

**Connectedness and suicide prevention in college settings: Directions and implications for
practice**

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ABSTRACT

Comprehensive approaches to suicide prevention on college campuses require a fundamental shift in the paradigm for conceptualizing suicidality, towards new ways of thinking about collective responsibility for safeguarding the vulnerable and building resilience.

We posit that the concept of connectedness offers a useful framework for conceptualizing risk and resilience processes and a roadmap for action. We also suggest that connectedness works in conjunction with group norms to influence behavioral choices; the net result of which may confer protection or risk. We offer a definition of connectedness and discuss the four core components of a connectedness framework. We close with a discussion of the intervention implications for suicide prevention on college campuses.

Key Words: connectedness, suicide prevention, college students,

Introduction

The current college experience is characterized by a seeming paradox. On the one hand, being connected has never been so easy. Young adults coming of age in the electronic era of rapid and easy communication possess a dizzying array of opportunities to be instantly and continuously engaged to individuals and groups next door or thousands of miles away. At the same time, today's young adults face an endless stream of distractions that often result in high levels of stress and lack of sleep as well as social norms and expectations that often cause more stress than joy (how many Facebook friends do *you* have?). And, despite the fact they possess more opportunities than any previous generation to engage in groups and activities of every type they also face greater than ever competition for prized resources and a pace of life that has resulted in higher than ever perceived isolation and anxiety.^{1,2} In short, despite living in an age of hyper-engagement, many contemporary young adults are under-connected to the internal and external experiences that help individuals feel like they matter.

Although typically a memorable and emotionally salient period, the transition to college is an isolating experience for many students. Living away from family, combined with disruptions in long-standing ties and sources of social integration and support for coping, can be destabilizing and significantly interfere with emotional and mental health functioning.^{3,4} Considering the challenges of these college-related transitions and the fact that many serious mental health problems often emerge in late adolescence, it is not surprising that suicide is the second leading cause of death among college students.⁵ Nor is suicide the only mental health challenge faced by college students: depression, anxiety, non-suicidal self-injury, disordered eating, and other forms of mental illness pose significant challenges to well being and are as prevalent among college students as same-aged non-students.⁶

These concerns have resulted in a dramatic increase in suicide intervention and prevention efforts on college campuses over the past two decades. For the most part, suicide prevention efforts on college campuses aim to identify youth already suicidal or at high risk in order to enhance their access to treatment. Gatekeeper training programs,⁷ efforts to lower barriers to help seeking such as stigma,⁸ and raising awareness of campus mental health services⁹ have typically been employed to identify and assist students in obvious psychological distress with only limited impact. However, even if campuses were able to meet the treatment needs of just those students at highest risk, it would be exceptionally expensive and likely to meet only a fraction of the actual need.¹⁰ Nor does such an approach address the significant numbers of students not showing high psychological distress with latent risk factors likely to be activated by academic and interpersonal stresses. In reality, reducing suicide can be realized only through a fundamental shift in the paradigm, away from seeing health professionals as the sole “stoppers” of suicide to one that opens doors to new ways of thinking about collective responsibility for safeguarding the vulnerable and building collective resilience.¹⁰

In this paper we posit that the concept of connectedness offers a useful framework for explaining variation in risk and resilience pertaining to suicide and for articulating a roadmap for action in suicide prevention on college campuses. We also suggest that connectedness works in conjunction with group norms to influence behavioral choices; the net result of which may confer protection *or* risk. Lastly, we close with a discussion of the intervention implications for suicide prevention on college campuses.

What connectedness is... and is not

Case study 1: When a student who was active in athletics, several academic organizations, and a research laboratory took his life, both the student and faculty community

were shocked and dismayed. No one had detected levels of depression or distress capable of explaining his suicide. In the aftermath of his death, however, pieces of the puzzle began to fall into place. The largest piece revolved around the student's struggle with his sexual orientation and the difficulties this posed, both internally and with his family, who he believed, would not have accepted his homosexuality for both cultural and religious reasons. Worried that sharing this aspect of his identity would bring shame upon his family, he voiced concern to friends but never disclosed his feelings to his family. In retrospect it was clear that this conflict also contributed to intense but very conflicted romantic relationships. The day he took his life he argued with friends, and later drank heavily. He committed suicide without warning that night. In the weeks following his death, several student groups said that they wished he would have shared his conflict or become involved in their group because they had experienced the same conflict about sexual orientation and shame in their family cultures. As one student said, "We could have helped him to get perspective and understand that older students had dealt with the same conflicts."

Case study 2: An undergraduate student made a serious suicide attempt that required admission to a medical intensive care unit. On the surface it appeared that the student had many vibrant social connections as a varsity team member, active participant in a variety of social clubs, and many close friends. Her Facebook page was frequently visited and boasted over 1500 "friends" as well as many group affiliations. Although the suicide attempt was puzzling on the surface, the conversations that followed revealed important warning signs. Several members of her community stepped forward in the days following her attempt to share that there had been indications that the student was feeling increasingly disconnected. She was not a starter on the

team and in fact did not play in one game during the season. The coach talked with the student about dropping from the team but after sensing that team membership had meaning for her beyond the athletic opportunities it afforded, the coach allowed her to remain. Her roommates and close friends witnessed an increasing level of distress and despondency as the student's academic performance began to interfere with her likelihood of graduating and pursuing post-graduation goals. Her increasing reliance on alcohol as well as her tendency to become violent when inebriated was also noticed by friends. After her attempt, her friends revealed that they had not said anything because they did not feel that it was their "place" to say anything to her or anyone else.

As these case studies show, in an age where a facile metric of connectedness often translates into a count of Facebook friends, it is important to understand what connectedness is and is not. Individuals may appear meaningfully connected on the outside and still feel very isolated – because they have secrets they are unwilling to share, because they struggle with depression, developmental disabilities or other biopsychological conditions that interfere with relationships, or because they possess internal working models of relationships that impede their ability to engage in authentic relationships. Such private isolation in the midst of public plentitude can cause a schism between the public and private self that may make suicide seem like the only way out.¹¹

Although "connectedness" has been widely promoted as a useful construct for understanding mechanisms in suicidal behavior, precise definitions remain elusive.¹² Definitions include: an enduring and ubiquitous sense of interpersonal closeness with the social world,^{13,14} degree of satisfaction with an environment or relationship,¹⁵ or an internal state which arises

from the product of exchanges between an individual and other persons or collections of people (groups or institutions) that inspire a sense of belonging, care, trust, and respect.^{16,17} For our purposes, we define connectedness as *a psychological state of belonging in which individuals perceive that they are valued, cared for, trusted, and respected by the individuals and communities with whom they are in regular contact (e.g. peers, family, romantic relationships, groups) or in which they are socially or geographically embedded (such as a university, college, or fraternal community)*. Thus defined, we suggest that connectedness is best understood both as a) a psychological state of being, a sense of closeness, embeddedness, and visibility to others in a way that invites or accepts authenticity and b) as a property of a relationship system through which perceptions are generated and norms are transmitted.

Core components of a connectedness framework

The notion of connectedness can be linked in the literature to at least eight distinct conceptual frameworks including but not limited to: a) attachment theory,^{18,19} b) social support theory,²⁰ c) bio-ecological models of human development,^{21,22} d) resilience frameworks,²² e) stage-environment fit theories,²³ f) social development and learning theories,^{24,25} g) social capital theories,²⁶ and h) sense of community framework.^{27,27,28} A thorough review of the contributions made by each of these literatures to the notion of connectedness is beyond the purview of this paper, but a brief synthesis of the overarching derivative components merits attention as it is within these that implications for action reside. When considered together, there exist several core tenants with implications for suicide prevention:

Connectedness is best conceived of and measured as a quality of an individual's psychological state.

Although connectedness may seem to be observable or implied (e.g. one is observed by another to have a large group of friends with whom s/he is believed to share care, trust, and respect), **it is not the observed state but the *perceived* state that serves as the best gauge for one's state of connectedness.** In other words, an individual is most likely to reap the benefits of connectedness when s/he perceives a sense of connection to individuals or collections of individuals even when observed behavior might suggest otherwise. Since social connectedness appears to be related to how other people are represented within oneself^{13,29} one's subjective perception of others and the nature and degree of interpersonal closeness that is experienced is more salient to the self than the actual presence of other people.^{30 31}

Connectedness is fundamentally *dynamic* and is thus reciprocal – it occurs as a result of relational exchange

Perceived connectedness occurs as a result of social relationships, which are mutual and dynamic. Thus, connectedness is both a perceived psychological state and a property of a relationship system within which there is active, reciprocal exchange between individuals or between the individual and a group.¹² As one theorist describes, opportunities to experience a sense of community and, by extension, connectedness arises from “the perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, and the feeling that one is part of a larger dependable and stable structure.”²⁷ The idea that each individual is both actor in and acted upon by the environments they inhabit is a useful element of an action-oriented connectedness framework because it suggests that **the direct experience of connection originates from an individual's active giving and receiving of trust, care, and respect with other individuals or collections of individuals.** This postulate suggests that facilitating

connectedness will be enhanced when opportunities to give of oneself are as available, and expected, as opportunities to receive. It also suggests that when this relationship system is characterized by mutuality and permeability – i.e., openness to the ideas of others – information exchange and influence is heightened. Thus, within the exchanges that promote perceived connectedness, the individual has opportunities to influence others and to be influenced by them, in ways that can be positive and adaptive or maladaptive.

Connectedness is setting-specific but interactive and cumulative

At any given time human beings occupy multiple and diverse social ecologies (e.g. family, peers, school, fraternities or sororities, faith or social groups, etc.). Some of these systems are more proximal than others, that is, they are more likely to influence day-to-day functioning and be emotionally salient to the individual.²¹ Because of this, individuals may experience high degrees of connectedness to one individual or a collection of individuals and low connectedness with others. Despite the fact that interactions in these seemingly distinct social ecologies may feel disparate, research consistently shows that **experiences in one sphere interact with the others in ways that may buffer or augment overall experiences of connectedness or disconnectedness and often show cumulative effects.**^{21,32} The degree of protection conferred by such connectedness depends on a variety of factors but is likely to be affected by the nature of shared norms and beliefs and the way in which experiences of connectedness in the different social ecologies one inhabits (e.g. peer groups or family) interact to produce or thwart an overall sense of mattering and embeddedness.

A sense of connectedness arises from *intrapersonal* experiences as well as *interpersonal* experiences.

The notion of “connectedness” typically connotes interpersonal exchange. In fact, however, individuals form deep attachments to internal representations of themselves (largely through narratives and beliefs about their lives) and abstract concepts or ideas (e.g., justice) as readily as they do to people and institutions, and these attachments play a uniquely powerful role in shaping affect, attitudes, and behaviors.²¹ Indeed, not only do these attachments to core beliefs and narratives about oneself or others shape inner worlds of meaning that may be difficult to see from the outside, they also mediate the receptivity to connectedness with others by serving as filters for external events. Connectedness to core ideas, then, may serve as a protective or a risk factor (Lee, 2001),³⁰ with individuals showing lower social connectedness being more likely to negatively appraise the status and value of their relationships. **The tendency to construct explanatory models of oneself and to seek out (consciously or unconsciously) experiences congruent with one’s core beliefs can ameliorate or enhance perceptions of aloneness that affect psychological distress.**

Empirical Evidence for Relevance of Connectedness to Well Being

The quantity and quality of social ties have been linked with suicide for over a century since Durkheim first posited that a weakening of the bonds that normally integrate individuals into the collective (i.e., “anomie”) is among the chief causes of suicide.³³ In recognition of this association and of the need to move upstream in the suicide prevention chain, the National Center for Injury Prevention and Control, of the Centers for Disease Control and Prevention (CDC), recently identified the promotion of *connectedness* as a strategic direction for their work in the primary prevention of suicide.³⁴ The promotion of connectedness is also highlighted as one of the primary aims in the National Strategy for Suicide Prevention.³⁵ This new orientation is powerful in its acknowledgement that suicide is as much, if not more, a social disease as it is a

biologically-based mental disorder and that effective solutions need to begin long before the idea of ending one's life gains traction in a vulnerable life and mind. This new prevention orientation also grows out of an intuitive understanding that healthy development and wellbeing are intrinsically linked to a sense of belonging and meaning within larger social and community groups.³⁶

The utility of this construct evolves from a growing body of research indicating that connectedness, no matter how conceptualized, confers protection for young people (or risk when absent) for a variety of adverse outcomes including poor body image, emotional stress, poly-drug use, and risk of injury or pregnancy,³⁷ academic performance and school engagement, substance use and delinquency,^{17,24,38,39} violence, and sexual activity.^{38,40-42} Connectedness also shows promise in understanding adolescent suicide-related behaviors. Adolescents who report higher connectedness with family have decreased suicide risk^{41,43,44} and similar relationships are found in studies employing connectedness-like measures (closeness and perceived caring by parents and other family members, and family cohesion).⁴⁵⁻⁴⁹ Similarly, school connectedness is linked to reduced suicide behavior (although results vary by how connectedness is measured) as is connectedness with teachers.^{41,43,48,50} Beneficial effects of school connectedness are found on anxiety, depression and general mental health functioning.⁵¹

However, connectedness to peers may not always confer benefits. For example, whereas connectedness to teachers was protective against initiation of suicidal behaviors in a nationally-representative sample of adolescents (Add Health), general perceived social belonging was not,⁵² a finding that may be attributable to the highly variable role that peer connectedness plays in adolescent behavior. Specifically, greater peer connectedness has been identified as a risk reducing factor for suicidal thoughts and behaviors in some studies^{53,54} and risk promoting in

others. Such variable findings are likely due to the role that norms particular to peer groups play in mediating or moderating the relationship between to whom one is attached and one's behavior (discussed below).

Studies of connectedness in college students

Studies in college settings echo the basic findings about the salutary benefits of connectedness, regardless of how defined, to reduced suicide thoughts and behaviors. For example, studies of social support and social belonging have emerged as strong protective factors in studies of college depression,^{55,56} suicide⁵⁶ and college adjustment difficulties.⁵⁷ Additionally, disruptions in core relationships have been found to increase risk for psychiatric disorders.⁶ Findings from as of yet unpublished studies by Whitlock and Barreira from two distinct data sets echo these results. Both studies show that between 5.8% and 9.2% of students report turning to no one when sad, anxious or depressed, and another 8% - 10% report only 1 confidant. Additionally, these data show a direct, linear relationship between fewer confidants and suicide ideation or action, with over 30% of individuals reporting 1 or fewer confidants also reporting some suicidality. However, as with the connectedness findings related to the role of peer connectedness in adolescence, college studies also urge caution about the role of peer connectedness in exacerbating negative behaviors and experiences, such as the role of fraternity and sorority membership in alcohol use. As will be noted below, efforts to enhance connectedness without consideration of the norms and expectations of the groups to which one becomes connected may increase rather than decrease risk.

An overall sense of social belonging has also been shown to mediate links between a variety of psychological and social indicators (such as parent or peer social support, extraversion, and enculturation) and a number of mental health outcomes such as depression or anxiety.⁵⁸⁻⁶⁰

Although extant research on ethnic and gender differences in social connectedness is scarce, the evidence that does exist suggests that there is little ethnic / racial or gender variation in its predictive power. However there may be meaningful variation in the way social connectedness is constructed. For example, one study reported that for women, relationships that emphasized physical proximity, non-authoritarian and mutual intimate exchange contributed to social connectedness; for men, relationships that emphasized a differentiation of themselves from others through reassurance of their worth, but not through physical proximity, were influential in connectedness.⁶¹

What leads to connectedness and why is it protective?

Understanding what conditions lead to connectedness is important because although the perception of connectedness is a product of behavioral exchange, it is not the same thing as that exchange. However, the literature on the contextual conditions and experiences that lead to connectedness is slim. In general, evidence that is available from stage-environment fit, bio-ecological, resilience and social development frameworks suggest that environments capable of meeting core human needs (physiological, safety, sense of love and belonging, esteem and mastery, and self actualization;⁶² and more temporally salient age-specific developmental needs (such as establishing capacity for sustained intimacy, vocational options and training, etc..) are those in which individuals will be most likely to experience connectedness.¹⁶ This principle illuminates how individuals can experience high degrees of connectedness to unconventional and sometimes damaging groups, such as gangs or politically violent groups, since developmental support and growth can occur independent of the content of group norms.⁶³

Similarly scarce are theoretical treatises on how connectedness confers protection. One possibility, grounded in bioecological models of human development, social learning theory, and

positive psychology, is that connectedness confers protection and facilitates wellbeing by assisting human beings in higher order psychological tasks related to meaning making, mattering, and belonging.⁶⁴ Connectedness does this because the direct living experience of being embedded in internal and external environments characterized by high degrees of care, trust, and respect create conditions in which human beings are most easily able to construct life narratives in which they view themselves as possessing *agency* – the capacity to exercise control over events that effect their lives.⁶⁴ The aforementioned processes are particularly salient for young adults, such as those in college settings, since they are developmentally driven to establish an identity, purpose, and skill set outside of the family and within communities of peers and others who can provide on-going feedback about progress and capacity.⁶⁵ Because of the developmental centrality of these tasks, young adults (and adolescents) are more responsive to external environments than adults and young children who are not directly engaged in creating stories of the self in community contexts.³⁶

Pertaining specifically to reducing risk for suicide in young people, several mechanisms have been proposed for how connectedness may confer protective benefits^{7,53}. First, connectedness may confer overall positive benefits on psychological wellbeing, reduce distress levels associated with the emergence of suicidal ideation, and promote more positive appraisals of stressful situations. Second, youth who have more ties to adults, to peers, and to groups may benefit from the greater number of individuals who are monitoring their behavior, thereby increasing the likelihood that cues of distress will be detected, acknowledged and some action taken that may lead to an interruption in a process leading to suicidal behavior. Third, higher connectedness across social spheres may confer benefits by exposing young people to normative

social influences that encourage positive coping practices such as seeking formal and informal support and reduce maladaptive coping practices (e.g., drinking).

Connectedness, Perceived Norms and Suicide

Individuals bond to other individuals or groups for many reasons, but their shared beliefs, norms, or behavioral patterns, are a central – and often unacknowledged – force in how connectedness impacts wellbeing. The creation of perceived norms is one central mechanism whereby individuals who are closely tied influence each others' behaviors.^{66,67} Norms encompass perceptions of how prevalent or widespread a behavior is, known as descriptive norms, and pressures individuals experience to conform, known as injunctive norms.⁶⁶⁻⁶⁸ Both are constructed and disseminated through communication among members.⁶⁹ Perceived peer norms can be highly impactful on behaviors of young adults and adolescents, congruent with a heightened concern with peer acceptance and consistent with neurobiological models showing that functions pertaining to cognitive or executive inhibitory control of behavior are not fully developed until early adulthood.^{70,71} Both descriptive and injunctive norms, for example, contribute to explaining patterns of alcohol use in college age students.⁶⁷ College students frequently over-estimate how many and how often their peers engage in binge drinking, and such distortions are associated with higher substance use, as are greater perceptions of the negative social costs from abstaining.⁶⁷

Students can experience an increase in their own risk for suicide following a suicide death in their community or suicide attempt of a peer through changes in perceived norms.^{53,70,72} Indeed, the increased risk for suicide accounted for by peer suicidal behavior may be

comparable, or even larger, than the increased odds ratios associated with being depressed⁵³ and the risk conferred after a suicide death in one's social sphere has been reported as 2-4 times higher among 15 – 19 year olds than other age groups.⁷³ Suicide deaths or attempts by peers may promote the idea of suicide as a natural or normative phenomenon instead of a rare event.⁷⁰ The effect of viewing suicide as an acceptable response to distress can be profound. Young people who adhere to views that suicide is an acceptable response to problems are at elevated risk for both planning and attempting suicide.⁷⁴⁻⁷⁷

Some perceived norms may also have a positive, protective effect in reducing risk for suicide. Positive norms that are subject to peer influences include adolescents' perceptions of (a) the extent to which their friends support their using formal and informal sources of help for emotional distress, (b) the acceptability of seeking help for a friend who is in a suicidal crisis, versus adhering to secrecy requests that frequently accompany disclosure of suicidal thinking, and (c) whether capable, trustworthy adults are available to help suicidal friends.⁷⁸

Connectedness and suicide prevention on college campuses: Implications for action

Although suicide intervention and prevention efforts on college campuses are increasingly innovative (e.g., web-based screening programs with proactive outreach)⁷⁹, broader efforts intended to engage multiple levels of the social ecology are required to effect population level changes in suicide risk and behavior. Also required are upstream approaches that reduce risk and enhance resilience among students who may not be at imminent risk for suicide. The next generation of suicide prevention efforts should include systematic assessment and intervention strategies for enhancing connectedness opportunities at all levels of student social ecologies, for altering potentially damaging norms, and for strengthening transmission of positive norms where connectedness already exists.

To a certain extent, the structure of a given college determines the types of interventions that are available to promote connectedness. For example, the nature of residential colleges allows for more opportunities to shape social connections and normative messages than a non-residential college. Yet in both settings the opportunities to include faculty and other mentors, extracurricular activities, sports teams, and social groups in developing meaningful social connections is enormous. Further, the use of electronic social networks transcends living arrangements and can be used in myriad creative ways to establish and maintain connections with and between students. While an exhaustive accounting of the many possible ways connectedness can be engineered on college campuses is beyond the purview of this paper, what follows are a few general recommendations for using the connectedness model to craft suicide prevention strategies on college campuses.

Most colleges rely on the many natural connection opportunities afforded by already existing structures, such as advising, co-rooming (on residential campuses), groups and clubs, and classroom environments. However, making use of the more subtle aspects of how connectedness is formed and maintained can enhance those efforts, through:

Systematic assessment of connectedness among the student body

Assessing and, ideally, tracking changes in levels of perceived connectedness is an important step in identifying preferred types of connectedness for specific students, areas of strength and interest, and gaps in connectedness that place students at elevated risk for suicide. Assessments can be very simple and can include brief questionnaires about specific social connections, global connectedness and isolation as well as assessment of the number and types of individuals to whom students turn for emotional and instrumental support. More detailed

assessment might include assessments of multiple levels of one's social ecology or assessing one or more of the many factors that contribute to or mediate perceived connectedness.

Planned provision of opportunities for meaningful social exchange with targeted outreach to disconnected students

Most universities support and enable an amazing array of opportunities to become involved. For example, many colleges offer summer orientation programs for freshmen to facilitate connections with other freshman and upper class students, become familiar with the college, and ease the transition from home or attempt to identify incoming students who may find adjustment to college particularly challenging, for example, first generation college students or minority students. However, relatively few colleges and universities actively target disconnected students after entry, lacking mechanisms for identifying them and/or strategies for engaging them. Collecting information on connectedness from students over time can be used to identify those at risk (e.g., isolated) and to make overt efforts to increase their connections based on interests. Students who are disconnected at entry, who drop in perceived connectedness over time, or whose primary connectedness networks are remote (e.g., friends or parents away from campus) are all candidates for targeted intervention – particularly if they also show precursors to or evidence of psychological stress or distress. At the same time, collecting and using information about commonalities or mutual interests is an easy and strength-based way to promote connectedness. Similarly, this information can be used to pair students with peers, campus groups, or residence hall advisors with shared interests. Students at moderate or high risk for disconnectedness or who are struggling with mental or emotional health challenges can be identified for more proactive engagement by residence hall staff or faculty advisors by

identifying areas of shared interest and skill and provided with multiple opportunities for engagement.

Consistent messaging and norm changing efforts around the importance of giving and receiving value, care, trust and respect as well as using adaptive coping rather than maladaptive coping to handle difficult emotions

Language about creating caring community may be posted around campus, included in talks given by campus administrators and faculty, and/or may be the focus of active messaging activities and projects by students. Adolescents and young adults, however, are often uncertain about what caring *looks* like in real life and in real contexts. Providing specific, concrete examples of what giving and receiving value, care, trust and respect look like in environments students are likely to inhabit are helpful and quite simple to do (e.g. it is not caring to invite a seemingly depressed friend to attend a party where alcohol is prevalent; find ways to talk to a distressed friend even when it is uncomfortable or it feels like interfering in their business..). Also important is consistent and widespread focus on specific connectedness-enhancing messages. The potency of such messages, however, is directly dependent on the extent to which they are in alignment with the dominant implicit and explicit norms and practices of the community (e.g., as opposed to rewarding students for being over-extended).

There are, unfortunately, an endless number of examples of how the very structure of classes and college life reinforces norms which challenge authentic connection to self and others. For example, if student contact with faculty is limited to the classroom and residential life supervision is provided by fellow students, students and faculty are often isolated from one another. Moreover, in the absence of informal encounters or non-academic or class-specific information about students, faculty may not show interest in the personal and emotional

development of their advisees particularly since academic pressures do not reward faculty for time spent in these advising roles. Because of this, effectively enhancing connectedness on campus will require also addressing the way the college infrastructure reinforces disconnection.

Similarly important is targeting particularly potent or influential individuals or groups. In fraternities or sororities or athletic communities, for example, where norms related to alcohol use, dating relations, and involvement of outsiders in house or group affairs may run counter to efforts to promote productive and healthy campus communities, targeted efforts to change or amend potentially damaging norms may be needed. Working with members of these communities to craft concrete messages and to establish referral networks where students or staff can go for assistance when uncertain about how to address unclear or ambiguous situations is an important first steps in changing climates which may inadvertently result in high perceived disconnectedness among vulnerable students.

Engage multiple social ecologies – particularly those most proximal

Students enter and go through college as members of multiple social ecologies. Despite the fact that most college students are living away from home for the first time, many remain highly connected to parents and to friends, and other adults at home. Indeed, in unpublished data from a 2007 study of adolescent mental health on college campuses, Whitlock and colleagues found that 28 % of all undergraduate students, regardless of their year in school, reported talking to their mother or father at least once every day and the majority of these reported confiding in their parents when they are emotionally upset. Moreover, it is well established that adolescents and young adults most often go to peers as their primary confidantes for problems, including for suicide problems.⁸⁰ Effective efforts to enhance connectedness on college campuses will maximize the role of these multiple ecologies by identifying and engaging informal as well as

formal gatekeepers, such as parents and peers. Moreover, since disconnectedness across multiple key domains is a risk factor for suicide and connectedness across multiple domains is a protective factor, assessing individual connectedness across social domains is important.

The special role of peers in connectedness

Peers play a critical role in enhancing (and thwarting) perceived connectedness. They are, however, are often ill-equipped to assist a friend, and efforts to assist young adults in knowing when and how to notice and respond are nascent, although many gatekeeper programs are expanding to train students in addition to staff and other adults. Moreover, colleges provide a reliable and rich setting for social networking with significant potential for shaping and modifying social norms that may inadvertently reinforce suicide risk – such as the danger of “helping” a seemingly depressed friend by encouraging partying or through using consciousness altering substances, such as alcohol, to “feel better.” In this instance the goal is to affect the norms of student groups using social network ties. As are common in peer education or leadership programs used in offices of alcohol prevention and sexual assault prevention, focused mental health messaging campaigns can emphasize positive peer assistance norms by addressing specific practices which may compromise mental health. Also useful is building in messaging and programs for enhancing emotional and mental health literacy, and reducing stigma in communication about emotional or sensitive issues (while being mindful of cultural appropriateness). Promising peer leader suicide prevention programs developed for secondary schools, may be adapted to college and university settings. Targeting protective norms through interventions led by ‘peer opinion leaders,’ such as the Sources of Strength model^{78,81}, has the potential to strengthen peer capacity to support adaptive coping with depression and other forms of distress and can be easily adapted to college settings.

Provide opportunities and incentives to provide service to the larger community

Providing service to others, regardless of the initial motivation, is a powerful vehicle for enhancing connectedness – both the inter and intrapersonal dimensions– because it offers opportunities for reciprocal exchange of care, trust, value, and respect and because it satisfies deep human and developmentally salient needs for meaning making, mastery, and meaningful roles⁸². Unfortunately, despite the benefits of service opportunities they are rarely, if ever, mandated as part of a college curriculum. Moreover, they are also often most available and most availed by students who are already connected – either because the program itself is available only to individuals who fit a set of criteria most often associated with highly connected student profiles (such as high minimum GPA) or because students must take initiative for seeking out and capitalizing on opportunities. Mandating service for all students, actively recruiting or reaching out to disconnected students, mandating service for students on academic probation or who are otherwise likely to be facing developmentally disconnecting experiences, and assuring that service opportunities are not structured to favor already connected students are all important first steps in capitalizing on the reciprocal nature of connectedness.

Enhance skill building opportunities aimed at enhancing personal readiness for capitalizing on connectedness opportunities

Because connectedness is primarily a state of mind fueled by a set of beliefs, narratives, and/or feelings about one’s place in the many social ecologies he/she does or does not occupy or can or cannot occupy, connectedness will be substantially enhanced when individuals are equipped to identify and question core beliefs that interfere with connectedness. These beliefs operate in many ways – a) as filters for existing external experiences and relationships (such as is

evident in both case studies where assumptions about relationships to salient individuals or groups precipitated a serious and, in one case lethal, sense of isolation), b) as inhibitors or facilitators of receptivity to possible connectedness opportunities, and c) as explanatory models for past experiences which often serve to shape or reinforce (a) and (b) above. Not all individuals, of course, require formal training to know how to cognitively frame or reframe potentially disconnecting experiences or how to open oneself to connective experiences, but students who have experienced multiple forms of disconnectedness or who are otherwise vulnerable to perceived isolation will undoubtedly benefit from self-reflective skill building.

Conclusion

Comprehensive approaches to suicide prevention requires a fundamental shift in the paradigm for conceptualizing suicidality. We argue that connectedness-based frameworks offer useful roadmaps for action in suicide prevention on college campuses. This contention is founded on the growing understanding that preventing suicide starts at home, in schools, and in communities – not when someone’s suffering becomes intractable or enters a therapist’s office. Moreover, in the wake of repeated suicide and suicide prevention efforts we have learned another valuable lesson: we should not be preventing suicide. Instead, we should be promoting life. Research shows unequivocally that when we increase a sense of connectedness, belonging, meaning, and mattering, we decrease mental illness, including suicide. This is more than a linguistic caveat, it is brings with it an entirely different orientation than frameworks intended to prevent bad events. Colleges and university settings offer an invaluable opportunity to prevent suicide and promote thriving through active engagement in connectedness building efforts.

References

1. Twenge J.M., Gentile B., DeWall C.N., Schurtz D.R., Ma D., Lacefield K. Birth cohort increases in psychopathology among young Americans, 1938-2007: a cross-temporal meta-analysis of the MMPI. *Clin.Psychol.Rev.* 2010;30(2):145-154.
2. Twenge JM. The age of anxiety? Birth cohort change in anxiety and neuroticism, 1952 - 1993. *Journal of Personality and Social Psychology.* 2000;79(6):1007-21.
3. Dyson R, Renk K. Freshmen adaptation to university life: depressive symptoms, stress, and coping. *J Clin Psychol.* 2006;62(10):1231-44.
4. Stroebe M, van Vliet T, Hewstone M, Willis H. Homesickness among students in two cultures: antecedents and consequences. *Br J Psychol.* 2002;93(2):147-168.
5. Kochanek KD, Smith BL. Deaths: preliminary data for 2002. *National vital statistics reports : from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System.* 2004;52(13):1-47.
6. Blanco C, Okuda M, Wright C, et al. Mental health of college students and their non-college-attending peers: results from the National Epidemiologic Study on Alcohol and Related Conditions. *Arch Gen Psychiatry.* 2008;65(12):1429-37.
7. Wyman PA, Brown CH, Inman J, et al. Randomized trial of a gatekeeper program for suicide prevention: 1-year impact on secondary school staff. *J Consult Clin Psychol.* 2008;76(1):104-15.

8. Eisenberg D, Downs MF, Golberstein E, Zivin K. Stigma and help seeking for mental health among college students. *MCCR*. 2009;66(5):522-41.
9. Westefeld JS, Homaifar B, Spotts J, Furr S, Range L, Werth JL, Jr. Perceptions concerning college student suicide: data from four universities. *Suicide and life threatening behavior*. 2005;35(6):640-645.
10. Drum DJ, Brownson C, Denmark AB, Smith SE. New data on the nature of suicidal crises in college students: shifting the paradigm. *Professional Psychology Research and Practice*. 2009;40(3):213-222.
11. Goffman E. *The presentation of self in everyday life*. Garden City, N.Y.: Doubleday; 1959.
12. Barber BK, Schluterman JM. Connectedness in the lives of children and adolescents: a call for greater conceptual clarity. *Journal of adolescent health: official publication of the Society for Adolescent Medicine*. 2008;43(3):209.
13. Lee RM, Robbins SB. Measuring belongingness: the social connectedness and the social assurance scales. *Journal of counseling psychology*. 1995;42(2):232.
14. Barber BK, Stolz HE, Olsen JA. Parental support, psychological control, and behavioral control: assessing relevance across time, culture, and method. *Monographs- Society for Research in Child Development*. 2005;70(4):ALL.
15. Eisenberg ME, Neumark-Sztainer D, Perry CL. Peer harassment, school connectedness, and academic achievement. *J Sch Health*. 2003;73(8):311-6.

16. Whitlock J. Youth Perceptions of Life at school: Contextual correlates of school connectedness in adolescence. *Applied Developmental Science*. 2006;10(1):13-29.
17. McNeely C, Whitlock J, Libby H. School connectedness and adolescent well-being. In: Christenson SL, Reschly AL, eds. *Handbook on School-Family Partnerships for Promoting Student Competence* ; 2009.
18. Bowlby J. *Attachment and loss*. New York: Basic Books; 1969.
19. Ainsworth MD. Attachment beyond infancy. *American Psychologist*. 1989;44:709-716.
20. Brown, S. D., Brady, T., Lent, R. W., Wolfert, J., & Hall, S. Perceived social support among college students: three studies of the psychometric characteristics and counseling uses of the Social Support Inventory. *Journal of Counseling Psychology*. 1997;34:337-354.
21. Bronfenbrenner U, Morris PA. The ecology of developmental processes. In: R. M. Lerner, ed. *Theoretical models of human development. Volume 1 of Handbook of Child Psychology (5th ed.)*. New York: Wiley; 1998.
22. Werner EE, Smith RS,. *Journeys from childhood to midlife : risk, resilience, and recovery*. Ithaca, N.Y.: Cornell University Press; 2001.
23. Eccles JS, Midgley C, Wigfield A, et al. Development during adolescence. The impact of stage-environment fit on young adolescents' experiences in schools and in families. *Am Psychol*. 1993;48(2):90-101.

24. Catalano RF, Berglund ML, Ryan JAM, Lonczak HS, Hawkins JD. Positive youth development in the United States: research findings on evaluations of positive youth development programs. *The Annals of the American Academy of Political and Social Sciences*. 2004.
25. Bandura A. Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*. 1977;84(3):191-215.
26. Coleman JS. Social capital in the creation of human capital. *American Journal of Sociology*. 1988;94(supp):S95-S120.
27. Sarason SB. *The psychological sense of community; prospects for a community psychology*. San Francisco: Jossey-Bass; 1974. (pp. 11)
28. McMillan DW, Chavis DM. Sense of community: a definition and theory. *Journal of Community Psychology*. 1986;14(1):6-23.
29. Lee RU, Robbins SB. The relationship between social connectedness and anxiety, self-esteem, and social identity. *Journal of Counseling Psychology*. 1998;45(3):338.
30. Lee RM, Draper M, Lee S. Social connectedness, dysfunctional interpersonal behaviors, and psychological distress: testing a mediator model. *Journal of Counseling Psychology*. 2001;48(3):310.
31. Hunt J, Eisenberg D. Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health : official publication of the Society for Adolescent Medicine*. 2010;93(1):3.

32. Sameroff AJ. Stability of intelligence from preschool to adolescence: the influence of social and family risk factors. *Child Dev.* 1993;64(1):80-97.
33. Durkheim É. *Suicide, a study in sociology.* Glencoe, Ill.: Free Press; 1951.
34. US Department of Human Services. Centers for Disease Control and Prevention. *School connectedness: strategies for increasing protective factors among youth.* 2009:3/10.
http://www.cdc.gov/HealthyYouth/AdolescentHealth/pdf/connectedness_administrators.pdf.
35. United States. Public Health Service. *National strategy for suicide prevention : goals and objectives for action.* Rockville, MD: U.S. Dept. of Health and Human Services, Public Health Service; 2001.
36. Baumeister RF, Leary MR. The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychol Bull.* 1995;117(3):497.
37. Resnick MD, Harris LJ, Blum RW. The impact of caring and connectedness on adolescent health and well-being. *J Paediatr Child Health.* 1993;29:3-9.
38. Battistich V, Solomon D, Watson M, Schaps E. Caring school communities. *Educational Psychologist.* 1997;32(3):137-151.
39. Bond L, Patton G, Glover S, et al. The Gatehouse Project: can a multilevel school intervention affect emotional wellbeing and health risk behaviours? *J Epidemiol Community Health.* 2004;58(12):997-1003.

40. Catalano RF, Haggerty KP, Oesterle S, Fleming CB, Hawkins JD. The importance of bonding to school for healthy development: findings from the social development research group. *Journal of School Health*. 2004;74(7):252.

41. Jennifer W. Kaminski, Richard W. Puddy, Diane M. Hall, Sandra Y. Cashman, Alexander E. Crosby, LaVonne A. G. Ortega. The relative influence of different domains of social connectedness on self-directed violence in adolescence. *J Youth Adolescence*. 2009.

42. Crosnoe R, Johnson MK, Elder GH. Intergenerational bonding in school: the behavioral and contextual correlates of student-teacher relationships. *Sociology of Education*. 2004;77(1):60-81.

43. Borowsky IW, Ireland M, Resnick MD. Adolescent suicide attempts: risks and protectors. *Pediatrics*. 2001;107(3):485-93.

44. McKeown RE, Garrison CZ, Cuffe SP, Waller JL, Jackson KL, Addy CL. Incidence and predictors of suicidal behaviors in a longitudinal sample of young adolescents. *J Am Acad Child Adolesc Psychiatry*. 1998;37(6):612-9.

45. Resnick MD, Bearman PS, Blum RW, et al. Protecting adolescents from harm: findings from the national longitudinal study on adolescent health. *JAMA*. 1997;278(10):823-832.

46. Rubenstein JL, Heeren T, Housman D, Rubin C, Stechler G. Suicidal behavior in "normal" adolescents: risk and protective factors. *Am J Orthopsychiatry*. 1989;59(1):59-71.

47. Borowsky IW, Ireland M, Resnick MD. Adolescent suicide attempts: risks and protectors. *Pediatrics*. 2001;107(3):485-493.

48. Eisenberg ME, Ackard DM, Resnick MD. Protective factors and suicide risk in adolescents with a history of sexual abuse. *J Pediatr*. 2007;151(5):482-7.
49. Eisenberg ME, Resnick MD. Suicidality among gay, lesbian and bisexual youth: the Role of protective factors. *Journal of Adolescent Health*. 2006;39(5):662-668.
50. Resnick MD, Bearman PS, Blum RW, et al. Protecting adolescents from harm. Findings from the National Longitudinal Study on Adolescent Health. *JAMA*. 1997;278.
51. Shochet IM, Dadds MR, Ham D, Montague R. School connectedness is an underemphasized parameter in adolescent mental health: results of a community prediction study. *Journal of Clinical Child and Adolescent Psychology*. 2006;35(2):170-179.
52. McNeely C, Falci C. School connectedness and the transition into and out of health-risk behavior among adolescents: a comparison of social belonging and teacher support. *Journal of School Health*. 2004;74(7):284.
53. Bearman P, Moody J. Suicide and friendships among American adolescents. *American Journal of Public Health*. 2004;94(1):89-95.
54. Donald M, Dower J, Correa-Velez I, Jones M. Risk and protective factors for medically serious suicide attempts: a comparison of hospital-based with population-based samples of young adults. *Aust N Z J Psychiatry*. 2006;40(1):87-96.
55. Armstrong S, Oomen-Early J. Social connectedness, self-esteem, and depression symptomatology among collegiate athletes versus nonathletes. *Journal of American College Health*. 2009;57(5):521-526.

<http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2009-04011-006&site=ehost-live>.

56. Wilcox HC, Arria AM, Caldeira KM, Vincent KB, Pinchevsky GM, O'Grady KE. Prevalence and predictors of persistent suicide ideation, plans, and attempts during college. *Journal of Affective Disorders*. in press.

57. Duru E. The predictive analysis of adjustment difficulties from loneliness, social support, and social connectedness. *Kuram ve Uygulamada Eğitim Bilimleri*. 2008;8(3):849-856.
<http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2009-08566-006&site=ehost-live>.

58. Lee RM, Dean BL, Jung K. Social connectedness, extraversion, and subjective well-being: testing a mediation model. *Personality and Individual Differences*. 2008;45(5):414-419.
<http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2008-10126-017&site=ehost-live>.

59. Marshall HM. *Social connectedness as a mediating factor in the relationship between psychological distress and selected health behaviors of college students*. ProQuest Information & Learning; 2008.

60. Yoon E. *Acculturation, social connectedness, and subjective well being*. ProQuest Information & Learning; 2006.

61. Lee RM, Keough KA, Sexton JD. Social connectedness, social appraisal, and perceived stress in college women and men. *Journal of Counseling & Development*. 2002;80(3):355-361.

<http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2002-15622-013&site=ehost-live>.

62. Maslow AH. *Toward a psychology of being*. Princeton, N.J.: Van Nostrand; 1968.

63. Barber BK. Contrasting portraits of war: youths' varied experiences with political violence in Bosnia and Palestine. *International Journal of Behavioral Development*. 2008;32(4):298.

64. Bandura A. Toward a psychology of human agency. *Perspectives on Psychological Science*. 2006;1(2):164-180.

65. Whitlock J. The role of adults, public space, and power in adolescent community connectedness. *Journal of Community Psychology*. 2007;35(4):499.

66. Cialdini RB, Reno RR, Kallgren CA. A focus theory of normative conduct: recycling the concept of norms to reduce littering in public places. *J Pers Soc Psychol*. 1990;58(6):1015-1026.
<http://search.ebscohost.com/login.aspx?direct=true&db=pdh&AN=psp-58-6-1015&site=ehost-live>.

67. Rimal RN, Real K. Understanding the influence of perceived norms on behaviors. *Communication Theory*. 2003;13(2):184-203.

68. Lapinski MK, Rimal RN. An explication of social norms. *Communication Theory*. 2005;15(2):127-147.

69. Kincaid DL. From innovation to social norm: bounded normative influence. *J Health Commun.* 2004;9:37-57.
70. Insel BJ, Gould MS. Impact of modeling on adolescent suicidal behavior. *Psychiatric Clinics of North America.* 2008;31(2):293-316.
71. Kindlon DJ. The measurement of attention. *Child Psychology and Psychiatry Review.* 1998;3(2):72-78.
72. Hazell P. Adolescent suicide clusters: evidence, mechanisms and prevention. *Aust N Z J Psychiatry.* 1993;27(4):653-65.
73. Gould MS, Wallenstein S, Kleinman M. Time-space clustering of teenage suicide. *Am J Epidemiol.* 1990;131(1):71-8.
74. Boldt M. Normative evaluations of suicide and death: a cross-generational study. *Omega: Journal of Death and Dying.* 1982;13(2):145-57.
75. Butler JW Jr, Novy D, Kagan N, Gates G. An investigation of differences in attitudes between suicidal and nonsuicidal student ideators. *Adolescence.* 1994;29(115):623-38.
76. De Wilde EJ, Kienhorst IC, Diekstra RF, Wolters WH. The specificity of psychological characteristics of adolescent suicide attempters. *J Am Acad Child Adolesc Psychiatry.* 1993;32(1):51-9.
77. Joe S, Romer D, Jamieson PE. Suicide acceptability is related to suicide planning in U.S. adolescents and young adults. *Suicide and Life-Threatening Behavior.* 2005;37(2):165-178.

78. Wyman PA, Brown CH, LoMurray M, et al. An outcome evaluation of the Sources of Strength suicide prevention program delivered by adolescent peer leaders in high schools.

American Journal of Public Health. 2010;100(9):1653-1661.

79. Haas A, Koestner B, Rosenberg J, et al. An interactive web-based method of outreach to college students at risk for suicide. *Journal of American College Health.* 2008;57(1):15-22.

80. O'Donnell L, Stueve A, Wardlaw D, O'Donnell C. Adolescent suicidality and adult support: the reach for health study of urban youth. *Am J Health Behav.* 2003;27(6):633-644.

81. LoMurray M. Sources of Strength facilitators guide: suicide prevention peer gatekeeper training. 2005.

82. Eccles JS, Gootman JA, National Research Council (U.S.). Committee on Community-Level Programs for Youth., National Research Council (U.S.). Board on Children, Youth, and Families., Institute of Medicine (U.S.). *Community programs to promote youth development.* Washington, DC: National Academy Press; 2002.