be appropriate to help understand college students' helping behavior towards suicidal peers. The results of this study will further the understanding of the processes involved in perceiving and helping a suicidal peer, and will provide insight into ways current gatekeeper interventions can be modified given this underlying behavior.

Methods

Participants

College students from a private university in the southeastern United States were recruited to participate in an online, anonymous survey. Recruitment included the use of random (simple and stratified) and non-random sampling (purposive and snowball) strategies because recruiting in this population was a challenge. Eligibility criteria to participate were: (1) full-time undergraduate status at the university, (2) 18 years of age or older, and (3) no current suicidal ideation. As compensation for their participation, all students, regardless of eligibility status, were entered into a lottery to win one of ten $50 gift cards. The university's Institutional Review Board approved all procedures of this study.

Conditions and Measures

Using their own personal computers, participants entered an online survey portal, where they were assigned randomly to one of two survey conditions (Table 2.1). Each survey condition presented two vignettes with different numbers of bystanders (multiple

or none) and different levels of ambiguity (low or high). Specifically, condition A presented vignettes with high levels of ambiguity and different numbers of bystanders and condition B presented vignettes with low levels of ambiguity and different numbers of bystanders. These vignettes were modified from those previously used among high school and college students (Dunham, 2004; Kalafat et al., 1993). The vignettes were modified to make examples consistent with the culture of the participating university, adding additional behavioral indicators, and using online disclosure of suicidal thoughts as an example rather than a classroom assignment. After reading each vignette, participants were asked their perception of the severity of the presented situation, the perceived costs of helping, their intention to engage in helping behaviors, and demographic characteristics.

Demographic factors. Demographic characteristics were assessed through 10 items that asked about gender, age, year in school, race/ethnicity, childhood family income, participation in extracurricular activities, and religion.

Perceived severity. Perceived severity was assessed with two items adapted from those used in a study with a similar experimental design (Banyard, Plante, & Moynihan, 2005). The items asked, in regards to the hypothetical vignette, how life-threatening the situation was on a 10-point scale (1 = *not at all life-threatening* and 10 = *extremely life-threatening*) and how much does the person in the vignette need help on a 10-point scale (1 = *doesn't need any help* and 10 = *needs help immediately*). The two items were averaged to create a Perceived Severity total score, and the scale had acceptable internal consistency (Spearman-Brown statistic = .75) using criterion outlined for interpreting Cronbach's alpha values (Nunnally & Bernstein, 1994). The Spearman-Brown statistic

was used as it is a more appropriate measure of reliability than Cronbach's alpha for two-item scales (Eisinga, Grotenhuis, & Pelzer, 2012).

Perceived costs of helping. Perceived costs of helping were assessed using seven items from the Decisional Balance Scale (Banyard et al., 2005; Banyard, Moynihan, & Plante, 2007). These items ask participants how important, on a 5-point Likert-scale (1 = *not at all important* and 5 = *extremely important*), a series of negative consequences of intervening would be to their decision to help the peer depicted in each vignette. The internal consistency of the seven items was acceptable (Cronbach's α =.76) (Nunnally & Bernstein, 1994) and the items were averaged to create a Perceived Costs total score.

Behavioral intention. Intention to engage in helping behavior in response to the vignettes was assessed using items adapted from the Bystander Attitudes Scale (Banyard, 2008). These items asked the respondent's likelihood to engage in eight helping behaviors on a 5-point Likert scale (1 = *very unlikely* and 5 = *very likely*) and each item was used individually, not as a total score. Individual items were used rather than an average total score because this scale was not a unidemiensional scale measuring behavioral intention in general. Instead this scale measured intention to engage in specific types of behaviors.

Data Analysis

Descriptive statistics were calculated for all variables. Bivariate analyses (χ^2) were conducted to evaluate differences in sociodemographic characteristics between the two conditions and the sampling strategies. Responses to individual items were averaged across all four vignettes to evaluate overall perceptions and behaviors and all continuous variables were evaluated for normality. To explore the relation between number of

bystanders and perceived severity, perceived costs and behavioral intention when level of ambiguity was held constant, vignette A1 was compared to vignette A2 and vignette B3 was compared to vignette B4 using paired t-tests or Wilcoxon Signed Rank Tests (Table 2). To evaluate the relation between level of ambiguity and perceived severity, perceived costs, and behavioral intention when number of bystanders was held constant, vignette A1 was compared to vignette B3 and vignette A2 was compared to vignette B4 using independent sample t-tests and Mann Whitney U-test tests (Table 3). Levine's test for equality of variance was performed prior to all independent sample t-tests to ensure the assumption of equality of variances was met. If this assumption was violated a t-test not assuming homogeneity of variance was computed. A *p*-value of less than .05 was considered statistically significant for this study. All data cleaning and analyses were conducted using IBM SPSS Statistics 21.0 (IBM Corp, 2012).

Results

A total of 461 college students participated in the study during Spring and Summer 2013. More than two-thirds of participants (68.9%, $n = 317$) self-identified as female, and less than one-third as male (30.9%, $n = 142$). The proportion of female students responding to this survey was significantly higher than the proportion of female students comprising the student body of the participating university (56% female students at university vs. 68.9% female students in study; $\chi^2 (1, N = 459) = 116.93$, $p < 0.001$). The age range of participants was between 18 and 24 years ($M = 20$, $SD = 1.194$); the majority (63.4%, $n = 290$) were in their third or fourth year of college. The sample was made up of 39.6% ($n = 180$) European Americans, 33.0% ($n = 150$) Asian/Pacific Islanders, 11.9% ($n = 54$) African Americans, 3.7% ($n = 17$) Hispanic/Latinos, and 6.15%

(n = 54) of other racial identity. The racial composition of participants in this study was roughly similar to that of general student body, with some differences by specific racial/ethnic groups. Using a two-sample z-test for proportions, significantly more Asian American students were found to participate in this study (33%) than were enrolled at the university (23.4%) (Z-score = -4.63, $p < .05$), significantly less Hispanic students participated in this study (3.7%) than were enrolled in the university (5.9%) (Z-score = 1.96, $p < .05$), and significantly less White student (39.6%) participated in this study than were enrolled in the university (40.9%) (Z-score = 0.59, $p < .05$). The socioeconomic status of the sample was high, with most (62.9%, n = 280) reporting household income until age 16 as over $75,000 per year. When asked about their activities, the majority of the sample reported being a member of an extracurricular activity (74.0%, n = 338) or having a religious affiliation (60.1%, n = 274). When respondents to the two survey conditions were compared, no statistically significant differences were found on any of the demographic factors. However those recruited by random sampling were significantly more likely to be male (35.1%) than those recruited through non-random sampling (18.4%; χ^2 (1, N = 459) = 11.12, p = .001).

Participants, on average, had a high level of perceived severity of the four vignettes (M = 7.58, SD = 1.71) with the low ambiguity/no bystander vignette receiving the highest perceived severity total score and the high ambiguity/multiple bystander vignette receiving the lowest perceived severity total score (Table 2.2). Regardless of ambiguity level, participants perceived the severity of the vignette to be higher when no bystanders were presented in the vignette (Table 2.2). When number of bystanders was

held constant, respondents had higher endorsements of perceived severity in the low ambiguity versus the high ambiguity situation (Table 3).

Overall, respondents did not have high perceived costs associated with intervening with the suicidal peer presented in the vignettes (M = 2.64; SD = .66). When ambiguity was low, participants had significantly higher perceived costs associated with helping when multiple bystanders were present than when none were present (Table 2.2). Participants were more likely to agree that there were perceived costs associated with helping when the vignette was presented as ambiguous than when it was presented as unambiguous, regardless of number of bystanders (Table 2.3).

When asked about intention to engage in helping behavior, across all four vignettes, participants were likely to intend to talk with the peer to see if they could help (M = 4.27; SD = .68) or encourage peer to seek professional help (M = 4.24; SD = .79). Participants were somewhat likely to seek advice from friends (M = 3.35; SD = 1.03), ask a peer if they were suicidal (M = 3.09; SD = 1.19) or talk with a clinician at the counseling center (M = 3.23; SD = 1.23). They were unlikely to report that they would intend to seek advice from a resident advisor (M = 2.54; SD = 1.16), a professor (M = 2.52; SD = 1.07), or to intend to ignore the situation/do nothing (M = 1.60; SD = .73).

Regardless of ambiguity level, participants were more likely to intend to seek advice from friends or intend to ignore the situation/do nothing when multiple bystanders were present (Table 2.2). Alternatively, participants were more likely to intend to talk with the peer themselves, encourage a peer to seek help, and ask a peer if they were suicidal when no bystanders were present than when multiple bystanders were described in the vignette (Table 2.2). When the situation was unambiguous, participants were

significantly more likely to talk with a clinician at the counseling center only when the disclosure was one-on-one (Table 2.2).

When number of bystanders was held constant, participants were significantly more likely to ignore the situation/do nothing when the situation was ambiguous than unambiguous (Table 2.3). Participants were more likely to talk with a clinician at the counseling center, seek advice from a professor, encourage a peer to seek help, and ask a peer if they are suicidal in response to the low ambiguity situation than the high ambiguity situation, regardless of number of bystanders (Table 2.3). When the disclosure was one-on one, participants were significantly more likely to intend to talk with the peer to see if they could help in response to the low ambiguity than the high ambiguity vignette; and were more likely to intend to seek advice from friends in response to the high ambiguity than low ambiguity vignette (Table 2.3).

Discussion

Suicide prevention on college campuses needs to take a problem-based approach to prevention and include the wider community, rather than exclusively focusing efforts on the suicidal student (Drum et al., 2009). This community includes the peers that suicidal college students may prefer to turn to during their time of crisis, and who may be the first to recognize deteriorating mental health (Arria et al., 2011; Deane et al., 2001; Drum et al., 2009). To promote such community-wide prevention efforts there must be a better understanding of how college students respond to suicidal peers and the factors that shape their perceptions and helping behaviors. The purpose of this study was to improve this understanding. The results provide insight into how the presence of bystanders and level of disclosure ambiguity are associated with perceptions of severity, perceived costs

of helping, and intention to engage in helping behaviors towards a hypothetical suicidal peer.

The presence of bystanders and the ambiguity of the situation were both significantly associated with the perceived severity of the situation. The biggest differences were seen when comparing high and low ambiguity vignettes. This result is consistent with other experimental studies that found that characteristics of a suicidal peer's behavior or the reason for their suicidal ideation can differentially impact perceptions of the severity of the suicide scenario (Lang & Lovejoy, 1997; Mueller & Waas, 2002), and the results of this study are congruent with what is predicted based on the literature in prosocial behavior and the ACRM (Dovidio et al., 2006). When a situation is ambiguous the individual is less able to define it as an emergency and one where help is needed; therefore, it is a challenge for the individual to define the situation's severity and their need to respond (Dovidio et al., 2006). Furthermore, the presence of other people has been found to lower an individual's emotional arousal in response to a helping situation. This, in turn, can result in lowered perceptions of severity. The presence of bystanders also can provide the individual with the ability to diffuse their responsibility to help onto the other witnesses, therefore lowering their perceived need to help. It is not clear if these mechanisms are at work in the case of college students' response to suicidal peers, but the results of this study suggest that exploring these possible mechanisms is an important area for future research.

In this study participants had limited perceived costs associated with helping a suicidal peer. More costs were endorsed when the situation was ambiguous and multiple bystanders were presented in the vignette, a finding similar to what has been found

generally in prosocial literature (Latané & Darley, 1977). When a situation is ambiguous, and one is unsure that it is an emergency, one has more to risk by intervening. For example, intervening when nothing is wrong could result in one feeling embarrassed or ashamed by their actions. When other bystanders are present, then there are more possibilities for negative evaluation by these bystanders for intervening in the wrong way, for being ridiculed by the other bystanders, or for being censured for doing something perceived as inappropriate (Latané & Darley, 1977). Although endorsement of costs in this study was low, the items assessing the costs associated with helping may not have been salient for the issue of helping a suicidal peer. This scale was adapted from one used to understand college students' prosocial behavior with regards to sexual violence (Banyard et al., 2005; 2007). More work should be done to verify the salience of the costs measured with this scale and to identify other potential costs associated with helping a suicidal peer.

Number of bystanders and situation ambiguity were each associated with intention to engage in helping behavior for the hypothetical suicidal peer. Respondents were more likely to seek advice from friends when multiple bystanders were present, and they were more likely to seek advice from friends when the situation was ambiguous and multiple bystanders were present. Young adults, when presented with vignettes of a depressed person with suicidal thoughts, have reported low levels of self-confidence to provide help (Yap, Reavley, & Jorm, 2012), and college students do not have confidence in their ability to identify someone at risk for suicide (King, Vidourek, & Strader, 2008). Therefore, in this study, students may have endorsed planning to seek advice from peers as a way of obtaining more information to determine if their assessment of the severity of

the ambiguous situation was correct and to determine what the appropriate response to the situation should be.

Absence of bystanders and low ambiguity were found to be associated with intention to engage in several types of direct, one-on-one helping behaviors in this study. Participants were more likely to talk with the peers themselves to see if they could help, ask peers if they were suicidal, and encourage peers to seek help in the absence of bystanders and when the situation was unambiguous. These direct types of helping behaviors may have been perceived as safe to do, as they were one-on-one interventions and did not invite other individuals (such as resident advisors or professors) into the situation to potentially judge their intervention strategy. Providing emotional support and encouraging help seeking has been reported before as a common helping behavior provided to suicidal peers both in real and hypothetical situations (Drum et al., 2009; Mishara, 1982; Yap et al., 2012; Yap, Wright, & Jorm, 2011). Furthermore, young adults generally perceive that listening to the problems of the peer in an understanding way, suggesting the peer seek professional help, and making an appointment for the person to see a general practitioner are helpful to a person with depression and suicidal thoughts (Yap et al., 2012). It is not clear if the college students in this study also held the same beliefs about the helpfulness of these interventions. Therefore, it is not known if their perception of the one-on-one intervention's helpfulness impacted their helping response. Finally, college students have reported high levels of self-efficacy to provide one-on-one intervention (King et al., 2008), therefore the behavioral intention reported in this study may have been related to underlying levels of confidence.

Young adults and high school students have been found to be unlikely to tell an "adult" about a suicidal peer when presented with a hypothetical vignette (Kalafat et al., 1993; Yap et al., 2012), and the results of the current study are consistent with these findings. Number of bystanders (regardless of level of ambiguity) was not found to be associated with intention to seek advice from a professor or from an RA. Nor was level of ambiguity associated with intention to seek advice from an RA (regardless of number of bystanders). These results imply that contextual factors may have a differential impact on intention to seek advice from certain types of individuals. Furthermore, the overall intention to seek advice from a professor and RA was low, suggesting that these behaviors may not be perceived as acceptable options to engage in, regardless of the context. As the majority of students participating in this study were in their third and fourth year of university, seeking advice from an RA may have been especially inappropriate because older students tend to live in off campus housing. Students were, however, somewhat more likely to seek advice from a professor when the situation was unambiguous and there were no bystanders presented in the vignette. This result suggest that college students may be reticent to involve "adults" unless they are sure that the situation is an emergency (unambiguous) and when there are no other individuals available to diffuse responsibility to or seek advice/information from. From a developmental perspective, students participating in this study can be defined as emerging adults, or individuals between the ages of 18 and 25 that are transitioning from late adolescence to adulthood (Arnett, 2000). During this period of transition, emerging adults work towards the goal of becoming independent and self-sufficient. Part of this is to begin making independent decisions and accepting personal responsibility for one's

own actions (Arnett, 2000; Nelson, 2005). Therefore, the limited endorsement of seeking help from "adults" by students in this study is consistent with their stage of development. This may also explain why, across all vignettes, students said they were likely to intend to talk with the peer to see if they could help. As students are working toward increased autonomy and independent decision-making, working with the peers themselves is more congruent with their current development stage than seeking help from other people, a behavior that could indicate a lack of capacity for independent problem solving.

Across all vignettes, intention to ignore the situation/do nothing was low. This result is consistent with previous work among young adults and students that found ignoring the situation is not a common behavior in reaction to either real or hypothetical suicidal peers (Kalafat et al., 1993; Mishara, 1982; Yap et al., 2011). Young adults, when presented with a vignette about a depressed peer with suicidal thoughts, believe ignoring the situation is not beneficial (Yap et al., 2012). This could explain why, across all vignettes in the present study, the reported likelihood of ignoring the peer was low. Students in this study, however, were more likely to intend to ignore the situation/do nothing when there were multiple bystanders and when the situation was ambiguous. This suggests that characteristics of the situation play a role in intention to ignore a suicidal peer.

When the situation was unambiguous participants were more likely to intend to talk with a clinician at the counseling center when the disclosure was one-on-one and no bystanders were present. This finding is troubling as it shows that only in specific contexts will college students intend to seek advice from a mental health professional. College students believe that helping a suicidal peer receive professional mental health

counseling will result in lowered risk of suicide (King et al., 2008); however beyond this one study little else is known about the attitudes, perceptions, and barriers to psychological help seeking on another college student's behalf. This makes the finding that college students would be likely to seek advice from a counselor only in unambiguous one-on-one suicide disclosure situations difficult to understand. Work conducted on college students' own psychological help seeking may provide insight. The primary barriers to help seeking include the perception that stress is a normal part of the college experience, low perceived need, belief that the problem will improve by itself, lack of time, belief that no one will be able to understand, and fear of stigma (Eisenberg, Golberstein, & Gollust, 2007). These may also represent barriers to help seeking on behalf of another student, especially if they are unsure of their peer's perceived need when the disclosure is ambiguous. Although college students hold favorable perceptions of the efficacy of therapy for the treatment of problems like depression (Eisenberg et al., 2007), they may not hold such positive perceptions of the efficacy of treatment for suicidal thoughts and behavior. Further work must be done to understand this finding, as help seeking on behalf of the suicidal peer may be a highly adaptive behavior for all students involved.

There are several limitations to this experimental study. First, participants reported perceptions and intention to engage in helping behaviors in response to hypothetical vignettes. Therefore, it is impossible to know if their intention to engage in helping behavior in response to the vignette would translate to a real-life situation. Studies should also be conducted among college students who have interfaced with suicidal peers in the past to determine how context, severity, and costs of helping

influenced their actual past helping behavior. Second, the sample was recruited through a mix of random and non-random sampling strategies and, therefore the sample was not representative of the university's undergraduate community with regard to year in school and gender. Therefore the results of the study may not be generalizable to all college students at the participating university, or to other university populations. Replication studies should be done using random sampling to explore the generalizability of these findings and to further delineate the relationship demographic factors such as gender may have with prosocial behavior and perceptions of severity and costs associated with helping a suicidal peer. Finally, the results could have been impacted by self-selection bias; there is some evidence that those responding to the survey could have been more prosocially minded as most endorsed participating in extracurricular activities and those responding to the survey were willing to volunteer their time to participate. This may also explained why few students reported that they would ignore the peer in the presented vignettes.

This study is a valuable contribution to the small body of work exploring how college students respond to suicidal peers, and has important implications for suicide prevention on college campuses. Context and situation matter when a student discloses suicidal ideation. Disclosure events do not occur in a vacuum, and characteristics of the situation are important to how the college student responds to the suicidal peer. Future studies should aim to identify other important situational and contextual factors associated with how college students perceive and respond to suicidal peers. More work is also needed to clarify the results of this study and understand the mechanisms involved in the relationships between situational factors and perceptions of severity and behavioral

intentions. Prosocial theories, like the ACRM, may be useful for identifying other important constructs and pathways involved in helping a suicidal peer, and should be explicitly incorporated into future research projects.

The findings from this empirical investigation suggest that gatekeeper and peer education programs on college campuses should include a discussion about bystander effects and how the presence of other people may make the individual feel they have less responsibility to act. Strategies need to be identified to help college students overcome the potential impact of the bystander effect when faced with a suicidal peer. For example, students were more likely to seek advice from friends when multiple bystanders were present in the vignette (regardless of level of ambiguity), and this behavior should be encouraged during peer education training. Therefore in peer education programs, student can be encouraged to discuss their concerns about a potentially suicidal peer with other bystanders they know are aware of the peer's behavior as a way of seeking advice or insight about how to act. In this way, the two bystanders may be able to work together to support the suicidal peer. Getting advice, additional information, or alternative perspectives from other peers may help reduce the impact multiple bystanders have on behavioral inhibition towards the peer in crisis (Fischer et al., 2011). Also, individuals placed in a leadership position they are more likely to respond when help is needed, even with multiple bystanders present (Dovidio et al., 2006). Therefore peer education programs may want target trainings on individuals already in an authority position on campus, such as resident advisors, captains of athletic teams, and presidents of clubs or university organizations. These individuals, when trained, may be more likely to respond

to a suicidal student regardless of the number of bystanders aware of the student's suicidal behavior.

This study constitutes an important step in understanding college students' helping behavior towards suicidal peers. Nonetheless, much more work is needed to ensure that current gatekeeper programs are informed by a thorough understanding of baseline helping behavior among college students towards suicidal peers.

Chapter 2 References

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Table 2.1 Hypothetical vignettes of peers disclosing suicidal ideation with varying levels of ambiguity and number of bystanders presented.

Condition A1: High ambiguity, no bystanders

Your friend Ellen has been keeping to herself lately. You know she has trouble back at home—her parents are getting divorced and she's now not sure who she will be living with for the summer, or if there will be enough money for her to continue on at [the study university]. It is Friday, and you ask her to go to a party with you, but she refuses to go. Later that day in the sociology class the two of you are taking, the instructor is reading samples of student essays. She does not identify the writer, but one of them is entitled "(Final) Family Decisions" and describes a very important decision that is about to be made by the writer's parents that will involve whether she will change colleges and whether she will even be able to continue going to college. The writer says that she may not go along with her parents' decision and may make one of her own that will make it easier for everyone. You believe that your friend wrote this essay and that you are the only one who knows what she is writing about.

Condition A2: High ambiguity, multiple bystanders

Your friend Paula has not been herself lately. She doesn't hang out as much with you or your friends, and tends to stay in her room looking at celebrity websites for hours on end. She has been struggling to maintain her grades and when she gets poor marks, it makes her even more withdrawn and depressed. She used to be meticulous about her hair and clothes, but now she is always a mess; un-showered and in her pajamas all day long. You ask her if she wants to go with you and a bunch of friends to Piedmont Park for an outdoor festival, but she refuses and retreats back into her room. Later that day you check Facebook and notice she has posted something that says "My physics professor will be sorry for giving me another bad grade, I know what to do to show him!" You know your other friends have seen this post too but you can't do anything at the moment because you are already in the park.

Condition B3: Low ambiguity, no bystanders

Your friend Allie has seemed troubled lately and has begun to keep more and more to herself. She and her partner just broke up and she has been posting a lot of sad poems and songs on Facebook. One day you go to see her, and she tells you that she would like to talk about something, but you must promise to keep it a secret. You value your friendship with her so you agree not to tell anyone what she has to say. She tells you that she and everyone else would be better off if she were not around. Then she says, "Sometimes I think I might as well kill myself." She goes on to say, "If something should happen this weekend, you can have my Nook since I know you have been wanting one." She then reminds you of your promise not to tell anyone what she has said. You are the only person she trusts, she says, and if you tell, she will never forgive you.

Condition B4: Low ambiguity, multiple bystanders

One Friday afternoon at lunchtime, you are sitting around with a small study group for your Chemistry course. Your friend Tommy finally shows up 15 minutes late. You have noticed he hasn't been doing too well lately. He doesn't go to class, has done poorly on his homework and exams and seems to be sleeping all the time. He also hasn't been doing the things he used to enjoy and has recently been looking disheveled and sullen. He tells the group that he has something important to say, but everyone must promise to keep it a secret. He seems pretty serious so everyone agrees not to tell anyone what he has to say. He says he is tired and wishes everything would just end. He then says "I think I will just kill myself rather than go on with this." After telling the group his secret, he reminds everyone of their promises not to tell anyone what he said. By 1, everyone starts to head for their next class. You know you won't see Tommy or anyone else from the group until the next week.

Table 2.2 The relationship between number of bystanders and perceived severity, perceived costs, and behavioral intention when level of ambiguity is held constant.

	High Ambiguity		Low Ambiguity	
	Number of Bystanders		Number of Bystanders	
	None Mean (SD)	Multiple Mean (SD)	None Mean (SD)	Multiple Mean (SD)
Perceived Severity	6.82 (1.77)	6.12 (1.80)	9.07 (1.03)	8.32 (1.57)
	$t(230) = 5.498$, $p < .001$ [a]		$Z(224) = -7.47$, $p < .001$ [a]	
Perceived Costs	2.71 (.59)	2.76 (.70)	2.49 (.70)	2.57 (.77)
	$t(230) = -1.14$, $p = .254$ [a]		$t(223) = -1.979$, $p = .049$ [a]	
Behavioral Intention				
Seek advice from friends	3.26 (1.18)	3.66 (1.17)	2.94 (1.30)	3.58 (1.17)
	$t(230) = -4.90$, $p < .001$ [a]		$t(224) = -7.20$, $p < .001$ [a]	
Talk with peer to see if I could help	4.28 (.74)	4.11 (.93)	4.49 (.68)	4.21 (.83)
	$Z(230) = -2.94$, $p = .004$ [b]		$Z(221) = -5.23$, $p < .001$ [b]	
Seek advice from a professor	2.41 (1.07)	2.38 (1.17)	2.69 (1.25)	2.61 (1.24)
	$t(229) = .44$, $p = .658$ [a]		$t(223) = 1.27$, $p = .206$ [a]	
Seek advice from an RA	2.47 (1.13)	2.51 (1.21)	2.59 (1.34)	2.63 (1.26)
	$t(230) = -.38$, $p = .705$ [a]		$t(224) = -.46$, $p = .644$ [a]	
Talk with a clinician at the counseling center	2.76 (1.27)	2.69 (1.30)	3.90 (1.10)	3.61 (1.18)
	$t(230) = 1.16$, $p = .248$ [a]		$t(2204) = 5.28$, $p < .001$ [a]	
Encourage peer to seek help	4.11 (.97)	3.87 (1.03)	4.67 (.58)	4.32 (.76)
	$Z(227) = -3.68$, $p < .001$ [b]		$Z(224) = -7.00$, $p < .001$ [b]	
Ask peer if suicidal	2.78 (1.20)	2.62 (1.12)	3.59 (1.27)	3.38 (1.32)
	$t(228) = 2.69$, $p = .008$ [a]		$t(219) = 3.10$, $p = .002$ [a]	
Ignore the situation/do nothing	1.59 (.80)	1.97 (.96)	1.25 (.59)	1.58 (.90)
	$Z(231) = -6.02$, $p < .001$ [b]		$Z(224) = -6.01$, $p < .001$ [b]	

[a] Paired t-test
[b] Wilcoxon Signed Ranks

Table 2.3 The relationship between situation ambiguity perceived severity, perceived costs, and behavioral intention when number of bystanders are held constant.

	No Bystanders		Multiple Bystanders	
	Level of Ambiguity		Level of Ambiguity	
	High Mean (SD)	Low Mean (SD)	High Mean (SD)	Low Mean (SD)
Perceived Severity	6.82 (1.77)	9.07 (1.03)	6.12 (1.80)	8.32 (1.57)
	U(461) = 6723.00, Z = -13.96, p < .001 [a]		t(456) = -13.92, p < .001 [b]	
Perceived Costs	2.71 (.59)	2.49 (.70)	2.76 (.70)	2.57 (.77)
	t(441.02) = 3.671, p <.001 [b]		t(454) = 2.81, p = .005 [b]	
Behavioral Intention				
Seek advice from friends	3.26 (1.18)	2.94 (1.30)	3.66 (1.17)	3.58 (1.17)
	t(459) = 2.75, p = .006 [b]		t(454) = -.73, p = .466 [b]	
Talk with peer to see if I could help	4.28 (.74)	4.49 (.68)	4.11 (.93)	4.21 (.83)
	U(460) = 21966.50, Z = -3.52, p < .001 [a]		U(452)= 24310.5, Z = -0.96, p = .335 [b]	
Seek advice from a professor	2.41 (1.07)	2.69 (1.25)	2.38 (1.17)	2.61 (1.24)
	t(443.81) = -2.623, p = .009 [b]		t(453) = -2.09, p = .037 [b]	
Seek advice from an RA	2.47 (1.13)	2.59 (1.34)	2.51 (1.21)	2.63 (1.26)
	t(441.41) = -1.00, p = .316 [b]		t(454) = -1.00, p = .314 [b]	
Talk with a clinician at the counseling center	2.76 (1.27)	3.90 (1.10)	2.69 (1.30)	3.61 (1.18)
	t(452.65) = 10.29, p < .001 [b]		t(451.455) = -7.93, p < .001 [b]	
Encourage peer to seek help	4.11 (.97)	4.67 (.58)	3.87 (1.03)	4.32 (.76)
	U(459) = 16981.50, Z = -7.40, p < .001 [a]		U(453) = 19342.5, Z = -4.90, p < .001 [a]	
Ask peer if suicidal	2.78 (1.20)	3.59 (1.27)	2.62 (1.12)	3.38 (1.32)
	t(455) = -7.01, p < .001 [b]		t(433.910) = -6.59, p < .001 [a]	
Ignore the situation/do nothing	1.59 (.80)	1.25 (.59)	1.97 (.96)	1.58 (.90)
	U(461) = 19979.50, Z = -5.68, p < .001 [a]		U(455) = 19387.5, Z = -5.02, p < .001 [b]	

[a] Man-Whitney U-test
[b] Independent sample t-test

Chapter 3: Seeking advice about a suicidal peer: An experimental study testing the Arousal: Cost-Reward Model

Abstract

The Arousal: Cost-Reward Model (ACRM) guided this exploration of college students' helping behavior towards suicidal peers. Students were shown vignettes of peers disclosing suicidal ideation in different ways. Perceived costs of helping, situational (perceived severity and clarity of peer's disclosure), and bystander characteristics (emotional prosocial personality, race/ethnicity, and year in school) were significantly correlated with intention to seek advice about a suicidal peer. This study demonstrates limited support for the utility of the ACRM to understand helping behavior towards suicidal peers; with constructs of the ACRM explaining a small portion of the variance in intention to seek advice about a suicidal peer. More work is needed to identify other theoretical frameworks and constructs that could help guide future research and practice.

Introduction

Suicide among college students is a known public health problem, with an estimated 1100 college students dying by suicide each year (Wilcox et al., 2010). In 2011, approximately 4.3% of college students had seriously considered suicide in the past year, and 0.8% had made a suicide attempt in the past 12-months (American College Health Association, 2012). Suicide prevention on campus requires the use of a variety of strategies including mental health screenings, easy access to mental health services, social marketing, social network promotion, life-skills development, means restriction, and crisis management (Suicide Prevention Research Center, 2004). Peer-education programs, such as gatekeeper training, are another programmatic activity that broadly engages the campus community in suicide prevention efforts. Gatekeeper training, for example, educates individuals who have direct contact with those at risk for suicide to identify warning signs and strategies and encourage individuals at risk into treatment (Isaac et al., 2009). Gatekeepers include faculty, staff, and students on college campuses who may be the first to recognize deteriorating mental health and suicidal behavior among students (Isaac et al., 2009). These programs may be particularly appropriate for college campuses because suicidal college students have low levels of professional help-seeking and service utilization (Kisch, Leino, & Silverman, 2005). Furthermore, suicidal college students prefer to seek help and disclose their suicidal thoughts to friends and family members rather than professionals (such as counselors) (Arria et al., 2011; Drum, Brownson, Burton Denmark, & Smith, 2009). Interacting with a suicidal peer is not uncommon among college students (Cerel, Bolin, & Moore, 2013; Kalafat, Elias, & Gara,

1993; King, Vidourek, & Strader, 2008). Therefore peer education programs may be important ways to target community helpers to divert at-risk students into care.

Peer education programs hold promise at creating more community-level involvement in suicide prevention. Studies have found that they positively impact knowledge and beliefs, while others show they are not associated with changes in behavior towards suicidal peers (Isaac et al., 2009; Lipson, Speer, Brunwasser, Hahn, & Eisenberg, 2014). A challenge to improving these programs is the limited understanding of how college students experience, perceive, and react to a peers who discloses that they are suicidal. Theoretical models of prosocial behavior may offer a useful orientation to help overcome this limitation.

Models and theories of prosocial (or helping) behavior were developed to help understand why people do or do not help during emergency situations, and provide guidance about the factors that impact perceptions and behaviors towards a person in need. The Arousal: Cost/Reward Model (ACRM), a prominent, empirically supported theory of prosocial behavior, is particularly appropriate to understanding college student helping behavior towards suicidal peers because it proposes that prosocial behavior is strongly linked to an individual's emotional response in a crisis (Dovidio, Piliavin, Schroeder, & Penner, 2006). Having a peer complete suicide is associated with heightened emotional arousal (Mishara, 1982), and students may also experience strong emotions when confronted with other types of suicidal behavior. Within the ACRM framework this emotional arousal is one of several key factors that motivate helping behavior (Dovidio et al., 2006). The ACRM posits that an individual's helping response

during an emergency is influenced by five broad constructs: situation, victim, and bystander characteristics, emotional arousal, and the perceived costs.

Situation characteristics refers to the contextual aspects of the emergency that enable a potential helper (or bystander) to notice that an event is one where their help is needed (Dovidio et al., 2006). One situation characteristic key to an individual's helping behavior is the clarity of the emergency. To interpret a situation as an emergency there needs to be a clear indication of negative consequences, such as harm or the threat of harm, to another person (Clark & Word, 1974; Shotland & Huston, 1979). When a situation is clearly an emergency, the bystander will perceive it as serious and this will in turn motivate a helping response. Victim characteristics refer to the qualities of the person in need of help, such as how likeable they are, how similar they are to the bystander, and the strength of relationship they have with the bystander (Dovidio et al., 2006). When a bystander has a strong relationship to the victim in need of help or perceives them in a positive way, the bystander will be more likely to provide them with assistance. Bystander characteristics also play a significant role in helping behavior during an emergency. Bystanders with more prosocial personalities, those with the self efficacy to engage in a helping behavior, and those willing to accept responsibility to do something during an emergency will be more likely to engage in a helping response during an emergency situation.

The degree to which an individual becomes emotionally aroused during an emergency is a product of the situation, victim, and bystander characteristics (Dovidio et al., 2006). The more emotionally aroused the bystander gets, the more likely she is to help. Although the level of arousal is important, according to the ACRM, it does not

directly lead to a helping response. The bystander must weigh the costs and benefits of her response against what she know about the victim and situation. The costs of helping during an emergency include effort and time, distress, risk of injury, and social disapproval (Dovidio et al., 2006; Penner, Dovidio, Piliavin, & Schroeder, 2005). According to this theory, only when costs are low will a bystander engage in a helping behavior even when she perceives the situation to be an emergency, the victim is perceived positively, and the personality of the bystander is amenable to helping. Costs associated with helping are, therefore, hypothesized to explain the relation between situational, victim, and bystander characteristics and helping behavior during an emergency (Dovidio, Piliavin, Gaertner, Schroeder, & Clark, 1991).

Experimental studies conducted among college students support the link between situation characteristics and helping behavior towards a suicidal peer (Dunham, 2004; Kalafat et al., 1993). In these studies, high school and college students were shown hypothetical vignettes presenting different scenarios in which a peer disclosed that they were suicidal. Aspects of the disclosure were manipulated to determine how situation characteristics impacted intention to engage in helping behavior towards the suicidal peer. For example, when the disclosure was unambiguous (e.g., the peer says directly that she intends to kill herself), students were more likely to intend to tell an adult about the suicidal peer. When the disclosure was ambiguous (e.g., the peer presents warning signs of suicide without direct verbalization), college students were more likely to provide social support or use distraction strategies (Dunham, 2004), whereas high school students were equally likely to tell an adult, counsel the peer themselves, or do nothing (Kalafat et al., 1993).

Other experimental studies also have found that bystander characteristics of gender, level of empathy, knowledge, and personal history with suicide also predict different types of helping behaviors towards suicidal peers (Barton, Hirsch, & Lovejoy, 2013; Cerel et al., 2013; Dunham, 2004; Kalafat et al., 1993; Mueller & Waas, 2002). For example, associations have been found between (1) higher levels of empathy and increased intention to assist a suicidal peer (Mueller & Waas, 2002), (2) greater knowledge of campus resources and higher self-efficacy to assist a suicidal peer (Cerel et al., 2013), (3) and personal history with suicide is associated with greater intention to provide emotional support to a suicidal peer rather than inform an authority figure (Dunham, 2004).

The purpose of the present study was to expand upon this experimental work by explicitly testing the propositions outlined in the ACRM. The results of this study will provide insight into the utility of this model to drive further research and understanding of college students' helping behavior towards suicidal peers. Furthermore, findings will provide much needed information that can be used to improve current peer-education/gatekeeper programs. To accomplish the overall objective of this study the following three hypotheses were tested (Figure 1): (1) perceived costs will mediate the association between situation characteristic and intention to seek advice; (2) perceived costs will mediate the association between bystander characteristic and intention to seek advice; (3) perceived costs will mediate the association between victim characteristic and intention to seek advice.

Methods

Participants

Between January and August 2013 a total of 461 undergraduate students from a private 4-year university in the southeastern United States were recruited to participate in an online survey. Random and non-random sampling strategies were used to recruit student participants. Invitations were emailed to a randomly-selected sample of students; survey information was posted to virtual and physical bulletin boards; and flyers with survey information were distributed at a central campus location. Multiple sampling strategies were used due to the difficulties recruiting participants in this population. To participate in the survey, students had to meet the following eligibility criteria: (1) full-time undergraduate status at the university, (2) 18 years of age or older, and (3) no current suicidal ideation. Participants were compensated for their participation by being entered into a lottery to win one of ten $50 gift cards. All study procedures were approved by the university's Institutional Review Board.

Conditions and Measures

Students interested in the survey entered an online portal where they were then assigned randomly to one of two survey conditions. Each survey condition contained a different vignette, one presented a hypothetical peer with ambiguous disclosure of suicidal ideation (e.g., peer has behavioral symptoms), and the other presented a peer with an unambiguous disclosure (e.g., peer directly discloses thoughts of suicides) (Table 3.1). The vignettes were modified from those previously used among high school and college students (Dunham, 2004; Kalafat et al., 1993; Schwartz, 2006). The vignettes were modified to make them applicable to the culture of the participating university, additional non-verbal indicators of mental distress or suicidal thoughts were included, and one vignette was modified so that the disclosure occurred over social media rather

than through a class assignment. Each construct of the ACRM, except emotional arousal, was measured using the following scales:

Demographic factors. Six items assessed demographic characteristics including gender, age, year in school, race/ethnicity, childhood family income, participation in extracurricular activities, and previous experience with suicide. These demographic factors also served as aspects of the bystander, or bystander characteristics.

Behavioral intention. The three items used to measure behavioral intention were modeled from the Bystander Attitudes Scale (Banyard, 2008; Banyard, Plante, & Moynihan, 2005). The Bystander Attitudes Scale was developed to be use in experimental studies exploring prosocial behaviors in rape prevention. The structure of the original scale was retained, specifically the scale asked about likelihood to engage in a variety of helping behaviors in response to the vignette presenting a sexual assault. The helping behaviors for the current study were designed to be appropriate for supporting a hypothetical, suicidal peer. The items asked students about the likelihood to seek advice about the suicidal peer in the vignette from three helping sources (professor, resident advisor, and clinician at counseling center) on a 5-point Likert scale (1 = *very unlikely* and 5 = *very likely*). These three items were averaged to create a unidimensional Behavioral Intention score that was shown to have acceptable internal consistency (Nunnally & Bernstein, 1994) (Cronbach's $\alpha = .62$) and the scale was unidimensional.

Situational characteristic (Perceived severity). Perceived severity was used to measure the construct of situation characteristics. Perceived severity was assessed with two items that asked: (1) how life-threatening the vignette is on a 10-point scale (1 = *not at all life-threatening* and 10 = *extremely life-threatening*) and (2) how much does the

person in the vignette need help on a 10-point scale (1 = *doesn't need any help* and 10 = *needs help immediately*). These items were modeled from those used in a study with a similar experimental design that asked students to rate how much a person in a vignette presenting a potential sexual assault needed their help (Banyard et al., 2005). For the current study we used this same question about how much the individual needs help while also adding a follow up to assess the perceived level of seriousness of the vignette. These two items were averaged to create a unidimensional Perceived Severity score, with a higher score indicative of higher perceived severity. This scale had acceptable internal consistency using criterion for interpreting Cronbach alpha scores (Nunnally & Bernstein, 1994), with this scale found to have a Spearman-Brown statistic of .75. The Spearman-Brown statistic was used as it is a more appropriate measure of internal consistency than Cronbach's alpha for two-item scales (Eisinga, Grotenhuis, & Pelzer, 2012).

Bystander characteristic (Emotional prosocial personality). Emotional prosocial personality was used to measure the construct of bystander characteristics. Prosocial personality of the student was assessed using the emotional subscale of the 23-item Prosocial Tendencies Measure (Carlo & Randall, 2002). This subscale was used because it measures helping behavior towards other people in emotionally arousing situations. The subscale included four items that asked about tendency to help others who are distressed or tendency to help when situations were highly emotional on a 5-point Likert scale (1 = *does not describe me at all* and 5 = *describes me greatly*). The items were averaged to create a unidimensional Emotional Prosocial Personality score, with higher scores indicating higher levels of emotional prosocial personality. The scale

demonstrated acceptable internal consistency (Cronbach's α = .79) (Nunnally & Bernstein, 1994).

Victim characteristic (Victim perception). Participant perception of the peer disclosing suicidal ideation in the vignette was used to measure the construct of victim characteristics. Victim perception was measured using two items modified from the Stigma of Suicide Scale (Yakunina, Rogers, Waehler, & Werth, 2010). The Stigma of Suicide Scale is a seven-item scale developed to evaluate general attitudes about suicidal people in general. The phrasing of two of the items was modified for use in this study to ask about stigmatizing attitudes towards the suicidal peer presented in the vignette. These items asked participants on a 5-point Likert scale (1 = *strongly disagree* and 5 = *strongly agree*) if they believed (1) the peers' behavior to be a sign of personal weakness, and (2) the peer's behavior was morally wrong. The two items were averaged to create a Victim Perception score, with higher scores indicating less favorable perceptions of the peer in the vignette. This unidimensional scale had low internal consistency (Spearman-Brown statistic of .56) based on criterion for interpreting Cronbach alpha scores (Nunnally & Bernstein, 1994). However, as this was an early exploratory study and the scale contained few items, this Spearman-Brown statistic was acceptable for use in this study.

Perceived costs. Perceived costs of helping were assessed using seven items from the Decisional Balance Scale (Banyard et al., 2005; Banyard, Moynihan, & Plante, 2007). These items ask participants how important, on a 5-point Likert-scale (1 = *not at all important* and 5 = *extremely important*), a series of negative consequences of intervening would be to their decision to help the suicidal peer depicted in each vignette. These items assessed student perception that they could get hurt if they intervened, that they could get

into trouble, that they could feel embarrassed for intervening, or they could make the situation worse. The seven items were averaged to create a unidimenstional Perceived Costs score with higher scores indicating more costs associated with helping. This scale demonstrated adequate internal consistency (Cronbach's α =.76) (Nunnally & Bernstein, 1994).

Data Analysis

Univariate analyses were conducted to explore the characteristics of the sample, and bivariate analyses were performed to determine if behavioral intention differed by demographic factors. Demographic factors found to be significantly associated with behavioral intention were used as control variables in the regression and mediation models conducted. Mediation analyses with three predictor variables and three control variables were conducted with the PROCESS macro in IBM SPSS Statistics 21.0(IBM Corp, 2012) using the strategy outlined by Andrew Hayes (2013). Specifically, ordinary least squares regression models were constructed to test the study hypotheses, with an individual model run for each pathway diagramed in Figure 3.1. Prior to conducting these models, all assumptions of OLS regression were checked. To determine if perceived costs mediated the relationship between the predictor and outcome variables of interest, a bias-corrected bootstrap confidence interval using 10,000 bootstrap estimates (with replacement) was calculated (Hayes, 2013). These 10,000 indirect effect estimates were then sorted from lowest to highest and a 95% confidence interval was calculated to determine if the indirect effect did not include zero. For all analyses, a p-value <0.05 was considered significant.

Results

The majority of students who completed the survey self-identified as women (68.9%, $n = 317$) and the proportion of women participating in the survey was significantly larger than the proportion enrolled in the participating institution (56% women at university vs. 68.9% women in study; $\chi^2 (1, N = 459) = 116.93$, $p < 0.001$). The average age of participants in the study was 20 years old ($SD = 1.19$; *Range* = 18-24). Most participants were juniors or seniors (63.4%, $n = 290$), self-identified as racial/ethnic minorities (60.4%, $n = 275$), participated in extracurricular activities (74.0%, $n = 338$), endorsed having a religious affiliation (60.1%, $n = 274$), and reported having an annual household income until age 16 of over $75,000 (62.9%, $n = 280$). More than a third (36.0%, $n = 166$) of respondents had a family member or friend express suicidal thoughts to them in the past, 21.0% ($n = 97$) had a family member or friend die by suicide, and 23.0% ($n = 105$) had seriously considered attempting suicide at some point in their life, but not presently.

Independent sample t-tests revealed that year in school and being a racial/ethnic minority were significantly associated with behavioral intention. Ethnic minority students had significantly higher intention to seek advice ($M=2.93$, $SD=.91$) than White students ($M=2.62$, $SD=.94$, $t(453)=-3.45$, $p<.001$); lower classmen also had significantly higher intention to seek advice ($M=2.98$, $SD=.96$) than upper classmen ($M= 2.71$, $SD=.90$, $t(455)= 2.94$, $p< .001$). Level of ambiguity was also found to be significantly associated with behavioral intention, with participants more likely to intend to seek advice in the low ambiguity ($M=3.06$, $SD=.88$) than the high ambiguity vignette ($M=2.55$, $SD=.92$,

t(459) = 6.08, p<. 001). Therefore, in all mediation models, level of ambiguity, race/ethnicity, and year in school were included as covariates.

A correlation matrix was constructed to determine the level of association between variables to be included in the final mediation models. Perceived severity, emotional prosocial personality, and victim perception all were found to have a significant positive association with behavioral intention, however perceived costs was not found to have a significant relationship with intention to seek advice about the suicidal peer (Table 3.2). Perceived costs, however, was found to have a significant negative association with perceived severity, and emotional prosocial personality and a significant positive correlation with victim perception. Overall, participants had a low level of intention to seek advice about the suicidal peer, had low perceived costs associated with helping the suicidal peer, low level of negative perceptions of the suicidal peer, and had moderate levels of emotional prosocial personality (Table 3.2).

To test the three study hypotheses, three mediation models were constructed with three predictor variables and three control variables included (Figure 3.1). These control variables included ambiguity of vignette, racial/ethnic status, and year in school. The mediating role of perceived costs between each predictor variable and behavioral intention was then evaluated individually. Perceived costs had a significant indirect effect on the relationship between perceived severity and behavioral intention (ab=-.0085, SE=.0050, 95% CI [-.0196, -.00003]). As perceived severity increased, the perceived costs of helping the suicidal peer decreased, and as the level of perceived cost increased the intention to help the suicidal peer increased by .135 units. In addition to a significant indirect effect, a significant direct effect (c'=.1312, SE=.0256, p<.005) was found

between perceived severity and behavioral intention when controlling for the other predictor and control variables. The total effect of perceived severity on behavioral intention was also significant (c=.1227, SE=.0260, p<.005).

Perceived costs were not found to mediate the relationship between emotional prosocial personality and behavioral intention (ab=-.0102, SE=.0070, 95% CI [-.0262, .0005]). A significantly positive direct effect of emotional prosocial personality on behavioral intention, when controlling for the other predictors and control variables was, however, found (c'=.1243, SE=.0475, p=.009) as well as a significant total effect of emotional prosocial personality on behavioral intention (c=.1141, SE=.0473, p=.0161).

Finally, the relationship between victim perception and behavioral intention was not explained by perceived costs (ab=.0098, SE=.0073, 95% CI [-.0006, .0276]), and no total effect (c=.0338, SE=.0464, p=.4667) or direct effect seen between victim perception and behavioral intention was found (c'=.0240, SE=.0469, p=.61) (Figure 3.1). Perceptions of the victim did have a significant positive association with perceived costs, meaning more negative perceptions of the suicidal peer in the vignette was associated with higher levels of perceived costs associated with helping (when controlling for all other variables).

Overall, the model including three significant predictors (perceived severity, emotional prosocial personality, perceived costs) one nonsignificant predictor (victim perception) and three significant control variables (ambiguity, race/ethnicity, year in school) was significant (F(447)=16.81, p<.001), with the predictors and control variables only explaining 18.8% of the variability in behavioral intention (Table 3.3).

Discussion

This the first study to test the utility of a theoretical model, in this case ACRM, for explaining how college students intend to help a suicidal peer. The aim of this research was to further our understanding of college students' helping behavior toward suicidal peers with the goal of incorporating these findings to improve current peer education programs provided to college students, such as suicide prevention gatekeeper training. This work is timely and important as little is currently known about how college students perceive a peer who discloses suicidal ideation or the factors that predict intention to provide assistance to a suicidal peer. Study results provide critical insight into strategies and techniques that peer education programs may want to utilize to ensure that their trainings are salient to perceptions and helping behaviors of college students towards suicidal peers.

Mediation analyses supported hypothesis one of this study, with perceived costs mediating the relationship between perceived severity of the suicide disclosure and intention to seek advice when controlling for ambiguity, race/ethnicity, year in school and the two other predictors (emotional prosocial personality and victim perception). This means that perceived severity exerts its influence on behavioral intention through its relation to the perceived costs of helping. This provides support for one of the propositions of the ACRM; that perceived costs explain the relationship between situational characteristics and behavior. This support is limited, however, as the indirect effect was small and the upper level confidence interval was extremely close to zero. Replication studies are needed to ensure that these findings can be repeated.

In addition to the indirect effect, perceived severity also was found to have a direct effect on intention to seek advice about a suicidal peer. Although other studies have found that characteristics of the suicidal peer influence perceived severity, this is one of the first to demonstrate the direct relationship between the perceived severity of the suicide disclosure and intention to help a hypothetical peer in crisis. This result has important implications for suicide prevention efforts on college campuses. The behavior and characteristics of the suicidal peer shape how severe college students perceive the suicide situation to be, and students may not perceive certain peer behaviors, such as those indicating general mental health distress, as severe enough to warrant their intervention (Lang & Lovejoy, 1997; Mueller & Waas, 2002). Therefore it is critical that college campuses educate students about characteristics of general mental distress, and about verbal and non-verbal warning signs of suicide. Programs must also encourage students to seek advice about a peer even when the situation is not perceived as severe or dangerous. Future research should identify strategies to facilitate a shift in college students' perspective to one where all warning signs for mental distress and/or suicidal ideation are taken seriously and perceived as severe, and as indicators of a possible mental health emergency.

Hypotheses two and three were not supported; as perceived costs were not found to mediate the link between emotional prosocial personality and intention to seek advice or the linkage between victim perception and intention to tell someone about the suicidal peer. Furthermore, victim perception was not found to have any direct effect on behavioral intention, while emotional prosocial personality was found to have a direct effect on behavioral intention. Together, these results demonstrate that the ACRM

propositions linking bystander and victim characteristics to behavior, through perceived cost of helping, is not seen among college students responding to hypothetical suicidal peers.

Although these results do not support the propositions of the ACRM, they should not discourage further exploration of the role victim and bystander characteristics may have on college student intention to help a suicidal peer. With regard to victim perception, measurement error may explain the lack of any relationship seen between this variable and behavioral intention, either directly or indirectly through perceived costs. The scale measuring this construct was made up of two items and it had relatively poor internal consistency. Therefore victim perceptions may not have been accurately measured. Furthermore, one of the items asked about the student's perception of the act of suicide rather than perceptions of the peer themself. Replicating this analysis with a more robust measure of victim perception may demonstrate alternative results. Also, only victim characteristic and only one type of bystander personality were evaluated in this study. There are multiple aspects of the victim and the bystander that have been identified as influencing helping behavior (Dovidio et al., 2006). These include bystander characteristics such as other types of prosocial personality, empathy, and self-efficacy (Dovidio et al., 2006; Penner et al., 2005); and victim characteristics such as quality of relationship, attraction and similarity (Dovidio et al., 2006). Future research should determine if perceived costs mediate the relationships between these variables and behavioral intention to more fully test the utility of the ACRM to understand college student behavioral intention towards a suicidal peer.

The predictor (perceived severity and emotional prosocial personality) and control (ambiguity, year in school, and race/ethnicity) variables that remained significant in the overall model explained only a small proportion of the variation in behavioral intention. As stated previously, only a limited number of characteristics of the bystander, situation, and victim were included in these analyses, which could explain the overall low predictive power of the model. This finding is reinforced by the fact that all three pathways remained significant in the mediation model testing hypothesis one. All three pathways remaining significant in this mediation analysis suggests that there are other variables that operate in parallel to, or in sequence with, perceived costs to explain the relationship between perceived severity and behavioral intention. Therefore future studies should aim to include multiple characteristics of the situation, bystander and victim simultaneously to determine their ability to predict intention to help a suicidal peer. Moreover, it may be useful to integrate elements of the ACRM with other theoretical frameworks to gain a more complete picture of helping behavior towards a suicidal peer and explain more of the variation in behavioral intention. This could include adding constructs from behavioral models such as the Theory of Planned Behavior and the Health Belief Model with those of the ACRM. For example, the construct of subjective norms, knowledge, beliefs, and cues to action (Ajzen, 1991; Becker, 1984) could be evaluated as potential moderators of the direct effect of perceived severity and intention to seek advice about suicidal peers. By identifying moderators of the relationship between perceived severity and intention to seek advice about the suicidal peer, these factors could be targeted in future intervention to improve advice seeking by college students even when perception of severity is low. Furthermore, the utility of the ACRM

should be contrasted with other prosocial models, such as Batson's three motivational pathways to helping, Latané and Darley's decision model, or the Volunteer Process Model (Dovidio et al., 2006). It may be that these models, alone or in conjunction with the ACRM, will have more predictive power to explain helping behavior towards suicidal peers than just the ACRM.

Across all three mediation models conducted in this study, the relation between perceived costs and behavioral intention was different than what was predicted by the ACRM, with higher rather than lower perceived costs associated with greater intention to seek advice about the suicidal peer. There are several possible explanations for this finding. First, when an emergency situation involves suicide ideation, either through direct disclosure or through behavioral warning signs, perceived costs could operate differently than in other types of emergency situations, such as helping a victim of a bike accident. The costs measured in this study included, but were not limited to, risk of getting into trouble, of overreacting, or of peer getting mad at them for intervening. When these types of costs are high, seeking advice from an authority figure (like a resident advisor, counselor, or professor) might be seen as a low-risk helping behavior to engage in. Moreover, students participating in this study had previous experience suicide, either directly or interpersonally, and this could have influenced their perceptions of costs. These students may have been more able to accurately assess the costs of not engaging in a helping behavior, and this could potentially explain the positive association between costs and behavioral intention. Furthermore, previous experimental studies have found that students and young adults are unlikely to ignore a suicidal peer, and believe that ignoring a depressed and/or suicidal peer is unhelpful (Kalafat et al., 1993; Mishara,

1982; Yap, Reavley, & Jorm, 2012; Yap, Wright, & Jorm, 2011). Therefore when costs associated with helping a peer are high it may be unlikely that college students would do nothing in response, and seeking advice may be an acceptable alternative to doing nothing. As this is the first application of the ACRM to understand helping behavior during suicide emergencies, the relationship between perceived costs and behavioral intention might indeed be different than predicted by the theoretical literature.

A second explanation is that there are likely additional mediators that indirectly affect the relationship between situation characteristics and behavioral intention. Additional variables also may indirectly affect the link between perceived costs and behavioral intention. These additional explanatory factors may operate in parallel or in conjunction with perceived costs and could provide insight into the positive association found in this study between perceived costs and behavioral intention. Finally, intention to seek advice was the outcome of interest in this study, which may have influenced these results. The sign of the relationship between perceived costs and behavioral intention may be found to be negative, as predicted by the ACRM, when looking at intention to engage in direct one-on-one helping behaviors such as providing emotional or informational support, but positive for going to someone else as an alternative to direct behavior. Future studies should replicate this experimental work using different behavioral outcomes and other potential mediating variables to further explore the mediating role of perceived costs and its association with behavioral intention.

Bystander characteristics of emotional prosocial personality, race/ethnicity, and year in school were significant predictors of intention to seek advice about a suicidal peer. These results add to other bystander characteristics that have been found to be

associated with helping behavior, such as level of empathy, gender, and personal experience with suicide (Barton et al., 2013; Dunham, 2004; Kalafat et al., 1993; Mueller & Waas, 2002). Students in their third and fourth year of school may have been more knowledgeable about resources on campus, which has been found to be associated with response towards hypothetically suicidal peers (Cerel et al., 2013), however it is less clear why racial/ethnic minority students were more likely to seek advice than their white peers. Overall, the significant association between the aforementioned bystander characteristics and intention to seek advice suggest that certain populations of college students may be more inclined to act prosocially towards suicidal peers than other students, and further research is needed to identify additional bystander characteristics that predict intention to engage in helping behavior. By identifying characteristics of more prosocial students, these students can be targeted with suicide prevention trainings, as they may be more likely than other students to actually utilize training information and provide informational and emotional support to suicidal students. Future work should also focus on understanding why certain groups are less likely to help suicidal peers and to identify specific intervention approaches that may prompt these populations to act more prosocially when faced with a peer in crisis.

There are several limitations to this experimental study. First, intention to help a suicidal peer was the outcome measure used in this study, rather than actual helping behavior engaged in. Behavioral intention is not part of the ACRM, however it is a construct in the Theory of Planned Behavior and is commonly used in the field of public health when measurement of actual behavior is difficult (Armitage & Conner, 2001). Measuring behavioral intention is imperfect, with intention to engage in a behavior found

to explain only 28% of the variance in actual behavior (on average). Therefore it is unclear if students in this study who intended to seek advice about a hypothetical suicidal peer really would seek advice in a real situation. Future research should continue this line of research by conducting retrospective qualitative and quantitative studies with college students who have helped suicidal peers in the past. This will provide insight into whether the propositions of the ACRM are consistent with what happens in a real-life suicide disclosure scenario. Second, random and nonrandom sampling strategies were used in this study, and as a result, our findings are not generalizable to all students at the participating university, and are unlikely to be generalizable to students at other institutions. Random sampling should be used in future studies to further explore the generalizability of this study's results in more representative samples. Finally, only intention to seek advice about a suicidal peer was measured. The relation between situation, bystander, and victim characteristics and perceived costs may have been different when looking at intention to engage in other types of behaviors (such as providing emotional or informational support). Therefore, replication studies should be conducted to test the propositions of the ACRM given different behavioral intentions. Research also should be conducted at different universities, where the culture of the institution and the composition of the student body may have an underlying influence on how willing students are to engage in certain types of behaviors towards suicidal peers.

The findings of this present study can serve as a starting point for researchers to continue evaluating the applicability of the ACRM to understand college student helping behavior towards suicidal peers. This study provides further evidence of the influence situational characteristics and bystander characteristics have on intention to help a

suicidal peer and sheds light on the possible role perceived costs have in determining how college students perceive and intend to help peers in crisis. Prevention efforts on campus must recognize that interfacing with and helping a suicidal peer is a complex behavior that is influenced by factors operating at multiple levels. Peer education programs, such as gatekeeper training, should include full discussions about the types of situational factors that may influence perceptions and beliefs about a suicidal peer. Future work should continue to use the ACRM alone, as well as hybridized with other theoretical frameworks, to guide further research about the processes involved in college students' prosocial behavior towards suicidal peers.

Chapter 3 References

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Table 3.1 Hypothetical vignettes of peers disclosing suicidal ideation with different levels of ambiguity.

Condition A: High ambiguity Your friend Ellen has been keeping to herself lately. You know she has trouble back at home—her parents are getting divorced and she's now not sure who she will be living with for the summer, or if there will be enough money for her to continue on at [the study university]. It is Friday, and you ask her to go to a party with you, but she refuses to go. Later that day in the sociology class the two of you are taking, the instructor is reading samples of student essays. She does not identify the writer, but one of them is entitled "(Final) Family Decisions" and describes a very important decision that is about to be made by the writer's parents that will involve whether she will change colleges and whether she will even be able to continue going to college. The writer says that she may not go along with her parents' decision and may make one of her own that will make it easier for everyone. You believe that your friend wrote this essay and that you are the only one who knows what she is writing about.
Condition B: Low ambiguity Your friend Allie has seemed troubled lately and has begun to keep more and more to herself. She and her partner just broke up and she has been posting a lot of sad poems and songs on Facebook. One day you go to see her, and she tells you that she would like to talk about something, but you must promise to keep it a secret. You value your friendship with her so you agree not to tell anyone what she has to say. She tells you that she and everyone else would be better off if she were not around. Then she says, "Sometimes I think I might as well kill myself." She goes on to say, "If something should happen this weekend, you can have my Nook since I know you have been wanting one." She then reminds you of your promise not to tell anyone what she has said. You are the only person she trusts, she says, and if you tell, she will never forgive you.

Table 3.2 Correlation matrix of measures included in this study across both survey conditions.

	1	2	3	4	Mean	SD
1. Behavioral Intention	–				2.80	0.94
2. Perceived Severity	.346**	–			7.93	1.84
3. Emotional Prosocial Personality	.161**	.124**	–		3.41	0.91
4. Victim Perception	.116*	.144**	-.120*	–	2.12	0.99
5. Perceived Costs	.027	-.221**	-.123**	.106*	2.61	0.65

*p<.05 **p<.005

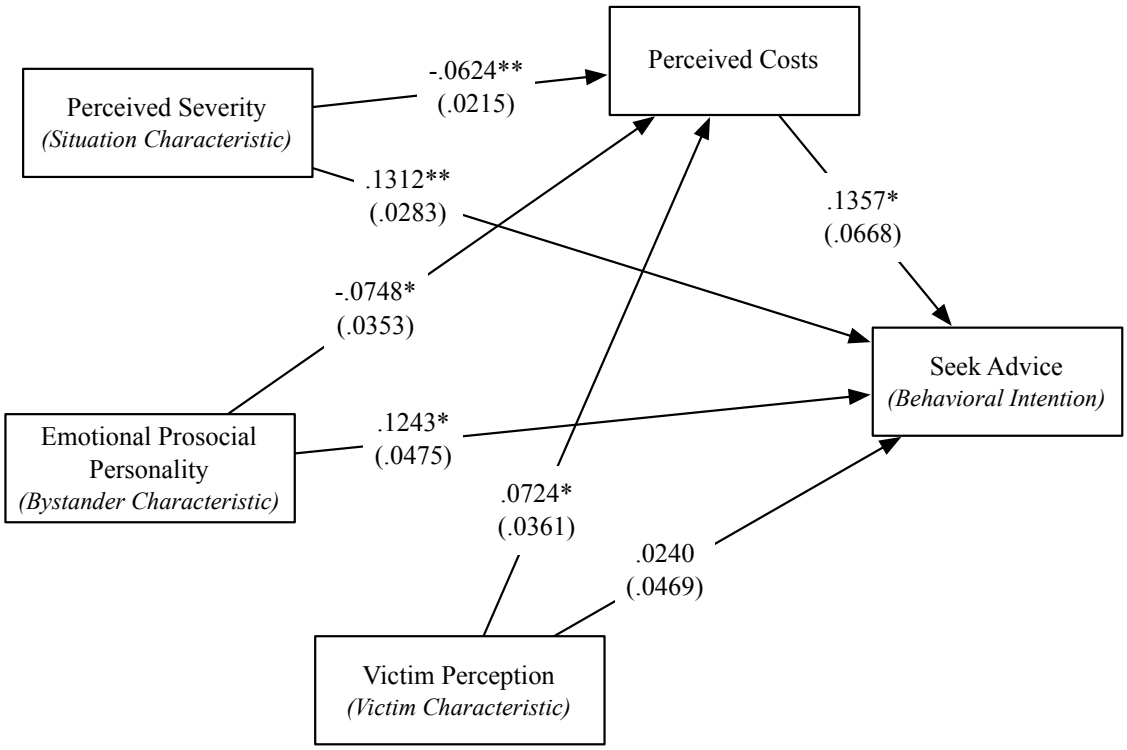

Figure 3.1 Path analyses of perceived costs mediating the relationship between perceived severity, emotional prosocial personality, victim perception and behavioral intention. Unstandardized regression coefficients are presented on each pathway with standard errors in parentheses. Ambiguity, year in school, and race/ethnicity, are included as control variables in all three models conducted. *p<.05 **p<.005

Table 3.3 Results from the overall regression model estimating intention to seek advice about a suicidal peer. Coding for the dummy control variables are: Ambiguity of the vignette (0=low, 1=high), race/ethnicity (0=white, 1=minority), and year in school (0=lower classmen, 1=upper classmen).

					95% Confidence Interval	
$F(447)= 16.81$, $p<.001$ $R^2 =.188$	β	SE	t	p	Lower	Upper
Intercept	1.07	.35	3.08	.002	.39	1.75
Perceived Severity	.13	.03	5.13	<.001	.08	.18
Emotional Prosocial Personality	.12	.05	2.62	.009	.03	.22
Victim Perception	.02	.05	.51	.61	-.07	.12
Perceived Costs	.14	.07	2.03	.043	.00	.27
Ambiguity	-.24	.10	-2.36	.019	-.44	-.04
Race/Ethnicity	.25	.09	2.90	.004	.08	.42
Year in school	-.23	.09	-2.60	.01	-.40	-.06

Chapter 4: A grounded theory of college experience with suicidal peers: Shifting to a caregiving perspective

Abstract

Peers of suicidal college students may be important to suicide prevention efforts on college campuses. Students are being targeted with peer education programs so that they learn how to recognize if a peer is suicidal and how to provide appropriate referral and/or support. These programs have been developed with an incomplete understanding of how college students experience and respond to suicidal peers. The purpose of this study was to overcome this gap in the literature and explore the lived experience of college students who had previously interacted with a suicidal peer. In-depth interviews were conducted with 20 college students that had had first-hand experience with a suicidal peer in the past five years. Grounded theory methods guided study design and analysis. The grounded theory that was developed from these interview data suggests that college students assume a caregiving role to suicidal peers, provide extended, rather than one-time, support. Multiple characteristics of the caregiving students, the suicidal peers, and the broader context shape the responses of the caregiver. Peer responses include emotions, coping, and behaviors towards the suicidal peer. All responses had a variety of outcomes for both the student providing support and for the suicidal peer. Overall, providing support to a suicidal peer was cyclical and dynamic, with aspects of the experience changing across time. The results of this study suggest that there is a need to conceptualize college students helping suicidal peers as "caregivers" and to ensure that theoretical models for research and prevention address the caregiving experience.

Introduction

The mental health of college students has become a growing concern as there is mounting evidence that the number of young adults with mental health problems attending college is increasing (Benton, Robertson, Tseng, Netwon, & Benton, 2003; Gallagher, 2013). Directors of college counseling centers describe that students are presenting to campus counseling centers with increasingly complex mental health complaints (Benton et al., 2003), with between 33% and 59% of counseling center clients reported as having severe problems (Gallagher, 2013). Like mental health problems, college counseling center directors report that between 1996 and 2001 suicidal behaviors among students seek help from on campus counselors has also become increasingly common (Benton et al., 2003). It is estimated that 1100 college students die by suicide each year in the United States (Wilcox et al., 2010), with 4.3% of college student reporting seriously considering suicide and 0.8% making a suicide attempt in the past 12-months (American College Health Association, 2012). As there are approximately 20 million individuals enrolled in American colleges and universities (U.S. Census Bureau, 2011), suicidal behavior in this population represents a significant public health concern.

Given the scope of the problem of mental health and suicide among college students, there has been a call for college campuses to reconceptualize their approach to mental health promotion and suicide prevention efforts (Drum, Brownson, Burton Denmark, & Smith, 2009; Suicide Prevention Research Center, 2004). Specifically, relying on a prevention strategy that is focused on one-on-one interventions, such as the provision of psychotherapy, may be unrealistic as suicidal college students have low levels of service utilization. Furthermore, this approach does not prevent students from

reaching the point where they are considering suicide, and it puts the burden of help seeking on the shoulders of the student in distress (Drum et al., 2009).

One reconceptualized approach to campus based suicide prevention is the utilization of peer education programming, such as gatekeeper training (Goldston et al., 2010; Suicide Prevention Research Center, 2004). Gatekeeper training focuses on educating non-professional groups such as students, staff, and faculty about the warning signs for suicide so that they can identify students in distress and have the capacity to provide the student with support and information about where to get treatment (Isaac et al., 2009). The logic underlying gatekeeper training is that those close to the suicidal individual may be the first to recognize deteriorating mental health and that those in distress may prefer to talk about their problems with people they already have a relationship with (Lipson, Speer, Brunwasser, Hahn, & Eisenberg, 2014).

Current college gatekeeper programs have been developed with an incomplete understanding of the baseline experience college students have with a suicidal peer. Only two studies have directly asked college students what they have done about when a peer disclosed to them that they were suicidal (Garcia-Williams & McGee, 2014; Mishara, 1982). College students have reported providing suicidal peers with social support (informational, emotional, crisis), telling someone about the suicidal peer, pushing the peer away, joking with them, or ignoring the disclosure (Garcia-Williams & McGee, 2014; Mishara, 1982), with the helping response often depending on the context of the situation (Garcia-Williams & McGee, 2014). Although both studies have provided much needed insight into how college students respond to suicide disclosure events, much more theoretically driven research is needed.

Existing theories in the social psychology of prosocial behavior may be useful to guide research to understand college students' experience with suicidal peers. Prosocial behaviors are actions that individuals engage in that are considered to be helpful or beneficial by others and by the broader community (Penner, Dovidio, Piliavin, & Schroeder, 2005), with what is considered helpful shaped by culture and context (Dovidio, Piliavin, Schroeder, & Penner, 2006). Theories of prosocial behavior have been developed to help understand why individuals help another person (or persons) in a variety of circumstances, ranging from volunteerism to medical emergencies. The Arousal: Cost/Reward Model (ACRM) is a popular prosocial behavior and it may be particularly appropriate for understanding college student prosocial helping behavior towards suicidal peers. The ACRM posits that helping behavior is tied to an individual's level of emotional arousal when faced with a crisis (Dovidio et al., 2006). There is evidence to suggest that those who have had a peer die by suicide experience a variety of strong emotions (Mishara, 1982), and the same may be true for those interacting with a peer with other types of suicidal behavior, such as ideation. The ACRM framework is composed of six broad constructs, or domains: situational, bystander, and victim characteristics, emotional arousal, perceived costs and rewards of helping, and helping response (Dovidio et al., 2006). According to the model, characteristics of the situation, bystander, and victim influence the amount of emotional arousal the potential helper experiences. These characteristics also shape how the helper weighs the potential costs and benefits of helping, with a lower cost-to-benefit ratio resulting in increased likelihood of helping behavior. Therefore the helper will engage in a behavior that will put an end to

the situation causing them distress, while at the same time minimizing potential costs to their physical and mental wellbeing.

Although the ACRM has not been comprehensively applied to understanding how college students experience suicidal peers, there is some experimental evidence supporting its possible applicability. Specifically, situational characteristics and bystander characteristics have been found to be associated with certain types of helping behavior towards hypothetical suicidal peers among high school and college students (Barton, Hirsch, & Lovejoy, 2013; Cerel, Bolin, & Moore, 2013; Dunham, 2004; Kalafat, Elias, & Gara, 1993; Mueller & Waas, 2002). Therefore, using the ACRM may be a good initial orientation from which to frame an examination of college students' experiences with suicidal peers. As research focused on college student and young adult response to suicidal peers has been largely atheoretical, using an explicit orientation to guide this research is a novel approach that may be helpful for future development and adaptation of health education programs.

The purpose of this study was to use grounded theory methods to gain deep understanding of how college students experience a suicidal peer, and to distill these descriptive narratives into a cohesive theory that could be used by clinicians and researchers to directly inform the development and modification of suicide prevention efforts on college campuses (Glaser & Strauss, 1967; Urquihart, 2013). Grounded theory is an ideal technique to meet the objectives of this study because it is flexible (Charmaz, 2006), allows for the inductive development of a theory that is "grounded in the empirical world" (Patton, 2002, p. 125), and can be used to describe how individuals experience and interact with a particular phenomenon (Urquihart, 2013). Also, this technique

includes strategies to keep the researcher's previous training, perceptions, and expectations out of the analytic and interpretive process (Charmaz, 2006; Patton, 2002; Urquihart, 2013), ensuring that the prevailing perspectives about college student behavior towards suicidal peers do not bias the final theory developed.

This is the first study to use in-depth interviews and grounded theory methods to develop a theory of college students experience with suicidal peers, and the results of this study provide insight into the complexities and challenges faced by college students who support suicidal people.

Methods

Participants. Undergraduate college students attending a 4-year private institution in the southeastern United States were invited to participate in one-on-one, in-depth interviews between January and April 2013. Inclusion criteria to participate in the interviews were: (1) being a full-time undergraduate student, (2) being 18 years of age or older, (3) having no current suicidal ideation, and (4) having prior experience with a suicidal peer in the past 5 years. Prior experience was defined as the college student having direct, one-on-one, personal experience with a peer who contemplated, attempted, or completed suicide. The prior experience had to be significant enough for the participant to give specific information about their peer's affect and motivation and details of their own behavior during the suicide crisis.

Recruitment. Passive strategies were used to recruit participants into this study, including posting flyers in a variety of physical and virtual settings. Those interested in participating contacted the first author who screened them by phone for eligibility. Students who met eligibility criteria were asked about details of the experience with the

suicidal peer and for various demographic characteristics (e.g., age, gender, year in school, race/ethnicity, relationship to suicidal person, type of suicidal behavior), which resulted in a pool of potential participants to sample from. Two sampling strategies were used to select participants from this pool. First, maximum variation sampling was used to select those with a diversity of experiences with suicidal peers and with variation by gender, year in school, and race/ethnicity (Patton, 2002). Theoretical sampling was used after conducting initial interviews to include additional participants based on concepts and themes that emerged over the course of the study (Charmaz, 2006; Urquihart, 2013). The first author discontinued sampling when the narratives provided in the interviews became similar and no new information was provided in the interviews (saturation). This was assessed by the PI reviewing the field notes and reflecting on the content of the interview in relation to the previous interviews.

Interviews. The first author conducted the one-on-one confidential interviews in a private room on the university's campus. The interviews were audio recorded and the interviewer took extensive field notes. Prior to the start of the interviews, participants provided informed consent and were compensated for their time with fifty dollars. At the conclusion of the interviews participants were provided with information about mental health, counseling, and suicide survivor resources at the university and in the community. A semi-structured interview guide informed by the six domains of the ACRM was used during the interviews. The ACRM was used to ensure that all potential aspects of the experience were discussed. The guide was semi-structured to allow the interviewer flexibility to discuss constructs and topics that were outside the ACRM domains. Furthermore, the interviewer reflected on each interview and reviewed her field notes

prior to subsequent interviews and used this information to inform additional probes or avenues for discussion.

Analytic approach. The audio recordings of the interviews were transcribed verbatim by a professional transcription service and all analyses were conducted in MAXQDA Version 11 (VERBI Software, 2013). Modified grounded theory techniques were used to analyze the interview data, incorporating elements of both Glasserian and Straussian strands of grounded theory methods (Urquihart, 2013). One notable modification was that the first author did not begin to comprehensively analyze the qualitative data until all interviews were complete, a deviation from the recommended "joint collection and analysis of data" (Glaser & Strauss, 1967, p. 67). Instead, the first author immersed herself into the transcripts at the end of data collection, first starting with focused reading and line-by-line open coding (Charmaz, 2006). In-vivo codes were applied to each line of text to keep the initial analyses close to the interview data (Charmaz, 2006; Glaser & Strauss, 1967), and the first stage of the constant comparative method was used, with the in-vivo codes evolving over time as they were applied across interviews (Glaser & Strauss, 1967).

Next, selective coding was used to abstract the original in-vivo codes into broader groups and categories (Glaser & Strauss, 1967; Urquihart, 2013). These selective codes served as the basis of a codebook that was given to a second coder to review and apply to a sample of the transcripts. As Glaser and Straus emphasized, the "constant comparative method is not designed (as methods of quantitative analysis are) to guarantee that two analysts working independently with the same data will achieve the same results" (Glaser & Strauss, 1967, p. 103); therefore intercoder reliability was not the aim of the second

coder reviewing the transcripts and codebook. Rather this was a means of providing the first author with an alternative perspective on the codes developed, and insight into themes or ideas missed or misinterpreted (Glaser & Strauss, 1967). Feedback provided by the second coder was incorporated into a second round of selective coding of all transcripts.

Finally, axial and theoretical coding were used to reassemble the selective codes into broader, but more focused, central categories, while identifying the interrelationships between these broad categories and their sub-categories (Charmaz, 2006; Urquihart, 2013). The constant comparison methods resulted in an iterative analytic process, with regular changes occurring over time to categories and categorical relationships. Therefore, the theory that emerged from these data is "developmental" and still evolving (Glaser & Strauss, 1967, p. 114).

Ethics: The university's institutional review board approved all aspects of this study.

Results

Demographic information provided during the screening process was used to describe the characteristics of the sample. A total of 20 students participated in the interviews, and for the remainder of this paper, the college students experiencing the suicidal peer will be referred to as the "helper." The majority of helpers self-identified as female, non-Hispanic White, and were in their first or second year (Table 4.1). Three participants had experience with multiple suicidal peers and provided details about each individual experience, therefore a total of 25 different stories were told across the 20 interviews. Over half of the experiences occurred during high school, while the rest

occurred during college or across both time points. The suicidal peers engaged in a variety of behaviors, including ideation, attempt, specific planning, completing suicide, and threatening suicide with means in hand. Most of the suicidal peers were male and were described as being either a close/best friend or a friend.

Introduction to the Theory

The analyses suggest that experiencing a suicidal peer is a dynamic, cyclical process that includes three broad phases (Figure 4.1). These phases are the foundation (Phase 1), the response (Phase 2), and the outcome (Phase 3). The foundation is the fundamental core of the experience with a suicidal peer and it is made up of the characteristics of the helper, the suicidal peer, and the context of the situation. The foundation is constantly evolving over time as the helper, suicidal peer, and contextual characteristics change. The composition of the characteristics that constitute the foundation of the experience directly influences (Figure 4.1, line a) the responses the helper engages in during Phase 2. Helpers engaged in three main responses (emotional, coping, behavioral) during Phase 2 and these responses could impact the foundation of the experience (Figure 4.1, line b), influencing characteristics of the helper, suicidal peer, and/or context. These responses also result in the variety of outcomes seen in Phase 3 (Figure 4.1, line c), with these outcomes also influencing the characteristics of the foundation of the experience (Figure 4.1, line d).

All three phases evolve and change over time, with the overall experience having an ambiguous endpoint as it cycles from foundation through outcomes. Across the interviews, helpers emphasized that providing support to the suicidal peer "…was a very long process," with the peer fluctuating between periods of acute suicidality to periods of

poor mental health and general distress, which could result in feeling "Like this isn't ever going to end." Even when the suicidal peer was no longer suicidal her underlying mental health problems often persisted, extending the helpers' involvement in the overall scenario. Furthermore, the specter that the peer would go back to being suicidal would linger, and this, too, would keep the helper involved and concerned, with one helper saying she was "always afraid that she would go back to that place."

The following sections contain limited descriptive detail about the categories and concepts of each phase, but provide concrete examples of how each phase influences one another and how the theory functions as a dynamic process. Case studies will be used to illustrate the three individual phases of the theory as well as the theory as a whole, dynamic, process.

Phase 1: Foundation

The foundation is the fundamental core of the experience and directly shapes the responses helpers engage in during Phase 2 (Figure 4.1, line a). The foundation includes three broad categories, which, themselves consist multiple concepts. The categories of the foundation are the characteristics of the helper, suicidal peer, and context. All three sets of characteristics are dynamic over time, and change as a result of the interaction with the suicidal peer and also as a result of external variables and helper responses.

Helper characteristics. This refers to aspects of the helpers that allowed them to conceptualize and understand the overall experience with their suicidal peer. Seven characteristics of the helper emerged from the interviews to be important to shaping the response and subsequent outcomes of the experience (Table 4.2). These characteristics were varied and included elements specific to the helper (e.g., personality, previous

experience, self-efficacy, knowledge), as well as properties of their interpersonal life (e.g., access to social support, relationship to suicidal peer).

Suicidal peer characteristics. These were the traits and behaviors of the suicidal peer that the helper perceived as being important to the response the helper had in Phase 2 (Table 4.2). These characteristics included aspects of the peer's symptoms, access to social support, personality and other characteristics. All four characteristics of the suicidal peer were from the helper's perspective; therefore they were subjective and to some degree shaped by aspects of the helper. For example, the suicidal peer's access to and relationship with sources of social support was shaped by how well the helper knew the suicidal peer and the level of closeness in their relationship.

Contextual characteristics. These were aspects of the situation and broader environment beyond the helper and the suicidal peer. Four main sub-categories emerged as relevant (Table 4.2), with some contextual factors being physical in nature (e.g., geography) and others being interpersonal (e.g., level of diffusion, first or second hand information, means of disclosure). As with the characteristics of the suicidal peer, the characteristics of the context were from the helper's perspective, therefore they were subjective to the helper. Of note, the role of the university's counseling center as a central contextual factor was not generally discussed.

Foundation example, Kristoff[1]. Kristoff detailed how characteristics of himself, his suicidal peer, and the context shaped the foundation of his experience with a suicidal friend. Kristoff described his relationship with his peer as "more than like just like on a

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[1] All names included in case studies are pseudonyms and case studies are individual experiences and/or composites of multiple experiences merged together.

surface like friendship. We're almost like brothers so we're almost like family in a way" and as a result of this closeness (helper characteristics), he could clearly see signs of deteriorating mental health. He described that his friend was "always like a clean-cut dude and like when he was going through that stuff he let his beard grow out, hair was [messy]." Over time, as the peer began to unravel even more, "it was just like, a storm hit, and he was just left desolate like in the middle of like the world like no hygiene type stuff, confused, severed relationships. He started to get like more argumentative" becoming "a walking zombie." The peer disclosed his suicidal plans and thoughts by calling Kristoff to say, "I can't do it," in reference to the stress of his life (contextual characteristic). Kristoff explained that the clarity of the disclosure informed his perception of the severity of the symptoms (suicidal peer characteristics), saying, "just from our conversation, it was just like you can hear all of the stress and like anguish and just being fed up with all the BS." Kristoff knew his friend had limited access to social support (suicidal peer characteristic), saying the he "was just like alone and he didn't have any outlet" and "… didn't have anybody to talk to." He went on to describe how his own previous experience (helper characteristic) with depression influenced his responses, saying, "I know I had to reach out to him, because if I didn't get the help I got when I got it I probably would have thought about going through with it [killing myself]." He recognized his limited self-efficacy (helper characteristic) because he couldn't, "be around him 24/7 so I can't stop him like make him put down a gun or pull him back from the platform where train tracks are" while at the same time, Kristoff knew he had the capacity to point his peer "in the direction that is like widely known across like the world for like dealing with situations of that nature like psychiatric issues," which he believed

would ensure he "…was left in good hands, hands period, any hands are better than no hands."

This case study shows how multiple characteristics of the foundation interact simultaneously to shape the overall experience and that not just one aspect of the helper, suicidal peer, or context influence how the situation is perceived or interacted with.

Phase 2: Response

Phase 2 is the response phase and represents the actions and reactions that the helper had when interacting with the suicidal peer. Helpers had three main types of responses when confronted with a suicidal peer: emotional response, coping response, and behavioral response towards the peer. Across the interviews there was no clarity with regards to when one response would occur first, or if one type of response would precede another response. Rather, it appeared that multiple responses occurred in concert. It was clear, however, that all three responses were directly shaped by the characteristics of Phase 1. Over the course of the helper's experience with the suicidal peer, the responses would change, and this was due to the ever-evolving characteristics of Phase 1.

Emotional response. Emotional responses were the reactions the helper had to the peer, to their interaction with the peer, or more broadly to the entire experience. The emotional responses included fear, stress/pressure, anger/resentment, worry/anxiety, shock, sadness, positive emotions such as hope or relief, and "other" emotions such as confusion, guilt, helplessness, hopelessness, empathy, and sympathy (Table 4.3).

Emotional response example, Fatima. Fatima provided insight into how multiple aspects of the foundation shaped her evolving emotional response to her suicidal friend (Figure 4.1, line a). Her friend, who had long-term mental health problems of

depression, substance use, and an eating disorder, told her by telephone that he had been thinking about, and made plans to kill himself. She explained that she felt: "hopelessness considering he's in [Oregon] and I'm in Georgia...there was a lot of…helplessness is the word…I can't do anything right now. And I want to like fast, hard action, but like fixing somebody or their depression…that's a long process." Her emotional response, therefore, was shaped both by geography (contextual characteristic), and by her friend's mental health (suicidal peer characteristics). As time progressed, Fatima's emotional response changed to feelings of fear, saying: "I didn't know it [his symptoms] was that bad, especially when he had looked up the heights of bridges and stuff. That just – it was panic…that freaked me out because that's … more of like serious consideration." Therefore, as her knowledge (helper characteristic) of his internal thoughts and her perception of the severity of his symptoms (suicidal peer characteristics) changed over the course of her interaction with him, her emotional response shifted from hopeless/helplessness to fear and panic. Finally, her lack of previous experience (helper characteristic) was important to her overall emotional response of fear, saying, "…there's definitely fear involved 'cause … I'd never come in contact with anybody who was suicidal."

Coping response. Coping responses were behaviors that the helper engaged in as a way of dealing with the challenges associated with interacting with and/or supporting a suicidal peer. Helpers used several types of coping strategies, often using multiple strategies at the same time (Table 4.3). These included seeking emotional support from friends, family, resident advisors, and therapists; seeking information or advice from available sources; ruminating about the situation/suicidal peer; adopting a fatalistic

attitude such that the helper believed that there was no way to stop the potential suicide; engaging in self-care such as prioritizing their own needs over their peers or engaging in positive activities; and other strategies such as taking immediate action in response to the suicidal peer, reframing the peer's suicidal behavior in a positive way, using no coping strategy, substance use, and withdrawing/isolating self.

Emotional response example, Taylor. Taylor provided insight into how the changing access to and relationship with sources of social support (helper characteristic) impacted her coping strategy. Taylor sought emotional and informational support from her mother about her suicidal friend because she was "over my head dealing with something that I didn't know how to deal with and my mom is just my support system in my family." She would "directly go to her and say like this is happening. I need to know what to do," however, most of the time she would go to her mother for "emotional support rather than like…help." Taylor explained that her mother's advice was inconsistent with her beliefs about how to respond to the suicidal peer (helper characteristics) saying, "we just never really were on the same page," because her mother "really wanted me to get myself out of this situation as much as possible." This advice began to alienate Taylor, who knew she could not remove herself from the situation because that was "part of that was the reason [the suicidal peer] would threaten suicide," and the peer threatened to "tarnish" Taylor's reputation at school (suicidal peer characteristics) if she stopped providing help. Over time, Taylor did not consider her mother as a source of social support, and she transitioned to no coping strategy and rumination, saying, "I really didn't have a way to cope. I was handling this very much alone for long periods of time. That's not healthy…I just didn't have anyone to cope

with…" She went on to describe how this led to her isolated rumination, saying, "I would just think constantly about it and you know, who's right, who's wrong…and it makes you ask broader questions as well, like is suicide like wrong or like unethical or like is me denying her unethical."

Behavioral response. Behavioral responses were actions that were either directed toward the suicidal peer (e.g., pushing peer away) or were done as a way of helping/supporting the suicidal peer (e.g., telling someone, social support). Helpers reported engaging in six primary behaviors towards the suicidal peer, typically using more than one over the course of the experience. These included: (1) providing social/emotional support (e.g., talking and listening, distracting peer, check on peer/monitor); (2) doing nothing and/or ignoring the situation (e.g., not bring up suicide or talk about disclosure, ignore peer during discussion of suicide); (3) telling someone about the suicidal peer in order to get help/assistance (e.g., 911, helper's family, suicidal peer's family); (4) pushing the peer away (e.g., remove self from situation, create distance); and (5) providing instrumental support (e.g., make appointment for suicidal peer with therapist, accompany suicidal peer to counseling session/hospital, encourage help seeking).

Behavioral response example, Hiroki. Hiroki explained how characteristics of himself, the suicidal peer, and the context, influenced his decision to call 911 about his peer. Hiroki said he called the police because "that's who I am" describing himself as "…an actor. Like if something happens, I'm one of the first people to react to it. I'm always the guy who goes out and gets the Band-Aids when someone, like, is bleeding" (helper characteristic). Hiroki decided to "give [suicidal peer] a call just to see how he

was doing," when he received second hand information (contextual characteristic) that the suicidal peer "had missed three straight weeks of classes." While talking to the peer, he described him as having "this like helplessness to him" that contrasted with his normally "competitive" and "always joking" personality (suicidal peer characteristics). The peer directly said "I've been thinking about killing myself" and that he had been "thinking about it for a little bit" (contextual characteristic). Hiroki "couldn't tell how serious he was" because the disclosure occurred over the telephone, but also because of "the fact that like we weren't super close and he was telling me that" (helper characteristic) and the suicidal peer's behavior of missing classes "…seemed like…just a big red flag." Hiroki decided that the situation was serious enough to call 911. Finally, Hiroki detailed how both his lack of personal experience and previous training in suicide prevention at school also influenced his telling behavior (helper characteristic), saying "I had never dealt with anything like that before…I've been to speakers that are like…if you see something, say something" and "everything that I had heard about suicide was if you hear something you have to react."

Overlap between coping and behavioral response. In some circumstances the coping behavior the helper used in Phase 2 overlapped with the behavioral response the helper engaged in. This was primarily seen with the behavior of telling someone about the suicidal peer overlapping with seeking social and informational support and the behaviors of pushing the peer away and/or ignoring the peer overlapping with the helper engaging in self-care/prioritizing their own needs. For example, several helpers described in their interviews that they told someone about the suicidal peer with the dual purpose of enlisting the person told as a potential new helper for the suicidal peer, as well as using

the person told as a source of informational or social support. Other students kept these two responses separate, with some helpers emphasizing that they sought support from individuals that they knew were not involved with the suicidal peer and whom they knew would not try to become involved in the situation.

Phase 2 feedback to Phase 1. The responses engaged in during Phase 2 could influence foundation of the experience, and shape the composition of the characteristics of the helper, suicidal peer, and context (Figure 4.1, line b). For example, when helpers engaged in the coping response of seeking social/informational support and/or the behavioral response of telling someone about the suicidal peer, these behaviors resulted in more people knowing about the suicidal peer. Therefore these responses could impact the Phase 1 contextual characteristic of level of diffusion. More broadly, all responses engaged in at Phase 2 at one point in time could influence the foundation to become previous experiences for the helper at a second time point.

Phase 3: Outcome

Helper's response during Phase 2 could result in several types of outcomes for both the helper and for the suicidal peer (Figure 4.1, line c). These outcomes included positive intrapersonal and interpersonal outcomes, learning, regret, negative intrapersonal and interpersonal outcomes, emotional outcomes, habituation, and relationship changes (Table 4.3).

Example of outcome, Claire. Claire described how the responses she engaged in during Phase 2, resulted in several outcomes for both herself and for the suicidal peer over the course of their interaction. She described that she experienced the outcome of regret as a result of getting angry and frustrated (emotional response) with her suicidal

peer, saying, “I wish I had been a little bit more attentive, maybe more supportive instead of getting angry.” As an outcome of seeking social and informational support as a way of coping with supporting her suicidal peer, and described the emotional outcome of feeling “more relieved” after telling the support person, going on to say that it was “comforting to have someone to talk to.” The positive outcome of providing the peer with social support (behavioral response) was that “It relieves pressure from him, like instead of bottling it up,” while at the same time Claire acknowledge the negative outcome of her response because providing support “was more of a temporary benefit,” with the peer “good for the evening, but, you know, maybe a couple of days later he would come back.” Claire went on to describe that providing emotional and social support “came at a great self-sacrifice” for her own well-being, while only marginally effective at helping her peer. Over time, Claire described that the outcome of her responses towards the peer resulted in an increasingly distant relationship, saying she “didn’t keep in touch that much…wasn’t comfortable hanging out with him” and that they “lost our like sense of being able to relate to each other” because of their differing life “trajectories.” Claire began to push the peer away as a means of coping (coping and behavioral response), which resulted in in a mixture of regret as well as recognition of the benefits of her response on her own wellbeing, saying:

> if he invites me over and there’s a bunch of people drinking and doing drugs, like I’m going to feel pressured to do that. So on the one hand I…regret not being there to support him, but on the other hand I don’t regret it because… I liked the path I’m on. I didn’t want to change that path

Phase 3 feedback to Phase 1. The outcomes in Phase 3 could influence the characteristics of the foundation, with the outcomes at one time point of the experience becoming a previous experience (helper characteristic) for the helper to pull from at a later time point in the experience (Figure 4.1, line d). For example, the outcome of one helper's provision of social support (behavioral response) was that he learned a strategy for dealing with his suicidal peer that was "…was quick. It was easy. It was reliable. It was 100% effective." This learning outcome fed back into the foundation, became a previous experience, improved his knowledge, and increased his self-efficacy (helper characteristics). He continued to pull from these helper characteristics throughout his protracted interaction with the suicidal peer. Across all interviews, the outcomes were not found to have a direct impact on Phase 2 responses; instead they influenced subsequent Phase 2 responses through their effect on the characteristics of the Phase 1 foundation.

Example of whole grounded theory, Belen. Belen provided a concise description of the entire cycle of experiencing a suicidal peer. Belen's peer had, in addition to symptoms of depression, problems with drugs and alcohol and was engaging in other behaviors such as risky sex (suicidal peer characteristics). Belen described that her peer's impulsive personality influenced her emotional response of fear and worry because the peer "…was the type of person impulsive enough to just do something without really thinking about it and…that was always scary." Belen's decision to provide her peer with emotional support was based on second hand information she received from another friend (contextual characteristic) who had told a counselor about the peer's troubling behavior saying: "one of the other friends that she talked to about it did end up telling a counselor about her and she got really mad at him. That kind of reinforced my

decision not to do anything unless I had to." Her objective with providing social support was to "let her get ...whatever she needed to talk about out of her system before I really said anything, because I think there comes a time when it's just better to just listen." The outcome of providing emotional and social support was that Belen began to learn what worked to help her peer through times of crisis, saying "over time I would respond by like just taking what worked from the previous instance." However, providing constant emotional and social support resulted in negative changes in the relationship (outcome) with Belen feeling like she was her peer's "… personal counselor and the nature of our relationship was really like let me help your or let me be there for you …" This change in relationship impacted the strength of their friendship (helper characteristic) and led to Belen feeling anger and resentment towards her peer (emotional response), saying:

> it is hard not to [feel anger] when you feel like you are now trapped in this relationship where you are not getting anything out of it. I wanted to be there for her, but it was getting so hard I guess I resented it a little bit. Not her, but the situation.

She continued to provide emotional support (behavioral response) but changed to using tough love strategies because the peer's symptoms were not improving (suicidal peer characteristic). She told her peer "you need to straighten up, like this is something that you need to take care of in your life and try to be more straightforward with her because obviously being nice wasn't helping anything." Providing support to the peer continued to be "really draining" because Belen was "…one of the only people she was talking to about this." Over time additional people became involved in supporting the suicidal peer (contextual characteristic) and the increase in diffusion shaped Belen's positive emotional

response. She explained that by other people knowing about the suicidal peer, she was experiencing less stress and pressure, saying:

> I'm really glad that [suicidal peer] found [Michelle] … that she's been opening up to a lot just because…[it is] really hard to deal with and if you have a lot of stress on you, then you're not gonna be able to do your best.

Belen began to seek advice and support from these mutual friends (coping response) and the outcome was that she could "vent to my other friends and that made me feel better…. I don't think I could have gone on not talking that through with anyone. You know because it is such a big part of your own stress."

Discussion

We explored the lived experiences of college students who had previously interacted with suicidal peers. The ultimate goal of this research was to develop a theory describing this interaction that could be used by clinicians and practitioners to improve and modify existing suicide prevention activities on college campuses. Although the ACRM was used to loosely guide the data collection, the theory that emerged from the in-depth interviews was more closely aligned with a behavioral-systems perspective of prosocial behavior and the Transactional Model of Stress and Coping (Collins, Ford, Guichard, Kane, & Feeney, 2010; Lazarus & Folkman, 1984; Shaver, Mikulincer, & Shemesh-Iron, 2010). Furthermore, the experiences of students in our study were strikingly similar to those of informal (e.g., friends, family, significant others) and formal (e.g., nurses, therapists) caregivers of suicidal people (Gilje & Talseth, 2014; Gilje, Talseth, & Norberg, 2005; Richards, 2000; Sun, Long, Huang, & Huang, 2008; Taylor, Morales, Zuloaga, Echávarri, & Barros, 2012; Wolk-Wasserman, 1986). Together, these

results suggest that helpers in our study assumed an informal caregiving role to their distressed peers.

The grounded theory that emerged from the in-depth interviews was made up of seven main categories, six of which have been described in the literature as central to the experience of informal and formal caregivers of suicidal people. This includes characteristics of the helper and suicidal peer (Gilje et al., 2005; Sun et al., 2008; Wolk-Wasserman, 1986); emotional (Gilje & Talseth, 2014; Richards, 2000; Sun et al., 2008; Wolk-Wasserman, 1986), coping (Gilje et al., 2005; Gilje & Talseth, 2014; Sun & Long, 2008; Wolk-Wasserman, 1986), and behavioral (Gilje et al., 2005; Sun et al., 2008) responses; and outcomes (Gilje et al., 2005; Richards, 2000; Sun et al., 2008). The similarity between our emergent theoretical categories and concepts and what has been described more broadly in the literature about caregiving of suicidal people reinforces our argument that college students helping suicidal peers assumed a caregiving role. It also suggests that individual categories and concepts of our grounded theory were not specific only to college students at the particular university being studied. Rather, other types of caregivers with different types of relationships to the suicidal person, and with different cultural backgrounds, shared the experiences of the helpers who participated in our interviews.

Our assertion that there is a need to shift the perspective about whom college students are providing care to is reinforced by the similarity between the experiences of helpers in our study and those of young, informal caregivers of mentally ill people who experience episodes of suicidal behavior (Ali, Ahlström, Krevers, & Skärsäter, 2011; Ali, Ahlström, Krevers, Sjöström, & Skärsäter, 2013). Young, informal caregivers are defined

as individuals between the ages of 16 and 25 who "provide or intend to provide care, assistance or support to another person who is disabled or who suffers from a long-term illness, mental health problem, or other condition requiring care and support" (Ali et al., 2011, p. 611). The helpers in our study met this definition in terms of age range and the type of caregiving and supportive behaviors they engaged in. Young, informal caregivers often do not recognize or identify as caregivers, in part because of their relationship to the person being cared for (e.g., peer or romantic partner), and societal norms about what caregivers looks like (e.g., family members, parents caring for children, adults caring for adults) (Smyth, Blaxland, & Cass, 2011). In our study, none of the helpers identified themselves as caregivers, nor was this word used in any of the 20 interviews. Although they did not recognize themselves as caregivers, their experiences were clearly those of young informal caregivers. This suggests there is a need to more actively apply the young informal caregiver nomenclature to college students supporting mentally distressed and suicidal peers.

A unified nomenclature could have significant benefits for researchers and for the caregivers themselves. For researchers, it would mean the comprehensive literature in caregiving would be applicable to understanding how college students help mentally distressed and suicidal peers, shoring up the limited and weak evidence base that currently exists in this research area. Furthermore, there already exists an evidence-based intervention that was developed in Taiwan to support caregivers of suicidal people that includes training on positive coping and appropriate support behavior (Sun, Chiang, Yu, & Lin, 2013). This type of intervention could be adapted for use among college students to ensure that helpers are able to provide support in a way that is safe and effective for

both the caregiver and the care receiver. A unified nomenclature, and its associated definition, would also facilitate broad scale epidemiological analyses to determine the scope of caregiving activities among college students and associated outcomes. Finally, for the informal caregivers themselves, having a term to self-identify may improve their ability to receive support and could provide them with a label that fully recognizes their roles and responsibilities (Smyth et al., 2011).

The results of this study also suggest a shift is needed with regards to how to define the individual the college student was supporting. In other caregiving literature, helpers describe providing care and support for a long period of time, with the suicidal person vacillating between periods of communicating suicidal thoughts to periods of improved wellness (Wolk-Wasserman, 1986). This was consistent with the reports of helpers in our study who provided ongoing support to peers during periods of time bracketing episodes of acute suicidality. This is also supported by literature exploring patterns of college student suicidality. Specifically, of college students that have considered suicide in the past 12-months, most have been found to be persistent ideators, meaning they had more than one period in the past year where they considered suicide (Drum et al., 2009). Therefore, it may be more congruent with the actual experience of college students, as well as the patterns of college students' suicidality, to target future research activities on populations of students providing support to mentally distressed peers whose symptoms *include*, but are not exclusively characterized by, suicidal behavior.

There were multiple elements of our grounded theory that were similar to those contained within the ACRM, which was used to loosely guide the interviews (Dovidio et

al., 2006). This similarity, however, should not be misconstrued as an indication that ACRM is applicable to understanding college students' experience with suicidal peers. As we have argued previously, helpers in our study assumed a caregiving role to their distressed and suicidal peers. The ACRM is not the optimal prosocial perspective from which understand long-term prosocial behavior, such as caregiving; therefore, it may not be an appropriate prosocial orientation for examining this experience. Rather, a behavioral-systems perspective of prosocial behavior may be more apt to guiding an understanding of college students' caregiving to distressed peers.

The behavioral-systems perspective of prosocial behavior argues that humans have a natural tendency to provide support and care to other people (Shaver et al., 2010) and one's caregiving response is activated when someone close to them is in distress or in need of help or assistance (Collins et al., 2010). As individuals grow up, they develop a variety of behavioral systems, which can be conceptualized as computer programs, that allow the individual to respond to certain situations and demands (Shaver et al., 2010). When placed in a caregiving situation, the individual applies the applicable caregiving behavioral system (Shaver et al., 2010) with actual caregiving, a physical manifestation of the behavioral system (Collins & Feeney, 2000). As was seen in our grounded theory, these behavioral-systems are adjusted given previous experiences and to meet the needs of the situation's context and environment. Over time, as the behavioral system is applied to the caregiving scenario, the outcomes of its application can feedback to reshape and mold the behavioral system. This feedback loop was present in our theory, with certain outcomes directly reshaping elements of the foundation. Finally, the caregiver behavioral system is fundamentally dyadic, with the transaction between characteristics of the

caregiver and characteristics of the care receiver shaping the interaction (Collins & Feeney, 2000). There were multiple examples of the dyadic nature of the experience in our grounded theory. For example, the responses seen in Phase 2 were shaped by the transaction between characteristics of the helper and suicidal peer, the responses in Phase 2 were directed toward both the helper (emotional, coping response) and the suicidal peer (behavioral response), and finally Phase 2 responses resulted in outcomes for both the helper and the suicidal peer.

Elements of our grounded theory were also congruent with what is seen in Lazarus and Folkman's Transactional Model of Stress and Coping (TMSC) (Lazarus & Folkman, 1984), a theory that is distinct from the prosocial literature. Like our grounded theory, the TMSC is a process model that emphasizes that a stressful experience and one's ability to cope with it change over time; with those changes a result of a transaction between the individual and his or her environment (which in our grounded theory includes the suicidal peer and the broader context). Furthermore, the TMSC recognizes that the consequences of the experience at the next point in time (outcomes in our grounded theory) can become antecedents to coping behaviors at the second point of time, resulting in a feedback loop similar to what was seen in our model. Finally, the TMSC emphasizes that coping responses shift over time and depend on the coping resources of the individual such as positive beliefs, problem solving and social skills, and access to social support (helper characteristics in our grounded theory).

The TMSC is focused primarily on how individuals cope with stress and stressful situations, and the behavioral systems perspective is focused on understanding why individuals behave prosocially. The grounded theory that we developed accomplishes

both of these theoretical foci, and this may explain the similarity across the three models. Taken together, a behavioral-systems perspective of prosocial behavior and the TMSC compliment and provide insight into the grounded theory that emerged from our study. Both perspectives have been applied to understand caregiving behavior (Collins & Feeney, 2000; Mackay & Pakenham, 2011). Therefore, it may be worthwhile to use of these models in conjunction with our grounded theory to guide future research in college students' caregiving towards mentally distressed and suicidal students. Together, these three models will be able to explain why students have certain responses to a suicidal peer and provide insight into the myriad outcomes that can result from certain types of emotional, coping, and behavioral responses.

There are several limitations to this research that should be considered. First, maximum variation sampling was used to obtain a diversity of experiences and stories. In spite of these efforts, the majority of participants were non-Hispanic White females. This could have had an impact on how the situation was experienced and the theory that emerged. Future research should focus on exploring the experiences of male and racial/ethnic minority students to determine if there are differences from or similarities to the experiences described in this study. The majority of caregivers in the United States self-identify as female (National Alliance for Caregiving, 2009) and the large number of female students interested in participating may have been a product of who tends to engage in caregiving relationships. The use of maximum variation sampling also resulted in a range of experiences occurring at different time points (e.g., high school, college), with different peer relationships (e.g., intimate, platonic), and different peer behaviors (e.g., suicide attempt, ideation, plan). Although this resulted in a broadly applicable

theory, it made it difficult to determine if there were systematic differences in the experiences specific characteristics of the helper, suicidal peer, or context. Future studies should aim to explore the experiences of more homogenous groups to determine if there are differences *between* specific groups in terms of characteristics of the foundation, responses, and outcomes. This will facilitate a more focused evaluation of patterns and differences in responses and outcomes based on specific characteristics of the foundation. Second, college students were asked to recount their retrospective experience with suicidal peers. There was variability as to when the event occurred; for some it was happening at the same time as the interviews were being conducted, and for others it occurred during high school. The participants' stories could have been impacted by their ability to recall important details of the experience. Third, college students volunteered to participate in this study and, therefore, their experiences may be different than those who did not feel comfortable participating in the interviews, did not have time, or had other barriers to completing a one-on-one interview. Furthermore, students in this study tended to assume a caregiving role towards their peers and therefore they may have had a more inherently prosocial personality, making them more likely to participate. On the other hand, students that did not assume a caregiving role towards their suicidal peers may have less prosocial and less likely to participate in the study and this could have resulted in a bias in the types of narratives provided.

The results of this qualitative study suggest that college students helping suicidal peers should be considered young, informal caregivers supporting mentally distressed peers whose symptoms include suicidal behavior. Shifting to a caregiving perspective has considerable implications for campus-based clinical activities and interventions. This

shift suggests that prosocial orientations more appropriate to explaining the caregiving experience, such as a behavioral-systems perspective of prosocial behavior, should be used to inform future scholarship and programmatic activities, replacing bystander perspectives such as the ACRM. A shift in the nomenclature to recognize students as caregivers to distressed and suicidal peers also means college campuses must begin to focus on the potential impact this role can have on the caregiver. Providing support to suicidal and mentally ill people has been found to be associated with many negative outcomes for the health and wellbeing of the caregiver (Chessick et al., 2007; Kjellin & Östman, 2005; Magne-Ingvar & Ojehagen, 1999). It is not known if supporting a suicidal peer is associated with negative outcomes for college student caregivers. Therefore college campuses must determine the scope of caregiving behavior among their student body and identify the short and long-term impact this type of care can have for student mental health, wellbeing, and academic achievement. This type of work must be done before further implementation of widespread peer education programming to ensure that college students are not encouraged to become involved in a potentially harmful situation.

Chapter 4 References

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Table 4.1 Characteristics of interview participants and aspects of their experience with suicidal peer(s).

Participant Characteristics (n=20)	
Sex	
Female	70% (n=14)
Male	30% (n=6)
Age	
Range	18 – 22 years old
Ethnicity	
White	60% (n=12)
African American	15% (n=3)
Multiracial	15% (n=3)
Asian	5% (n=1)
Hispanic	5% (n=1)
Year in School	
First	45% (n=9)
Second	25% (n=5)
Third	10% (n=2)
Fourth	20% (n=4)
Suicidal Peer Characteristics (n=25)	
Sex of Suicidal Peer	
Male	52% (n=13)
Female	48% (n=12)
Behavior of Suicidal Peer	
Ideation	32% (n=8)
Attempt	24% (n=6)
Completion	16% (n=4)
Plan	16% (n=4)
Threaten	8% (n=2)
Plan/Possible Attempt	4% (n=1)
When Event Occurred	
High School	52% (n=13)
College	44% (n=11)
Both	4% (n=1)
Relationship to Suicidal Peer	
Close/Best Friend	48% (n=12)
Friend	32% (n=8)
Intimate/Romantic	16% (n=4)
Classmate	6% (n=1)

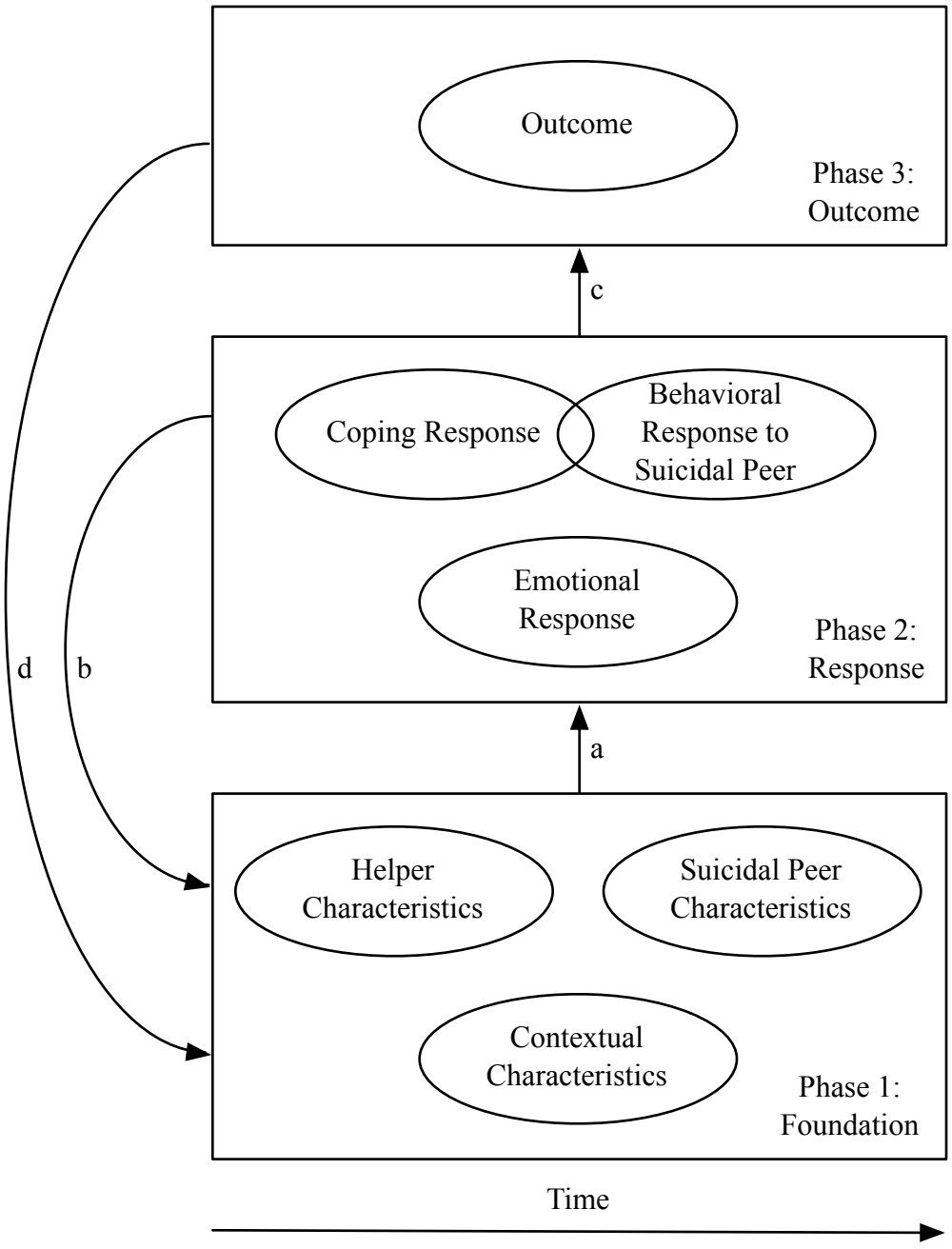

Figure 4.1 Grounded theory of college student experience with suicidal peers.

Table 4.2 Constructs that made up the helper, suicidal peer and contextual characteristics of Phase 1, their description, and exemplar quotes.

Characteristics of Helper		
Selective code	Description	Quote
Relationship with suicidal peer	Closeness, category (e.g., romantic, platonic) and nature (e.g., healthy, abusive) of helper relationship with suicidal peer	"I consider him a little brother"
Access/relationship to sources social support	Availability and relationship with sources of emotional, social and informational support	"…my friends just weren't listening to me. I don't think I had any true-blue friends in high school."
Previous experience and training	Level of personal experience and/or training that could provided insight to current scenarios	"I pulled ninety-nine percent from what I had [personally] dealt with."
Level of self-efficacy	Level of confidence or capacity to respond to the suicidal peer	"[I] don't have abilities to deal with this."
Beliefs/values	Thoughts and perceptions about best course of action or best response towards suicidal peer	"she needed to tell somebody outside of me … especially a professional opinion"
Knowledge	Amount of information known about the suicidal peer, their life, and reasons for suicide	"…his [relative] passed away, and…then he got arrested"
Personality	How the helper characterized themselves	"I really don't like confrontation… I really try to avoid confrontation"
Characteristics of Suicidal Peer		
Selective code	Description	Quote
Aspects of mental health/suicidal symptoms	Severity of the symptoms, length of time had symptoms, comorbid mental health problems	"she would talk to me about her depression for a while and then the suicide was sort of like when it got really bad."
Access/relationship to sources social support	Individuals the helper perceived the suicidal peer could obtain emotional, social, and informational support from.	"…he said over and over again I hate my parents, I hate my parents, you don't understand how terrible they are… in terms of people he could reach out to"
Personality	Traits that the helper believed characterized the suicidal peer	"She's just a very, very happy person, which was why it was really hard to believe like when it happened."
Other	Peer's religiosity and/or promise making	"[peer] made me promise not to tell anyone else"

Characteristics of Context		
Selective code	Description	Quote
Level of diffusion	How many people, beyond the helper, know about the suicidal peer	"[peer] had a therapist too and I…I think that I decided that it was her therapist job really to deal with that stuff."
Geography	Where the helper lived in relation to the suicidal peer	"Um, because from the distance where I am it's just like all I can do is listen"
First or second hand information	How the helper received information about the suicidal peer	"She didn't explicitly say so until her mom called me one day just to like see if I knew what was going on with her"
Means of disclosure	How the suicidal peer disclosed that they were suicidal, and how clear their disclosure was	"[peer] had the shotgun…he was crying and upset and swallowing pills."

Table 4.3 Constructs that make up emotional response, coping response, and outcomes with exemplar quotes.

Phase 2. Response	
Emotional Response	
Fear	• "I was very fearful that it was actually going to happen"
Stress/pressure	• "I was absolutely overwhelmed. Like every day I was overwhelmed…Part of it was the suicide and part of it was just the general complexity of the situation and the burden that I felt being responsible for someone's life"
Anger/resentment	• "I was so frustrated with the situation that I just got pissed"
Worry/anxiety	• "You know, a lot of worry, which it wasn't great and emotionally it's taxing for sure"
Shock	• "my jaw kind of hit the floor"
Sadness	• "I was sad that she was doing it"
Positive emotions	• "I felt happier, proud for him
Other (e.g., confusion, guilt, helplessness, hopelessness)	• "I was just kind of confused because … I didn't really understand how you could be in such a place" • "I felt kind of guilty … because when he said I love you I didn't say that back to him"
Coping Response	
Seeking social and emotional support	• "I vented to other friends about my stress,"
Seeking information/advice	• "I looked up like how to essentially prevent suicide. I Googled that."
Rumination	• "it was always in the back of my mind and I was always waiting to see if I should be taking action or doing something differently. So it just made me, I guess, more tired and I guess worn out"
Fatalism	• "I think at the end of the day, if they want to do it [kill themselves] they're going to do it anyway"
Engage in self-care	• "…swimming because that's all you can think about, you know, swimming you can just stop thinking about things outside of what you're doing," • "I needed to feel like I was doing something…That helped me cope"
Other (e.g., reframing, immediate action, no coping, substance use, withdrawing)	• "So what helped me cope was knowing that -- like, she was in -- she's in a better place and she's not suffering anymore" • "I was just like holding in my worry for her inside and not talking about it at all" • "I mean, I just got hammered" • "I isolate myself more…"
Phase 3. Outcomes	
Positive inter/intrapersonal outcomes	• *Interpersonal:* "He's not scared of therapy anymore," • *Intrapersonal:* "It [telling others] gave this sense of the world is not only on your shoulders"
Learning	• "…and over time I would respond by like just taking what worked from the previous instance"
Regret	• "I could have followed up on it more. I think I was scared to ask any further questions later on."

Phase 3. Outcomes	
Negative inter/intrapersonal outcomes	• *Interpersonal: "*Like talking to [peer] and [them] expecting help that I potentially cannot give." • *Intrapersonal:* "[suicidal peer] was really pissed at me for [telling counselor]"
Emotional outcomes	• "I guess I was scared that my reaction wouldn't be strong enough to prevent her from doing it."
Habituation	• "I became accustomed to it in that like it was predictable"
Relationship changes	• "Our friendship has definitely deepened" • "There are times when I feel like a girlfriend and times where I just feel like…an emotional outlet for him"

Chapter 5: Overall Summary and Conclusion

There is a need to better understand how college students experience and respond to suicidal peers. As college campus counseling center directors are reporting an increasingly pathological student body and higher levels of suicidal behavior (Benton, Robertson, Tseng, Netwon, & Benton, 2003; Gallagher, 2013) colleges are turning towards suicide prevention strategies targeting peer support. These peer education programs focus on educating the broader campus community to recognize and respond to suicidal students with the hope that these programs will increase early identification and early referral of at-risk students (Hunt & Eisenberg, 2010; Lipson, Speer, Brunwasser, Hahn, & Eisenberg, 2014). To date little is known about how college students experience suicidal peers or the factors that shape their helping response. Gaining a better understanding of this behavior would ensure that peer education programs are consistent with the real life experience of students interacting with suicidal peers, and are effectively targeting factors that shape supportive behavior towards the suicidal student. The purpose of this dissertation was to increase the overall understanding of how college students interact with and help suicidal peers. Convergent, parallel mixed-methods were used so that independent qualitative and quantitative studies could inform one another and provide even greater depth of understanding (Creswell, 2011). As a body of work, this mixed-methods dissertation provides much needed clarity into the complexities and challenges of supporting a suicidal peer. The results of this dissertation suggest that college students may assume a caregiving role towards suicidal peers and, as such, may be in need of interventions targeting the caregiving experience.

The study presented in Chapter 2 focused on examining the relation between

ambiguity of symptoms, number of bystanders, and intention to engage in a variety of behaviors towards a hypothetical suicidal peer. Overall, both the ambiguity of the disclosure and number of bystanders were important to shaping the student's perceived severity and behavioral intention towards a hypothetical peer. When interpreted in relation to the grounded theory presented in Chapter 4, these results are consistent with what was described by students with real-life experience supporting a suicidal peer. Both the means of disclosure and number of people aware of the suicidal peer were important contextual characteristics of the foundation, and along with characteristics of the helper and suicidal peer, they shaped the responses engaged in.

The results of the study in Chapter 2 also suggest that college students had low perceived costs associated with helping a hypothetical suicidal peer. One interpretation of these findings was that the perceived costs presented were not salient to how students perceive a suicidal peer, and the results of the qualitative study in Chapter 4 provide support for this assertion. The grounded theory suggests that college students were informal caregivers to their peers and that a behavioral-systems perspective may be more appropriate than the ACRM. The ACRM takes an egoistic perspective of prosocial behavior, suggesting that prosocial actions are motivated by the helper's desire to maximize benefits to themselves at minimal costs (Dovidio, Piliavin, Schroeder, & Penner, 2006). The behavioral-systems perspective takes an altruistic view on helping (Collins, Ford, Guichard, Kane, & Feeney, 2010), positing that an individual is motivated to provide care to others because it is a fundamental aspect of human relationships and caregiving behavior is automatically activated when someone close to the individual is in need (Mikulincer & Shaver, 2009). Therefore, low levels of perceived costs associated

with helping reported in Chapter 2 are consistent with how students actually experience and provide care to suicidal peers. Although there were various positive and negative outcomes to the responses engaged in by college students in the qualitative study, these were not the same as perceived costs to engaging in a helping behavior, nor were they direct motivators of the responses seen in Phase 2 of the grounded theory. Furthermore, the altruistic perspective on helping a suicidal peer is more consistent with the developmental stage of students in this study. Students in this study could be defined as emerging adults, or individuals between the ages of 18 to 25 that are transitioning from adolescence into adulthood (Arnett, 2000). During emerging adulthood, individuals seek to establish their personal identify and determine where they fit in the world, and part of this includes experimenting and exploring interpersonal relationships (Nelson, 2005). Peers are important to emerging adults because the emerging adult becomes increasingly independent from their parents (Swenson, Nordstrom, & Hiester, 2008). Furthermore, emerging adults often seek out opportunities to learn new skills and experience new things (Arnett, 2000). Therefore, providing independent support and care to a peer that is suicidal is consistent with where college students, as emerging adults, are in their personal development. They could be using the experience with the suicidal peers as an opportunity to explore and experience a more complex form of interpersonal relationship, and they may use it as an opportunity to grow their skills and capacity to independently problem solve and decide how to help a peer in crisis.

Overall, there is some consistency between the results of the study in Chapter 2 and the qualitative study in Chapter 4; however, the grounded theory that was developed does call into question the relevance of the research strategy used in Chapter 2. The grounded

theory in Chapter 4 emphasizes that multiple factors simultaneously shape the response of a helper towards a suicidal peer; with those factors, and the responses, changing and evolving over time. Furthermore, helpers used multiple responses at the same time and over the course of the entire experience. Therefore, the approach used in Chapter 2 may be misguided because it attempted to isolate *individual* factors that predict *individual* helping behaviors; a strategy that is not consistent with the model. Research should instead focus on identifying groups of factors at the helper, suicidal peer, and contextual level that influence responses more broadly. Latent class analysis would be a particularly appropriate analytic technique to use to understand how groups of helper, suicidal peer, and contextual characteristics are associated with certain broad categories of behaviors that include emotional, coping, and behavioral responses. This type of modeling would allow for the identification of classes of situations that may be more conducive to certain types of coping and behavioral responses as compared to others. Research should also utilize methodological strategies that can accommodate the evolving nature of student interaction with a suicidal peer. This can include studies using prospective, ipsative-normative, longitudinal research methods to collect data at multiple time points determine how elements of the experience evolve across time (Lazarus, 2000; Lazarus & Folkman, 1984). This technique would provide insight into what characteristics of the foundation shape the helper's response over time, and would also allow for intraindividual (ipsative) and interindividual comparisons (normative) (Lazarus, 2000). Moreover, this approach would take the element of time into consideration and bring quantitative measurement into congruence with the structure of the grounded theory.

The study presented in Chapter 3 aimed to test three propositions of the ACRM to determine if this model was applicable to understanding college student intention to seek advice about a hypothetical suicidal peer. The results of this study suggest that perception of the severity of the suicidal peer's symptoms, the helper's emotional prosocial personality, and the perceived costs of assisting the suicidal peer predicted a small amount of the helper's intention to seek advice from an authority figure. From the perspective of the grounded theory presented in Chapter 4, this finding is unsurprising. Multiple characteristics of the helper, suicidal peer, and context collectively shaped the helper's response toward the suicidal peer. Therefore, only including two constructs of the foundation (personality and perceived severity) were unlikely to result in a highly predictive model of intention to seek advice. The study in Chapter 3 also found that perceived costs explained the relationship between both perceived severity and intention to seek advice about a hypothetical suicidal peer; with this relationship between perceived costs and intention to tell was opposite to what is hypothesized in the ACRM. Again, the grounded theory in Chapter 4 can provide a potential explanation of these unexpected results. Within the grounded theory, seeking advice was used as a type of coping behavior, and was not always done with the purpose of enlisting the person told to help the suicidal peer. Therefore, students participating in the Chapter 3 study may have interpreted the seeking advice behavior as a form of coping and not as a direct behavior engaged in towards the suicidal peer. This may have impacted the relationship between perceived costs and behavioral intention, resulting in an association counter to what is predicted by the ACRM. It could be that when there are many costs and dangers associated with helping a suicidal peer, college students will utilize coping strategies that

can help them to deal with the situation effectively. This, however, is a supposition, and more work would be needed to determine if this explains these unexpected results. Overall, the findings presented in Chapter 3 should be interpreted cautiously, given the overall inconsistency between the ACRM and the grounded theory that emerged from the in-depth interviews. Only one proposition of the ACRM was supported in the Chapter 3 study, and the indirect effect of perceived costs between perceived severity and behavioral intention was small. Future studies should aim to quantitatively test aspects of the Chapter 4 grounded theory, using more advanced statistical analyses, such as structural equation modeling, to explore construct relationships within, and across, phases of the grounded theory.

The results of the qualitative study presented in Chapter 4 have considerable implications for college-based suicide prevention research. This study suggested that college students may assume a caregiving role towards suicidal peers and their experience is similar to formal and informal caregivers of suicidal people (Gilje & Talseth, 2014; Gilje, Talseth, & Norberg, 2005; Sun, Long, Huang, & Huang, 2008). As a consequence of the caregiving role adopted by college students towards suicidal peers, the ACRM may not be an ideal prosocial perspective to guide future research in this area. The ACRM was developed and informed by other theories of prosocial behavior, such as Latané and Darley's Decisional Model of Bystander Intervention (Dovidio et al., 2006). College campuses have begun to use this related theory to guide bystander style interventions with the aim of educating college students to recognize when a peer is suicidal, interpret certain behaviors are a problem, assume personal responsibility to help, and have the requisite knowledge, skills, and abilities to provide support (Cimini, Wright,

& Rivero, 2010; Shekarabi & Victoria, 2014). Like the ACRM, the Decisional Model of Bystander Intervention is not consistent with the experiences of college students presented in Chapter 4. Therefore, the results of this study suggest that these types of programs may be using an inadequate theoretical model with which to promote supportive behavior towards suicidal people on college campuses. Furthermore, as close to a third of students that participated in the survey discussed in Chapters 2 and 3 had previous experience with suicidal people; these types of approaches may alienate those students that have significant previous experience. This is because these programs describe steps to supporting and intervening with a suicidal peer that are inconsistent with how students actually experience and approach caregiving to a peer in crisis. More work is needed to evaluate how students with previous experience perceive these trainings and if they believe they are helpful/congruent with their past experiences, or if they are out of touch with the realities to supporting a suicidal friend.

Other types of peer education programs, such as gatekeeper training, also are impacted by the results of this study. Gatekeeper training programs focus on teaching non-professional groups such as students, staff, and faculty about the warning signs for suicide so that they can identify students in distress and have the capacity to provide the student with support and information about where to get treatment (Isaac et al., 2009). The goal of individual gatekeeper training programs are varied, with some focused on early recognition and referral to professional care (Quinnett, 2012) and others focused on training people to provide supportive care to suicidal people (Rodgers, 2010). Regardless of the underlying objective of these trainings, all gatekeeper programs currently being offered on college campuses must focus part of their discussion on the impact providing

support to a suicidal peer can have on the provider of care. These modifications can incorporate elements of an evidence-based educational program developed for familial caregivers of patients discharged following a suicide attempt (Sun, Chiang, Yu, & Lin, 2013). This two hour long program has been found to be associated with improved care provided to the formerly suicidal person as well as improved coping skills by the caregiver. The program includes modules about how to help the person at risk, the challenges associated with caregiving to a suicidal person, and coping strategies to manage these challenges.

In addition to including comprehensive modules explicitly focused on caregiving and coping, there may also be a need to include a "gatekeeper supervision" element to current gatekeeper trainings. Psychiatric nurses and therapists have emphasized that clinical supervision is essential for formal caregivers of suicidal patients (Gilje & Talseth, 2014; Richards, 2000). College students trained as gatekeepers who end up providing informal caregiving may not have access to the benefits of clinical supervision, even though their supportive behaviors may mirror those of formal caregivers. As gatekeeper trainings are implemented on college campuses, it may be beneficial to have a designated mental health professional who is available to provide informal supervision to trained gatekeepers so that they can talk about the care they are providing to a suicidal individual. This strategy would ensure that those trained as gatekeepers receive support and guidance to provide the best care for the suicidal peer while at the same time maintaining their own wellbeing.

These recommendations do suggest that there is a need for more careful consideration of the appropriateness of widespread implementation of gatekeeper style

training programs to college populations. There is currently no evidence to support the long-term effect of these types of programs on student behaviors and attitudes towards suicide (Harrod, Goss, Stallones, & DiGuiseppi, 2014; Isaac et al., 2009) and there is some evidence to suggest that adults trained as gatekeepers may have an increase in suicidal ideation compared to those that were not trained (Sareen et al., 2013). The results from the qualitative study presented in Chapter 4 also indicate that there is a potential risk for students that provide continuous, intensive care and support to suicidal and/or mentally ill peers. Therefore training and encouraging students to become actively involved in supporting a suicidal peer may have unintended negative consequences on the non-suicidal student. More intensive work is needed to further understand the potential short and long-term negative consequences peer education, such as gatekeeper training, programs could have on college students. This is needed before these types of programs continue to be implemented and adopted without a full evaluation of their potential for harm.

There are several clinical implications of this work. As there is a perception from college counseling center directors that more college students are coming to campus with mental health problems (Benton et al., 2003; Gallagher, 2013), it is logical to infer that the peers of these students may be providing additional informal caregiving on top of the formal support mentally ill students could be receiving at the campus counseling center or elsewhere. Therefore, college-counseling centers should make resources available for student caregivers in the form of targeted information, support groups, and in-person therapy to ensure that they are able to effectively cope with their role and also learn how to provide optimal care when possible. This would require that college counseling centers

engage in active outreach and health promotion activities to increase awareness about who is an informal caregiver. College counselors should also aim to become familiar with the many therapeutic methods that have been found to be effective for caregivers (Reinhard, Given, Petlick, & Bemis, 2008), and adapt them for use among college students providing care to mentally distressed and/or suicidal peers. These programs can focus on improving caregiver coping as well as strengthen caregiver competence and capacity to provide effective support. Many of these programs can be offered in a group format (Reinhard et al., 2008), minimizing the cost and time associated with their provision. Furthermore, college counseling centers may want to use strategies such as Dialectical Behavior Therapy-based skills training with college student caregivers, as it has been found to be effective for family members of suicide attempters (Rajalin, Wickholm-Pethrus, Hursti, & Jokinen, 2009). Clinicians should be aware of the potential for vicarious traumatization when working with college students with previous experience supporting suicidal peers (McCann & Pearlman, 1990; Sommer, 2008), and should also be aware of the potential for students in peer support groups to be traumatized vicariously by peers with traumatic past experiences as a caregiver. Clinicians should develop strategies to recognize if and when this is occurring (e.g., isolation, loss of compassion, cynicism) (Kress, Trippany, & Wilcoxon, 2004; McCann & Pearlman, 1990), and take appropriate steps to address this potential problem (e.g., supervision, education, coping, caseload)(Kress et al., 2004). Finally, college counseling centers should utilize toolkits developed for medical practitioners to identify methods of providing support to informal caregivers on their campuses (Family Caregiver Alliance, 2006).

The limitations of each of the three studies conducted for this dissertation are outlined in their respective chapters, however there are three limitations to this body of work as a whole. First, all three studies relied on self-reported behaviors and perceptions. For the quantitative studies presented in Chapter 2 and 3, students completing the survey may have inflated or deflated their perceptions of the severity of the vignettes, the perceived costs of helping, the perceptions of the victim, and intention to help the peer. In the qualitative study, participants may have altered their account of their experience due to social desirability or a desire to match their experience to the goals and objective of the research study. Second, all three studies were conducted at the same private, four year university. Therefore, this work, as a whole, has limited generalizability to other universities and colleges. However, the findings of the qualitative study were consistent with informal and formal caregiver experiences in different populations, which suggest that the results of the qualitative study may be more broadly applicable. Finally, across all three studies, the majority of participants were women, which could have impacted the results of both the quantitative and qualitative studies. Specifically, the findings from all three studies may be more applicable to college students that self-identify as women than men.

In spite of these limitations, the three studies presented in this dissertation provide much needed insight into college student experience with suicidal peers. The evidence base in this field is weak, and this research represents a step towards greater understanding of the complexities involved in helping a suicidal peer. Future research is needed to further examine the theory presented in Chapter 4 and begin using it to guide additional studies of college students' caregiving behavior towards both mentally

distressed and suicidal peers. For example, qualitative studies are needed to compare and contrast the experiences of homogenous groups of college student caregivers (e.g., race/ethnicity, gender, relationship to suicidal peer, when event occurred) and to determine if certain characteristics of the foundation, response, and outcomes are unique to certain situations or groups. Qualitative studies should also interview dyads to determine how the experience of the college students providing care contrasts with the experience of the student receiving support. This type of study could shed light upon what elements of the experience make it positive or negative to each party. Quantitative studies are also needed to determine the prevalence of caregiving behavior on college campuses, identify the types of students being cared for in terms of mental health problems and suicidal behavior, and quantify the impact providing support can have on the caregiving student. Finally, quantitative studies should be conducted to test the findings of the grounded theory presented in Chapter 4. This will determine how generalizable the grounded theory is to other college populations, and will allow for quantitative evaluation of linkages between the phases of the model. Conducting these types of research projects will continue to build upon the findings of this dissertation and provide more evidence with which to develop and adapt effective intervention programs targeting college students providing care to suicidal peers.

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