A COMPARISON OF SUPPORT MODALITIES AS PREDICTORS OF STRESS AND GENERAL WELL-BEING

A Thesis

by

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ABSTRACT

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Perceived social support in terms of perceived stress and general psychological well-being has been extensively examined in the literature. However, the changes online technology has had on social systems have brought the question, does online social support have the same benefits or effect as in-person support among college students. The present study examined participant's primary social support modality (online or face-to-face) in terms of perceived stress and general psychological well-being. We predicted that participants receiving support face-to-face would demonstrate a lower level of stress and a higher level of social wellbeing compared to the participants receiving online support. A total of 355 participants completed the Perceived Stress Scale, Multidimensional Scale of Perceived Social Support, and General Psychological Well-being that measured their stress and general psychological wellbeing. The findings revealed that the frequency of online support modality was significantly higher than the face-to-face support. Although there was no significant effect of the mode of support in terms of stress and general wellbeing, the study demonstrated that online social support scores were significantly negatively correlated with perceived stress. Additionally, stress had a significant positive correlation with general psychological wellbeing. The findings indicate that online support modality is the emerging strategic tool to reduce stress among college students.

Keywords: online social support, in-person social support, stress, well-being, perceived support

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CHAPTER I

PERCEIVED SOCIAL SUPPORT: THEORETICAL BACKGROUND

Research regarding perceived social support as a tool to reduce stress and increase general psychological well-being has been a frequent topic in literature. However, modern technology and its changes to social support systems require an examination of online social support to determine if it provides the same benefits as face-to-face social support systems. Cole, Nick, Zelkowitz, Roeder, and Spinell (2017) explored the benefits of online support in comparison with the benefits of face-to-face support. They found that online support was associated with similar stress-buffering benefits as those associated with face-to-face support. The study claimed that previous research has focused on the adverse effects of the internet and social media use, leaving a lack of research on the benefits of online support. (Cole et al., 2017) (Merion, 2017) (Subrahmanyam, Reich, Waechter & Espinoza, 2008) Found that online and face-to-face social support networks often overlap, making them more challenging to research separately. Subrahmanyam et al. (2008) found that among college students, 49% of online friends were also a part of the student's face-to-face support network while 51% were a part of the student's exclusively online social support network. Because these two groups, online and face-to-face support networks, overlap almost half of the time among college students, they should be examined together as well as separately, and the respective benefits of each should be compared.

In the present study, we investigated the relationship between both online and face-to-face perceived social support modalities in terms of stress and general psychological wellbeing. Perceived social support is a social exchange between two or

more individuals, in which either the recipient, provider, or both perceive the exchange to be a benefit to the individual (Shumaker & Brownell, 1984). The face-to-face perceived support modality includes any tangible or intangible benefit received by an individual by a friend, family member, or other individual via a face-to-face exchange (Cohen & Will's 1985). In contrast, the online perceived social support modality includes any tangible or intangible benefit received via social networking sites, online forums, online support groups and instant messaging (Subrahmanyam et al., 2008). General psychological well-being has been defined as the perceived mental and emotional well-being of people that includes pleasure attainment, pain avoidance, purpose in life, and the degree to which a person is functioning (Merion, 2017).

Stress among college students is common, particularly among first-year college students (Ross, Neibling, & Heckert, 1990). Ross et al. (1990) reported that first-year students experience many changes, new experiences, academic expectations, and often being away from home and family support systems for the first time. The top five stressors reported by college students were changes in sleeping habits, vacations/breaks, changes in eating habits, increasing work-loads, and new responsibilities. Stress can be detrimental to students, and because of the large amount of stress, and adverse effects of stress, methods to reduce or buffer the effects of stress should be examined (Ross et al., 1999). Stress and general psychological well-being and their respective relationships to social support have been explored extensively in the past. However, modern technology and internet use may be adding another variable to the research regarding these topics.

Previous literature has shown mixed results regarding the impact of modern technology and its subsequent changes to support systems with the new online support

systems. Kraut et al. (1998) study revealed that heavy internet usage was associated with lower levels of face-to-face communication with family and friends. It was also associated with a smaller social circle as well as higher levels of stress, depression, and loneliness. Cutrona and Cole (2000) found that heavy internet usage was associated with lower levels of face-to-face communication with friends and family. However, in a follow-up study four years later, Kraut et al. (2002) reported more positive results regarding the impact of internet use on social life and psychological well-being. This study reported a positive relationship between internet use and general psychological well-being. Finally, it internet use was positively associated with higher levels of face-to-face communication with friends and family. Hampton and Wellman (2003) also revealed support for internet users having a higher likelihood of communicating with others in person than non-internet users. According to Baym, Zhang, and Lin (2004), active internet users had a more extensive use of other communication tools, as well as more face-to-face conversations than non-active internet users. Additionally, Wang and Wellman (2010) reported that internet users had contact with a larger number of people than did non-internet users. The investigation of the effects of internet use on social interactions is limited, and continued research on the relationship between internet use and social support is required.

The relationship between social support, stress, and academic performance, as well as the ability of social support to manage stress levels, was examined by Baqutayan (2011). Based on this study, the present study defined stress as the process of interpretation and response to a threatening event. According to Baqutayan (2011), these responses include physiological changes in muscle tension, heart rate, and emotional or

behavioral response. The study reported that academic stress is specific to students and is a common problem that, if prolonged, can cause physical health problems. Common sources of academic stress for college students are room arrangements, equipment, books, teacher's attention, the environment, food, and study time. Social support has been considered to be one of the most efficient ways to reduce stress, but not all students have access to the buffer of a support system (Baquatayan, 2011).

Theoretical Models of Social Support

Several theoretical models have been used to explain the various mechanisms of social support and its impact on individuals and groups. Cohen and Wills (1985) examined social support in relation to stress and general psychological well-being. The study examined social support as a stress-buffer for individuals, protecting them from stressful life events. They also examined social support having a direct effect on general psychological well-being. Both models presented explain different benefits of social support, but neither model explains both benefits of social support. Shumaker and Brownell (1984) argued that a model needs to explain the impact and relevance of social support separate from stress or other factors. Additionally, they stated that the model should explain the effects of social support as a buffering mechanism. A majority of theoretical frameworks have described social support as a buffer for stress and other negative experiences but do not explain or examine social support as a benefit apart from acting as a stress buffer (Shumaker & Brownell, 1984).

Two significant models of social support developed by Cohen and Wills (1985) have been frequently cited in the literature. These two models together provided a theoretical background for the relationship between social support, stress, and general

psychological well being in the current study. Cohen and Wills (1985) identified two models to explain the impact of social support on stress and the effect of social support on a person in general – buffering hypothesis and main-effect model. The stress-buffering effects of social support have been documented in detail. Cohen and Wills (1985) claim that both models represent different processes by which social support may impact well-being. Their study on the stress-buffering hypothesis states that social support acts as a buffer to protect the individual from stressful events and the negative impacts of stress. However, this theory does not explain any benefits of social support could have, regardless of the presence of negative or stressful life events. On the other hand, the main-effect model explains the impact of social support as a beneficial resource irrespective of the existence of stress. Based on the main-effect model, social support would increase an individual's general wellbeing or life satisfaction regardless of stress. The increase in well-being is considered to be related to the individual feeling connected to a more extensive social network, as well as the support they receive through this network. The main-effect model does not explain or account for any interaction effect between social support and stress (Cohen & Wills, 1985). Shumaker and Brownell (1984) argued that social support is beneficial in increasing general psychological well-being and specifically during stressful life events. However, during stressful life events, social support has a different role acting as a buffer, while it still provides mental and physical health benefits regardless of stress (Shumaker & Brownell, 1984).

Cohen and Wills (1985) evaluated the positive association between social support and well-being and whether it is best explained by the main-effect model or by the stress-buffering model. They discovered evidence to support both models. Evidence for a main-

effect model was found when the support measured a person's degree of integration into a more extensive network. Evidence for the stress-buffering model was discovered, when social support levels and the perceived availability of social resources available during stressful life events were measured. The research above shows that social support may act as a buffer during stressful life events as well as acting as a general benefit to wellbeing regardless of the presence of stressful life events.

The relationship between stress, general psychological well-being, and perceived social support among undergraduate students was examined by Chao (2012). The study measured the differences between the conditions of social support and dysfunctional coping as predictors of general psychological well-being. They found a significant 2-way interaction between perceived stress and social support as well as a significant 3-way interaction between perceived stress, social support, and dysfunctional coping as predictors of psychological well-being. Social support was seen to act as a buffer during stressful events. Low social support was found to lessen the association between stress and well-being. Also, frequent use of dysfunctional coping mechanisms deteriorated the association between stress and well-being regardless of the social support level (Chao, 2012).

Stack-Cutler, Parrila, and Torppa's (2016) study measured the impact of social support on stress and general psychological well-being on college students with self-reported reading difficulties. This study found support for the main-effect model showing that students with higher social support also reported higher general psychological well-being scores. Their study found no backing for the concept that social support could act as a buffer to reduce the impact of stress. Participants with higher levels of social support

experienced the same amount of negative impact from stressful events providing no support for the buffering hypothesis (Stack-Cutler, et al., 2016). Zavatkay (2015), also examined the relationship between social support and stress among college students but found support for the buffering hypothesis. This study discovered support for the buffering hypothesis because participants with higher social support scores also had less negative stress than those with lower social support scores (Zavatkay, 2015).

Previous research has revealed evidence for social support acting both as a specific buffer during stressful life events as well as increasing general psychological well-being regardless of the presence of stress or stressful life events. Together, the above models provide a broader description of the relationship between social support, stress, and general psychological well-being. A progression of this research on social support is to examine the modern use of online support and to determine if this method of support provides similar or more benefits as face-to-face social support. The present research used both the stress-buffering model and the main-effect model to compare online and face-to-face support systems in relation to stress and general psychological well-being.

CHAPTER II

A COMPARISON OF SUPPORT MODALITIES

In addition to research examining both stress and general psychological well-being related to face-to-face support, the following study examined stress in terms of both online and face-to-face social support. Internet use, social media, and technological advances have made it easier to communicate with people from all over the world and receive assistance, but is online support as valuable or helpful as face-to-face support? This question has been partially explored in previous literature explored below.

Predictors of Perceived Stress

A review of previous literature regarding efficient options for interventions and assisting individuals and groups struggling with depression, anxiety, and stress utilizing various online support systems was done by (Rice et al., 2014). Their review revealed that online support groups showed evidence of social support lessening the effects of depression and stress. However, overall, the results of this review were unclear because the experiments did not all obtain the same results and left an unclear answer to the impact of online support groups. The potential benefits of online social support need to be explored further as a possible tool to be used to buffer or lessen the effects of stressful life events (Rice et al., 2014). According to a study by Arria, et al. (2009), high levels of face-to-face social support act as a buffer, protecting college students from suicidal ideation by increasing self-efficacy and reducing perceived stress experienced by the students (Arria et al., 2009).

A model to explain the impact of both providing and receiving social support on Facebook and its relationship to stress and life satisfaction was explored in a study by

(Chen & Bello, 2017). The study predicted that receiving and providing social support on Facebook would decrease stress. The study further predicted that the decrease in stress would increase life satisfaction. Using both mediation and moderation analysis, they found no direct or indirect effect of stress reduction on life satisfaction via social support. They further reported that providing social support on Facebook increased stress and reduced life satisfaction. However, among students with high self-esteem providing social support had no impact on life satisfaction. Finally, among students with low self-esteem, life satisfaction increased significantly with increased social support (Chen & Bello, 2017). The findings of this study show the complexity of the relationship between stress and social support and life satisfaction and that other factors such as self-esteem may be a factor moderating the relationships between these constructs.

According to Chakradhar et al. (2009), assessment of social networks and the quality of social support being received is an intervention tool used by social workers who work with the undergraduate student population. This study examined parallels between face-to-face and online support networks and their respective benefits. The examination of online support components revealed that online support mirrors face-to-face support. They seem to complement the benefits of one another. The study concluded that online support has important implications for social workers working with the undergraduate student population (Chakradhar et al., 2009).

As we can see, previous research has shown support for a positive relationship between face-to-face support and stress has been common. However, results have been unclear regarding the relationship between online support and stress. Some studies have revealed support for a negative relationship between online support and stress, while

others did not reveal support for a negative relationship between online support and stress. The negative relationship between face-to-face support and stress is clear in previous research. On the other hand, the potential negative correlation between online support and stress has been left unclear in literature. Because of this gap in knowledge and the lack of clarity about the relationship between online support and stress in the existing literature, the following hypothesis was examined:

Hypothesis 1: Participants receiving face-to-face support will report lower stress compared to those receiving online support.

Predictors of General Psychological Well-Being

General psychological well-being has also been examined in the context of perceived social support. Cortés et al. (2014) examined the use of online social networks to contribute to the subjective well-being of women, specifically in rural areas. According to this study, social relationships and roles are necessary but also contribute actively to the well-being of the individual. Previous studies have shown the benefit of social support on the well-being of individuals and groups. This study found that perceived social support was related to the use of social networks and digital inclusion. Those with lower social support had less digital inclusion and did not have the use of digital or social networks that those with higher social support were able to utilize (Cortés et al., 2014).

According to Mccloskey et al. (2015), higher levels of face-to-face social support have been seen to be predictive of lower depression, increased quality of life, and increased general psychological well-being. However, changes in modern technology and the impact of technology on social support systems have opened the door to a new method of social support systems that needs to be examined. Facebook has been the

primary social networking website to be examined in previous literature. Mccloskey et al. (2015) claims that this phenomenon occurs because Facebook affords users social supports that other social networking sites did not provide (e.g., speed of contact, unlimited access, photographs, simultaneous interaction with multiple friends). The study by Mccloskey et al. (2015) found no support for Facebook as a predictor for general psychological well-being or lower depression.

Face-to-face support has been examined and found to predict general psychological well-being (Merion, 2017). Research regarding online support as a predictor of general psychological well-being has been less prevalent in research. Furthermore, a comparison of the respective benefits of online and face-to-face support in terms of general psychological well-being has not been common in literature. In a comparison of online and face-to-face support, Merion (2017) showed evidence for both online and face-to-face support predicting general psychological well-being among college students with online support being a slightly more accurate predictor of general psychological well-being.

Facebook has been a familiar tool used by society to connect people. Kim (2014), studied the impact of Facebook as a social support as well as measuring its relationship to general psychological well-being. The study discovered a direct relationship between Facebook use and receiving social support. Kim also found that Facebook use had a stronger connection to social support that the number of strong social ties that a participant reported. Lastly, the findings did not reveal any significant connection between general psychological well-being and Facebook support (Kim, 2014). Literature

has shown that there is a connection between social media and internet use with social support; However, evidence regarding the benefits of this support is unclear.

Utz and Breuer (2017) completed six waves of a longitudinal study of Dutch internet users and the effect of social networking website use on well-being, stress, and online social support. Both during the initial review and the review after six months, social network users reported higher online social support, higher levels of stress and lower levels of general psychological well-being than those who did not use social networking websites. Social networking users were receiving more support via online methods than their counterparts. However, social networking users also reported more need for social support to assist with stress and adverse life events than those who did not report social network use (Utz & Breuer, 2017).

Thus, we can see that the literature regarding the positive relationship between face-to-face support and general psychological well-being has been clear. However, the research regarding the positive relationship between online support and general psychological well-being is unclear. Some studies have shown evidence for a positive relationship between online support and general psychological well-being. On the other hand, others have not demonstrated a positive relationship between online support and general psychological well-being. The present study compared the relationship between both online and face-to-face support to general psychological well-being. Previous literature has shown more apparent benefits of face-to-face support than online, leaving the potential benefits of online support on general psychological well-being unclear. Therefore, the present study tested the following hypothesis:

Hypothesis 2: Participants receiving face-to-face support will report higher levels of general psychological well-being compared to those receiving online support.

A Comparison of Face-to-face and Online Social Support

Research regarding online support has often focused on the negative impacts. Cole et al. (2017) studied the benefits of online support, comparing these benefits to in-person or face-to-face support. Online support was associated with lower levels of depression as well as showing a similar benefit to face-to-face support in reducing the effects of negative, stressful events, and peer victimization. Another finding of the study was that for people with less in-person social support, online support provided for the gaps within the in-person support system. Both online and face-to-face support were associated with lower depression and stress-buffering. The study suggests that online support could be strategically used to enhance in-person support systems and provide support in ways that face-to-face support cannot assist (Cole et al., 2017).

Marsha and Dorman (2001) explored the expanding role of online support. The study also compared online social support and face-to-face social support as it relates to the health of individuals within the group. The study found that online social support groups were able to reach targeted groups with helpful information quickly and efficiently. Online support was also able to reach those who were unable to travel to meet with others face-to-face because of various barriers. On the other hand, online support groups can lack the visual cues and misinformation or misunderstandings can occur because of the lack of visual data available in most online support groups (Marsha & Dorman, 2001). Online social support has been thought to have some of the same benefits

as face-to-face support, but the gap in research comparing these support modalities leaves questions unanswered.

A comparison of online and face-to-face social capital among college students and the impact of these supports on individuals and personal networks was studied by Lee, Chung, and Park (2016). The study did not reveal any evidence for online forms of social capital having a significant relationship to perceived social support. However, the perception of belonging was found to correlate with online networking and support. The results of this study were inconclusive regarding online support offering the same benefits as face-to-face support. Hence more research needs to be done to understand the role of online support and its benefit to college students (Lee, Chung & Park, 2016). One type of online support, Facebook support, has been more widely studied than other forms or online support. Wright et al. (2013) compared the impact of Facebook support satisfaction and face-to-face support satisfaction on depression among college students. The study found that both face-to-face support satisfaction and Facebook support satisfaction were negatively related to depression. Those who reported higher levels of support satisfaction also reported lower levels of depression. However, face-to-face support satisfaction was still reported to have a more substantial impact on reducing depression than Facebook social support. Their study did not provide any direct comparison of online and face-to-face support satisfaction (Wright et al., 2013).

In a study of young adults age 18-24, Hatchel, Subrahmanyam, and Negriff (2019) compared online and face-to-face social support as predictors of peer victimization and the related internalizing symptoms of stress, anxiety, and depression. Face-to-face support was predictive of less internalizing symptoms, while online support

was not predictive of less internalizing symptoms. The research found that face-to-face support reduced the relationship between peer victimization and stress, while online support did not have any negative correlation with stress (Hatchel, et al., 2019).

A comparison of online and face-to-face support systems and their respective benefits is not common in the literature. This topic needs to be examined in-depth to understand the changes technology is causing within the concept of social support. Based on a study by Merion (2017), the present study utilized two versions of Zimet et al. 's (1990) multi-dimensional scale of perceived social support scale to compare online and face-to-face support systems. Previous literature has revealed more evidence for face-to-face support than online support. Based on this knowledge and the gap in literature regarding online support, the following hypothesis was examined:

Hypothesis 3: Participants will report more perceived face-to-face social support than perceived online social support.

Methods

Participants

We recruited a total of 396 participants in this study. Due to missing responses, we removed 41 surveys. The complete data available was 355, of which 67 (19%) were male, and 288 (81%) were female. Participants ranged in age from 18 to 60 (M = 25.1, SD = 9.16). Participants were included in the survey if the following was true of the participant: (1) A student at Tarleton State University and (2) over 18 years old. Participants were excluded from the study and were unable to complete the remainder of the survey, if any of the following were true: (1) under the age of 18, (2) not currently enrolled at Tarleton State University.

Measures

Demographic and School-related Data.

Participants received questions related to demographic variables such as age, gender, ethnicity, and major. They also received questions related to type and frequency of their social support (Appendix A)

Perceived Stress Scale.

The Perceived Stress Scale (PSS) is a 10-item Likert scale assessment (Appendix B) that allowed participants to choose a response within a range of 0 (never) to 4 (very often) regarding stress experienced in the last month. Cohen, Kamarck & Mermelstein, (1983) confirmed the validity of the PSS to measure life-event stressors, depressive and physical symptomatology, and social anxiety. Higher scores on the PSS represent greater perceived stress, while lower scores represent lower perceived stress. A PSS score of 0-13 indicates lower perceived stress, a score of 14-26 indicates moderate perceived stress, and a score of 27-40 indicates higher perceived stress (Cohen et al., 1983). Lee (2012), reported that the Cronbach's alpha for the PSS 10-item Likert scale was above .70, thus meeting the minimum standard for consistency.

Multidimensional Scale of Perceived Social Support.

Zimet, Dahlem, Zimet, and Farley (1988)'s Multidimensional Scale of Perceived Social Support is a 12-item Likert scale assessment (Appendix C) that measured the perceived social support received from friends, family, and significant others. Participants selected responses within a range of 1 (very strongly disagree) to 7 (very strongly agree). There are four questions regarding social support from significant others, four questions regarding family, and four questions regarding friends. Participants with

scores 12-48 show low acuity (meaning that they perceive low social support), those with scores 49-68 show moderate acuity (meaning that they are observing moderate social support), and those with scores 69-84 show high acuity (meaning that they perceive higher levels of social support (Zimet et al., 1988). Merion (2017), tested both the online and face-to-face versions for internal consistency. The study revealed a Cronbach's alpha of.933 for the online scale version and .943 for the face-to-face version of the scale (Merion, 2017).

General Psychological Well-being Short Index.

Friedman (2014)'s general psychological well-being short form (Appendix D) is a 6-item Likert scale index. Questions were answered based on a range of 1 to 6. The Psychological General psychological well-being short scale is a shorted version of the original 22-item scale. It has been tested for internal consistency showed a range of Cronbach's alpha coefficient of (0.80 – 0.92) across three studies as a test for global general psychological well-being, and the internal consistency was comparable to the full version of the index (Friedman, 2014).

Procedure

A link to the survey was sent out via email to professors, who then forwarded the links to their respective classes. Additionally, the survey was made available to participants pool via SONA. The SONA subject pool system at Tarleton allows students to choose the current survey from a selection of surveys and experiments as a part of their course requirements for introductory psychology classes. Upon receiving the response, the data was cleaned in an excel spreadsheet and analyzed using JASP statistical software.

Results

First, we performed a correlation analysis with the variables: stress, general wellbeing, age, perceived online support, and perceived face-to-face support. The results revealed that perceived online support was significantly negatively correlated with stress (r = -0.298, p < .001). Stress was positively correlated with general psychological wellbeing (r = 0.111, p = 0.037) (Table 1). Age was negatively correlated with stress (r = -0.214, p < .001) and face-to-face support (r = -0.304, p < .001).

Table 1

Correlation Analysis

	Age	Stress	Online Support	Face-to-face Support	Well-being
Age					
Stress	-0.214***				
Online Support	-0.040	-0.298***			
Face-to-face Support	-0.304***	-0.069	0.481***		
Well-being	-0.010	0.111*	0.032	-0.034	

Note. Correlation analysis of age, perceived stress, general psychological well-being, perceived online social support, and perceived face-to-face social support. Correlations significant: * p < .05, ** p < .01, *** p < .001

We performed a MANOVA to test whether there was a significant difference between perceived face-to-face and online support in terms of the variables of perceived stress (Hypothesis 1) and general psychological well-being (Hypothesis 2) combined. With the use of Wilks' criterion, the combined dependent variables of stress and wellbeing revealed no significant effect, F (1, 352) = 1.62, p =.2 Wilk's λ = 0.99, partial η^2 = .16.

Next, a separate univariate analysis performed for each of the dependent variables of stress and wellbeing showed no significant effect of the mode of support. Hypothesis 2 and 3 were not supported.

Finally, we conducted a paired samples t-test to examine support for Hypothesis 3 that students would receive higher social support face-to-face compared to online mode. The t-test revealed that perceived online social support scores ($M = 8.68$, $SD = 1.94$) were significantly higher than face-to-face support scores ($M = 7.44$, $SD = 2.58$), $t\ (354) = -9.874$, $p < .001$. Hypothesis 3 was not supported as my findings revealed the opposite (Figure 1).

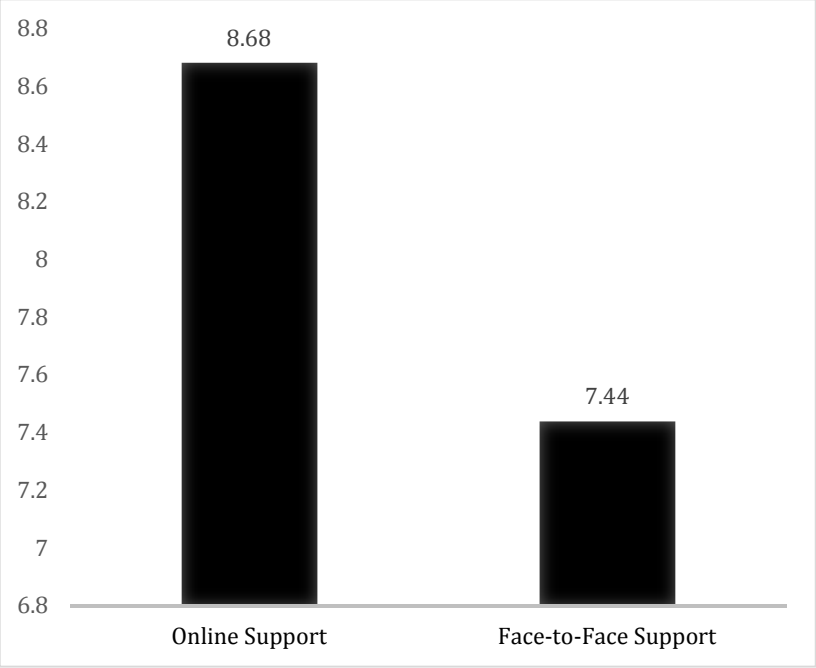

Figure 1: Mean scores for perceived online versus face-to-face social support

Discussion

The present study revealed a significant negative correlation between online support and stress. Meaning when participants reported higher online support, they also reported lower perceived stress showing that online support may be acting as a stress

buffer. However, there was no association between face-to-face support and stress. In contrast, Cohen and Wills (1985)'s stress-buffering effect was associated with face-to-face support. Some studies have claimed that both online and face-to-face support have stress-buffering benefits. In a study by Cole et al. (2017), both online and face-to-face support were shown to have stress-buffering benefits. The study further claimed that with the changes in modern technology, online support needs to be explored as a strategic tool to assist students in stress reduction and to increase well-being among students. Online support methods could be used to assist students with needed social support faster and more efficiently than face-to-face support methods. The benefit of the online method of support is that it allows individuals to provide social support immediately and does not require proximity to the individual in need of support. The response times and ease of access available with online methods of social support make it an ideal tool to be used to assist students in reducing stress (Cole et al., 2017). The negative correlation between online support and stress in the current study is consistent with Cole et al.'s (2017) results showing that online support may act as a stress buffer. Longman, O'Connor and Obst (2009) examined the online gaming social support in relation to stress. They discovered a negative correlation between online gaming support and stress. However, when face-to-face support was accounted for, the correlation was no longer significant. This shows that online support may have played a part in the stress buffering effect observed (Longman, et al., 2009). College is a major transition of life for students, which can create stress associated with adjustments to life. Given the course load and adjustments to changes, some students may find it difficult to build a new face-to-face supportive network of friends and acquaintances (Wright, 2012). But online communications may extend

support through a wider network of friends and family members. Based on previous literature and the present study, online support should be further explored as a tool to reduce stress and assist college students during the many stressful life changes associated with college.

My first two predictions were that college students who reported that they primarily received face-to-face support, would also report a lower level of stress and a higher level of well-being than those who listed online support as the primary method of support. Contrary to the prediction, the results revealed no significant effect of the mode of support on stress. The findings of the present study do not align with the stress buffering or main effect models of Cohen and Will's (1985). It is possible that the relationship between support, stress and general psychological wellbeing is a complex one. Although there is no direct relationship between support and wellbeing, the relationship between stress and general psychological wellbeing may be mediated by the online mode of support. Other variables such as age and gender may also have an impact on the relationship between the mode of support and stress along with wellbeing. The current study found a negative correlation between age and stress and, age and face-to-face support. The sample of my study comprised of a wide range of age. Past studies have revealed that age was negatively correlated with online support (Cartstensen, 2006). Cartstensen (2006) found that older individuals tend to have smaller social support networks that were also more satisfying. The study also found that older individuals had more positive outlooks and were able to manage stress better than younger individuals. Future studies need to investigate the mediation effects of the third variables more in detail.

The final prediction of this study was that the comparison between perceived face-to-face support and perceived online support would reveal higher face-to-face support scores than online support scores. Surprisingly, current study found that although students reported that they primarily received face-to-face support, their responses revealed that the online support modality resulted in higher score of perceived support than the face-to-face modality. Chung (2013) found that many people now prefer support via online support groups instead of traditional in-person support groups due to the ease and convenience of modern technology. The study examined health-related online support groups to investigate why people preferred online support groups over face-to-face support. The study found that many people who expressed dissatisfaction with face-to-face support groups through the social support questionnaire also chose to be a part of an online support group. The other primary reason they preferred online support groups is that some had developed personal relationships via online support groups (Chung, 2013). This study by Chung is an example of how online support has evolved with modern technology and grown and have met needs that face-to-face support was not able to meet.

Price, Richardson, and Jelfs (2007) compared online and face-to-face academic support during distance learning classes and discovered that college students perceived support services as more than just academic assistance in both online and face-to-face methods. Because of these findings and the lack of non-verbal cues in online communication methods, the study claimed that professionals teaching or tutoring via online methods needed to be trained in online communication methods rather than just how to utilize online tools. Without non-verbal or paralinguistic cues, students being tutored were not always understanding the material being reviewed the same way they

would have via face-to-face methods. The study found that many institutions provided adequate training on utilizing new tools for online teaching or tutoring but did not provide any training on how to communicate with students effectively via online methods (Price, et al., 2007). Changes in modern technology have impacted the social support systems, and these changes to support systems need to be studied further. As shown by the present study, online support is becoming an increasingly popular form of support. This increase in online support could be because of the ease of access to online support or because of location, as many college students move away from home to go to college and are away from their face-to-face support system.

Limitations

One limitation of this study is that it includes students from two campuses of the university that vary in demography. One campus comprises of primarily traditional students whereas the other campuses consist of non-traditional students. The preference for online versus face-to-face support may vary across the two groups. Future research should replicate this study in other contexts. Additionally, the preference for online and face-to-face support should be examined in relation to various demographic variables such as age, gender, ethnicity, etc. (White & Dorman, 2001). Future research should also examine distinctions between varied types of online support systems such as Facebook, online forums, whatsapp, etc, in order to assess the extent to which each method can buffer stress and enhance general psychological well-being. A second limitation of the study could be that the reliance on self-reports from college students about their perceptions of support may be associated with retrospective biases. Finally, the present study utilized cross-sectional data, which limits the ability to make causal inferences

regarding the relationships among variables. Future studies should use randomized controlled methods to examine the relationship between the variables.

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APPENDIX A
Demographic Questionnaire

Demographic Questionnaire:

Please answer the following information about yourself:

1. What is your age: _____
2. What is your gender: _____
3. What is your major: _____
4. What is your Ethnicity: _____
5. How many credit hours are you currently enrolled in:

   _____
6. Which of the following options is your primary source of social support?

   - In Person (any form of individual or group face-to-face support)
   - Online support (social media, video chat, online support group, chat room, etc)

7. Please rank order the following options from most frequently (1) to least frequently (11) regarding how frequently you use them to receive support when you need help or are under stress?

   - Facebook
   - Other social media, please specify (if any)_____
   - Text messages
   - Online support group
   - Online chat rooms
   - In-person face-to-face
   - In-person over phone
   - Video Chat (Facetime/skype)
   - Other online support, please specify (if any)_____
   - Other face-to-face support, please specify (if any)_____
   - both online and in-person communication equally

APPENDIX B
Perceived Stress Scale

Perceived Stress Scale

The Perceived Stress Scale (PSS) is a 10-item questionnaire using a Likert scale that allows participants to choose a response within a range of 0 (never) to 4 (very often) regarding stress experienced in the last month. Below are the ten questions in the PSS.

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and "stressed"?
4. In the last month, how often have you felt confident about your ability to handle your personal problems?
5. In the last month, how often have you felt that things were going your way?
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
7. In the last month, how often have you been able to control irritations in your life?
8. In the last month, how often have you felt that you were on top of things?
9. In the last month, how often have you been angered because of things that were outside of your control?
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

PSS Scoring:

- First, reverse your scores for questions 4, 5, 7, and 8. On these 4 questions, change the scores like this: 0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0.
- Now add up your scores for each item to get a total.
- Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.
- Scores ranging from 0-13 would be considered low stress. Scores ranging from 14-26 would be considered moderate stress. Scores ranging from 27-40 would be considered high perceived stress.

APPENDIX C
Multidimensional Scale of Perceived Social Support

Multidimensional Scale of Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) is a 12-item Likert scale, In which, participants will answer questions within a range of 1 (very strongly disagree) to 7 (very strongly agree). Based on a study by Merion (2017), WEwill use two versions of the MSPSS, one for online support and one for face-to-face support.

MSPSS: Face-to-face Version

Instructions for face-to-face support: Please answer the following questions regarding only face-to-face (e.g., Face-to-face, phone call, text message, etc.) support that you have received:

1. There is a special person who is around when I am in need.
2. There is a special person with whom I can share my joys and sorrows.
3. My family really tries to help me.
4. I get the emotional help and support I need from my family.
5. I have a special person who is a real source of comfort to me.
6. My friends really try to help me.
7. I can count on my friends when things go wrong.
8. I can talk about my problems with my family.
9. I have friends with whom I can share my joys and sorrows.
10. There is a special person in my life who cares about my feelings.
11. My family is willing to help me make decisions.
12. I can talk about my problems with my friends.

Scoring information:
Very Strongly Disagree = 1
Strongly Disagree = 2
Mildly Disagree = 3
Neutral = 4
Mildly Agree = 5
Strongly Agree = 6
Very Strongly Agree = 7

MSPSS: Online Version:

Instructions for online support: Please answer the following questions regarding only online (e.g., Social media, support group, video game chat room, chat room, etc.)support that you have received:

1. There is a special person who I can contact online when I am in need.
2. There is a special person with whom I can share my joys and sorrows online.
3. My family really tries to help me via online contact
4. I get the emotional help and support I need from my family via online contact
5. I have a special person online who is a real source of comfort to me
6. My online friends really try to help me.
7. I can count on my online friends when things go wrong.
8. I can talk about my problems online with my family.
9. I have online friends with whom I can share my joys and sorrows.
10. There is a special person in my life who cares about my feelings via online contact.
11. My family is willing to help me make decisions via online communication.
12. I can talk about my problems with my friends online.

Scoring information:
Very Strongly Disagree = 1
Strongly Disagree = 2
Mildly Disagree = 3
Neutral = 4
Mildly Agree = 5
Strongly Agree = 6
Very Strongly Agree = 7

APPENDIX D

General Psychological Well-being Short Index

Psychological General Psychological Well-being Short Scale

The Psychological General psychological well-being short scale is a shorted 6-item version of the original 22-item scale. Items are scored on a 7-point scale (1 = strongly agree; 7 = strongly disagree).

1. Have you been bothered by nervousness or your "nerves" during the past month?
2. How much energy, pep, or vitality did you have or feel during the past month?
3. I felt downhearted and blue during the past month
4. I was emotionally stable and sure of myself during the past month
5. I felt cheerful, lighthearted during the past month
6. I felt tired, worn out, used up, or exhausted during the past month

Scoring information: Items are scored on based on this information below. Items 1, 3 and 6 were reverse scored. 1 = 7, 2 = 6, 3 = 5, 4 = 4, 5 = 3, 6 = 2, 7 = 1.

1. Strongly agree = 1
2. Agree =2
3. Mildly agree = 3
4. Neutral = 4
5. Disagree = 5
6. Mildly disagree = 6
7. Strongly disagree = 7