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Is Peer Health Education Healthy: Examining the Susceptibility of Peer Educators to Emotional Contagion

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Is Peer Health Education Healthy:
Examining the Susceptibility of Peer Educators to Emotional Contagion

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This thesis paper has been examined and approved.

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Abstract

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This paper examines the role of peer educators within Peer Health Education programs, specifically focusing on their susceptibility to emotional contagion. As various studies have identified the potential effect of emotional contagion within positions similar to PHE (ie. counseling, therapy, etc..), the susceptibility of peer educators to this contagion must be analyzed. The present study seeks to draw connections between PHE and emotional contagion, building our understanding of both topics and how they connect. Peer educators from across the country were contacted and asked to complete an online survey, which examined their general and PHE specific demographics, susceptibility to emotional contagion in a general and PHE specific setting, resilience, and potential lingering effects of emotional contagion. Through multiple types of analysis, including correlations, regressions, and univariate one-way ANOVA's, results regarding the susceptibility of peer educators to emotional contagion, resilience, and the lingering effects of emotional contagion were inconclusive. However, this study elevates essential information regarding peer educators within PHE. Despite a review of literature suggesting the potential applicability of emotional contagion among peer educators, participant responses were varied. Further, responses to resilience varied as well. An examination is aimed at why peer educators do not reliably respond to emotional contagion and resilience scales. Further, this study provides insight into the theoretical

mechanisms within Peer Health Education, ultimately advancing our understanding of the

program as a whole.

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I would like to thank everyone that helped make this project not on possible, but successful. Any project of this magnitude is a challenge, but the countless individuals who facilitate its development have been essential in my own growth and progress as an academic.

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Chapter 1: Introduction

Due to an increase in college admissions across the nation, more campuses than ever have begun utilizing peer health education. Peer Health Education is defined as a group of trained student educators who serve as a point of contact for their fellow students and peers, focusing on issues ranging from sexual health to drug use (Turner & Shepherd, 1999, p. 235; *PHE*). As these individuals interact with students about personal topics, the educators are often exposed to emotionally burdensome information. Therefore, it is vital to question the effect of PHE on the educators themselves, as Kornman (2001) identifies the likelihood of individuals discussing intense and emotional feelings to become susceptible to *emotional contagion*, or the transfer of emotion from one individual to another. Since peer health educators often act as peer counselors to others, listening to and discussing highly emotional topics, how emotional contagion will affect the educator during an interaction, or possibly into the future, is concerning and warrants further research. Through examining the peer educator's role within PHE, examining the theoretical underpinnings of the program, as well as the credibility of peer educator's, allows for examination of features that diminish credibility, such as emotional contagion. This study examines the likelihood of health educators to becoming susceptible to emotional contagion, and discusses the implications associated with how this contagion may influence the communication of the educator in future interactions with students seeking help.

Since the late 1980s and throughout the 90s, Peer Health Education programs have been flourishing across the nation (Sloan & Zimmer, 1993; PHE). Described as "an approach to health promotion, where community members encourage safe lifestyle

decisions concerning […] high-risk behaviors," PHE has become a vital and widely

utilized resource on college campuses (UNICEF, 2012; BACCHUS, 2012). However,

due to wide interest in the effect of this program on peers who seek help, analysis of peer

education's influence on the educator themselves is lost. This has left half of the equation

untouched, with no true understanding into the effect of PHE on the educators within the

program. This is especially concerning as Family Health International (2005) identifies

the greatest influence of PHE is on the educator rather than on students seeking help. As

being a peer educator could require the adoption of specific characteristics and processes,

the educator is shaped and influenced through this organization. Therefore, since the

educator is significantly influenced through their role within PHE, it is imperative to

examine these members to better understand the workings of the program as a whole.

Additionally, the American College Health Association (2007) lists PHE as 1 of 13

utilized sources of health information for college students. Therefore, peer educators

within these programs are trusted to communicate and interact with at-risk students in

one-on-one situations.

Considering the significant impact peer educators have over students seeking help

from PHE, it is essential to fully understand the educators in addition to understanding

the program itself. Very little research has investigated the effect of emotional contagion

on peer educators within the field of health communication. Though some examine

"emotional contagion" and others analyze "peer health education," none combine these

concepts into a single, exploratory analysis of one's effect on the other (e.g. Hatfield,

Cacioppo, & Rapson, 1994; Gould & Lomax, 1993; Sloane & Zimmer, 1993). To fill the

current gap within the discipline regarding these concepts, this research focuses on how

peer educators are influenced through interactions with students. By conducting this research, via quantitative surveys, an empirical understanding of the role of the peer educator within PHE as a program is advanced. Additionally, this research will promote an understanding of PHE as a program through better awareness of the various ways peer educators may impact the program.

As the purpose of this study was to analyze how peer educators are affected following emotional conversations with students, this research provides insight into the effect of emotional contagion. Further, an examination of emotional contagion within PHE advances research in a novel way to study peer educators' susceptibility to the emotions of students they interact with in their role.

The results of this study are relevant to PHE programs across the nation. The results suggest a need to train and prepare peer educators to avoid such contagion. The susceptibility to emotional contagion may shift a peer educator's perceived credibility and how they respond within their role. As weaknesses of PHE could also be identified, this study may provide PHE information regarding ways to highlight the occurrence of emotion contagion among its educators.

The following review covers the theoretical foundation of the program, and advances an argument regarding susceptibility to emotional contagion among peer health educators. While emotional contagion has been widely studied within professional counselors and therapist's occupations, this study fills a missing link within the ever-growing PHE literature. Additionally, the paper draws connections between Peer Health Education training and susceptibility to emotional contagion and ends with a discussion of the current findings and potential implications for the PHE program as a whole.

Chapter 2: Literature Review

Health Education

Though studies have only recently started reviewing the efficacy of Peer Health

Education (PHE) over the past 20 years, the existence of such programs have been

around for much longer. The concept of health education was addressed in literature as

early as 1836, where a Massachusetts college provided courses on hygiene and personal

health (Sloane & Sloane, 1986, p. 272). This educational opportunity spurred a change in

the approach to health education, as until this point health education was solely aimed to

link hygiene to the study of anatomy (Rogers, 1936, p. 6). With this shift came a

significant increase in the demand for health education.

Throughout the remainder of the 19th century, "the principles of health education

were initially introduced to college students through the efforts of the first instructors in

physical education" (Sloane & Sloane, 1986, p. 271). Dr. Edward Hitchcock was perhaps

the most prominent pioneer of health education during this time period. Creating different

health education programs to fulfill the colleges role in "combatting the failing health of

nineteenth-century students" (p. 271), Hitchcock was the first person to separate health

education into its own, distinct discipline (Boynton, 1962, p. 294).

Over the course of the next century, health education continued to shift to respond

to the concepts of healthy lifestyles (Boynton, 1952, p. 4). Though just formed in the

1900's and still in the developmental stages, Dr. Hitchcock's health education programs

"were the prototypes of the present-day [...] health education programs" (Sloane &

Sloane, 1986, p. 271). Up to this point health education revolved around a

medical/anatomical approach, Hitchcock's shift allowed the program to focus on the

individual within the program. Dr. Hitchcock designed the programs to educate on

nutritious dieting, the dangers of heavy drinking or smoking, healthy sexual behaviors

and much more. Thus, for the first time in history, health education was founded to focus

on the individual student within the program.

  As health education programs became more developed under the advisement of

Dr. Hitchock, the implementation of similar programs spread across the nation

(Allegrante et al., 2004). Rockefeller Philanthropies, a privately funded organization that

worked to define the health education field, added greatly to the development of this

discipline over the course of the early 20th century (Fee & Rosenkrantz, 1991). Through

this funding and progress, a growing number of universities and colleges began

employing physicians who would implement health education programs.

  The growth of health education was furthered more through World War I, as a

majority of state universities established separate, staffed health service programs within

their school (Forsythe, 1914, p. 1928). Additionally, due to the record number of

physically ineligible draftees for WWI, multiple health programs were further staffed

across the nation (Sloane & Sloane, 1986, p. 272). As Mitchell (1930) identifies in a

survey administered to New York state schools in the early 20th century, prior to 1900 not

one major school had a separate health education program while after 1930 all did (p.

1283). As health education continued to develop throughout the early 20th century,

research expanded regarding the utilization and implementation of health education.

Throughout the 1950s, the Asian influenza epidemic, an avian flu outbreak originating

from China, was in full swing (Helm, Knipmeyer, & Martin, 1972). As death tolls in the

United States were reaching close to 70,000 deaths, health education programs across the

nation began including health promotion and risk reduction surrounding this outbreak within their programs (Zapka & Mazur, 1977). Thus, this time period acted to ground the concept of health education as a legitimate field of study within the education system.

Peer Education

Though many colleges continued to employ methods of professional health practitioners to administer health education, in 1957 the University of Nebraska took an alternative approach. For the first time since the foundation of health education, a group of students, rather than professionals, were used to spread this health-related information to their peers. This new model, termed Peer Health Education, became defined as "the teaching or sharing of health information, attitudes, values, and behaviors by members of groups who are similar in age or experiences" (White, 1994, p. 24). Ultimately, this University of Nebraska model of health education skyrocketed in popularity and was implemented in most colleges and universities across the nation within the next few years (Gould & Lomax, 1993, p. 235).

As health education was molded to incorporate peer influence, the model of PHE was continually developed. Peer Health Educators spread health-related messages through a multitude of means, including: one-on-one counseling, small-group presentations, play performances that role model scenarios, outreach programs enacted in student living areas, and many others (Sloane & Zimmer, 1993, p. 243). Though slightly different from the initial model of health education introduced by Hitchcock, the overall aim of peer education was the same, to spread health-related information to college students.

Gould and Lomax (1993) suggest a few reasons for why this new, diverse approach to health education became accepted and integrated so quickly. In the 1960's, the American College Health Association (ACHA) became a major proponent of PHE, ultimately perpetuating the implementation of the program. Through sponsorship of "regular 2-day peer education conferences," in collaboration with the US Public Health Service, [and] Centers for Disease Control and Prevention, the ACHA spread awareness of PHE to colleges that otherwise would have been unaware (Gould & Lomax, 1993, p. 235). Further, due to major budget cutbacks effecting schools across the nation, many campuses realized PHE could have similar far-reaching benefits at manageable expenses (Sloane & Zimmer, 1993, p. 242). Thus, the combination of these, and other, factors allowed PHE to flourish as a social benefit and gain increased attention within the academic world. PHE was viewed as an effective program throughout the remainder of the 20th century, due in part to the plethora of rising health-related issues spanning from the 1950's to today (Gould & Lomax, 1993).

Though PHE began due to the influenza outbreak in the 1950's, the 1960's brought with it behaviors involving illicit drug use. Thus, PHE was highly utilizing during this period to illustrate the consequences with drug use (White Park Israel & Cordero, 2009, p. 497). During the 1970's, PHE focused on birth control and other sexually healthy behaviors. In the 80s and 90s, health behaviors surrounding drug use, healthy activity on campus and HIV prevention were further emphasized (p. 497).

A noteworthy contribution to the continued implementation of PHE over the years has been reported as effective through different research reports and publications. For example, Richie and Getty (1994) found that those who attended a PHE program

"reported higher rates of HIV testing, use of condoms, and discussion of sexual health issues with their partners than did students who did not attend such programs" (p. 164). Research of this nature added strong support to the useful application of PHE on campuses, and highlighted the effectiveness of PHE as a program. Attempting to replicate such supporting data, a meta-analysis of 47 PHE studies found that peer influence facilitated healthy lifestyle development in ages 13-22 to a greater effect than peers outside of a PHE program (Posavac, Kattapong, & Dew, 1999). This study, along with others, acted to ground Peer Health Education within the academic environment, leading it to be a program still implemented and utilized today.

Theoretical Principles Underlying PHE

Turner and Shepherd (1999) have identified specific theoretical approaches applicable to Peer Health Education that are useful to conceptualize and model the communicative mechanisms relevant to the program. For the purpose of this study, we will analyze four theories to better understand how the credibility of peer educator's contributes to the program and how it may be negatively influenced by emotional contagion. This examination provides a framework for how to further examine peer educators and the efficacy of the PHE program.

Since the late 1950s, the role of peer educators has become an integral aspect to the success of the program. As peer involvement is the entire basis for PHE, various theories have been investigated to better understand the role of peers within social settings and interactions. A review of four key theories is provided to illustrate a theoretical understanding of the underlying communication processes that contribute to the PHE program. Within this review, the theories of Social Learning, Social Norms,

Normative Behavior, & Planned Behavior are discussed to elevate the current understanding regarding the communicative role of peer educators, and to contribute to an overall understanding of Peer Health Education and its efficacy among college students.

<u>Social Learning Theory</u>

One of the most applicable theories to PHE is the Social Learning Theory (Bandura, 1977; Peck et al., 1981; SLT). This theory argues how modeling actively contributes and influences the learning process, allowing observed behaviors to be adopted by an individual (Turner & Shepherd, 1999, p. 237). As Bandura (1977) contends, when individuals model behavior and receive reinforcement for that behavior, they are more willing to repeat that action in the future. SLT illustrates how behavior modeling greatly impacts the learning process of certain material, especially involving information about social behaviors.

Many studies have documented how SLT links closely to peer educator credibility (defined as the ability to be trusted and believed by others) (Tseng & Fogg, 1999). Since the PHE program relies on the credibility of the peer educators to make students feel comfortable and safe when seeking help, it is vital for the educators to be perceived as credible. Wiist & Snider (1991) and Kelley et al. (1991) both produced similar studies that showed successful peer educators as being credible individuals and "popular opinion leaders within [the] communit[y]." Kelley et al. furthers that these educators sufficiently demonstrate health promotion through role modeling and continued prompting of health information.

As studies have noted elements of credibility within Peer Health Education, the social learning theory is extremely applicable to understanding some of the mechanism that contribute to the overall communication process of the program. However, the focus of Peer Health Education as credible requires further analysis and empirical support. As the Social Learning Theory identifies a need for behavior modeling and reinforcement to acquire and maintain credibility, it is necessary to further investigate the overall effect of these elements on peer educators and students seeking help. While modeling can work to elevate the likelihood of positive behavior, modeling poor behavior can lead to damaging behaviors and characteristics. Thus, further development of the link between SLT and peer educator credibility could greatly benefit overall understanding regarding the mechanisms that underlie the communication process integral to the PHE program. Learning social behaviors can be influenced by many aspects within an environment, especially elements associated with social norms.

Social Norms Theory

Social Norms Theory (Baric, 1977; SNT) accounts for the extent in which generalities produced by a group of people ultimately drive the behaviors within that group. While further exploring this concept, it was found that college students across the nation held exaggerated beliefs about the frequency and "consumption habits of other students with regards to alcohol" (1977). This concept of exaggerated frequency of alcohol consumption was determined to further perpetuate excessive drinking within the college setting (Perkins, 2006). Thus, the SNT was developed to attribute perceived norms within a community to behaviors of individuals within that

community. As individuals will adapt behaviors they view as socially normative to become a part of the group, their perception of social norms acts as a mechanism that drives the behavior outcomes of the group. The theory notes that individuals must express the facts regarding the frequency of a behavior to decrease the exaggerated norms of that behavior. As perceived norms of a group were identified within the SNT to link to behaviors within the group, the theory has been applied to PHE.

In regards to Peer Health Education, the SNT is applicable to peer educator credibility. Perkins (2006) identified that this approach, within the Peer Health Education setting, was most effective when peer educators actively debunked exaggerated norms and relied on facts to express information. Further, in addition to reinforcement, peer educator credibility significantly decreased exaggerated norms, ultimately highlighting the necessity of credibility within Peer Health Education. Additionally, Fromme & Corbin (2004) found that incorporating a social norms campaign on a college campus, through the means of PHE, significantly reduced unhealthy activity and behavior.

As peer educators express positive and healthy norms to peers seeking help, they illustrate the SNT to successfully spread health-related messages within the college setting. Additionally, their perceived credibility directly increases the audience's willingness to accept their information and diminish unhealthy social norms that they may hold. Through employing a communication process that uses credibility associated with behavioral norms, peer educators utilize a mechanism that is effective on various students who may receive their message.

Theory of Normative Behavior

The Theory of Normative Behavior, founded by Rimal & Real (2005; TNB) "posits that the influence of descriptive norms on behavior is moderated by group identity, outcome expectations, and injunctive norms." Basically, within a strong group identity, the more frequently a perceived behavior occurs, the more likely individuals are to perform that behavior. For instance, if an individual perceives the majority of people within a group to engage in a specific activity (ie. smoking), that individual perceives the behavior of smoking as a norm among the people in their area, leaving it much more likely for that individual to then engage in that activity (ie. start smoking). This group identity acts as a mechanism that fuels others to not only associate with the group, but adapt the normative behaviors of that group. TNB contends this perception of group identity, along with outcome expectations, ultimately drives individual behavior within the group (Real & Rimal, 2007).

In terms of the scope of peer health education, this theory is directly relatable to the credibility of the peer educators. As peer educators are of similar age to those in whom they educate, spreading messages that directly affect the audience, the peer educators "would be a credible and acceptable source" to provide information to their peers (Turner & Shepherd, 1999, p. 240). As peer educators often spread a message that directly relates to the general audiences preexisting attitudes and values, such as practicing safe sex and responsible drinking, the message is much more easily accepted because it doesn't contradict group norms. Thus, by discussing healthy behaviors that directly connect with the audience, students are more likely to own behaviors to match those expressed by peer educators.

Real & Rimal (2007) expanded on these conclusions through studying "the extent to which peer communication influences the relation between descriptive norms and behaviors" (Real & Rimal, 2007, p. 176). They found that increased conversation and education surrounding behaviors that commonly contain perceived norms (ie. high risk drinking, drug use, etc…), changed the generalized thinking and perceived norms surrounding the action because it debunked myths and emphasized appropriate and healthy behaviors rather than perceived norms. As long as students receiving this information view peer educators as credible, they are more likely to willingly accept the information and change their thinking regarding normative behavior.

Due to research conducted by Real & Rimal (2007) and Borgeson (1988), TNB can be used to explain how credible individuals within a group form a unanimous group identity reflective of their social norms. Thus, to overturn unhealthy normative behavior and remain an effective role model on college campuses, peer educators must maintain their level of credibility to serve as a mechanism to link their identity with healthy behaviors. Additionally, as TNB identifies the perceived group identity of peer educators dictates a PHE programs credibility, it must be further evaluated to better understand the role of peer educators within PHE. Investigating credibility as a communication mechanism could provide greater insight into the communication elements that contribute to the success of the PHE program, providing essential information regarding emotional contagion among peer educators. Although each of these theories are useful to understand specific aspects of the success of PHE, a theory exists that incorporates the influence of significant role models, norms, and personal beliefs and attitudes in one model

Theory of Planned Behavior

The Theory of Planned Behavior was developed by Ajzen (1991; TPB) and can be used to explain and predict overt individual decisions regarding risky or potentially dangerous behaviors. The theory models how individual attitudes and subjective norms toward a behavior, along with perceived behavioral control, impact an individual's behavioral intentions and actions. The three key components, attitudes, subjective norms, and perceived control, can be used to illustrate how risky behaviors are driven. These three factors all contribute to an individual's intention to use a behavior. Attitudes toward the behavior and the subjective norms of significant others both predict behavioral intentions (Fishbein & Ajzen, 1975), and incorporate the elements of social learning and normative influence involved in SLT, SNT, and TBN. What TPB adds beyond these elements is the component of perceived control of the behavior. Though subjective norms and attitudes focus on potential consequences of an action, Ajzen (1991) identifies that the individual's perception of behavioral self-control ultimately drives his/her decision-making process. Subjective norms and attitudes play a role in an individual's intention to use a behavior, while perceived behavioral control drives the actual use of the behavior. Perceived behavioral control is essential to the success of the PHE process.

Regarding peer health education, perceived behavioral control can be used as a target to focus the message of peer educator advice. Rittenour & Booth-Butterfield (2006) applied TPB to the Peer Health Education setting, examining how peer conversations and education affected individual attitudes and perception of self-control toward a behavior. They found that when expressed by individuals with

perceived credibility, peer influence exponentially increases positive behaviors surrounding healthy behaviors, along with promoting attitudes of self-control regarding that same behavior (p. 64). Further, Ebreo et al. (2002) identified a beneficial aspect of expressing health behaviors is through involvement in spreading a message. Ebreo (2002) identified that individual's who helped spread a message regarding health behaviors reported an increase in their own perceived control of the behavior. Additionally, the individual felt more confident with the material and information within the message following their involvement.

The success of having credible peer educators spread a message that ultimately increases student perceived control links the process of PHE to the TPB. As peer educators advise their audiences on how to increase self-control over risky behaviors, their credibility directly increases the effect of the message and likelihood of students to adapt healthier behaviors. As the overall effect of PHE upon students seeking help is viewed as successful, the program itself can be identified as credible. This element not only allows the program to effectively spread a message, but actively encourage the adoption of health behavior on students within the college. Considering how this program has been noted to have a more significant impact on the educators rather than the students, peer educators maintain credibility and efficacy within PHE (Family Health International, 2005).

However, considering the topics addressed when discussing such risky behaviors, it is vital to consider the effect of such conversations on the peer educators themselves. While TPB identifies a need to increase an individual's perceived self-control toward risky behaviors to effectively change their behavior, such discussions of

risky and intense topics could diminish the peer educator's credibility, and therefore, their efficacy within PHE due to the potential effect of such conversations on the educator's emotions. Though increased credibility within PHE has been documented, critical elements that may impact peer educators have not been explored. As anything that could devalue the credibility of peer educators has the potential to reduce the efficacy of PHE, it is essential to evaluate all possible characteristics within this program. As peer educator credibility is vital to increasing perceived behavior control of students, the ultimate effect of topics associated with risky behavior could undermine the program entirely.

Theory Summary

Through the analysis of the four theories, the communicative process of Peer Health Education was explored. Specifically, these theories highlighted the role of peer educator credibility as a mechanism that drives PHE. By relying on the educators credibility to reinforce behaviors, promote group identify, increase perceived behavioral control, and eliminated unhealthy social norms, it directly fuels the success of PHE and its impact on students seeking help.

Examination of these theories also highlights a potential complication that could compromise the credibility of peer educators within Peer Health Education. As emotional contagion could affect a peer educator's credibility, this analysis provides support for further examination of this program. Considering each theory identifies credibility as a necessary component in encouraging behaviors and disseminating information, credibility is vital to the success of peer educators within PHE. However, as these theories also note a high prevalence of modeling and reinforcement, peer

educators could compromise their credibility if they are susceptible to absorbing the negative emotions of the students they advise. Therefore, as compromised credibility could undermine PHE as a whole, further analysis of peer educators and their interactions with others is warranted.

Undeveloped Connections

While the research on Peer Health Education highlighted within this review is significant, additional connections remain to be explored that may be revealed as equally important. Despite the existing studies, little connection has been made between interaction effects and the educator themselves. No research has been done to examine the effect of PHE on the educator or how potentially compromised credibility may impact the PHE program. While the educators are necessary for PHE to work, the effect of serving in the role of a peer educator is not only unclear but relatively unexplored. It is common for peer educators to be referred to as counselors; however, no research has been done to see if documented effects of counseling (Cox & Leiter, 1992) also occur within PHE.

For example, a potential result of counseling is to experience negative affects over time due to the discussion of intensely emotional topics; yet, studies have failed to examine if this occurs among peer educators (Leiter & Harvie, 1996). Considering the emotional intensity of topics common within PHE, the similarities between these two roles warrants study (Fennel, 1993). As negative emotional effects may devalue the peer educator's credibility, and considering how their credibility directly influences the success of PHE, the current study investigates the potential effects of susceptibility to negative emotion on the peer educators.

Considering the empirical support behind the research findings of PHE, it is vital to consider the mechanics of this program and how it can be successfully maintained. Due to the continued use of one-on-one conversations with students employed by peer educators, this is the most successful method in promoting healthy behaviors on a college campus. As these conversations are often noted to be extremely emotional in nature, often including conversations such as binge drinking, drug use, sexual assault, etc., the effect of these emotions on the educator remains to be examined (Sloane & Zimmer, 1993). Therefore, due to the in-depth interactions between a student and a peer educator, the study was designed to examine the effects these potentially negative emotional conversations could have on the educators via the concept of emotional contagion.

Emotional Contagion

Emotional effects on humans have been noted and even categorized as contagious since the 19th century (Darwin, 1872/1965; Jung, 1968). Throughout the initial studies of emotional effects during the early 1900's, the process of emotional transfer was thought to be a cognitive, conscious process (Dymond, 1949). Specifically, it was hypothesized that upon hearing emotional experience, people remembered similar personal experiences, ultimately generating similar emotional responses based on past experiences and feelings. However, in the 1990's, Hatfield, Cacioppo, & Rapson (1994) argued that this emotional contagion was too fast and automatic to be attributed to self-perceptive or cognitive processes (p. 3). These arguments completely contradicted the previous findings regarding emotional contagion, as they viewed the process as unconscious and out of an individual's direct control. Hatfield et al. (1994) contended the process occurred continuously and subconsciously, and officially coined the term *emotional contagion* and

defined it as "a tendency to automatically mimic and synchronize expressions, vocalizations, postures, and movements with those of another person's and, consequently, to converge emotionally" (p. 5; *Emotional Contagion*). Hatfield et al. aimed to distinctly differentiate the conscious cognitive process of empathy and the subconscious process of emotional contagion. This clarification was key in the conceptual foundation of emotional contagion, as it is now understood as an indirect and subconscious process rather than an emotional choice of displaying empathy toward another.

When considering emotional contagion, the indirect transfer of emotions could significantly impact an individual's credibility. As peer educator credibility largely comes from their ability to spread a message and work closely with students, emotional contagion could subconsciously alter their emotional state. This could diminish their perceived credibility, due to the potential inability for peer educators to control their attitudes and emotions toward certain topics. This could be especially damaging to Peer Health Education, as a peer educator's credibility is vital to the success of the program. As emotional contagion could significantly compromise the credibility of peer educator's and potentially diminish their overall well being, it should be examined. Through such damaging effects surrounding emotional contagion, it is essential to investigate the specific features of emotional contagion and how it occurs between two people.

Key factors that lead to emotional contagion have been closely documented, indicating mimicry and afferent feedback often increase ones susceptibility to emotional contagion and therefore, the likeliness it will occur (Hatfield, Cacioppo, & Rapson, 1992). Specifically, the act of mirroring another's displayed emotions (smiling, frowning, crying, etc...) results in a neurological response that prompts various emotions.

Additionally, the degree to which an individual agrees with the conveyed emotion as well as the energy one puts toward displaying that emotion leads to more intense emotional contagion (Rozin & Royzman, 2001). These factors have been recognized as emotional valence and energy, and greatly alter the influence of the intensity of emotional contagion (Sigal, 2002). These elements significantly affect an individual's susceptibility to emotional contagion, and are anticipated to have an impact on peer educator's emotional contagion.

Mimicry and Afferent Feedback

During interactions with students, successful peer educator's work to connect with students and build perceived credibility through acting emotionally responsive. If mimicry or afferent feedback is utilized to achieve this, the peer educator may increase their susceptibility to emotional contagion (Hatfield, Cacioppo, & Rapson, 1992).

The first factor in emotional contagion is the role of mimicry. Mimicry is noted to be an inner cue "that play[s] a role in establishing emotional synchrony […]" (Cacioppo, Martzke, Petty & Tassinary, 1988). By mimicking another person's non-verbal's, speech patterns, facial expressions and vocal tones, an individual is likely to connect their own emotions with those being mimicked. As these are the expressions we use when we have personal emotion toward a situation, our mimicry of others leads to an unconscious emotional response and connection toward that situation. Research into mimicry has reinforced the claim regarding the subconscious happening of this process. O'Toole and Dubin (1968) identified the effect of mimicry occurring in the neonatal stages of life. Their results highlight that infants not only mimicked the expressions they witnessed, but repeated those expressions within similar situations. Therefore, considering the

occurrence of emotional mimicry by infants as young as a week old, the claim that

emotional contagion is "without deliberate or conscious processing" (1968) has been

reasonably supported.

The second factor that contributes to emotion contagion is afferent feedback. A

change in ones physicality (facially, postural, or vocally) has been found to result in a

shift in emotion (Tomkins, 1963). Historical studies have documented that physiological

feedback of visceral, glandular and muscular responses ultimately lead to different

experienced emotions (Tomkins, 1963). Specifically, studies have documented the

neurological differences when someone smiles compared to someone who frowns

(Adelman & Zajonc, 1989). As these are typical responses to different emotions, a

physical change in ones bodily expression often leads to a neurological reaction

comparable to that of an emotion. Thus, the afferent feedback experienced from the

initial mimicry further perpetuates the occurrence of emotional contagion during

interactions.

Expressing mimicry and afferent feedback could impact the peer educator in

various ways, and potentially lead to reduced credibility. As one-on-one sessions between

peer educators and students seeking help are quite common, the likelihood that the

educator mimics the emotions they see expressed by the student is high and may even

enable disclosure to occur and the educator to be viewed as more credible. Drollinger,

Comer, and Warrington (2006) note that mimicry is viewed as appropriate during

empathetic listening, which means it could be quite common among peer educators. This

may be a benefit for the student and contribute to higher perceptions of educator

credibility; however, it is also likely to increase their susceptibility to emotional

contagion. It is possible that negative emotions could linger with the peer educator, potentially impacting their well-being and conversations they have in the future. Thus, emotional contagion could affect the emotional state of peer educators within the moment of contagion, and may linger after the contagion has taken place as well.

Emotional Valance and Energy

While mimicry and afferent feedback must be present for an individual to experience emotional contagion, "two factors in the type of emotion emitted will influence the degree of emotional contagion: emotional valence and emotional energy" (Sigal, 2002, p. 648). Emotional valence refers to the emotion expressed, and if it agrees or disagrees with the currently held beliefs of the issues or situation (Nico, 1986, p. 207). In relation to emotional contagion, a multitude of studies report that negative valence, or unpleasant emotions, increase the chances of emotional contagion as they "tend to elicit stronger and quicker emotional, behavioral, and cognitive responses" than emotions of positive valance (Sigal, 2002, p. 648; Rozin & Royzman, 2001). This is important to examine, considering the highly intense and emotional topics often discussed within PHE sessions (Kornman, 2001), because peer educators susceptibility to emotional contagion could be quite high.

Further, emotional energy also increases the possibility of emotional contagion, as it refers to the "intensity with which emotions are expressed and then communicated from one person to another" (Sigal, 2002, p. 649). For example, Sullins (1989) argues that emotions expressed most aggressively and forcefully are more likely to be noticed, and thus, mimicked. In a study examining this, Friedman & Riggio (1981) documented that high expressors of emotions were more likely to illicit emotion contagion from their

partners than low expressors of emotions. Therefore, emotional energy plays a major role in the level of emotional contagion experienced.

Ultimately, the valence and energy associated with topics students express to peer educators could inherently increase an educator's susceptibility to emotional contagion. As students seeking help often express high energy during interactions due to the personal aspect of the topics, the peer educator could fall victim to connecting to such high expressors, and potentially experience emotional contagion. Considering the potentially negative valence associated with the topics discussed, peer educators could have little control of their susceptibility to emotional contagion. As a result, a peer educator may suffer negative affect, which may reduce the credibility of the educator due to the influence of negative emotions.

Susceptibility to Emotional Contagion

With multiple elements leading to emotional contagion, it is vital to consider how they impact the success of Peer Health Education. Examining how emotional contagion influences peer educators, and potentially how to avoid it, is essential to the sustainability of this program. Key factors have been identified that indicate an individual's susceptibility to emotional contagion, and thus illuminate how peer educators may be susceptible.

Initially, peer educators who discuss high-intensity emotional topics with students are likely to experience emotional contagion (Eisenberg et al., 1991). As high-intensity topics are the most likely to be mimicked by the educator, they are most likely to prompt emotional contagion. This is especially this case if the high-intensity emotional topics discussed are negative (Hatfield et al., 1992). Therefore, the overall intensity of topics

discussed within Peer Health Education could ultimately shift the educator's susceptibility to Emotional contagion, and potentially diminishing their credibility within the program. This could occur, as students would no longer view peer educators as an unbiased party able to facilitate their problems. Further, the educator may be less able to control their emotions regarding certain topics, and their perceived credibility may be reduced.

A second factor that leads to emotional contagion is attentive listening. Hatfield et al. (1992; 1994) furthers the understanding surrounding susceptibility to emotional contagion, contending people who "play close attention to others and are able to read others' emotional expressions" commonly experience [emotional contagion]" (Doherty, 1997, p. 133). As such empathetic listening increases the chances of subconsciously mimicking another's facial expressions, vocal or nonverbal patterns, the possibilities of emotional contagion increase as well (Hatfield, Cacioppo, & Rapson, 1992). Additionally, by tuning in with another's emotional expressions, the afferent feedback tied to this experience perpetuates emotional contagion between two individuals.

A final factor that increases emotional contagion is if an individual construes themselves "as interrelated with others rather than independent and unique" (Doherty, 1997, p. 133; Hatfield, Cacioppo, & Rapson, 1992). Therefore, within PHE, an educator may find they have high affinity with students who seek help, and thus, engage in behavioral mimicry. These factors have increased the instances in which the occurrence of emotional contagion can be identified among therapists. Counselors have been widely noted to experience this phenomenon, often connecting with their patients to experience similar emotions (Hatfield, Cacioppo, & Rapson, 1994). Doherty et al. (1995) furthers

this link between emotional contagion and counseling by exploring the occupational requirements of a therapist. To be an effective counselor, one must actively relate to their patients who often express high-intensity negative emotions while being cognitive of their emotional expressions. As these are elements that have been documented to lead to emotional contagion, they greatly increase the susceptibility of counselors to the phenomena. Considering the similarities between counselors and peer educators, this evidence of emotional contagion can be applied to Peer Health Education and used to support claims regarding peer educator susceptibility to emotional contagion. Peer educators who view themselves as independent would experience less affinity with others, and thus less mimicry of their emotional state. Consequently, they could be viewed as less effective educators because they spark less affinity with students. Therefore, educators who pride themselves on experiencing high affinity with students may often be the ones most susceptible to emotional contagion (Hatfield, Cacioppo, & Rapson, 1992). Due to the potential negative effect of emotional contagion on the underlying communication processes and mechanisms of PHE, it is important to investigate the following research question:

> *Research Question 1*: Is there a difference in an individual's general susceptibility
> to emotional contagion versus his/her susceptibility during interactions as a peer
> educator?

Effects of Emotional contagion

Considering the likely occurrence of emotional contagion within PHE, it is necessary to also understand the lingering effects of the contagion since this may accumulate over time and potentially diminish an educators well being and credibility in

the PHE program. While the occurrence of emotional contagion may rapidly occur, the potential effects of such contagion can be lasting and alter the individual's emotions into the future (Evans, 1965; Barsade, 2002). In regards to PHE, this has the potential to not only alter a peer educator's emotional state, but significantly impact their abilities to help others. As the communication process between students and peer educators is the means through which PHE functions, it is vital to understand how and when this may be affected.

Throughout the examination of emotional contagion, multiple studies have analyzed the lingering effects of the contagion. These studies have documented that the emotional contagion of positive emotions lead to happiness and increased cooperation in group activities whereas the contagion of negative emotions results in destructive thoughts, anger, and decreased willingness to cooperate (Evans, 1965; Gero, 1985; Carver, Kus, & Scheier, 1994; Jehn, 1995; Barsade, 2002). Additionally, following emotional contagion of negative emotions, individuals have been documented to alter their affective tone and overall ability to work with and lead others (Sy et al., 2005; Connelly et al., 2002). Thus, emotional contagion has been shown to alter an individual's mood and attitudes not only at the moment of contagion, but in subsequent conversations and interactions as well.

To further understand the effect of emotional contagion on peer educators, it should be determined if peer educator's self reporting of key factors related to emotional contagion relates to residual negative effects following one-on-one interactions with students. As previous research documents a high probability of lingering effects

associated with emotional contagion, this connection could highlight how emotional contagion affects peer educators after the contagion has occurred.

> *Research Question 2*: Do factors related to emotional contagion (i.e. mimicry,
> affinity, afferent feedback) relate to the lingering effects of emotional contagion
> on a peer educator after one-on-one sessions with students?

With the potential of significant and lingering effects regarding emotional contagion within PHE, the efficacy of the peer educator could be reduced. As emotional contagion could alter peer educators emotions, and therefore their ability to work with students seeking help, the mechanisms of PHE could be damaged. As a result, the educator could experience residual effects of emotional contagion and trouble within their role as a peer educator. Thus, it is vital to examine potential elements that could reduce or counter-act emotional contagion, potentially maintaining the well being and credibility of the peer educator.

Resilience

Along with the lack of study linking PHE to emotional contagion, there is little research examining resilience among peer educators. Resilience can be an essential characteristic among individuals who experience difficulty, often allowing them to "bounce back" and not show negative effects from such difficulty (Masten, 2009, p. 30). Considering the role resilience could play in preventing peer educator's susceptibility to emotional contagion, resilience was also investigated.

The concept of resilience was initially addressed in the 1970's, where Garmezy (1973) examined what the difference was between children who were chronically sick and those who remained healthy. This initial study spiked interest in the concept as a

whole, promoting further research to not only examine resilience but create scales to measure it. In one particular study, Werner (1989) found that while two-thirds of children who came from bad situations (ie. alcoholic parents, mentally ill family members, low economic status, etc…) became destructive in their teen years, one-third did not exhibit such behaviors. She coined the latter group resilient, due to their ability to remain strong and stable in difficult and trying situations.

Due to the strength of resilience in promoting positivity in potentially damaging situations, a strong link has been created between resilience and occupational therapists because it allows practitioners "to bounce back from adversity, persevere through difficult times, and return to a state of internal equilibrium or a state of healthy being" (Edward, 2005, p. 142). Past research has documented that therapists with high resilience show high retention within their job, and provide significantly better counseling than those with low resilience (Ashby et al., 2013; Ceramidas, 2010; Scanlon et al., 2010). Through such studies, the role of resilience in counseling has become clear and relevant.

With the findings documented between occupational therapy and resilience, a link was examined to see if susceptibility to emotional contagion is impacted by peer educator resilience. Higher levels of resilience in peer educators could enhance their ability to manage difficult conversations and situations with students, and it could diminish their overall susceptibility to emotional contagion. Therefore, an examination of resiliency among peer educators was advanced to expand our understanding of peer educators. Considering the potential impact of resilience on emotional contagion, the role of resilience was examined within PHE.

Research Questions 3: Does resilience relate to a peer educator's reported level of emotional contagion in PHE interactions with students?

PHE Training

As Peer Health Education has the potential to impact various students within a college campus, peer educators often engage in training to ensure the educators are as prepared within their role as possible (Fabiano, 1994). Such training programs often focus on the educator's own knowledge about healthy behaviors and resources available to help students, ranging from light day-long training sessions to intense 40+ hour workshops (White et al., 2009). Designed to enhance the efficacy and credibility of peer educators, the various training programs provided within Peer Health Education are often looked upon as beneficial to the aims of the program.

Despite the variety of programs designed to train peer educators, no studies to date have examined the effect of such training on emotional contagion. Considering the subconscious nature of emotional contagion, it is worthwhile to question if current training opportunities are effective in reducing a peer educator's susceptibility to contagion, and therefore, their maintained credibility within this role. In addition to the occurrence of training, the impact of the length of training must be analyzed. As the length of training could allow a program to cover more training topics, it could also emphasize the importance of training on topics such as emotional contagion.

Due to an educator's potential susceptibility to emotional contagion, it is possible that occurrence of training may alter susceptibility to emotional contagion. If this is true, training may also affect an educator's susceptibility to emotional contagion. Since training could decrease the likelihood of emotional contagion, and increase the overall

efficacy of the peer educator in helping students who seek help, the following research questions were proposed:

Research Questions 4a: Does the occurrence of PHE training prior to becoming a peer educator relate to their susceptibility to emotional contagion in PHE interactions with students?

Research Questions 4b: Does the length of PHE training prior to becoming a peer educator relate to their susceptibility to emotional contagion in PHE interactions with students?

Chapter 3: Methodology

Participants

Participants were recruited from the Peer Health Education general assembly national convention held in Reston, VA on November 14-17, 2013, of which one hundred and forty five individuals (male: $n = 42$; female: $n = 103$) responded to a survey sent via email. The average age of participants was between 18-25 years old (Range = 18 to 44, $M = 19$-20, $SD = 0.40$) and they were of primarily Caucasian ethnic background (85% reported being Caucasian). Further, the average school population of the participants was between 10,001-20,000 students (Range = 0 to 20,000, $SD = 0.89$).

In addition to standard demographic items, questions specific to Peer Health Education were addressed. Participants reported serving as a peer educator for three years on average (*Range* = 1 month to 5+ years, $M = 3.22$, $SD = 1.53$), and reported spending an average of 10 hours a week on Peer Health Education duties (*Range* = 0 hrs to 20+hrs, $M = 3.11$, $SD = 1.20$). Additionally, a majority of those surveyed experienced training prior to becoming a peer educator (74% reported experiencing training), and on average reported their training as a day in length (*Range* = less than 1 day to 7+ days).

Procedure

An online survey was administered via Surveymoneky.com. Recruitment occurred by sending the survey to every person who attended the 2013 Peer Health Education national convention (approval to access the convention listserv was gained through the BACCHUS organization committee). Participant consent was obtained through the first question on the survey, which detailed general aims of the survey, highlighted any potential risk inherent in completing the survey, and provided the contact

information for myself and others within the Communication Studies department at Minnesota State University, Mankato. Individuals who provided consent were forwarded to the remainder of the survey, while those who chose not to provide consent were exited from the survey completely and not allowed to answer any of the questions. Once the participants had gone through each section of the survey, they were informed the survey was completed and thanked for their time.

Survey Design

The survey contained items that gathered data regarding demographics, Peer Health Education experiences, and susceptibility to emotional contagion. To gather the participants demographics, general questions were asked regarding the individuals background and self-reported ethnic identity. Further, in regards to PHE, the survey contained background information regarding participant involvement in peer education. Additionally, questions regarding the participant's experiences and conversations he/she has experienced as a peer educator were asked. To assess susceptibility to emotional contagion, Doherty's Emotional Contagion Scale (1997) was utilized. And, Wagnild and Young's (1993) Resilience Scale was used to evaluate the peer educator's ability to respond to mentally and emotionally challenging situations. An example of the survey is provided in Appendix A.

While some of the questions were open-ended, therefore requiring the participant to write in the answer to the question, most were closed-ended and provided a response set of options from which to choose. Specific instructions were provided for each set of questions, and the participant was guided through the survey. For example, closed-ended questions with a likert-type scale from 1-5 stated, "on a scale from 1-5, please respond to

the following questions as 1-Strongly Disagree, 2-Disagree, 3-Undecided, 4-Agree, 5-Strongly Agree." Clear instructions facilitated participant understanding of the survey, and provided measurable data for each variable.

An empirical approach was the most appropriate method for data collection, as it allowed for statistical analysis of the many elements that lead to emotional contagion. Though a qualitative, ethnographical method could be utilized, it would be limited in regards to connecting PHE and emotional contagion due to scope and generalizability. The empirical approach allowed for explicit questioning of the participants about emotional contagion and their awareness of it. Further, this method was most appropriate, as it allowed focus on specific areas vital to emotional contagion, such as vocal tone and mimicry. Therefore, considering the aims of this study, the empirical, quantitative survey was the best method for gathering data.

Variable Operationalization

Emotional Contagion. An individual's susceptibility to emotional contagion was measured using Doherty's (1997; see appendix B) emotional contagion scale. A truncated version of the original scale was utilized, as only certain questions were applicable within this study. The scale was assessed twice, in respect to the participant's general routine (*EC-Gen*) and in respect to their role within Peer Health Education (*EC-PHE*). While the items for the scale were consistent, the prompts differentiated each to focus on the participant's emotional contagion within general and PHE settings. This scale highlights key elements necessary to transfer emotions between two individuals, including mimicry of emotional expression through happiness, love, fear, anger and sadness. Item examples include: "If someone I'm talking with begins to cry, I get teary-eyed" and " Being around

happy people fills my mind with happy thoughts". The variable used a 5-point Likert-type response set ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) (Scale reliabilities were measured using Cronbach's alpha, $\alpha = 0.41$; 9 items and $\alpha = 0.33$; 9 items, respectively).

Previous studies have documented the reliability and validity of the emotional contagion scale as high (Doherty, 1997, p. 137; $\alpha > .81$). Doherty (1997) aimed to establish the link between questions within the scale and emotional susceptibility, ultimately supporting the notion of construct validity. By examining 7 specific elements within the survey, validity between the survey and emotional susceptibility appeared to be extremely high. Further, content validity has been determined within the scale as well. Evaluated by judges specifically knowledgeable about emotional contagion, the scale was determined to be comparable to elements of emotional susceptibility (Doherty, 1997). As this content validity has been used to measure susceptibility to emotional contagion in many subsequent studies, its application within the current study was appropriate. However, use of the Emotional Contagion Scale in the current study resulted in surprisingly low reliabilities. This was unexpected and will be discussed with greater detail in the Results section.

Effects of Emotional Contagion. To further evaluate emotional contagion, two scales were created based on items from the Emotional Contagion Scale to measure the amount of emotional feedback a peer educator typically expresses during one-on-one PHE interactions and the amount of lingering negative affect a peer educator would experience after an interaction. The amount of emotional feedback expressed by a peer educator (*PHEduring*) measured use of personal connection by the student, mimicry of

emotions, intensity, and tendency to recall and discuss previous conversations of a similar topic (Eisenberg et al., 1991; Hatfield, Cacioppo, & Rapson, 1992). These elements pull directly from variables within the Emotional Contagion Scale, and were used for measuring potential emotional contagion during interactions between peer educators and students. Item examples include: "I find myself easily connected to the other person" and "I mimic the emotions expressed by the other individual". The scale used a 5-point Likert-type response set ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). The effect of one-on-one interactions on the peer educator (*PHEafter*) measured self-reflection of conversation and emotional themes felt by the educator after the interaction. These elements solely focus on the impact of conversations after they have taken place. Item examples include: "I find myself feeling the emotions discussed within the conversation" and "I feel effected by the conversation for days following the interaction". This scale used a 5-point Likert-type response set ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). The reliability of the *PHEduring* and *PHEafter* variables were quite low ($\alpha = 0.15$; 6 items and $\alpha = 0.31$; 6 items, respectively), which prompted an examination of the item means.

Resilience. Wagnild and Young's (1993; see appendix C) Resilience scale was used to measure the participant's resilience in difficult and emotionally draining situations. This scale questions an individual's ability to respond to challenging situations through five essential characteristics, including purpose, perseverance, self-resilience, equanimity, and aloneness. Item examples include: "I can get through difficult times because I've experienced difficulty before" and "I do not dwell on things that I can't do anything about". A 7-point Likert-type response set ranging from 1 (strongly disagree) to

7 (strongly agree) was used to evaluate the participant's resilience levels (Scale reliability was measured using Cronbach's alpha, $\alpha = 0.21$; 25 items).

Supporting this scale as reliable are previous studies that have documented the Cronbach's alpha-reliabilities for the resilience scale as exceptional. This scale has been successful in measuring a participant's level of resilience through the five characteristics. This scale has also been noted as the most widely used and applied Resilience Scale of those available, as it is applicable for adolescents as well as young and old adults (Windle, Bennett, & Noyes, 2011, p. 11). Additionally, the scale has demonstrated a relationship between resilience and variables such as stress, anxiety, and health promoting activities. This not only demonstrates the scales construct validity, but ultimately highlights the importance of this scale within the study at hand. However, within this study, the Resilience Scale resulted in surprisingly low reliabilities. As this was unexpected, it will be discussed further in the Results section.

PHE Training. To determine the amount of training as a peer educator, participants were asked two questions: "Did you experience training before becoming a peer educator"(responses included: Yes or No) and "How long was the training process" (responses included: Less than 1 day, 1-2 days, 3-5 days, 1 week, 1+ week). These questions were asked to evaluate the educator's experience of training within PHE, as well as their length of training.

Chapter 4: Results

This preliminarily study examined peer educator susceptibility to emotional contagion, as well as the potential lingering effects of emotional contagion. Additionally, the relationship between resilience and emotional contagion among peer educators was analyzed. Finally, efficacy of training in preventing emotional contagion was examined. Four research questions were tested through a variety of empirical analyses. Throughout these analyses, reported reliabilities for each variable were lower than expected. Additionally, the reported means for the variables highlighted more variation should be expected. Despite these results, a report of the findings for each research question was completed to evaluated the questions posed throughout the study.

Research Question 1.

To determine the susceptibility of peer educators to Emotional Contagion, descriptive means were analyzed regarding participant's responses to the first (EC-Gen) and second (EC-PHE) emotional contagion variables. Means appeared slightly higher than expected for the EC-Gen (M=2.91) and moderately higher than expected for EC-PHE (M=3.80). To determine if there was a difference between EC-Gen and EC-PHE, a Pearson Correlation was run. No significant relationship was found between the two variables (r(145) = .22, p<.796). Although this finding would be consistent with the idea that an educator's susceptibility to emotional contagion differs between their general response and their response in PHE interactions, this conclusion can not be drawn with any confidence due to the low reliabilities associated with each variable operationalization.

Research Question 2.

The second research question focused on the lingering affect of Emotional Contagion, examining if a high occurrence of factors related to Emotional Contagion (ie. – mimicry, affinity, etc…) during one-on-one interactions with students lingered after the interaction has taken place. To determine this, a Regression analysis was ran. The regression tested for a relationship between PHEduring and PHEafter, $R^2 \Delta = .01$, $F(1, 111) = 13.25$, $p<.001$, and did find a significant relationship between the two scales; however the effect size is very small and the low variable reliabilities make it difficult to draw a conclusion from the results.

Research Question 3.

The third research question examined the role of resilience in altering susceptibility to Emotional Contagion. To determine if increased resilience lead to lower susceptibility to Emotional Contagion, a regression was ran between Resilience and PHEafter. The regression tested for a relationship between Resilience and PHEafter, $R^2 \Delta = .003$, $F(1, 121) = 1.34$, $p>.05$, and did not find a significant relationship between the two scales.

Research Question 4.

<u>RQ 4a</u>

The fourth research question focused on the role of training within PHE. To determine the effect of training on Emotional Contagion, a univariate one-way ANOVA was ran. This research question wanted to determine if there was a significant difference in peer educator susceptibility to Emotional Contagion between those who experienced training and those who did not experience training. An one-way ANOVA was calculated

using the occurrence of training as the independent variable and EC-PHE as the

dependent variable. Results did not indicated a significant main effect for the occurrence

of training, $F(1,143)=0.10$, $p>.05$.

RQ 4b

To determine the effect of length of training on Emotional Contagion, a

Univariate One-Way ANOVA was ran. This research question wanted to determine if

there was a significant difference in the amount of training peer educators reported (less

than 1 day, 1-2 days, 3-5 days, 1 week, 1+ week) and the susceptibility to Emotional

Contagion. A one-way Analysis of Variance (ANOVA) was calculated using the length

of training as the independent variable and EC-PHE as the dependent variable. Results

did not indicated a significant main effect for training, $F(4, 140)=1.41$, $p>.05$, $\eta^2=0.04$.

Post Hoc Analyses

Due to the surprising lack of reliability within each concept measured,

various diagnostics were reviewed to investigate what may have caused the disparate

response patterns among participants. Please see Table 1 for details. Initially, a variation

of means was noted across the different variables. Despite the response range being 1-5

for EC-Gen, EC-PHE, PHEduring and PHEafter, the means all varied from 2.91 to 3.80.

Additionally, a variation of means within each variable was documented as well. For

each variable, the means of each question within a scale varied greatly from one another

(*EC-Gen*: low = 2.19, high = 3.60; *EC-PHE*: low = 2.46, high = 4.34; *PHEduring*: low =

2.54, high = 4.03; *PHEafter*: low = 2.24, high = 4.07; *Resilience*: low = 2.37, high =

6.08).

Diagnostic tests also revealed skewness and kurtosis among several variables. For EC-PHE, the skewness value is -.79 ($SE = .20$) and the kurtosis value is 4.15 ($SE = .40$). The histogram with a normal bell curve overlay can be seen in Figure 1. Considering these values of skewness and kurtosis, there is a slight negative skew and an elevated positive kurtosis. Additionally, PHEafter reported a skewness value of -.76 ($SE = .22$) and a kurtosis value of .72 ($SE = .43$). The histogram with a normal bell curve overlay can be seen in Figure 2. Taken with the values of skewness and kurtosis, there is a slight negative skew and a slightly positive kurtosis. Skewed distributions that also suffer from kurtosis are likely to alter the reliability of a scale, as they no longer reflect a normally distributed population.

The diagnostic of the variables distributions were analyzed to seek an account for the low reliabilities associated with the variables within this study. Initially, the scales demonstrated an internal variability of means. This may account for the low reliabilities, as the means were not consistent within the scale. Additionally, skewness and kurtosis could also account for decreased reliabilities due to the reported non-normally distributed samples.

Chapter 5: Discussion

With the increase in Peer Health Education on college campuses across the nation, multiple studies have aimed to examine the efficacy of this program (Sloan & Zimmer, 1993). While many have verified a positive effect of PHE on students within a college campus, few have focused their analysis on the peer educators within the program. Although peer educators are a driving force that allows PHE to be effective, our overall understanding of the effect of their role on their own health and well-being within the program is unclear. This is especially critical considering the comparison between peer educators and counselors, due to the consistent literature highlighting potentially damaging effects of counseling on the counselor themself (Fennel, 1993; Leiter & Harvie, 1996). Thus, current studies surrounding PHE have failed to fully evaluate the program and the underlying mechanisms therein.

The present study examined mechanisms likely to impact the communication process within PHE that have yet to be founded through a focused investigation of the peer educator. Specifically, the study examined the impact of emotional contagion on peer educators during interactions with students. This relationship was investigated using the following variables: susceptibility to emotional contagion, lingering effects of emotional contagion, resiliency among peer educators, and effect of training on emotional contagion susceptibility. Four research questions were tested, resulting in inconclusive findings even though a broader understanding of PHE and peer educators was gained from the study. The following discussion will address each research question, interpret the statistical findings, and offer potential explanations regarding why the

variables did not perform as expected. Implications for theory advancement and development of future studies are also examined.

Susceptibility to Emotional contagion

Initially, this study examined peer educator's general susceptibility to emotional contagion on two levels, general (EC-Gen) and Peer Health Education specific (EC-PHE). RQ1 investigated this through descriptive statistics, analyzing the recorded means and their differences from the expected, average median. This showed that peer educators reported emotional contagion in an everyday setting was only slightly higher than the expected median while their reported emotional contagion in a PHE setting was moderately higher than the expected median. Therefore, it could be speculated that peer educators are more susceptible to emotional contagion during interactions with students.

The speculated results are consistent with the literature surrounding both PHE and emotional contagion; however, due to the unexpected low variable reliabilities it is necessary to be cautious with any conclusions. Many explanations are possible for a peer educator's potential susceptibility to emotional contagion. It could be that the use of mimicry within one-on-one conversations may be a typical trait among peer educators. As this is a well-documented characteristic that leads to emotional contagion, it is plausible that peer educators who express mimicry may experience more contagion (Hatfield, Cacioppo, & Rapson, 1992; O'Toole and Dubin, 1968). Through continued mimicry within one-on-one interactions, peer educators could increase their susceptibility to emotional contagion. Such susceptibility raises questions regarding how peer educators are expected to listen to others, as mimicry is viewed as an essential element of empathetic listening (Comer & Warrington, 2006).

To further examine peer educators susceptibility to emotional contagion, RQ1 also investigated the relationship between everyday (EC-Gen) and PHE specific (EC-PHE) emotional contagion. Specifically, the test aimed to determine if an educator is more or less susceptible to emotional contagion in different situations. A lack of correlation between the two scales determined that the response patterns to the questions are not similar.

The speculated results progress understanding about peer educators, and more specifically, Peer Health Education as a whole. With inconsistent responses between EC-Gen and EC-PHE, peer educators may alter their own actions depending on different situations. For example, within a PHE setting, peer educators may engage in more active empathetic listening than in general, everyday situations. This situational emotional reflection could alter their susceptibility to emotional contagion.

Additionally, it is important to consider if peer educators are in total control of their emotional contagion, and how much is dictated by the topics addressed by students seeking help. As previously addressed, an educator's susceptibility to emotional contagion could be driven by the emotional themes and energy within a conversation. Therefore, the potential for inherently negative and energetic conversations within PHE must be further examined.

The speculated susceptibility of emotional contagion within PHE may force peer educators to face a catch-22 within their role, potentially having to choose between connecting with students and remaining susceptible to emotional contagion or seeming disconnected to reduce emotional contagion entirely. This is clarified further, as Kornman (2001) explains:

Individuals with dissociative tendencies cut themselves off, […] however, they

also protect themselves from […] negative emotions. Those who are highly

contagious [can connect with others, but] may fall prey to toxic [emotions] and

become transmitters of negative affect themselves. (p. 10)

Thus, as peer educators may have to face the same decision, they could be at risk for

negative outcomes either way.

Ultimately, it must be further examined if peer educators are more susceptible to

emotional contagion within PHE specific settings. As peer educators may embody

different personas and emotions depending on their situation, a focused look at their role

within PHE is warranted to examine how specific situations experienced by peer

educators may alter susceptibility to emotional contagion. Another direction for future

study would be to survey susceptibility to emotional contagion within individuals who

are not peer educators. Considering the potential results of such a study, this could

provide insightful information regarding Peer Health Education programs. A comparison

of emotional contagion between peer educators and non-peer educators could

significantly increase our understanding of the mechanisms related to emotional

contagion.

Considering the low Cronbach's alpha of this scale, it is necessary to examine

why the Emotional Contagion scale did not achieve reliability within this study. Despite

previous documentation that supports the reliability of this scale (Doherty, 1997), it did

not achieve reliability when applied to peer educators. Initially, elements of the adapted

scale itself may have contributed to the low reliability. For instance, this study used a

truncated version of the original scale. As the original scale included three questions per

emotion, and measured five different emotions (happiness, love, fear, anger, & sadness), the version used within this study eliminated two questions which measured love, two questions which measured fear, and one question which measured sadness. This may have damaged the integrity of the scale and impacted the reliability therein. Additionally, the scale may not be applicable in this study due to its focus on the occurrence of emotional contagion rather than the susceptibility to contagion. As this operationalization may be different than what is required to evaluate susceptibility to emotional contagion, the reliability of responses could have been negatively impacted. To solidify the connection between emotional contagion and susceptibility to contagion, further study must focus on this link.

Conversely, it is essential to consider how the population sample may have accounted for the low reliability of this scale within the study. Initially, the population reported positively skewed means regarding emotional contagion within PHE settings. This indicates that the population may not have been normally distributed within the scale, and therefore, could have resulted in decreased reliability. Additionally, the low reliability could be explained through an examination of the personality traits common among peer educators. As emotional contagion elevates an individual's emotional stability, perhaps peer educators are more or less able to control their emotions than has been assumed. This addresses the possibility that other characteristics (personality traits, communication traits, communication styles, etc…), rather than emotional state, account for successful peer educators. As peer educators may differ in ways that have not yet been evaluated, further examination of peer educator personality traits must be conducted.

Lingering Effects of Emotional Contagion

To further understand the role of emotional contagion within PHE, the lingering effect of emotional contagion on peer educators was examined. RQ2 investigated the relationship between factors related to emotional contagion during one-on-one interactions with students (PHEduring) and effects after the interaction has taken place (PHEafter). The analysis showed a significant positive relationship between the two scales; however, low reliabilities indicate a need for further evaluation regarding the variables. Various factors could explain the speculated relationship between self-reported characteristics associated with emotional contagion (ie. – mimicry, affinity, etc…) and lingering effects of the contagion (ie. – reflecting on the conversation for days, feeling tired/exhausted, etc…).

These potential results support current literature regarding what characteristics may lead to emotional contagion. As previous studies have determined mimicry, energy, and affinity as factors associated with emotional contagion, this preliminary study supports these elements as related to elements within emotional contagion. Further, this study has initiated research regarding lingering effects of emotional contagion on an individual's emotions and attitudes (Connelly et al., 2002). Considering the potential link between this study and previous literature, further research must be conducted to solidify this connection.

The potential lingering effect of emotional contagion on peer educators has major implications for the efficacy of Peer Health Education. Initially, as the role of a peer educator within one-on-one settings is to act as an unbiased individual working to help a student in any way possible, effects of emotional contagion could make this impossible.

As emotional contagion has been documented to result in destructive and angry thoughts, and even reduce an individual's ability to work with others, its effect on the credibly of the PHE program must be questioned (Sy et al., 2005; Barsade, 2002). Considering credibility is a cornerstone of PHE, anything that may devalue the program's credibility may diminish PHE's effectiveness and utility in the future.

Additionally, it could be possible for peer educators to not only display the emotions they "catch," but actively transfer them to others. Kornman (2001) identified that individuals who experienced emotional contagion not only conveyed their emotions to others, but also conveyed them so strongly that it increased other's susceptibility to emotional contagion. As peer educators work with students on a daily basis, often aiming to spread positive and healthy messages, their potential of becoming "transmitters of negative affect themselves" could be emotionally harmful to others (Kornman, 2001, p. 10).

Further, we must examine how a peer educator's susceptibility to emotional contagion may impact communication patterns may be altered within their role. Considering the strong emotions associated with emotional contagion, biased emotions could come out during subsequent interactions with students. For instance, if an educator experiences negative emotional contagion surrounding alcohol consumption, the educator may express biased emotions regarding alcohol consumption in future conversations about that topic, and therefore appear to be judgmental to those seeking help by not providing a safe space. Through the speculated relationship between emotional contagion during one-on-one interactions and after the interaction has ended, the potential effect of biased communication warrants further analysis.

Since the scale used to evaluate potential lingering effects of emotional contagion was specifically designed for this study, it is vital to critique the scale since low reliabilities were documented. Initially, the scales must be further tested and developed as an appropriate measurement tool. These scales were never distributed through pilot tests prior to their use within this study. Therefore, the lack of testing regarding the operationalization of these variables may have added to their inconclusive results. Therefore, future studies must pilot the use of scales of this nature, ultimately examining their reliability and success in measuring lingering effects of emotional contagion.

Furthermore, neither validity nor reliability of these scales has been previously documented. As this is the first implementation of these scales, there is no previous literature surrounding their efficacy in measuring lingering effects of emotional contagion. Thus, low reliabilities could have resulted simply because the scales are new and undeveloped. The elevated kurtosis of this scale further emphasizes the undeveloped nature of this measurement tool. Additionally, as this is the first time these scales have ever been utilized, it is possible that they are operationalized inappropriately for PHE. As the scales were constructed with variables associated with emotional contagion, further development of these scales must be completed to ensure their applicability within PHE and overall reliability as a measurement.

In future studies, the study design could be improved, in combination with the variable operationalizations. As PHEduring and PHEafter are operationalized differently, perhaps they should be constructed through a repeated measures design to increase their reliability. As this would eliminate individual differences between participants, it could increase the reliability of the measurement. Additionally, if the scales were developed

through pre/post design, the reliability could increase as well. Ultimately, prior to their further implementation in research regarding lingering effects of emotional contagion, these scales must be further developed to ensure validity and reliability.

Resiliency among Peer Educators

To understand characteristics that may also impact peer educator's susceptibility to emotional contagion within PHE, peer educator resilience was examined. RQ3 analyzed the relationship between resilience and EC-PHE, and did not report a significant relationship; however, low variable reliability warrants a wary discussion of such conclusions. These results speculate that resilience does not impact a peer educator's susceptibility to emotional contagion.

Speculating on the results, perhaps resiliency has no effect on emotional contagion due to the separate conscious and unconscious processes at work. Due to the occurrence of emotional contagion through unconscious processes such as mimicry and afferent feedback, it often occurs simply through our unconscious body movements and empathetic listening choices. As resilience has been determined to happen consciously, and through direct choices by an individual, the separate mechanisms underlying emotional contagion and resiliency leave the two disconnected (Richardson, 2002). Therefore, regardless of an individual's resilience, susceptibility to emotional contagion may remain unaffected.

Despite extensive literature documenting the Resilience Scale as reliable, its use within this study did not achieve reliability. Therefore, it is essential to examine why the scale reported low reliability when applied to peer educators. Initially, the applicability of this specific resilience scale to peer educators must be evaluated. Windle, Bennett, &

Noyes (2011) document nineteen resilience scales that differ in focus and operationalization. Further, the difficulty in defining the basis and construct of resilience has been widely documented (Luthar, Cicchetti, & Becker, 2000; Masten, 2007). Therefore, perhaps a different resilience scale should be used, as the operationalization of Wagnild's (2009) Resilience Scale may be inapplicable to PHE. Future studies could test multiple resilience scales within PHE to determine which contains a more appropriate operationalization for PHE characteristics. This will advance the operationalization of resilience, and elevate our understanding of resilience within the PHE.

Furthermore, the low reliability of this scale could be a result of the population sample. The results reported an inconstant pattern regarding peer educator resilience. Therefore, the population may be extremely varied on their resilience within difficult and challenging situations. Future studies should examine the link between peer educators and resilience, as it could be a vital characteristic within the program. Considering how the lack of resilience could decrease a peer educator's perceived credibility, this is a concept that warrants future examination.

PHE Training

Considering the potential effect of emotional contagion on PHE, it is vital to understand how to reduce a peer educator's susceptibility to this contagion. Therefore, RQ4a investigated if a relationship between the occurrence of training prior to becoming active within PHE and EC-PHE exists. This analysis showed no significant difference between the occurrence of training and EC-PHE; however, further examination is necessary due to the low variable reliability of EC-PHE.

It may be that training is not focused on building an awareness of emotional contagion, or that the subconscious process of emotional contagion diminishes training that may be provided. To understand why training may not reduce emotional contagion within a PHE specific setting, it is vital to examine the process of emotional contagion. Various studies report that emotional contagion occurs subconsciously, through actions such as mimicry and afferent feedback (Hatfield et al, 1994; Rozin & Royzman, 2001; Sigal, 2002). As these elements are very prevalent within a PHE setting, emotional contagion may be experienced by educators regardless of training. Therefore, it may have no effect on contagion in a PHE setting due to key factors of empathetic listening. Thus, as it occurs unconsciously, perhaps training is unable to break the barriers of emotional contagion due elements essential to PHE itself.

These potential results promote further study regarding training within PHE. Initially, the low reliability of emotional contagion within this study warrants a re-examination of the relationship between training and emotional contagion. Additionally, further development of training in relation to emotional contagion merits investigation. Specifically, certain training topics must be reviewed; working to determine if key elements are more likely to reduce susceptibility to emotional contagion. Considering the potential damaging effects of emotional contagion on peer educators and the PHE program, it is vital to understand how peer educators can avoid contagion within their role.

To further examine the effect of training on susceptibility to emotional contagion, RQ4b tested if a relationship existed between the length of training prior to becoming active within PHE and EC-PHE. This analysis showed no significant difference between

any length of training for EC-PHE; however low variable reliability of EC-PHE warrants further analysis.

These potential findings further support a need for research surrounding PHE training. As it is speculated that there is no significant difference in the amount of training, programs that currently employ training may be worthwhile to descriptively document what is covered so a prescriptive outline could be developed for programs to use. As no studies have documented the role or length of training within PHE, it is an unevaluated aspect of the program. Therefore, it may be a beneficial focus among future studies, as it could reduce emotional contagion within the program.

Extenuation of Theories

The results of the present study provided speculative information that could elevate our understanding of PHE, and the theoretical foundations of the program as well. As previously discussed, various theories are relevant within PHE, suggesting mechanisms the make the program effective. Therefore, this study advances a discussion and application of the theories underlying PHE.

Initially, many of the theories discussed emphasize a need for behavior modeling within PHE, including SLT and the TNB. These theories identify that individuals who model healthy behaviors are more likely to adapt that behavior into their own lifestyle. While this could lead to a reflection of positive attitudes and emotions, the present study suggests potential drawbacks from behavior modeling, linked to emotional contagion. As mimicking another's behaviors may result in a subconscious reflection of those emotions, it could lead to damaging results for the individual. Considering susceptibility to emotional contagion could diminish a peer educator's credibility, their efficacy within

PHE could be challenged altogether. Therefore, this study elevates SLT and TNB within Peer Health Education, and highlights a need to examine the effects of such theories further.

Furthermore, of the theories reviewed, SLT, SNB, TNB, and TPB, credibility can be recognized as a mechanism of PHE success. A remaining question is how resilience and emotional contagion impact credibility as the resilience and emotional contagion variables in the populations ample were unreliable. While a population of peer educators could be expected to demonstrate increased resilience and emotional stability in attempts to maintain credibility among students, results indicated varied responses regarding these two concepts. Therefore, the low reliabilities within this study suggest an inconsistent pattern of responses, and as a result, varied characteristics among peer educators are speculated to exist. Ultimately, despite the potential negative effects of a unstable emotional state and resilience on peer educator credibility, the results of this study are inconclusive.

Despite the theoretical connection between credibility and PHE, this study highlights a different kind of relationship that may exist between these concepts. Thus, future studies should further examine the theoretical framework of PHE to better understand the underlying mechanisms at play. Specifically, research must examine the role of credibility within PHE. Additionally, the relationship between credibility and emotional contagion must be advanced. Considering the effectiveness of Peer Health Education, it is vital to further examine what elements lead to successful peer educators.

Limitations

Limitations within the present study may have impeded the overall success and impact of the results. Initially, as this study examined a connection that has yet to be founded, scales were constructed that have never been tested or implemented. While PHEduring and PHEafter were conceptually crafted through a review of current literature, they were unreliable within this study. Therefore, further development of scales must be conducted to improve their success in evaluating lingering effects of emotional contagion on peer educators. To correct this in the future, scales should be constructed and tested to determine reliability and validity prior to inclusion within the study.

Another limitation of the study was a potential misrepresentation within the EC-Gen scale. While the instructions for this scale were instructed to respond through the lens of a general setting, participants may have underrepresented their potential emotional contagion due to the vague nature of the term "general." As this lens directs participants away from thinking of specific people or situations, their self-report of emotional contagion could be underrepresented from what is truly experienced. Therefore, to correct this in the future, the scale should be completed regarding specific situations not related to PHE, allowing for a more valid operationalization of susceptibility to emotional contagion.

Further limiting this study was the lack of control variables. As this study was solely distributed to peer educators within PHE, there was no base report of emotional contagion or resilience among the general population of college students. Considering the low reliabilities within this study, gathering data from other students or from non-peer educators would have provided comparison groups to gauge the applicability of each

scale and variable to PHE. Future studies should collect information from non-peer educators to evaluate control variables.

Implications for Peer Health Education

Through an examination of the results of this study, potential implications for Peer Health Education are critical to examine. Considering the speculative impact of emotional contagion on Peer Health Education, a thorough examination of the program is essential to the maintenance of the program. Such implications are prevalent not only for peer educators within PHE, but for our concept of listening as a whole.

Initially, potential changes in regards to PHE training are suggested. While this study reported most peer educators experienced training, the results speculate that training does could be designed to raise awareness about emotional contagion and provide resources for peer educators to avoid such contagion. For instance, increased discussion of emotional contagion throughout a training program could prove beneficial to new peer educators. As simply discussing the topic could lead to increased awareness of emotional contagion, educators could potentially recognize and develop strategies to deal with contagion. More specifically, training could focus on the key factors associated with emotional contagion, including mimicry and affinity. Including these within Peer Health Education programs, and connecting them to PHE specific situations, may significantly reduce emotional contagion within the program and improve the outcomes for educators themselves.

Furthermore, if peer educators experience emotional contagion, implementing a debriefing session process within PHE could counter the effects of contagion. As these methods have proven to be effective within counseling, decreasing emotional effects and

burnout, it may be applicable to PHE as well (Iliffe & Steed, 2000). Ultimately, the inclusion of such specific elements within a debriefing could be essential in developing healthy strategies for coping with emotional contagion within PHE.

Finally, our overall concept of listening must be evaluated. As emotional contagion is triggered through factors directly associated with empathetic listening, such as mimicry and affinity, there is inherent susceptibility to anyone who engages in this process. Thus, further development of listening techniques that raise awareness to emotional contagion is vital for the overall well being of peer educators within PHE. Considering the potential widespread use of empathetic listening within PHE, it is necessary to provide peer educators with tools to be successful within their role and reduce their potential susceptibility to emotional contagion.

Conclusion

This study is one of the first in examining Peer Health Education, specifically analyzing the role of peer educators and their susceptibility to emotional contagion. Research questions examined peer educators susceptibility to emotional contagion, potential lingering effects of emotional contagion, potential for resilience to related to emotional contagion, and PHE training. Through this, vital information was discussed regarding why mechanisms that drive peer educators within Peer Health Education.

Through a variety of analyses, results regarding emotional contagion within PHE were inconclusive. However, an extended discussion of the peer educator was gained. Despite previous literature surrounding emotional contagion and resilience, they were found as unreliable when applied to PHE. Through the initial work of this study, future research can advance our overall understanding of the underlying mechanisms of PHE.

Considering the multiple factors that could lead to emotional contagion, it is vital to continue to examine how to maintain the credibility of peer educators to sustain the program as a whole. Through continued study, it is possible to improve our understanding of the mechanisms of Peer health Education, and learn more about human interaction in general.

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Table 1.

Correlations and Scale Descriptive Statistics for Peer Educator Emotional Contagion,
Lingering Effects of Emotional Contagion, and Resilience.

Variable	1	2	3	4	5
1. *Emotional Contagion - General*	.	.22	-.03	.07	-.12
2. *Emotional Contagion - PHE*	.	.	.02	.08	.001
3. *PHE - During interactions*	.	.	.	.33**	.08
4. *PHE – After interactions*	.	.	.	.	.11
5. *Resilience*	.	.	.	.	.
M^{a}	2.91	3.80	3.69	3.35	4.17
SD^{b}	.46	.34	.47	.55	.33
Response Range^{c}	1-5	1-5	1-5	1-5	1-7
Scale Reliability^{d}	.41	.33	.15	.31	.21
Skewness	.24	-.79	.31	-.14	-.76
Kurtosis	-.33	4.15	.77	-.75	.72

Note: *n* = 145.

[a] score of 5 or 7 indicates "strongly agree",

[b] scale reliabilities were measured using Cronbach's alpha,

[c] score of 5 or 7 indicates "strongly agree",

[d] scale reliabilities were measured using Cronbach's alpha,

** *p* < .001.

Figure 1. *Frequency distribution of emotional contagion in a PHE setting*

Figure 2. *Frequency distribution of the lingering effects of emotional contagion*

Appendix A. *Peer Educator Emotional Contagion Survey*

Consent
Hello!

My name is Luke Youngvorst and I would like to invite you to participate in a research survey regarding peer health educators susceptibility to emotional contagion. This study is being conducted as a Thesis project to obtain an MA degree from Minnesota State University, Mankato.

You have been selected to participate in this survey because you are, or have at one point been, a peer educator. As this survey focuses on health education, involvement within Peer Health Education is necessary.

There are no costs to you for participating in the survey. Risks of taking this survey are minimal, and may require you to reflect upon emotional situations you have experienced as a peer health educator. Your answers in this survey will provide further information regarding the extent to which one-on-one conversations affect a peer educator's daily life. The questionnaire will take you about 10-15 minutes to complete.

This survey is completely anonymous. However, whenever one works with online technology there is always the risk of compromising privacy, confidentiality, and/or anonymity. If you would like more information about the specific privacy and anonymity risks posed by online surveys, please contact the Minnesota State University, Mankato Information and Technology Services Help Desk (507-389-6654) and ask to speak to the Information Security Manager. Should any of the data from this survey be published or presented, no individual information will be disclosed.

Your participation in this study is voluntary. You have the option not to respond to any of the questions and may stop taking the survey at any time by closing your web browser. Participation or nonparticipation will not impact your relationship with Minnesota State University, Mankato. If you have questions about the treatment of human participants and Minnesota State University, Mankato, contact the IRB Administrator, Dr. Barry Ries, at 507-389-2321 or barry.ries@mnsu.edu.

If you have any questions about the study, please contact Luke Youngvorst at lucas.youngvorst@mnsu.edu OR Kristen Cvancara at kristen.cvancara@mnsu.edu.

If you have read the above information and would like to voluntarily consent to completing the survey, please click the below box titled "yes" to begin. If you would like to decline consent, please click the below box titled "no" and you will be exited from the survey.

1. Do you consent to participating in this survey?
       Yes [   ]   No [   ]

Demographics

2. How old are you?

    [ ] 18-25   [ ] 26-40   [ ] 41-65   [ ] 65+

3. What is your biological sex?
                [ ] Male   [ ] Female

4. How many students attend your college or university?
   [ ] 0-3,000   [ ] 3,001-5,000   [ ] 5,001-10,000   [ ] 10,001-20,000   [ ] 20,001+

5. Which group best represents your ethnicity?
        [ ] African - American
        [ ] Asian - American or Pacific Islander
        [ ] Hispanic/Latino
        [ ] Native American
        [ ] Caucasian
        Other   _____.

6. Please answer the following questions through the lens of your daily routine, as
   you would respond on a general basis. Select the response that best represents
   your typical reaction

**Read each statement carefully and decide, on a scale from 1-5,
how much you agree or disagree with each statement.**
(1-Strongly Disagree, 2-Disagree, 3-Undecided, 4-Agree, 5-Strongly Agree)

1) If someone I'm talking with begins to cry, I get teary-eyed.
                1   2   3   4   5
2) Being with a happy person picks me up when I'm feeling down.
                1   2   3   4   5
3) When someone smiles warmly at me, I smile back and feel warm inside.
                1   2   3   4   5
4) I get filled with sorrow when people talk about the death of their loved ones.
                1   2   3   4   5
5) I clench my jaws and my shoulders get tight when I see the angry faces on the news.
                1   2   3   4   5
6) When I look into the eyes of the one I love, my mind is filled with thoughts of
   romance.
                1   2   3   4   5
7) It irritates me to be around angry people.
                1   2   3   4   5
8) I tense when overhearing an angry quarrel.
                1   2   3   4   5

9) Being around happy people fills my mind with happy thoughts.
                    1   2   3   4   5

10) I notice myself getting tense when I'm around people who are stressed out.
                    1   2   3   4   5

7. <u>Similarly to the previous set, please answer the following questions through the lens of your daily routine, as you would respond on a general basis. Select the response that best represents your typical reaction</u>

Please read the following statements and respond to each on a scale from "1" (Strongly Disagree) to "7" (Strongly Agree). For example, if you strongly disagree with a statement, check the box next to "1". If you are neutral, check "4", and if you strongly agree, check "7".

1) When I make plans, I follow through with them.
       1   2   3   4   5   6   7

2) I usually manage one way or another.
       1   2   3   4   5   6   7

3) I am able to depend on myself more than anyone else.
       1   2   3   4   5   6   7

4) Keeping interested in things is important to me.
       1   2   3   4   5   6   7

5) I can be on my own if I have to.
       1   2   3   4   5   6   7

6) I feel proud that I have accomplished things in life.
       1   2   3   4   5   6   7

7) I usually take things in stride.
       1   2   3   4   5   6   7

8) I am friends with myself.
       1   2   3   4   5   6   7

9) I feel that I can handle many things at a time.
       1   2   3   4   5   6   7

10) I am determined.
       1   2   3   4   5   6   7

11) I seldom wonder what the point of it all is.
       1   2   3   4   5   6   7

12) I take things one day at a time.
       1   2   3   4   5   6   7

13) I can get through difficult times because I've experienced difficulty before.
       1   2   3   4   5   6   7

14) I have self-discipline.
       1   2   3   4   5   6   7

15) I keep interested in things.
       1   2   3   4   5   6   7

16) I can usually find something to laugh about.
       1   2   3   4   5   6   7

17) My belief in myself gets me through hard times.
              1   2   3   4   5   6   7

18) In an emergency, I'm someone people can generally rely on.
              1   2   3   4   5   6   7

19) I can usually look at a situation in a number of ways.
              1   2   3   4   5   6   7

20) Sometimes I make myself do things whether I want to or not.
              1   2   3   4   5   6   7

21) My life has meaning.
              1   2   3   4   5   6   7

22) I do not dwell on things that I can't do anything about.
              1   2   3   4   5   6   7

23) When I'm in a difficult situation, I can usually find my way out of it.
              1   2   3   4   5   6   7

24) I have enough energy to do what I have to do.
              1   2   3   4   5   6   7

25) It's okay if there are people who don't like me.
              1   2   3   4   5   6   7

Peer Health Education

8. How many years have you been active within peer education?
[ ] 1-12 months   [ ] 1 year   [ ] 2 years   [ ] 3 years

[ ] 4 years   [ ] 5+ years

9. On average, how many hours do you dedicate to peer education each week?
[ ] 0-2 [ ] 3-5 [ ] 6-10 [ ] 11-15 [ ] 15-20 [ ] 20+

10. Did you experience training before becoming a peer educator?
[ ] Yes   [ ] No

11. How long was the training process?
[ ] I did not receive   [ ] less than 1 day   [ ] 1-2 days   [ ] 3-5 days
    any training
       [ ] 1 week   [ ] more than 1 week

12. What was covered in your training process?
[ ] Effective listening   [ ] Local counseling programs
[ ] Peer Health Education Ethics   [ ] Professional services on your campus
[ ] Healthy lifestyle choices   [ ] Effective communication
Other _____

13. <u>Please answer the following questions through the lens of yourself as a Peer Health Educator, as you would respond on while within this role. Select the response that best represents your reaction while acting as a Peer Health Educator</u>

Read each statement carefully and decide, on a scale from 1-5,
how much you agree or disagree with each statement.
(1-Strongly Disagree, 2-Disagree, 3-Undecided, 4-Agree, 5-Strongly Agree)

<u>When serving as a peer health educator during one-on-one sessions with my peers, I:</u>

1) Discuss emotionally intense topics
      1   2   3   4   5
2) Think of previous conversations about similar topics
      1   2   3   4   5
3) Find myself easily connected to the other person
      1   2   3   4   5
4) Feel unaffected by the conversation
      1   2   3   4   5
5) Find it hard not to reference previous discussions about the same topic
      1   2   3   4   5
6) Mimic the emotions expressed by the other individual
      1   2   3   4   5

<u>After one-on-one sessions with my peers where I acted as a Peer Health Educator, I:</u>

7) Regularly attend counseling sessions.
      1   2   3   4   5
8) Find myself reflecting on the conversation for hours
      1   2   3   4   5
9) Forget the emotional themes within the conversation
      1   2   3   4   5
10) Find myself feeling the emotions discussed within the conversation
      1   2   3   4   5
11) Feel affected by the conversation for days following the interaction
      1   2   3   4   5
12) Feel tired and exhausted
      1   2   3   4   5

14. <u>Similarly to the previous set, please answer the following questions through the lens of yourself as a Peer Health Educator, as you would react while within this role. Select the response that best represents your reaction while acting as a Peer Health Educator</u>

Read each statement carefully and decide, on a scale from 1-5, how much you agree or disagree with each statement.
(1-Strongly Disagree, 2-Disagree, 3-Undecided, 4-Agree, 5-Strongly Agree)

1) If a student I am talking to starts to cry, I get teary-eyed.
       1   2   3   4   5
2) When I am talking with students that are happy, I start to feel happy.
       1   2   3   4   5
3) When someone seeking help smiles warmly at me, I smile back and feel warm inside.
       1   2   3   4   5
4) I get filled with sorrow when students talk about the death of their loved ones.
       1   2   3   4   5
5) I clench my jaws and my shoulders get tight when students seeking help show angry faces.
       1   2   3   4   5
6) When students express thoughts of their loved ones, my mind is filled with thoughts of romance.
       1   2   3   4   5
7) It irritates me to be around angry students.
       1   2   3   4   5
8) I tense when overhearing an angry quarrel of my peers.
       1   2   3   4   5
9) Being around happy students fills my mind with happy thoughts.
       1   2   3   4   5
10) I notice myself getting tense when I'm around students who are stressed out.
       1   2   3   4   5

<u>Ending Message</u>

Thank you for participating in this survey. Your responses have been successfully recorded and you may now close your browser to exit the survey.

Appendix B. *Emotional Contagion Scale*

Please read the following statements and rank each on a scale ranging from "1" (Never) to "5" (Always). Read each question and indicate the answer which best applies to you. For example, if a statement never applies to you, rank it as a "1", and if a statement always applies to you, rank it as a "5", etc.

1. If someone I'm talking with begins to cry, I get teary-eyed.
2. Being with a happy person picks me up when I'm feeling down.
3. When someone smiles warmly at me, I smile back and feel warm inside.
4. I get filled with sorrow when people talk about the death of their loved ones.
5. I clench my jaws and my shoulders get tight when I see the angry faces on the news.
6. When I look into the eyes of the one I love, my mind is filled with thoughts of romance.
7. It irritates me to be around angry people.
8. Watching the fearful faces of victims on the news makes me try to imagine how they might be feeling.
9. I melt when the one I love holds me close.
10. I tense when overhearing an angry quarrel.
11. Being around happy people fills my mind with happy thoughts.
12. I sense my body responding when the one I love touches me.
13. I notice myself getting tense when I'm around people who are stressed out.
14. I cry at sad movies.
15. Listening to the shrill screams of a terrified child in a dentist's waiting room makes me feel nervous.

Note: The higher the score, the more susceptible to emotional contagion a person would be said to be. Happiness items = 2, 3, & 11. Love items = 6, 9, & 12. Fear items = 8, 13, & 15. Anger items = 5, 7, & 10. Sadness items = 1, 4, & 14. Total score = all items.

Source: Doherty, R. W. (1997). The Emotional contagion scale: A measure of individual differences. *Journal of Nonverbal Behavior, 21,* pp. 131-154.

Appendix C. *Resilience Scale*

Please read the following statements. To the right of each you will find seven numbers, ranging from "1" (Strongly Disagree) on the left to "7" (Strongly Agree) on the right. Circle the number which best indicates your feelings about that statement. For example, if you strongly disagree with a statement, circle "1". If you are neutral, circle "4", and if you strongly agree, circle "7", etc.

	Strongly Disagree						Strongly Agree
1. When I make plans, I follow through with them.	1	2	3	4	5	6	7
2. I usually manage one way or another.	1	2	3	4	5	6	7
3. I am able to depend on myself more than anyone else.	1	2	3	4	5	6	7
4. Keeping interested in things is important to me.	1	2	3	4	5	6	7
5. I can be on my own if I have to.	1	2	3	4	5	6	7
6. I feel proud that I have accomplished things in life.	1	2	3	4	5	6	7
7. I usually take things in stride.	1	2	3	4	5	6	7
8. I am friends with myself.	1	2	3	4	5	6	7
9. I feel that I can handle many things at a time.	1	2	3	4	5	6	7
10. I am determined.	1	2	3	4	5	6	7
11. I seldom wonder what the point of it all is.	1	2	3	4	5	6	7
12. I take things one day at a time.	1	2	3	4	5	6	7
13. I can get through difficult times because I've experienced difficulty before.	1	2	3	4	5	6	7
14. I have self-discipline.	1	2	3	4	5	6	7
15. I keep interested in things.	1	2	3	4	5	6	7
16. I can usually find something to laugh about.	1	2	3	4	5	6	7
17. My belief in myself gets me through hard times.	1	2	3	4	5	6	7
18. In an emergency, I'm someone people can generally rely on.	1	2	3	4	5	6	7
19. I can usually look at a situation in a number of ways.	1	2	3	4	5	6	7
20. Sometimes I make myself do things whether I want to or not.	1	2	3	4	5	6	7
21. My life has meaning.	1	2	3	4	5	6	7
22. I do not dwell on things that I can't do anything about.	1	2	3	4	5	6	7
23. When I'm in a difficult situation, I can usually find my way out of it.	1	2	3	4	5	6	7
24. I have enough energy to do what I have to do.	1	2	3	4	5	6	7
25. It's okay if there are people who don't like me.	1	2	3	4	5	6	7