AN EXAMINATION OF AFFECTIVITY, DEPRESSION, AND ACCULTURATIVE STRESS IN ASIAN INTERNATIONAL COLLEGE STUDENTS USING AN ONLINE WRITTEN DISCLOSURE PROTOCOL

by

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DEDICATION

To the victims and survivors of the tragedy at my alma mater, Marjory Stoneman Douglas High School, Parkland, Florida.
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ABSTRACT

TARA BERNADETTE OVERZAT
AN EXAMINATION OF AFFECTIVITY, DEPRESSION, AND ACCULTURATIVE STRESS IN ASIAN INTERNATIONAL COLLEGE STUDENTS USING AN ONLINE WRITTEN DISCLOSURE PROTOCOL
Under the direction of Karen D. Rowland, PhD

College is a time of emotional upheaval and adjustment. Asian international college students may benefit from an intervention such as an online written emotional disclosure protocol to help with mental health and emotional distress. This dissertation examines the affectivity, depressive symptoms, and acculturative stress of Asian international college students and begins to assess an online written emotional disclosure protocol as a potential intervention. Three MANOVA were run on the data, which suggested that Asian international college students age 26 and older experience a decrease in positive affect compared to the 22 - 25 year old age group; Indian international college students have higher positive affect than their peers; Asian international college students living in the US for 25 months or longer had negative affect than students living in the US 1 - 6 months; Asian international college students living in the US 25 months or longer had higher acculturative stress than those living in the US 7 - 24 months. LIWC2015 was utilized to examine the affective, social, and cognitive processes written about in the experimental and control prompt journals, and showed that
the experimental journals had higher utilization of words that reflect these processes. The study should be replicated with a larger sample size for better accuracy.
CHAPTER ONE

INTRODUCTION

Written emotional disclosure has been well-researched over the last few decades. This brief writing protocol was initially developed by James Pennebaker with assistance from his colleagues for the purpose of decreasing health and mood problems related to non-disclosure of traumatic events (Pennebaker & Beall, 1986). It has been referred to by various names, such as emotional disclosure through writing (Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994), written expression (Murray & Segal, 1994), expressive writing (Klein & Boals, 2001; Lepore, 1997; Páez, Velasco, & González, 1999; Spera, Buhrfeind, & Pennebaker, 1994), emotional disclosure writing intervention (Booth, Petrie, & Pennebaker, 1997), written emotional expression (Smyth, 1998), structured writing (A.A. Stone, Smyth, Kaell, & Hurewitz, 2000), journaling/journal writing (Barry & Singer, 2001), Pennebaker's disclosure paradigm (Brown & Heimberg, 2001), written self-disclosure (Klapow et al., 2001), written disclosure/guided written disclosure (Gidron et al., 2002), writing paradigm (Kovac & Range, 2002), expressive disclosure (Rosenberg et al., 2002), and written emotional disclosure (Kloss & Lisman, 2002; Bernard, Jackson, & Jones, 2006; Junghaenel, Schwartz, & Broderick, 2008). For ease of understanding, the term written emotional disclosure will be used in this study.
Theoretical Framework

One of the effects of written emotional disclosure is that it helps individuals to find resolution to their issues (Lepore, Greenberg, Bruno, & Smyth, 2002). Another is that people process events differently when writing about those events instead of using other therapeutic techniques, and that writing can initiate emotion-regulation processes in an individual (Lepore et al., 2002). Written expression has been found to be so effective that as little as two minutes of writing a day for two days yielded positive health effects for participants facing medical issues (Burton & King, 2008). In another experiment, expressive writing positively impacted the health of individuals with a diagnosis of posttraumatic stress disorder (PTSD), where lower levels of dysphoria were observed (Smyth, Hockemeyer, & Tulloch, 2008).

Expressive writing has its origins in the work of James Pennebaker and his colleagues. Pennebaker and Beall (1986) noted that not confiding about traumatic events correlated with greater occurrence of diseases related to stress. Pennebaker (1997) later clarified that not speaking about traumas was a constant low-level stressor—in short, that it takes effort to not disclose a disturbing event. Pennebaker and Beall (1986) created an experiment to test if writing about such traumas would have a short- or long-term impact on psychological and physical health. The results were that participants experienced short-term negative effects (e.g., raised blood pressure and more negative mood) but needed fewer visits to the health center in the six months following the intervention. This suggested that the emotional release of writing about trauma had positive psychosomatic effects.
In a follow-up study, Pennebaker, Hughes, and O'Heeron (1987) also found that communication about traumas produced positive physical results. The researchers, however, performed their experiment by having students either disclose a traumatic event alone with a tape recorder, or having them perform this activity along with speaking about the trauma to an unseen “confessor” behind a curtain. They found that the participants disclosed more to the tape recorder than to the confessor. The researchers rationalized that this may be due to the participants feeling safer disclosing to the tape recorder than to an individual—even if that individual were unseen. This result lends credence to using expressive writing as a tool for helping individuals to process negative events, as individuals are more likely to disclose in the relative safety of writing, as they were in the relative safety of the tape recorder. In other words, that participants may be more comfortable disclosing sensitive material if it is not directed towards a person face-to-face, making a stronger case for written emotional disclosure.

According to Francis and Pennebaker (1992), non-expression of thoughts and feelings is associated with higher levels of stress, which in turn increases the risk of disease. The work of Lepore (1997) showed that students preparing to take a graduate entrance exam had decreased incidence of intrusive thoughts and depression after writing about their thoughts regarding taking the exam.

Life events such as heartbreak resulting from the end of romantic relationship and stress from job loss can also be helped with expressive writing. Lepore and colleagues (2002) discovered that college students writing about a romantic breakup had fewer symptoms of upper respiratory tract infection, as well as fewer intrusive thoughts and less
avoidance when compared to a control group writing about impersonal topics. In this example, not only did expressive writing have a physical and psychological impact on the college students, but a social one as well. Spera and colleagues (1994) discovered that unemployed participants who wrote about losing their jobs were more likely to rejoin the workforce than a control group. As in the study by Lepore and Greenberg (2002), the expressive writing intervention resulted in a change in social status.

History of Written Emotional Disclosure

Pennebaker initially created this low-cost intervention by asking participants to write for three to four days for approximately 20 to 30 minutes on a stressful event (Pennebaker & Beall, 1986). There have been a number of variations on this paradigm over the past few decades, with some writing sessions being as short as two minutes (Burton & King, 2008), and applications of the protocol to such disparate topics as job loss (Spera et al., 1994), living with cancer (Cohen et al., 2012; Creswell et al., 2007; deMoor et al., 2002; Gellaitry, Peters, Bloomfield, & Horne, 2010; Jensen-Johansen et al., 2012; Laccetti, 2007; Low, Stanton, Bower, & Gyllenhammer, 2010; Low, Stanton, & Danoff-Burg, 2006; Lu, Zheng, Young, Kagawa-Singer, & Loh, 2012; Rosenberg et al., 2002; Zakowski, Herzer, Barrett, Milligan, & Beckman, 2011; Zakowski, Ramati, Morton, Johnson, & Flanigan, 2004), and academic performance (Burns & Friedman, 2012; Dalton & Glenwick, 2009; Frattaroli, Thomas, & Lyubomirsky, 2011; Klein & Boals, 2001; Lumley & Provenzano, 2003).

Written emotional disclosure could be an appropriate intervention for the acculturation and mental health issues of Asian international students studying in the US.
Many studies of written emotional disclosure have used college students as participants and have found favorable results (Esterling, Antoni, Fletcher, Margulis, & Schneiderman, 1994; Greenberg & Stone, 1992; Greenberg, Wortman, & Stone, 1996; Pennebaker & Beall, 1986; Pennebaker, Colder, & Sharp, 1990; Petrie, Booth, Pennebaker, Davison, & Thomas, 1995). Broadly, written emotional disclosure has been used with international community populations with various foci. It has been used with female cancer patients in Romania (Kallay & Baban, 2008), and child protective services workers in Australia (Alford, Malouff, & Osland, 2005). Written emotional disclosure has also been used with immigrants to the US and first-generation Americans. For example, a version of the written emotional disclosure protocol was used with Chinese-American breast cancer survivors and suggested favorable outcomes (Lu et al., 2012). Tarafdar (2011) explored the use of written emotional disclosure with a community sample of Asian Indian Americans, and utilized a completely online protocol via email invitation. While the study had a high retention rate (79%), it did not find an immediate positive effect from the written emotional disclosure exercises.

Offshoots of written emotional disclosure have been used with international community samples as well. A technique known as logo-autobiography, a combination of existentialist thought (logotherapy) and autobiography, has been in use with women in South Korea who are married to alcoholic spouses in order to improve mental health outcomes (Cho, 2008). Logo-autobiography shares some similarities with written emotional disclosure in that they are both written disclosures, and both focus on self-reflection. Where logo-autobiography differs is that it is more structured, with specific
areas to focus on in each writing session (Cho, 2008). It also combines this personal writing with group therapy—participants do a warm up together as a group, retire to their writing, then regroup to share their writing (Cho, 2008). Logo-autobiography has also been used with Korean immigrant women living in the US to alleviate symptoms of depression with positive results (Cho, Bernstein, Cho, & Roh, 2012; Cho, Bernstein, Roh, & Chen, 2013). Written emotional disclosure has been tested with adolescents, young adults, and community members in other countries and territories using those areas’ dominant languages, including Denmark (Matthiesen et al., 2012), The Netherlands (Schoutrop, Lange, Hanewald, Davidovich, & Salomon, 2002; van Middendorp, Geenen, Sorbi, van Doornen, & Bijlsma, 2009), Spain (Fernández, & Páez, 2008; Páez et al., 1999), Germany (Langens & Schüler, 2005), Greece (Panagopoulou, Montgomery, & Tarlatzis, 2009), Italy (Facchin, Margola, Molgora, & Revenson, 2013; Giannotta, Settanni, Kliwer, & Ciairano, 2009), Japan (Yogo & Fujihara, 2008), Israel (Gidron et al., 2002), and the Gaza territory (Lange-Nielsen et al., 2012). Research has also been conducted in English in Australia (e.g., Alford et al., 2005; Baikie, 2008; Kirk, Schutte, & Hine, 2011) and in the United Kingdom (e.g., Ashley, O'Connor, & Jones, 2011). An online research study was stationed in Australia and used an Australian website (Baikie, Geerligs, & Wilhelm, 2012).

Few studies have been conducted using written emotional disclosure with international college students in the US (Hijazi, Tavakoli, Slavin-Spenny, & Lumley, 2011; Tavakoli, Lumley, Hijazi, Slavin-Spenny, & Parris, 2009). The work of Hijazi and colleagues (2011) recommends targeting the written emotional disclosure intervention to
specific subcultures of international students. Their study suggested that using written emotional disclosure with international college students showed improvements in acculturative stress among students who were struggling with higher rates of this stress at baseline. Kim (2008) used written emotional disclosure with a group of US college students whose native languages were either Spanish or Korean. The author found that an experimental model where the students switched between writing in their native languages and in English had better outcomes than the control group or the groups that wrote exclusively in only English or the native language. This suggests that not only can written emotional disclosure be effective with at least certain Asian populations, but also that a paradigm that allows for expression in the language(s) of the participants’ choosing can affect the outcome.

An online protocol for Asian international college students may be useful for several reasons. An online intervention featuring cognitive-behavioral therapy (internet CBT or iCBT) was found effective with a population of community-based Chinese-Australian individuals (Choi, Andrews, Sharpe, & Hunt, 2015). In addition, this study also found that Chinese-Australians as well as Caucasian-Australians overwhelmingly endorsed the idea of internet-based psychological interventions, believing that they would be easier to access than more traditional methods. Other studies have found success on certain measurements from online versions of written emotional disclosure (Sheese, Brown, & Graziano, 2004; van der Houwen, Schut, van den Bout, Stroebe, & Stroebe, 2010).
Brief Overview of Asian International Students

In today’s globalized world, more and more international students come to the United States to study at the undergraduate and graduate collegiate levels, as well as pursue non-degree programs and optional practical training. International students are defined as students holding a “temporary visa that allows for academic coursework” at an institute of higher education (Institute of International Education, 2018). Statistics for the 2017-2018 academic year show that 1,094,792 international students matriculate in the US (Institute of International Education, 2018). Many of these students hail from South, East, and Southeastern Asian countries, with 363,341 students from China, 196,271 from India, and 54,555 from South Korea—three of the four top countries to send students to the US for postsecondary education (Institute of International Education, 2018). While Asian international college students may meet the academic requirements for study in the US, they are coming from disparate cultures and many experience difficulties relating to acculturation (Dao, Lee, & Chang, 2007). It has been argued that multiculturalism undergirds all counseling relationships, as it allows for counselor and client to disagree based on their own cultural assumptions (Pedersen, 1991). This can apply not only broadly but to counseling relationships in an increasingly global world.

Lee, Koeske, and Sales (2004) discuss the correlation between high levels of acculturative stress and mental health issues. Struggles with acculturation can affect academic success (Mori, 2000). Acculturation, homesickness, and other issues arise both from being away from home but also from being at a new school (Wilton & Constantine, 2003). Asian international students, however, may be less inclined than their American
peers to take advantage of face-to-face counseling on the college campus or the community at large (Atkinson & Gim, 1989; Chang & Chang, 2004; Choi, Andrews, Sharpe & Hunt, 2015; Choi, Sharpe, Li, & Hunt, 2015; Liao, Rounds, & Klein, 2005). International students may have psychological distress at the same rate—or higher—than the dominant culture (Dao et al., 2007). Some of the issues faced by international students include language barriers, discrimination based on race or ethnicity, less social support, financial problems, and academic difficulties (Dao et al., 2007; Mori, 2000).

Asian international students are a multitudinous group, hailing from a variety of races and ethnicities. China alone is comprised of 56 ethnic groups (Mackerras, 2003); India has 29 different states and 7 territories (CIA World Factbook); and countries as unique in their identity as South Korea, Thailand, and Vietnam are also part of Asia. As stated by Caluya and colleagues (2011) in their work on Indian identities while living in Australia:

[T]wo students from Gujarat may bond over being able to speak in Gujarati with each other, positing the Punjabi speaker as the outsider, but a Gujarati and a Punjabi working together at a supermarket see the Gujarati university researcher as an anomaly, expressing surprise and curiosity about how she got work as a researcher, seen as a prized white-collar job. It becomes apparent, therefore, that there is no ‘Indian student’ but multiple Indian students, divided along the axis of region/language and class. (p. 91)

As such, Asian international students may be renegotiating their identities in relation to the US dominant culture and may all be doing so with different ideas of how their race
and ethnicity relates to the dominant culture as opposed to their home cultures, even if they have classmates hailing from the same country. Asian international college students may be unprepared for microaggressions and marginalization based on their ethnicity if they are members of the majority class in their home countries (Yoon & Portman, 2004). Asian international college students may also face changes in their socioeconomic standing and overall class status, as many such students will transition from living economically comfortably in their home countries to having fewer financial resources abroad (Clark Oropeza, Fitzgibbon, & Barón, Jr., 1991; Svarney, 1989).

Multiculturalism may be the “fourth force” in counseling (Pedersen, 1991), however modern counseling is still rooted in European-American ideologies (Sadeghi, Fischer, & House, 2003). This affects how counselors view Asian international students and the efficacy of counseling modalities. Sociopolitical realities also affect Asian international students. The negative effects of having grown up in unjust or oppressive environments can worsen issues that Asian international students are already facing (Arredondo & Toporek, 2004).

Significant stress can be caused by misunderstandings between Asian international students and US cultural expectations. The risk of cognitive dissonance between worldviews, trouble with new customs, and language difficulties all cause exceptional stress (Chen, 1999). For example, collectivism and hierarchy are highly valued in many Asian countries as opposed to the more individualistic and egalitarian beliefs of American cultures (Hofstede, 2001; Sadeghi et al., 2003). The spectrum of individualism versus collectivism may be defined as, “the degree to which individuals are
supposed to look after themselves or remain integrated into groups, usually around the family.” (Hofstede, 2001, location 197). In a study of 53 countries, the US, Australia, Great Britain, and Canada ranked highest in terms of individualism, whereas Malaysia, Hong Kong, Singapore, and South Korea were far lower on the list (36th, 37th, 39th, and 43rd respectively), and India was 21st on the list (Hofstede, 2001, location 7194).

Differences in academic expectations can cause Asian international students to struggle in the American college classroom (Chen, 1999; Mori, 2000). Pop quizzes, creative writing assignments, and informal classroom discussions are uncommon in many Asian educational systems (Mori, 2000). Generally, international students who are accustomed to academic success may find themselves doing less well on assignments in US classrooms due to cultural teaching differences and language proficiency issues (Svarney, 1989).

Asian international students may find themselves with second language anxiety (Chen, 1999). Daily routines can be disrupted by these communication issues (Chen, 1999). Confidence in linguistic abilities may correspond with confidence in dealing with daily challenges (Chen, 1999). Research has pointed to Taiwanese international students with perceptions of lower levels of English fluency being at higher risk of depression (Dao et al., 2007). Asian international students experiencing academic success may adapt better to their environments than those students who are less academically successful (Chen, 1999).

Some Asian international students come to the US accustomed to being members of the majority culture in their home countries, and may not be prepared for being
considered part of a minority culture in the US (Yang, Harlow, Maddux, & Smaby, 2006). Asian international students from more homogenous societies may not have a distinct racial identity, or more likely have developed one based on their experiences in their home country which does not align to the cultural expectations of the host country (Yang et al., 2006). Additionally, work, school, and legal restrictions placed on Asian international students in the US also differentiate them from their peers (Yang et al., 2006).

Perception of less social support corresponded with greater depression risk in Asian international students (Dao et al., 2007). Perceptions of prejudice also caused Asian international students to experience more stress, even when controlling for acculturation and other factors (Nilsson, Butler, Shouse, & Joshi, 2008). Social support can be crucial to adjustment for Asian international students (Kashima & Low, 2006). In fact, Asian international students who received social support from other international students may adjust better psychologically (Kashima & Low, 2006). This is not to say, however, that local connections are not important as international students with local connections have increased understanding of the host culture (Kashima & Low, 2006).

Perfectionism and the presence of acculturation may predict stress levels in Asian international students (Nilsson et al., 2008). Despite the many challenges faced by Asian international students, they may be reluctant to seek counseling due to the value of self-concealment that is prevalent in many Asian cultures (Liao et al., 2005). Asian international students may feel more comfortable speaking to friends and family than seeking professional counseling (Yeh & Wang, 2000 as cited in Liao et al., 2005).
As Asian international students may be less inclined to attend counseling, the creation of programs and interventions to assist with acculturation and is recommended (Dao et al., 2007). Workshops for international students focusing on stress, perfectionism, and acculturation have been suggested (Nilsson et al., 2008). Due to the prevailing view of relationships as being lineal-hierarchal in much of Asian culture, Asian international students may place more importance on the words of counselors than their peers, and this may be true regardless of where Asian international students are in their acculturation processes (Yang et al., 2006). Generally, students that are more acculturated are more likely to believe that counseling is beneficial (Sue & Sue, 1999, as cited in Liao et al., 2005).

Rationale for the Study

Written emotional disclosure differs from journaling in that journaling tends to take place over an extended period, is generally unstructured, and often involves keeping a diary or “journal” of the entries written. Previous research has evaluated the efficacy of journaling under this definition, with mixed results (e.g., Smith, Anderson-Hanley, Langrock, & Compas, 2005; Stone, 1998; Ullrich & Lutgendorf, 2002). Expressive writing is structured with a prompt and is intended to be a short-term activity, with recommendations of three to five sessions between 15 and 30 minutes in duration (Pennebaker, 1997), though there have been research designs as short as two 2-minute sessions (Burton & King, 2008).

Expressive writing is also distinct and separate from traditional psychotherapy. Graf, Gaudiano, and Geller (2008) discuss the benefits of an amended expressive writing
activity, more akin to journaling due to its duration, as a useful adjunctive to psychotherapy sessions. The benefits of psychotherapy are well-established; however, expressive writing is a brief intervention meant to target a trauma or disturbing event that is currently troubling the individual.

Additionally, expressive writing has the potential to raise working memory if a traumatic event is the focus of the writing activities (Yogo & Fujihara, 2008). An increase in working memory could in turn improve the academic functioning of these youth. Written emotional disclosure may improve working memory, as seen on working memory tests (Yogo & Fujihara, 2008). Expressive writing has produced positive—though small—increases in grade point average (GPA) in populations instructed to write about their college experiences (Pennebaker et al., 1990; Pennebaker & Francis, 1996). It has been suggested that increases in working memory after written emotional disclosure may contribute to this increase in GPA (Klein & Boals, 2001). It is thought that the release of troubling issues via written emotional disclosure frees up working memory for tasks other than avoiding thinking about the troubles or indulging in thoughts about the problems (Klein & Boals, 2001).

Written emotional disclosure is a technique that has shown efficacy in alleviating mental health symptoms and emotional distress in a brief period of time, and has lasting results. Moderate improvements in health have been seen in numerous studies (Frattaroli, 2006). In addition, participants may wish to continue the intervention on their own, in the form of brief writing activities. All participants need for continuing this intervention
are writing instruments, which can be as basic as paper and pencil or more technologically advanced such as typing on a personal computer, laptop, or tablet.

Written emotional disclosure has been used with good results on international students (Hijazi et al., 2011; Kim, 2008; Lu & Stanton, 2010; Tavakoli et al., 2009). In Hijazi et al.’s (2011), Lu and Stanton’s (2010), and Tavakoli et al.’s (2009) studies, the majority of the participants were Asian international students. Kim’s (2008) study focused on bilingual students, and 32 of the 89 subjects spoke Korean and English, whereas the other participants spoke Spanish and English. The large number of Asian international students in these studies (also related to the large number of Asian international students among international students studying in the US) brings relevance to using written emotional disclosure specifically for Asian international students in this dissertation.

Stigma is a barrier to counseling and participation in mental health-related activities for the American population (Baikie et al., 2012), and particularly for Asian-Americans (Atkinson, Lowe, & Matthews, 1995; Narikiyo & Kameoka, 1992; Tracey, Leong, & Glidden, 1986). Research has found that Asian international college students are less likely to consider and/or seek counseling if they have lower levels of acculturation (Chen & Lewis, 2011; Frey & Roysircar, 2006; Liao et al., 2005; Zhang & Dixon, 2003). Due to these barriers, an online platform for written emotional disclosure has the potential to reach more Asian international college students. An online support group was effective for Asian-American college students (Chang, Yeh, & Krumboltz, 2001), and internet-based cognitive-behavioral therapy was beneficial for Chinese-
Australian community members (Choi, Andrews, Sharpe, & Hunt, 2015). Online and email-based written emotional disclosure interventions were generally found to be effective in recent studies (Baikie et al., 2012; Hirai, Skidmore, Clum, & Dolma, 2012; Sheese et al., 2004; van der Houwen et al., 2010).

Significance of the Study

The use of an online written emotional disclosure intervention to examine effects on positive and negative affectivity, depression, and acculturative stress in Asian international students has not been previously done and may be of great benefit to this population. Written emotional disclosure has been tested on thousands of college students in the US, and has generally shown efficacy in improving mood (Frattaroli, 2006). This study examines if these effects can be generalized to Asian international students via an online modality. This study also investigates the relationship between age, country of origin, gender, school classification, and time spent in the US with affectivity, depression, and acculturative stress. The findings may have implication for interventions and college mental health practices with this population.

Statement of the Problem

College is a time of emotional upheaval and adjustment. Asian international college students may benefit from an intervention such as an online written emotional disclosure protocol to help with mental health and emotional distress. Due to mental health stigma, a discreet intervention, such as an online platform, may be more welcome and have the opportunity to reach more students. In addition, relationships between age,
gender, school classification, time spent in the US, and country of origin in terms of affectivity, acculturative stress, and depressive symptoms were explored.

Research Questions

This research on acculturative stress, affectivity, and depressive symptoms as well as the use of an online written emotional disclosure protocol with Asian international students currently matriculating in the US, will ask the following questions with the following hypotheses.

Research Question 1 – Is there a significant direct impact of age, school classification, and gender on affectivity, depressive symptoms, and acculturative stress among Asian international college students?

Hypothesis 1 – There will be a significant direct impact of age, school classification, and gender on affectivity, depressive symptoms, and acculturative stress among Asian international college students.

Research Question 2 – Does country of origin and time spent in the US have a significant direct impact on affectivity, depressive symptoms, and acculturative stress among Asian international college students?

Hypothesis 2 – Country of origin and time spent in US will have a significant direct impact on affectivity, depressive symptoms, and acculturative stress among Asian international college students.

Research Question 3 – Is there a significant interaction impact of all five independent variables on the four dependent variables of the study?
Hypothesis 3 – There will be a significant interaction impact of all five independent variables on the four dependent variables of the study.

Research Question 4 – What are the common themes in the expressive writing protocol and control journals of Asian international college students?

Definition of Variables

A demographics survey was used in the study. The following terms are the independent variables for this study presented with operational definitions for clarity.

Age – the biological age of the participants. All participants will be over 18 years old. The age of the participants may impact the efficacy of the writing protocol as well as the baseline measures.

Country of origin – the nation the Asian international student participant identifies as being their home country. This is in contrast to their host country, the United States, where they are currently living and studying.

Gender – the participants’ concepts of themselves as male, female, or another categorization. Per the World Health Organization (2017), gender is constructed socially through societal norms and behaviors.

School classification – the participants’ educational status (e.g., undergraduate, graduate) and year in school (e.g., freshman).

Time spent living in the United States – refers to how many months or years the participants have resided in the United States to date. Participants may range from being in their first year of study to having been studying in the US for many years.
The dependent variables are the outcome measures of the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), Center for Epidemiologic Studies Depression Scale – Revised (CESD-R; Eaton, Smith, Ybarra, Muntaner, & Tien, 2004), and the Acculturative Stress Scale for International Students (ASSIS; Sandhu & Asrabadi, 1994). Positive and negative affect were assessed with the PANAS, depressive symptomatology by the CESD-R, and acculturative stress by the ASSIS.

Limitations

Different interventions can help alleviate psychosocial stressors that could contribute to depression, anxiety, and a host of other mental and physical issues. Limitations to written emotional disclosure do exist. Alexithymia, a difficulty in recognizing and naming one’s emotions, can negatively affect outcomes due to difficulties in emotional processing (Ashley et al., 2011; Lumley, 2004; O’Connor & Ashley, 2008), though other research points to written emotional disclosure being helpful in individuals who score high on alexithymia measures (Baikie, 2008) or even to mixed results (Páez et al., 1999). Expressive writing may not be an appropriate intervention for all clients. Páez and colleagues (1999) found that psychology students with alexithymia had less introspection in their essays when compared to other students in their experiment. Furthermore, a lesser ability to describe feelings correlated with inhibition of emotions and issues with psychological health. Pennebaker (1997) has stated that writing about traumas alone may not be enough to produce significant changes in individuals if the individuals are not able to adequately connect language to the
experiences. This finding has encouraged further study of emotional processing and
cognitive processing words used in writing about events.

Summary

Chapter one discussed the theoretical framework, history of written emotional
disclosure, and an overview of Asian international students to provide the groundwork
for the study. The rationale for the study, and the significance of the study, were
introduced. The statement of the problem and various research questions were presented
along with a definition of the variables and limitations.

Chapter two contains a literature review on written emotional disclosure and on
Asian international students. It explores whether the writing protocol would impact
affectivity, depressive symptoms, and acculturative stress in Asian international students.
Chapter three describes the methodology, including hypotheses, variables, sample,
instruments to be used, and procedures. Chapter four will contain a report of the results of
the study along with statistical analyses. Finally, Chapter five will provide a discussion
of the results.
CHAPTER TWO

LITERATURE REVIEW

The literature review presented here aims to illuminate the current state of the research on written emotional disclosure and its applicability to Asian international students. First, research on written emotional disclosure will be presented with an emphasis on the efficacy of this intervention as well as the benefits and drawbacks of its use. Second, the obstacles faced by Asian international students will be explored. Third, depression and acculturative stress will be examined. Last, the current literature to support the use of written emotional disclosure with this population will be presented.

Written Emotional Disclosure

Written emotional disclosure has been successful, in at least some measurable aspects, among diverse populations (Frattaroli, 2006). To date, over 200 studies on written emotional disclosure have been published (Smyth & Pennebaker, 2008). How and why written emotional disclosure works, however, has been a subject of debate (Sloan & Marx, 2004b). Some conclude that the mechanism is unknown (A. A. Stone et al., 2000). One possibility of how written emotional disclosure works is that the creation of a healthy narrative, or a cohesive story, can bestow positive effects on people (Danoff-Burg, Mosher, Seawell, & Agee, 2010; Pennebaker & Seagal, 1999; Ramírez-Esparza & Pennebaker, 2006). Narrative story-making alone was not found, however, to predict health outcomes (Graybeal, Sexton, & Pennebaker, 2002).
It may be that meaning-making is what makes written disclosure work, or the fact that it encourages people to believe that they will become well (Langens & Schüler, 2007). Habituation processes to the trauma at the center of the disclosure exercise (Smyth & Pennebaker, 2008) or extinction of negative affect associated with the event (Sloan & Marx, 2004a) have also been suggested as reasons for why there are positive outcomes. Chronic stress can continue impacting physiological health even after the removal of the stressor (Esterling, Kiecolt-Glaser, Bodnar, & Glaser, 1994). Researchers have suggested that the non-disclosure of traumatic events is a constant stressor that can impact the immune system, and that written disclosure alleviates this stressor and improves health (Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Francis & Pennebaker, 1992; Pennebaker, 1997).

Of note, previous disclosure of trauma does not appear to diminish the positive effects of writing about the same trauma in the research protocol (Greenberg & Stone, 1992). Written emotional disclosure is considered a type of programmed writing, which is more cognitively-structured in nature (Kerner & Fitzpatrick, 2007) and, as such, cognitive restructuring processes may be in play (Lepore et al., 2002). Last, one study suggests that religiosity of the participants may play a role in positive post-writing outcomes (Exline, Smyth, Gregory, Hockemeyer, & Tulloch, 2005).

Indeed, higher levels of positive emotion words in the writing exercises are correlated with positive outcomes (Mackenzie, Wiprzycka, Hasher, & Goldstein, 2008; Pennebaker, Mayne, & Francis, 1997; Slatcher & Pennebaker, 2006), though this is not true for all populations (O'Connor & Ashley, 2008). Certain facets of storytelling, such
as the use of pronouns and cognitive vocabulary, are correlated with a decrease in
doctor’s visits (Ramírez-Esparza & Pennebaker, 2006). In fact, the use of insight words
and causation words suggests greater cognitive processing which then correlates with
better health and behavior outcomes (Pennebaker et al., 1997).

Another point of view is that the writing, and re-writing, of events can influence
how well written emotional disclosure works (Robinson, 2000). The self-affirmation
aspects of written emotional disclosure have been found to positively influence the health
benefits of the protocol (Creswell et al., 2007). Yet another aspect of written emotional
disclosure which may contribute to its positive effects is cognitive processing (Lorenz,
Pulverman, & Meston, 2013) and extinction of negative affectivity associated with a
traumatic event (Sloan & Marx, 2004a). A correlation between usage of more affective
language and quality of life of participants has been suggested by research (Laccetti,
2007), as well as increased meaningfulness of the writing to the participant correlating
with more positive outcomes (Schutte, Searle, Meade, & Dark, 2012). Higher levels of
autonomy appeared to lead to more effective expression and emotional regulation which
also correlated with positive outcomes (Weinstein & Hodgins, 2009).

The instructions for written emotional disclosure can vary. Research suggests that
participants write about the same traumatic event for each writing session, rather than
writing about a different event in each session (Sloan, Marx, & Epstein, 2005). During
the writing process, it is possible for subjects to experience an increase in negative mood
(Donnelly & Murray, 1991; Kelley, Lumley, & Leisen, 1997; Murray & Segal, 1994;
Schwartz & Drotar, 2004; Smyth, 1998), increased heart rate (Epstein, Sloan, & Marx,
increased salivary cortisol (a measure of physiological stress) (Sloan & Marx, 2004a), or illness during the writing process or immediately after, however, this effect appeared to be mediated by the use of both cognitive words and emotion words, rather than emotion words alone (Ullrich & Lutgendorf, 2002). Brewin and Lennard (1999) found that the use of handwritten passages versus typed passages appears to increase negative feelings after writing, and suggest that this can be used to control how emotionally activated participants become during the exercise. It should be noted that with this study being nearly 20 years old and the quickening pace of technology, that this result may be different for today’s “digital native” youth (Palfrey & Gasser, 2013).

Writing about one’s emotions can decrease hostility, which can help with decreasing somatization (Austenfeld, Paolo, & Stanton, 2006). In addition, meaning-making can help subjects to work through the problems they write about (Graham, Lobel, Glass, & Lokshina, 2008; Langens & Schüler, 2007). Studies have generally shown that writing about distressful topics can be more beneficial than writing about superfluous topics (Pennebaker, 1997). Written emotional disclosure originator Pennebaker (2004) believes that there is likely no single unifying theory for why written emotional disclosure works, despite researchers seeking out such a theory. Nevertheless, this did not stop researchers, including Pennebaker, from observing that pronoun usage may affect the benefits of written emotional disclosure, specifically the use of first-person pronouns (Seih, Chung, & Pennebaker, 2011).

While written emotional disclosure tends to focus on expressing distressing events, research has shown that writing about positive events can also yield positive
results (Burton & King, 2004; Burton & King, 2009) as can writing about “imagined” traumatic events (Greenberg et al., 1996). Other variations on the writing exercise include adding verbiage about cognitive processing of an experienced traumatic event (e.g., writing down “what you tell yourself … to help you deal with [the situation].”) (Ullrich & Lutgendorf, 2002). Interestingly, there have been studies that show that participating in the written emotional disclosure experiment at all, even in the control group, has a benefit (Deters & Range, 2003; Earnhardt, Martz, Ballard, & Curtin, 2002).

Written emotional disclosure is not a one-size-fits-all approach. There may be moderating effects that help some subjects receive more benefits from the exercise than others. Mindfulness may be one of these moderators (Poon & Danoff-Burg, 2011). Interestingly, another moderator may be maladaptive ruminating. Such individuals received more relief from depressive symptoms than their lower-ruminative counterparts (Sloan, Marx, Epstein, & Dobbs, 2008). Some factors which were assumed to be possible moderators have turned out not to be. For example, defensive and highly anxious individuals did not differ in affective or cognitive written expression from their low-anxiety peers (Tamagawa, Moss-Morris, Martin, Robinson, & Booth, 2013).

The length of time for which symptom reduction is experienced is also unclear. Research points to the gains made during the written emotional disclosure protocol lasting for one-month (e.g., Andersson & Conley, 2013; Austenfeld & Stanton, 2008; Baikie, 2008), two months (e.g., Arigo & Smyth, 2012; Sloan, Feinstein, & Marx, 2009), three months (e.g., Austenfeld et al., 2006), four months (e.g., Baikie et al., 2012), five months (Willmott, Harris, Gellaitry, Cooper, & Horne, 2011), six months (Ames et al.,
2005) and even up to fifteen months (Gidron et al., 2002). Other studies, however, have only done short-term follow ups, for example two weeks after the final writing session (e.g., Baikie et al., 2006). In some cases, no follow up was done with the participants at all (Alford et al., 2005; Barclay & Skarlicki, 2009). Also, various factors can impede the possible lasting effect of written emotional disclosure. In a study on patients with amyotrophic lateral sclerosis (ALS), an always fatal neurodegenerative disease, positive effects of the writing protocol were apparent at three months, but not at six months (Averill, Kasarskis, & Segerstrom, 2013). The authors hypothesized that this occurred due to the severe nature of the progression of the disease experienced by the participants.

Physical Health

Regarding physical symptoms, the results of written emotional disclosure have varied from study to study. Many studies have found positive changes in physical health following the written emotional disclosure protocol (Austenfeld et al., 2006; Broderick, Junghaenel, & Schwartz, 2005; Burton & King, 2009; Earnhardt et al., 2002; Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Greenberg et al., 1996; Ironson et al., 2013; Junghaenel et al., 2008; Lepore et al., 2002; Kraft, Lumley, D'Souza, & Dooley, 2008; O'Cleirigh, Ironson, Fletcher, & Schneiderman, 2008). Studies have also found less frequent utilization of medical resources or doctor’s office visits (Cameron & Nicholls, 1998; Gidron et al., 2002; Klapow et al., 2001; Pennebaker & Beall, 1986; Pennebaker, Kiecolt-Glaser, & Glaser, 1988b) as well as increased positive healthy behaviors (Smith, Kloss, Kniele, & Anderson, 2007).
Written emotional disclosure has proved useful in reducing symptoms of depression, PTSD, and physical issues in women living with HIV, but the same results were not seen in HIV-positive men (Ironson et al., 2013). Among gay men, written emotional disclosure improved stress-related physical symptoms and lowered avoidance (Swanbon, Boyce, & Greenberg, 2008) as well as reduced stress related to stigma (Pachankis & Goldfried, 2010). Other researchers have found no difference between genders using these written protocols (Epstein et al., 2005). On average, twice as many women have been participants of written emotional disclosure than men in published studies (Frattaroli, 2006). There is still much that needs to be researched regarding potential gender differences on the effects of written emotional disclosure. There are populations for whom written emotional disclosure appears to be less effective. Junghaenel and colleagues (2008) noted that individuals with fibromyalgia who were higher educated and/or were interpersonally distressed were more likely to benefit from the protocol, for example, than lesser educated participants or those with higher interpersonal expression. This corroborated with another finding that cancer patients, who may find themselves struggling with expressing their emotions to friends and loved ones, benefitted from written emotional disclosure due to the fact that it was an emotional outlet that was not otherwise available to them (Zakowski et al., 2004).

Fewer symptoms of upper respiratory tract infections have been noted among college students using this protocol to discuss romantic break ups (Lepore et al., 2002). Migraine symptoms decreased in frequency and severity following WED, with greater results seen in subjects who used an emotional approach to coping (Kraft et al., 2008).
The positive effects of healthy emotional processing may be a moderator for better health and fewer symptoms of illness for other disease populations as well. A study of people dubbed “Healthy Survivors,” individuals with AIDS diagnoses that had been asymptomatic for nine months, were found to have higher rates of emotional disclosure when writing about trauma than a comparable group of HIV-positive individuals (O'Cleirigh et al., 2008). A similar finding was uncovered with HIV-positive individuals experiencing an increase in CD4+ lymphocyte counts after written emotional expression (Petrie, Fontanilla, Thomas, Booth, & Pennebaker, 2004). Better immune functioning was also seen in another study of HIV-positive men and women as measured by oral samples of beta-2 microglobulin (Rivkin, Gustafson, Weingarten, & Chin, 2006).

Symptoms of asthma have seen improvement using the written protocol as well (Smyth, Stone, Hurewitz, & Kaell, 1999; Warner et al., 2006). Adolescents diagnosed with asthma saw improvements in behavioral functioning and emotional operation (Warner et al., 2006). The effects of this were most strongly seen among adolescents whose writing displayed cognitive restructuring and processing of emotions. The written protocol also had positive health effects on individuals who had experienced their first heart attack (Willmott et al., 2011). Changes in health behaviors can be seen after written emotional disclosure, such as women performing breast self-examinations (Smith et al., 2007).

Not all studies, however, of written emotional disclosure have shown positive gains in physical health (Kloss & Lisman, 2002; Mogk, Otte, Reinhold-Hurley, & Kröner-Herwig, 2006; Panagopoulou et al., 2009; Soliday, Garofalo, & Rogers, 2004) or
psychological symptoms (Batten, Follette, Hall, & Palm, 2002; Moore, Brody, & Dierberger, 2009; Schwartz & Drotar, 2004). Sometimes this is due to changes in the usual protocol. A study offering the protocol as videotaped instructions to be listened to at home produced no significant effect on participants (Broderick, Stone, Smyth, & Kaell, 2004). An at-home intervention, though, may still be useful for some populations, and limited positive results were found with such an intervention among people diagnosed with fibromyalgia (Gillis, Lumley, Mosley-Williams, Leisen, & Roehrs, 2006). Spoken versions of emotional disclosure, where participants privately speak about traumas into a tape recorder, have also yielded positive results (Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Kelley et al., 1997). A research paradigm where the protocol was based on writing about a close loved one lost to breast cancer had the interesting angle of trying to relate the writing to focus on goals and finding meaning in the loss (Bower, Kemeny, Taylor, & Fahey, 2003). The researchers did not find a correlation.

Harris and colleagues (2005) did not find a significant improvement in adult asthma symptoms using written emotional disclosure. The researchers stated, however, that the change in protocol to writing once a week for three consecutive weeks rather than once a day for three consecutive days may have impacted the results. Other study results have been mixed. Older adults given the protocol in a primary care setting found themselves with token changes in reported physical symptoms, however, they utilized fewer outpatient services compared to a control group (Klapow et al., 2001). In regard to HIV-positive individuals, positive results were sometimes not seen until six weeks or more after the intervention, and sometimes not at all (Wagner, Hilker, Hepworth,
Wallston, 2010; Marston, 2003). Rheumatoid arthritis patients have also seen mixed results. Outcomes have varied from no results (Broderick et al., 2004; van Middendorp et al., 2009) to results only seen at follow up (Danoff-Burg, Agee, Romanoff, Kremer, & Strosberg, 2006; Kelley et al., 1997; Smyth et al., 1999).

One meta-analysis found that written emotional disclosure did not produce significant positive outcomes in terms of physical health and other factors (Meads & Nouwen, 2005). A separate meta-analysis of 146 written emotional disclosure studies, however, found 102 studies (70%) had a positive effect on the participants (Frattaroli, 2006). While many of these studies examined psychological health, high numbers of these also looked at physical health factors, health behaviors, and general functioning (Frattaroli, 2006). Certain populations, though, may not benefit as much or at all from the written protocol. For example, patients with eating disorders may not be able to effectively interact with the writing task, due to possible alexithymia (Gamber, Lane-Loney, & Levine, 2013). In addition, participants with higher levels of emotional disclosure during the exercise were more likely to experience its benefits (Pennebaker et al., 1988b).

Cancer

Renal cell carcinoma patients experienced a reduction in intrusive thoughts regarding cancer, and had improvements in quality of life measures following written emotional disclosure (Cohen et al., 2012). Even in renal cell carcinoma patients with a terminal diagnosis, positive benefits of written emotional disclosure were still seen, namely better sleep and less daytime dysfunction (deMoor et al., 2002). Positive results
were also seen with survivors of breast cancer, who experienced greater satisfaction with their emotional supports following the written emotional disclosure protocol (Gellaitry et al., 2010). This result has also been shown internationally, with a nationwide study in Denmark of survivors of breast cancer who experienced more positive mood and fewer depressive symptoms after the written emotional disclosure intervention (Jensen-Johansen et al., 2012). Fewer physical symptoms and fewer medical appointments were reported by individuals with breast cancer who underwent four sessions of written emotional disclosure (Low et al., 2006). Among Asian-American breast cancer survivors, a written emotional disclosure intervention improved intrusive thoughts, posttraumatic stress, quality of life, fatigue, and positive affect (Lu et al., 2012).

As with other illnesses, written emotional disclosure has not helped all patients with cancer and not in all aspects of disease treatment. The emotional disclosure exercise did not significantly lower stress, pain, or sleep problems among pre-surgical breast cancer patients (de Moor et al., 2002). Some metastatic breast cancer patients have been helped by WED, but not all. The intervention was found to lower intrusive thoughts for participants who had low levels of social support, but was not helpful to those patients who already had adequate social support (Low et al., 2010). Other studies have also shown that written emotional disclosure has better results for those with perceived inadequate social support (Junghaenel et al., 2008; Langens & Schüler, 2005; Pachankis & Goldfried, 2010). Likewise, a study of men with prostate cancer had good adherence to the study intervention and a low drop-out rate, but did not yield significant results on mental, emotional, or physical health (Rosenberg et al., 2002). A journaling procedure,
rather than WED, had insignificant results with a population of women recently diagnosed with breast cancer (Smith et al., 2005). It was found that women diagnosed with gynecological cancer who possessed high levels of neuroticism did not benefit as greatly from WED, and in fact may have found the protocol distressing instead (Zakowski et al., 2011).

Pain

Written emotional disclosure can be altered to study different areas or for the benefit of certain populations. For example, a written protocol based on anger expression provided positive results for those suffering from chronic pain (Graham et al., 2008). In fact, written emotional disclosure may work best for some populations when the protocol is changed to match the preferred coping style of individuals (Austenfeld & Stanton, 2008) or their personality traits (Baikie, 2008). Results have been mixed for pain in some populations, though studies with pain associated with fibromyalgia have been positive (Broderick et al., 2005; Junghaenel et al., 2008; Lumley, Sklar, & Carty, 2012). Women with chronic pelvic pain also saw a decrease in perceived pain, however they did not see improvements in disability or sensory or affective pain (Norman, Lumley, Dooley, & Diamond, 2004).

Stress

Research has shown that physiological markers for stress can decrease with the writing intervention (Francis & Pennebaker, 1992). The protocol has been tested with various types of job-related stress, for example distress experienced by euthanasia technicians in Australia (Unsworth, Rogelberg, & Bonilla, 2010) and child protective
services officers in Australia (Alford et al., 2005). Situational stress also seems to be affected by written emotional disclosure, as seen in research on couples struggling with fertility (Matthiesen et al., 2012). It has also been found effective in reducing post-traumatic stress symptoms (Barry & Singer, 2001; Bernard et al., 2006; Deters & Range, 2003) or with greater regulation of post-traumatic stress symptoms (Smyth et al., 2008).

In dealing with geriatric caregivers, tailoring the written protocol around time-management was effective for reducing stress (Mackenzie, Wiprzycka, Hasher, & Goldstein, 2007).

**Immune Functioning**

Booth and colleagues (1997) found a potential “buffering” effect of the writing protocol as seen by measuring blood lymphocyte levels in writing and control groups. In two studies by the researchers, the control group had a post-writing rise in lymphocyte levels, while the writing group’s levels remained constant. They have suggested that the effect of written emotional disclosure provided protection against fluctuations in the immune system. Immune system strengthening has also been seen in higher antibody levels against hepatitis B seen in writing protocol participants who received a hepatitis B vaccination after completing the protocol (Petrie et al., 1995).

Researchers have also found that lymphocytes are slightly more reactive to pathogens in a laboratory setting in blood draws from writing protocol participants than a control group (Pennebaker et al., 1988b). This result has not been met without controversy, however, as Neale and colleagues (1988) felt that an inappropriate statistical analysis was done on the blood draw data, leading to a premature conclusion that the
writing protocol improved immune function. Pennebaker, Kiecolt-Glaser, and Glaser (1988a) defended their research methods and analysis and spoke of their “cautious optimism” that written emotional disclosure would be further proven to have a positive impact on physical health.

Other physiological effects that may occur after the conclusion of written emotional disclosure include lower serum glutamic-oxaloacetic transaminase (SGOT) levels, which the researchers maintain is related to lower stress levels (Francis & Pennebaker, 1992), lower cortisol (Smyth et al., 2008), lower blood pressure (Beckwith McGuire, Greenberg, & Gevirtz, 2005; Murray, Lamnin, & Carver, 1989; O'Connor & Ashley, 2008; Pennebaker et al., 1988b), and greater immunological control of latent Epstein-Barr virus (Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994).

Populations

A 2006 meta-analysis by Frattaroli provides insight into the populations that have undergone the written emotional disclosure protocol: 34% of the subjects were male, the average age was 29 years old, and the average education level was “some college” completed. In addition, racial breakdown was as follows: 72% Caucasian, 12% Black/African-American, 7% Asian, and 5% Hispanic/Latino. As stated earlier, written emotional disclosure has been used internationally as well. While many studies have focused on college students, a number of other populations have been studied, including medical patients, emotionally disturbed children, university employees, middle school students, seniors, psychiatric and other prison inmates, caregivers, unemployed individuals, bereaved individuals, and gay men (Frattaroli, 2006). High school students
(Facchin et al., 2013) and middle school students have been studied (Kliwer et al., 2011; Soliday et al., 2004), as well as opioid dependent individuals receiving substance abuse treatment (Baikie et al., 2006).

Caregivers

Written emotional disclosure can be helpful for caregivers, including those assisting a relative with psychosis (Barton & Jackson, 2008). The disclosure technique has been less successful in certain circumstances, for example with parents of chronically ill children (Schwartz & Drotar, 2004) and family caregivers of older adults (Mackenzie et al., 2007). In the latter case, a writing exercise about time-management instead produced greater results (Mackenzie et al., 2007).

Lifestyle Improvements

Studies have noted that participants experienced gains in their grade point averages (GPA) following the written intervention (Cameron & Nicholls, 1998; Lumley & Provenzano, 2003; Pennebaker et al., 1990) and that, for students taking graduate entrance examinations, fewer depressive symptoms were experienced in the lead up to the test date (Lepore, 1997; Frattaroli et al., 2011). Students were also found to have higher scores on graduate entrance exams including the GRE, LSAT, and GMAT (Dalton & Glenwick, 2009) as well as on the MCAT (Frattaroli et al., 2011). Students performed better on a math test after undergoing the protocol, and those students experiencing stereotype threat believed that they had done better on the examination (Burns & Friedman, 2012).
After written emotional disclosure, working memory may be improved (Klein & Boals, 2001; Yogo & Fujihara, 2008) as well autobiographical memory (Maestas & Rude, 2012). Written emotional disclosure participants have also repaired broken romantic relationships (Lepore & Greenberg, 2002), worked through marital affairs (Snyder, Gordon, & Baucom, 2004), kept their romantic relationships strong and intact (Slatcher & Pennebaker, 2006), and more quickly rejoined the job market (Spera et al., 1994). Self-critical individuals may give themselves more reassurance (Troop, Chilcot, Hutchings, & Varnaite, 2013).

Mental Health

Mental health symptoms have seen improvement in a number of written emotional disclosure studies (Baikie et al., 2012; Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Gortner, Rude, & Pennebaker, 2006; Ironson et al., 2013; Krpan et al., 2013; Lorenz et al., 2013). Depressive symptoms decreased in certain studies (Esterling et al., 1994; Gortner et al., 2006; Ironson et al., 2013; Krpan et al., 2013; Lorenz et al., 2013), and dysphoric mood also decreased (Smyth et al., 2008). Some subjects also experienced a reduction in post-traumatic stress disorder symptomatology or severity (Chen, 2005; Ironson et al., 2013) or at least were able to better regulate trauma-related emotional responses (Smyth et al., 2008). The writing protocol has been useful in reducing distress in regard to goal ambivalence (Kelly, Wood, Shearman, Phillips, & Mansell, 2012). Written emotional disclosure can reduce workplace conflict (Kirk et al., 2011), retaliation due to workplace injustice (Barclay & Skarlicki, 2009), negative affect
from interpersonal hurts (Yu-Hsin Liao, Wei, Russell, & Abraham, 2012), and infertility-related stress (Matthiesen et al., 2012).

International Students

Written emotional disclosure has had mixed results with collegiate international students in the US (Tavakoli et al., 2009). Some international student subgroups have benefitted more than others, and include those dealing with greater acculturative stress, male students, and students with less emotional awareness and emotional expression (Hijazi et al., 2011). Female international students may not have affective improvement, but may always experience somatic improvements (Hijazi et al., 2011).

Respondents vacillating in first person pronoun usage (e.g., I, me, my), such as using more or fewer first person pronouns throughout the writing task, reported decreased anxiety (Baikie et al., 2006). Changes in first person pronoun use also predicted positive health changes (Campbell & Pennebaker, 2003). Writing from a first-person perspective rather than an alternate perspective also correlated with the participants perceiving that the writing session was more valuable (Seih et al., 2011). Individuals with depression use first person singular pronouns more frequently than individuals without depression (Rude, Gortner, & Pennebaker, 2004). This means they are focusing on themselves and their own perspective, which may be reflective of the rumination seen in depression.

Variations in the Expressive Writing Protocol

The protocol instructions have been altered many times by different investigators to meet the needs of their respective studies. These include incorporating a benefit-focused element (Facchin et al., 2013) and strongly emphasizing writing about emotion
and feeling associated with a traumatic event rather than emphasizing cognition (Sloan, Marx, Epstein, & Lexington, 2007). Writing that is shared privately with researchers was found to have greater positive effects than writing that was completed and not shared at all (Radcliffe, Lumley, Kendall, Stevenson, & Beltran, 2010). Written emotional disclosure has been combined with a help-giving component to create “expressive helping,” which has derived benefits for cancer survivors (Rini et al., 2013).

Variations of written emotional disclosure have included online administrations. Adolescents had fewer socio-emotional difficulties, better self-esteem, and more active socialization after 10 weeks of an online blogging version of the procedure (Boniel-Nissim & Barak, 2013). Having the multiple expressive writing sessions online helped Hispanic college students to reduce their trauma symptoms (Hirai et al., 2012). Email has also been found to be an effective tool for administration (Sheese et al., 2004; van der Houwen et al., 2010). Mode of writing might affect the writing and emotional processes as well. Writing out traumas in long-hand can arouse more negative emotions, but can also cause more self-disclosure (Brewin & Lennard, 1999). The use of the writing paradigm as therapeutic homework for outpatients has shown reductions in depression and anxiety, and improvement in psychotherapy (Graf et al., 2008).

Many of the experiments have spaced out the three to four writing sessions differently. It has been found, however, that even spacing three fifteen-minute sessions apart with 10-minute breaks (for a one-hour intervention total) can have positive effects (Chung & Pennebaker, 2008). Different settings have been tested as well. Students experiencing one of three settings (a brightly lit room, with computerized writing
prompts, and typed replies; and a dimly lit room, with computerized writing prompts, and typed replies; a “confessional setting” with writing prompts delivered in-person, and handwritten replies) were found to have different perceptions of the activity and used different language in their writing, but had similar outcomes (Corter & Petrie, 2008).

Moderating Factors

According to the Frattaroli (2006), individuals with higher stress, and pessimistic individuals may benefit more from written emotional disclosure. Some psychological factors may be more resistant to the written protocol than others, including suicidal ideation (Kovac & Range, 2002), and certain kinds of grief (Bower et al., 2003; Kovac & Range, 2000). Contrary to Gamber et al. (2013), higher levels of alexithymia may correlate with having more positive results from written disclosure (Baikie, 2008; Páez et al., 1999). For example, alexithymic individuals who disclosed more negative emotional vocabulary had lower post-disclosure blood pressure, possibly due to successfully thinking about and beginning to process the traumatic memory (O’Connor & Ashley, 2008). Participants with alexithymia, however, were found to have less introspective subject matter in their writing samples (Páez et al., 1999). People with neuroticism, which has been correlated with alexithymia, were not helped by written emotional disclosure and in fact reported higher levels of distress at six-month follow up (Zakowski et al., 2011).

Subjects who endorse traits of cognitive avoidance or emotional disengagement may still be able to be emotionally expressive during the writing protocol and derive the benefits of the procedure, though their writing may possess less narrative structure
People with a significant fear of rejection may also benefit more greatly than others (Langens & Schüler, 2005). Individuals who are strongly ambivalent about sharing their feelings may benefit more than others from written emotional disclosure (Lu & Stanton, 2010; Norman et al., 2004). This may be due to the relative anonymity and lack of direct interaction (Lu & Stanton, 2010). Socially anxious people may be less emotionally expressive (Spokas, Luterek, & Heimberg, 2009). As such, this may be a population that could benefit from written emotional disclosure.

Asian International Students

Asian international students are typically students who have come to the US for academic studies at a university or college and hold a temporary visa for that purpose (Institute of International Education, 2016). International students may be at increased risk of acculturative stress. Acculturative stress can be impactful for many different groups of students. This type of stress correlates to suicidal ideation in college students identifying as African American or Caucasian American, not only in international students (Walker, Wingate, Obasi, & Joiner Jr, 2008). It is thought that acculturative stress in American students may be due to a lack of strong identification with ethnic heritage or stress attributed to cultural differences in a new setting (e.g., a college campus) (Walker et al., 2008).

While acculturative stress can be very impactful for first-time Asian international students in the US, it appears that acculturative stress lessens over subsequent generations (Padilla, Wagatsuma, & Lindholm, 1985). Recent Japanese immigrants, for example,
may experience lower self-esteem, higher levels of stress, and believe in an external locus of control more than second- and third-generation Japanese-Americans (Padilla et al., 1985). Length of time spent in the US also correlates with less psychological distress in Asian international students (Wilton & Constantine, 2003). Asian Indians may experience higher levels of acculturative stress relative to the age they immigrate to the US, with younger individuals reporting less acculturative stress than older individuals (Thaker, 2013). In another study, older international college students experienced higher levels of anxiety than their younger peers (Sümer, Poyrazli, & Grahame, 2008). A correlation between age and mental health symptoms was also seen with Asian adolescent immigrants, with older adolescents being more likely to report mental health issues (Yeh, 2003).

Due to having to acculturate to the US and its cultural norms, international students may have greater reactions to academic stressors than their American peers (Misra, Crist, & Burant, 2003). Acculturation in international college students may present differently than in other immigrant populations. International college students are a group that may be defined by ambition for a US college baccalaureate or advanced degree and may value technology at a higher level than their European-American peers (Yang et al., 2006). While they may hold onto some of the traditional values from their home countries, they may possess intellectual orientations that do not adhere to, but rather exceed, those of their US-born classmates (H. Yang et al., 2006). In addition, international students can hail from a culture far different from their host country and still healthily adapt (Yang, Noels, & Saumure, 2006).
Acculturated students are more likely to recognize when they need mental health services; better able to tolerate mental health stigma; and are more likely to share their problems with a therapist (Atkinson & Gim, 1989). Asian-American students who are highly acculturated also report less psychological distress (Ruzek, Nguyen, & Herzog, 2011; Yeh, 2003). On the other hand, significant acculturation difficulty can result in elevated levels of stress, personal dilemmas, depression, and anxiety (Berry, 1997). Mental health symptoms generally are correlated with acculturative stress (Lee et al., 2004; Ruzek et al., 2011). Acculturative stress also positively correlates with depression in Asian international students (Constantine, Okazaki, & Utsey, 2004; Lee et al., 2004; Wei et al., 2007; Ying & Han, 2006). Further predictors of potential anxiety and depression in international students include lower levels of social support and lower levels of perceived English fluency (Sümer et al., 2008). Contrastingly, higher English language proficiency correlates with lower acculturative stress (Ye, 2005), as does higher social self-efficacy in English-speaking settings (Lin & Betz, 2009). Increased independence can help female Asian international students navigate US culture and to have fewer adjustment issues (Constantine et al., 2005). Yeh (2003) noted that Korean teenage immigrants may have higher levels of mental health issues than their Chinese and Japanese counterparts. According to B. L. C. Kim (1996), this may be due to acculturation worsening existing family and individual problems, and the embarrassment of help-seeking for cultural differences (as cited in Yeh, 2003).

In regard to the cultural climate at universities, undergraduate students with two of the “Big Five” personality traits (openness and agreeableness), as well as possessing
an international orientation, a multicultural upbringing, and foreign language ability have low rates of ethnocentrism and high rates of cultural intelligence (Harrison, 2012). Low ethnocentrism and high cultural intelligence are believed to have a positive impact on intercultural relationships on college campuses (Harrison, 2012). Identities and values can impact psychological well-being, and this is true for Asian international students (Iwamoto & Liu, 2010). A significant adherence to Asian values may have a poor impact on psychological well-being due to issues surrounding acculturation; the US culture is based on a different value system than most Asian countries, and more distress may be present when there is a conflict between the two (Iwamoto & Liu, 2010). Indian immigrants who are involved with US mores and interact with Americans regularly have better overall mental health (Mehta, 1998). Likewise, Asian international students may experience racism in the US, but this may not impact psychological well-being if the students can rely on beneficial parts of their identities (Iwamoto & Liu, 2010).

Female Asian international students may experience loneliness, anxiety, and a sense of sadness (Constantine, Kindaichi, Okazaki, Gainor, & Baden, 2005). They may also experience conflict between gender expectations in their country of origin versus in the US (Constantine et al., 2005). The conflict between these gender roles can increase distress and anxiety (Constantine et al., 2005). Some risk factors for depression in female Asian international students are low levels of acculturation, and the perception of possessing low fluency in English (regardless of actual fluency) (Dao et al., 2007). Female Asian international students may be helped by support groups as they can validate their experiences (Carr, Koyama, & Thiagarajan, 2003). Support networks of
family and friends in home countries can be an important source of validation and advice for female Asian international students, and can increase educational retention rates (Constantine et al., 2005).

Asian-American and Asian international college students may favor in-person counseling to online-only counseling (Chang & Chang, 2004). Other studies have shown different results. Internet-based cognitive behavioral therapy may be attractive to Chinese speakers living abroad, due to having less knowledge of traditional in-person therapy (Choi, Andrews, Sharpe, & Hunt, 2015). Such a protocol can also reduce waiting time for treatment and increase access for the Chinese-speaking population (Choi, Andrews, Sharpe, & Hunt, 2015).

Language difficulties are a significant stressor for international students (Cheng, Leong, & Geist, 1993; Mori, 2000). Asian international students have a more difficult time with language barriers and making new friends than European international students (Fritz, Chin, & DeMarinis, 2008). Other stressors experienced by international students include expectations of academic performance, adjustment to a different academic system, test anxiety, culture shock, feeling socially isolated or alienated, racial/ethnic discrimination or prejudice, and finances (Chen, 1999). These unique stressors are related to psychological distress in Asian international students (Wilton & Constantine, 2003). International students in general can experience personal dilemmas in regard to their financial situations, especially since their US visas often do not permit them to work (Mori, 2000). Academics can be affected by problems with English acquisition and usage (Constantine et al., 2005). Experiences of bullying for limited English-language
proficiency can occur (Constantine et al., 2005). Many Asian international students report feelings of perceived prejudice. This may be exacerbated by the misperceptions of American students about their international classmates. While some of these stereotypes may be positive, such as Chinese international students being hard workers and intelligent, other stereotypes, such as feeling that these students were annoying, could be damaging (Ruble & Zhang, 2013). In addition, even the positive stereotype of being intelligent can be harmful as it places undue expectations on Asian international students. Racial/ethnic discrimination may increase levels of mental health problems (Constantine et al., 2005). Indeed, it has been hypothesized that some of the issues that face international students are not at all related to acculturation, but to racism and other problems with the host country (Lee & Rice, 2007). Among the other issues that Asian international students face, married students may also be experiencing romantic relationship issues (Poyrazli & Lopez, 2007).

Certain traits may predict higher levels of acculturation in certain Asian-American demographics (Cheng, Carter, & Lee, 2015). Korean-Americans with “significantly high awareness, high conformity, low dissonance, and significantly low resistance” and Chinese-Americans possessing “high conformity, moderate awareness, mild dissonance, and significantly low resistance” have higher rates of acculturation (Cheng et al., 2015). Affirmation of ethnic identity, however, also correlates with better psychological well-being (Iwamoto & Liu, 2010). Particular personal attributes can contribute to the stress and depression that Asian international students experience, including perfectionism (Khawaja & Dempsey, 2007; Nilsson et al., 2008; Wei et al., 2007) or obsessive-
compulsive symptoms (Cheng et al., 1993). Asian international students who report both perceived prejudice and perfectionistic tendencies were at risk for even higher levels of stress (Nilsson et al., 2008).

Chinese international students in particular may experience the following stressors: social interaction, issues with communication, not feeling socially connected to the broader cultural group, general lack of social support, filial piety (duty to parents), homesickness, language barriers, and academic problems (Liu, 2009). Chinese immigrants perceive a number of barriers to receiving counseling, including cost, transportation, worry about discussing upsetting topics, time constraints, lack of motivation, and stigma (Choi, Sharpe, Li, & Hunt, 2015). While in-person counseling is preferred, internet-based counseling is considered a way to overcome barriers to treatment (Choi et al., 2015). Concerns about internet-based counseling from Chinese immigrants include strength of confidentiality, degree of helpfulness, and whether it would be suitable for their concerns (Choi et al., 2015).

Family support can reduce the stress of international graduate students (Mallinckrodt & Leong, 1992). The collective nature of Asian cultures, however, may create a situation where Asian international students feel that their failures are not individual but a failure for the entire family (Brislin, 2000 as cited in Fritz et al., 2008). Chinese international students may struggle with greater symptoms anxiety and depression, and lower self-esteem, if they feel that they are not meeting the standards that others (potentially parents) have set for them (Wang, Slaney, & Rice, 2007). In addition, Asian international students may not share about their problems with their support
systems (e.g., their families) so as not to worry those individuals (Constantine et al., 2005; Heppner et al., 2006 as cited in Wei et al., 2007). Repression, however, of such problems can increase mental health issues (Constantine et al., 2005). Forbearance coping, or minimization of problems and camouflaging of difficulties from others, is common in collectivistic cultures (Moore & Constantine, 2005). Self-concealment, or the trait of not discussing distressing events with others, can affect rates of help-seeking among Asian international students (Liao et al., 2005). On the other hand, self-concealment has not always been found to predict symptoms of depression in international students (Constantine et al., 2004). Wei and colleagues (2012) found, however, that Chinese international students who did not identify strongly with their culture of origin, and whom had high levels of acculturative stress, reported more psychological distress when using forbearance coping.

Part of acculturation for international college students is developing friendships with classmates. Several factors play into this process, including international students feeling recognized (visible) or not, deciding how much to disclose (openness or closedness), and feeling that they are treated differently or poorly (being treated as a “guest” or like an “alien”) (Hotta & Ting-Toomey, 2013). International students may also feel less inclined to invest themselves in friendships in the host country knowing that they will return at some point to their home countries (Hotta & Ting-Toomey, 2013). High levels of social support, however, can help ameliorate acculturative stress (Lee et al., 2004). As international students become more acculturated, they may perceive fewer barriers to social activities (Gómez, Urzúa, & Glass, 2014). In fact, social support,
whether in the form of relationships with other international students from various countries, international students from one’s own home country, or with students from the host country itself, confers a feeling of identification with the host country school (Kashima & Loh, 2006). In addition, feeling accepted by the host society predicts better mental health (Mehta, 1998). Chinese international college students who reported more connection with the majority culture in the US were more likely to score higher on reports of life satisfaction and positive affect (Wang, Wei, & Chen, 2015). This may point to the importance of acculturation to a sense of belonging in the US.

Reaching out to and helping Asian international students with the emotional and mental health issues they face is important for counselors. Asian international students who are more able to disclose their distress are more likely to report higher levels of positive affect and life satisfaction (Wang, Wei, & Chen, 2015). Working with clients of a non-Western heritage can create ethical dilemmas in counseling in the US, wherein what the counselor feels would be beneficial for individual clients is contradictory to the clients’ cultural norms (Sadeghi et al., 2003). Being a culturally skilled counselor is now expected within the counseling profession, and standards for competency exist (Sue, Arredondo, & McDavis, 1992).

Maladaptive Coping Strategies for Acculturative Stress

Among the reasons why a healthy procedure is needed to assist Asian international students with dealing with acculturative stress are the existence of maladaptive coping strategies that may harm these students. Asian international students may use the internet as relief from perceived discrimination and worry (Ye, 2005).
regard to alcohol abuse, there is little information on how this population does or does not use alcohol as a coping mechanism (Hendershot et al., 2005 as cited in Koyama & Belli, 2011). One study found that international students did not appear to be engaging in any problematic drinking at a US community college (Koyama & Belli, 2011) while another found this to also be true at a university in the Southeast even when acculturative stress was high (Kanaparthi, 2009). Sa and colleagues (2013) found that female Korean international students across many universities smoke cigarettes at a rate nearly seven times higher than their female peers living in South Korea. Acculturation is one of several factors that played a role, as the student may be smoking as a maladaptive coping mechanism.

Written Emotional Disclosure and Asian International Students

Methods for Chinese educators to better prepare their students for international interactions are being developed (Peng, Wu, & Fan, 2015) but acculturation will continue to be experienced by students even with more preparation. Written emotional disclosure could be useful with Asian international students for a few reasons. The protocol has been used with bilingual students—students that spoke both English and then either Spanish or Korean, and positive results were found (Y. Kim, 2008). Additionally, written emotional disclosure combined with a cognitive reappraisal component has been found useful for undergraduate Asian college students, who experienced less somatization after the procedure (Lu & Stanton, 2010). In fact, Asian students were found to benefit more from written emotional disclosure than their Caucasian counterparts (Lu & Stanton, 2010).
Summary

The literature review examined the history and effects of written emotional disclosure, including its use on different populations and variations in the protocol. The writing exercise has been used widely with college students and individuals in medical settings. Improvements in immune functioning, mental health measures, and lifestyle have been noted. The writing protocol has not been as widely used for Asian students, and no extant literature speaks directly to using it with an Asian international college student population. Asian international college students may struggle with acculturative stress, depressive symptoms, and negative affect. An online written emotional disclosure could be beneficial for Asian international college students both for convenience and to avoid the stigma of seeking a mental health intervention.
CHAPTER THREE

METHODOLOGY

This study will look at written emotional disclosure as a possible tool for reducing mental health distress and stress symptomatology in Asian international college students. This chapter will address the following sections: research hypotheses, sample description, research design, instrumentation, procedures, data analysis, and the chapter summary.

Research Hypotheses

This research on acculturative stress, affectivity, and depressive symptoms as well as the use of an online written emotional disclosure protocol with Asian international students currently matriculating in the US, will ask the following questions with the following hypotheses.

Research Question 1 – Is there a significant direct impact of age, school classification, and gender on affectivity, depressive symptoms, and acculturative stress among Asian international college students?

Hypothesis 1 – There will be a significant direct impact of age, school classification, and gender on affectivity, depressive symptoms, and acculturative stress among Asian international college students.

Research Question 2 – Does country of origin and time spent in the US have a significant direct impact on affectivity, depressive symptoms, and acculturative stress among Asian international college students?
Hypothesis 2 – Country of origin and time spent in US will have a significant direct impact on affectivity, depressive symptoms, and acculturative stress among Asian international college students.

Research Question 3 – Is there a significant interaction impact of all five independent variables on the four dependent variables of the study?

Hypothesis 3 – There will be a significant interaction impact of all five independent variables on the four dependent variables of the study.

Research Question 4 – What are the common themes in the expressive writing protocol and control journals of Asian international college students?

Sample Description

This researcher sought to recruit between 130 - 170 participants for this study, in order to have the appropriate statistical power for a factorial multivariate analysis of variance (MANOVA). According to a table of suggested sample sizes for three-group MANOVA, this number was chosen in order to have appropriate statistical power (Pituch & Stevens, 2016). Participants were recruited online via college and university listservs, email lists, and by publicly posting the research link in targeted social media locations. Participants were over age 18 and currently studying in the US at an institute of higher education on a temporary academic visa for a degree-bearing program, in order to ensure sufficient English-language proficiency for the research. Research participants self-reported an Asian country as their “home country,” with Asian countries defined as countries in South, East, and Southeastern Asia as stated in the Central Intelligence Agency World Factbook (2018a; 2018b).
Upon recruitment into the study, participants were supplied with the informed consent, which delineated possible benefits and potential drawbacks of participating along with the rights of the participants, including the right to leave the research study at any time without penalty. Participants were stratified based on gender to ensure equal distribution of gender between the experiment and control written disclosure groups. Qualtrics was used to randomly assign the participants by gender to one of the two writing groups. Participants who completed their online journals had the opportunity to opt-in to for a drawing to receive one of ten $25 Amazon gift cards.

Research Design

A factorial multivariate analysis of variance (MANOVA) was utilized to examine the relationships between the independent variables of age, country of origin, gender, school classification, and time spent in the US compared to the dependent variables of the outcome measures of PANAS, CESD-R, and ASSIS. Due to the low number of respondents who turned in journal entries (n = 26), journals were examined for themes as the effect of the journals on the outcome measures would not be statistically significant. MANOVA is a stronger fit for this research than using univariate analyses of variance (ANOVA) due to the correlations extant between the dependent variables; ANOVAs alone would neglect these correlations, and give an incomplete picture of the statistical results (Dimitrov, 2008). The four dependent variables of positive affect, negative affect, depressive symptoms, and acculturative stress are interrelated and are not stand-alone variables in this research. The factorial MANOVA will account for this rather than analyzing these attributes as individual features. In addition, Wilks’ Lambda (Wilks’ Λ)
was used as a testing statistic in determining the significance of the MANOVA due to its fit as a probability distribution, with the fact that it factors in the correlations amid dependent variables (Dimitrov, 2008).

Gender, age, country of origin, time spent living in the United States, and school classification were all collected via a demographics survey administered online at the beginning of the research. The demographics survey was also used to ensure that participants were eligible for the research. In order to be eligible, participants had to be at least 18 years old and presently matriculating in the US at an institute of higher education on a temporary visa, classified as either F-1 or J-1. F-1 visas permit individuals to “enter the United States as a full-time student at an accredited college, university, seminary, conservatory, academic high school, elementary school, or other academic institution or in a language training program.” (“Students and Employment,” 2018). J-1 visas can be applied for by “those who intend to participate in an approved program for the purpose of teaching, instructing or lecturing, studying, observing, conducting research, consulting, demonstrating special skills, receiving training, or to receive graduate medical education or training.” (“Exchange Visitors,” 2015). In order to ensure sufficient English-language proficiency for the research, only participants holding a F-1 or J-1 visa not attending a “language training program,” were allowed to participate. According to the US Department of Homeland Security, language training programs refer to “English language training programs,” as defined as those who “enroll F-1 students who want to pursue an English language training course of study.” (“English Language Training,” 2018). In addition, participants were asked if they attended a
college or university. Research participants needed to self-report an Asian country as their “home country” to be eligible for the study. Asian countries are defined as countries in South, East, and Southeastern Asia as stated in the Central Intelligence Agency World Factbook (2018a; 2018b).

Instrumentation

A demographic survey was administered to the participants. The demographic categories also served as the independent variables. These variables are operationally defined as follows:

**Age** – the biological age of the participants. All participants will be over 18 years old. The age of the participants may impact the efficacy of the writing protocol as well as the baseline measures.

**Country of origin** – the nation the Asian international student participant identifies as being their home country. This is in contrast to their host country, the United States, where they are currently living and studying.

**Gender** – the participants’ concepts of themselves as male, female, or another categorization. Per the World Health Organization (2017), gender is constructed socially through societal norms and behaviors.

**School classification** – the participants’ educational status (e.g., undergraduate, graduate) and year in school (e.g., freshman).

**Time spent living in the United States** – refers to how many months or years the participants have resided in the United States to date. Participants may range from
being in their first year of study to having been studying in the US for many
years.

Written Emotional Disclosure Protocol

The written emotional disclosure protocol as developed by Pennebaker and
colleagues tends to consist of journaling for three to four days, or sessions, for
approximately 20 to 30 minutes each time on a stressful event (Pennebaker & Beall,
1986). For the purposes of this research, participants were asked to write for 20 minutes
continuously on their own for three different sessions over three days. Participants
received instructions and prompts after completion of the demographic survey and the
instruments both on the final screen of the Qualtrics survey, and via encrypted email sent
through Qualtrics. These instructions included a link to return to the Qualtrics website
and upload the journal entries. The content of the written emotional disclosures will not
be considered an independent or dependent variable in this research.

Positive and Negative Affect Schedule (PANAS)

The PANAS is a 20-item assessment of positive and negative affectivity over
certain time periods. The instrument has two subscales, positive affect and negative
affect. It possesses an internal consistency reliability of Cronbach’s α .86 to .90 for
positive affect, and .84 to .87 for negative affect (Watson et al., 1988). The convergent
correlations for the positive and negative scales range from Cronbach’s α .89 to .95, and
the discriminant correlations are contrastingly low, in range from -.02 to -.18 (Watson et
al., 1988). In a large general population sample in the United Kingdom, the subscales
had high reliability: Cronbach’s α of .89 for the positive affect scale, and .85 for the
negative affect scale (Crawford & Henry, 2004). Similar results were seen for a large-scale Italian sample, with an Italian-translated instrument (Terraciano, McCrae, & Costa Jr, 2003). PANAS has been translated into several languages including Estonian, German, Korean, Russian, Spanish, and Turkish (Allik & Realo, 1997; Balatsky & Diener, 1993; Gencoz, 2000; Hilleras, Jorm, Herlitz, & Winblad, 1998; Joiner, Sandin, Chorot, Lostao, & Marquina, 1997; Krohne, Egloff, Kohlmann, & Tausch, 1996; Lim, Yu, Kim, & Kim, 2010).

Center for Epidemiologic Studies Depression Scale – Revised (CESD-R)

The original Center for Epidemiologic Studies Depression Scale (CESD) was developed by Radloff (1977) as a brief measure of depressive symptoms in the general (non-patient) population. The instrument items focus on affect and somatic symptoms (Shafer, 2006). While the instrument was not created with subscales as a focus, research points to four factors associated with the test: positive affect, depressed/negative affect, somatic symptoms, and interpersonal problems (Shafer, 2006; Sheehan, Fifield, Reisine, & Tennen, 1995). A subsequent meta-analysis exploring factor analyses of the CESD found little difference between it and the original factor analyses performed by Radloff (1977) (Shafer, 2006). It has good internal consistency reliability (Cronbach’s $\alpha$ ranging from .85 to .95) and concurrent validity (Radloff, 1977).

Eaton and colleagues (2004) revisited the CESD with the aim of updating the items, noting that the CESD was created with items that correlated to the diagnostic criteria for depression as stated in the American Psychiatric Association’s Diagnostic and Statistical Manual-II and was not as appropriate of a match to the then-current
symptomatology of depression in Diagnostic and Statistical Manual-IV. Eaton and colleagues (2004) conducted six studies with various populations while revising the instrument, improving the content validity while maintaining its other psychometric strengths, finding a Pearson correlation coefficient ranging from .88 to .93 in relation to the CESD.

Like the original CESD, the CESD-R is a 20-item inventory that measures depressive symptoms. A community sample of 6,971 participants found that the CESD-R has high internal consistency (Cronbach’s α=0.923) and good convergent validity with the State-Trait Inventory for Cognitive and Somatic Anxiety where r = 0.737, p<0.01. (Van Dam & Earleywine, 2011). Its convergent and divergent validity with positive and negative affect were also consistent (Van Dam & Earleywine, 2011).

Acculturative Stress Scale for International Students (ASSIS)

The ASSIS is a 36-item instruments with a 5-point Likert scale intended to measure degrees of stress related to the process of acculturation (Sandhu & Asrabadi, 1994). Scores vary between 36 and 180, where the higher the score the higher the perceived acculturative stress (Sandhu & Asrabadi, 1994). The items were created using a focus group of international college students and pilot tested on another, larger group of international college students before the finalized version was tested (Sandhu & Asrabadi, 1994). As such, the items are considered to be written in a vernacular and with a vocabulary that is easily understood by international students who have met the requirements to study in the US (Yeh & Inose, 2003).
Six subscales are present in the instrument: perceived discrimination, homesickness, perceived hate, fear, stress due to change/cultural shock, and guilt (Sandhu & Asrabadi, 1994). The perceived discrimination subscale has been found in a subsequent study to have convergent validity when used with international college students (Karuppan & Barari, 2010). ASSIS results were significantly correlated with CESD scores when used with international students, suggesting that aspects of depression are also captured by ASSIS and providing validity (Constantine, Okazaki, & Utsey, 2004). Validity of the items has been seen with ASSIS being negatively associated with social connectedness (Wei, Liao, Heppner, Chao, & Ku, 2012). The mean of the instrument is a score of 66.32 with a standard deviation of 21.16 (Sandhu & Asrabadi, 1998). Sandhu and Asrabadi (1998) recommend a score two standard deviations higher than the mean, 109, be used to signal the possible need for counseling.

The use of ASSIS with international college students has been found to have an internal consistency ranging from a Cronbach’s α of .92 to .94 (Constantine, Okazaki, & Utsey, 2004; Poyrazli, Kavanaugh, Baker, & Al-Timimi, 2004; Yeh & Inose, 2003), and more specifically, a Cronbach’s α of .94 with East Asian international graduate students (Wei, Tsai, Chao, Du, & Lin, 2012) and a Cronbach’s α of .92 to .95 when used with Chinese international college students (Wei et al., 2007; Zhang, 2012). A Korean-translated version of ASSIS was found to be reliable (Cronbach’s α = .88) when used with Korean international college students matriculating in the US (Lee & Im, 2016) as was a Chinese translated version of ASSIS (Cronbach’s α = .94) (Wei et al., 2007). The scale has also shown reliability when abbreviated to 20 items and translated into Korean.
Procedures

The ethical principle of *primum non nocere*, or “first, do no harm,” is a basic tenet of the medical professions. This idea is also referred to as non-maleficence, and is quite relevant to the ethical practice of counseling. Ross (1930, as cited in Bersoff & Koeppel, 1993) wrote of the seven factors of ethics, with five considered applicable to modern ethics: non-maleficence, beneficence, autonomy, justice, and fidelity. Research can occur with risk, and this is to be covered in the informed consent that accompanies the research. The expressive writing protocol, despite its benefits, can cause discomfort. Participants in expressive writing research may feel an increase in negative feelings before realizing the positive effects of the intervention (Francis & Pennebaker, 1992; Pennebaker & Beall, 1986). This broaches the question of whether the benefits outweigh the risks, and if it is ethically sound to risk some discomfort in the short-term if there is a chance it will create good in the long-term. It is this writer’s opinion that the temporary discomfort experienced by participants writing about emotionally salient events in their lives is worth the possible benefit of long-term reduced acculturative stress, depressive symptoms, negative affect, and increased positive affect. The informed consent mentioned that emotional discomfort was a possibility, and information for national and local mental health and crisis hotlines, along with this researcher’s contact information was given to participants on the last page of the Qualtrics survey, as well as through encrypted email from Qualtrics along with the instructions and prompt.
Participants first reviewed the informed consent on the Qualtrics website, and if they agreed, moved on to screening and demographic questions. Participants who were deemed eligible for the study after the screening, were then shown the questions for PANAS, CESD-R, and ASSIS, followed by directions for the written emotional disclosure protocol. Participants were asked to complete the three journal entries, and return to the Qualtrics website to upload these entries, followed by post-test questions if they continued. Participants were sent encrypted emails via Qualtrics to remind them to return the three journal entries they have completed. Participants were asked to supply the researcher with the email they would like to be contacted with during the research study; this was also used as an identifier to match the expressive writing protocol entries to the cases, albeit the participants remain anonymous. During data collection, this researcher assigned each participant a participant number and redacted their email addresses and other personally identifying information.

This researcher also reviewed the journal entries of the participants as they were uploaded to check for suicidality, homicidality, or child/elder/disabled persons abuse. It was stated clearly in the informed consent that anonymity may be compromised due to the fact that reporting or a welfare check may have to be made on the participant or on another individual known to the participant due to these factors.

Participants in the expressive writing protocol group were given the following prompt, adapted from previous written emotional disclosure studies (Baikie et al., 2012; Pennebaker, 1997):

For the next 3 days, I would like you to write your very deepest thoughts and feelings about the most traumatic experience of your entire life or an
extremely important emotional issue that has affected you and your life. In your writing, I'd like you to really let go and explore your deepest emotions and thoughts. You might tie your topic to your relationships with others, including parents, lovers, friends, or relatives; to your past, your present, or your future; or to who you have been, who you would like to be, or who you are now. You may write about the same general issues or experiences on all days of writing or about different topics each day. All of your writing will be completely confidential. Don't worry about spelling, grammar, or sentence structure. The only rule is that once you begin writing, you continue until the time is up.

Participants in the control writing group were encouraged to write about what activities they did yesterday, and will plan to do tomorrow, and next week, without including feelings and emotions. The instructions they were given varied slightly each writing session with the change in time period that they would be discussing. They were given the following prompts based on prior studies (Baikie et al., 2012; Lu & Stanton, 2010; Pennebaker et al., 1990; Petrie et al., 2004):

Day 1: “For the next 3 days, you will be writing about how you spend your time. During today’s writing session, I want you to describe in detail what you did yesterday, from morning until evening. It is important that you describe things exactly as they occurred. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as possible. All of your writing will be completely confidential. Don't worry about spelling, grammar, or sentence structure. The only rule is that once you begin writing, you continue until the time is up.”

Day 2: “During today’s writing session, I want you to describe in detail what you plan to do tomorrow, from morning until evening. For example, you can write about planning to go to class, spend time with friends, or clean your room. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as
possible. All of your writing will be completely confidential. Don't worry about spelling, grammar, or sentence structure. The only rule is that once you begin writing, you continue until the time is up.”

Day 3: “During today’s writing session, I want you to describe in detail what you plan to do next week. For example, you can write about planning to study for a test, making plans with friends, or going grocery shopping. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as possible. All of your writing will be completely confidential. Don't worry about spelling, grammar, or sentence structure. The only rule is that once you begin writing, you continue until the time is up.”

As a manipulation check, participants were asked to self-rate their writing after each session to check for mood and activation (Ashley et al., 2011; Barton & Jackson, 2008; Bernard et al., 2006; Kovac & Range, 2002; Pennebaker et al., 1998b; Pennebaker & Beall, 1986; Petrie et al., 2004). This researcher used a 5-item brief questionnaire answered on a 5-point Likert scale ranging from “very slightly/not at all” to “extremely” (cf. Barton & Jackson, 2008).

Data Analysis

The results of the experiment will be analyzed using descriptive and inferential statistics. The significance level chosen for the analysis is $\alpha = .05$. For the descriptive data analysis, the demographic features of the participants were examined, including measures of central tendency and standard deviation. Tables and charts were created to assist
with visualizing data on age, country of origin, gender, time spent living in the United States, and school classification.

In regard to the inferential data analysis, a factorial multivariate analysis of variance (MANOVA) was used to test Hypotheses 1 - 3, due to the appropriate fit of this procedure for examining the relationships between independent variables and multiple dependent variables. MANOVA can be used when two or more independent variables are to be examined against two or more dependent variables, and where these dependent variables are correlated with each other (Dimitrov, 2008; Pituch & Stevens, 2016). The use of more than one dependent variable is critical in analyzing the various ways a treatment can affect participants (Pituch & Stevens, 2016). Use of several univariate ANOVA was rejected due to the fact that it would create a situation with a highly inflated risk of Type I error (Pituch & Stevens, 2016). Hypothesis 4 examines themes that arise in the experimental and control writing protocol entries.

The independent variables for this study are age, country of origin, gender, school classification, and time spent in the US. The dependent variables are the outcome measures of the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), Center for Epidemiologic Studies Depression Scale – Revised (CESD-R; Eaton, Smith, Ybarra, Muntaner, & Tien, 2004), and the Acculturative Stress Scale for International Students (ASSIS; Sandhu & Asrabadi, 1994). Positive and negative affect were assessed with the PANAS, depressive symptomatology by the CESD-R, and acculturative stress by the ASSIS.
Summary

The hypotheses for the study were articulated, and the descriptions of the instruments examined, documenting the psychometric properties of each. The data collection procedure was detailed and discussed. Statistical models were explored.
CHAPTER FOUR
ANALYSIS OF THE DATA

This chapter presents the analysis of the data from the results of the study. The data analysis is presented in two parts as descriptive statistics and inferential statistics. The descriptive statistics include the sample demographics and measures of central tendency. The inferential statistics encompass the analyses for the four hypotheses tested. The ninth hypothesis was examined using both qualitative and quantitative methods.

Part I: Descriptive Statistics

Initially, 308 individuals visited the Qualtrics website and attempted the online demographic survey and instruments (PANAS, CESD-R, and ASSIS). One-hundred and fourteen individuals did not meet the criteria for the research and were automatically sent to the “thank you” page at the end of the survey. Sixty-seven individuals quit the survey in the middle or at the end of the demographic survey. Participants who inserted duplicate emails, indicating that they had filled out the demographic survey more than once, had their second attempts deleted from the data (their first attempts were counted). This accounted for 3 individuals. In addition, one female participant appeared to have not completed her first attempt at the survey, though her email was input into the system. She completely filled out her second attempt. In this case, her second attempt was included rather than her first. One-hundred and twenty-three individuals completed
PANAS, 119 individuals completed the CESD-R, and 108 individuals completed the ASSIS.

The 108 participants who completed the demographic survey and all three instruments were stratified by gender and randomly assigned to either the expressive writing instructions or instructions to write about how they spend their time. Fifty-three participants were assigned to the expressive writing prompt and 54 participants were assigned to the time prompt. One individual handed in journal entries that were not assigned to her; this may have been due to sharing of the instructions downloaded between cohorts. This participant was not officially assigned a condition.

Thirty-five participants returned to the Qualtrics website and uploaded their journal entries. One participant entered her journal entries one at a time over three days and also filled out the post-test instruments each of the three days. Two individuals came back to the website and uploaded blank documents before filling out the post-test instruments. Another individual returned to the website, uploaded blank journal entries, and did not complete the post-test. One more participant accidentally uploaded only part of his journal entries and returned days later to the website to upload the remaining entries and take the post-test instruments. As stated above, one female participant uploaded journal entries possibly based on the instructions being shared from another participant, and as such assigned herself a condition rather than being assigned one. In addition, two other participants appeared to do the pre-test, journal entries, and post-test all in the same day, which nullifies the effect of the three days of journal writing followed by a post-test. Last, one participant uploaded their journal entries twice but only
completed the post-test on the first upload event. Of these, 24 participants then filled out the post-test instruments (PANAS, CESD-R, and ASSIS). As such, the research questions focus primarily on the 108 participants who filled out all three instruments.

The means, standard deviations, and ranges for the four outcome measures are in Table 1. The percentages of students above and below the means, as well as above and below the cut-scores, are in Tables 2 and 3. The confidence intervals were calculated for the four outcome measures to explore if the range of the sample means may encompass the standard means of the instruments. The 95% confidence interval, from lower bound to upper bound, for the PANAS positive subscale was 32.35 – 35.08, the PANAS negative subscale was 19.89 – 22.81, the CESD-R was 15.48 – 20.96, and the ASSIS was 80.40 – 90.23. The standard mean values for the outcome measures fall below the confidence intervals for the sample mean values.

Table 1

<table>
<thead>
<tr>
<th>Outcome Measures for Asian International College Students</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>Range</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Affect</td>
<td>33.72</td>
<td>7.65</td>
<td>14</td>
<td>50</td>
<td>36</td>
<td>123</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>21.35</td>
<td>8.20</td>
<td>10</td>
<td>42</td>
<td>32</td>
<td>123</td>
</tr>
<tr>
<td>CESD-R</td>
<td>18.22</td>
<td>15.08</td>
<td>0</td>
<td>75</td>
<td>75</td>
<td>119</td>
</tr>
<tr>
<td>ASSIS</td>
<td>85.31</td>
<td>25.79</td>
<td>36</td>
<td>147</td>
<td>111</td>
<td>108</td>
</tr>
</tbody>
</table>
Table 2

Percentage of participants above and below the instrument means

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Sample</th>
<th>% Above Instrument</th>
<th>% Below Instrument</th>
<th>Sample n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Pos. affect</td>
<td>29.7</td>
<td>7.9</td>
<td>33.72</td>
<td>69.92%</td>
</tr>
<tr>
<td>Neg. affect</td>
<td>14.8</td>
<td>5.4</td>
<td>21.35</td>
<td>74.80%</td>
</tr>
<tr>
<td>CESD-R</td>
<td>10.7</td>
<td>9.92</td>
<td>18.22</td>
<td>59.66%</td>
</tr>
<tr>
<td>ASSIS</td>
<td>66.32</td>
<td>21.16</td>
<td>85.31</td>
<td>75.00%</td>
</tr>
</tbody>
</table>

Table 3

Percentage of participants above and below the instrument cut-scores

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Cut-Score</th>
<th>% Above Cut-Score</th>
<th>% Below Cut-Score</th>
<th>Sample n</th>
</tr>
</thead>
<tbody>
<tr>
<td>CESD-R</td>
<td>16</td>
<td>49.58%</td>
<td>50.42%</td>
<td>119</td>
</tr>
<tr>
<td>ASSIS</td>
<td>109</td>
<td>19.44%</td>
<td>80.56%</td>
<td>108</td>
</tr>
</tbody>
</table>

PANAS

The sample size for the PANAS was 123 participants. The age range was 18 to 35 years old with a mean of 23.30 years old and a 3.41 standard deviation. The breakdown of this population by gender and age are in Table 4.
Table 4

PANAS participants by gender and age

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>%</th>
<th>Positive M</th>
<th>Positive SD</th>
<th>Negative M</th>
<th>Negative SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>68</td>
<td>55.28%</td>
<td>34.63</td>
<td>7.42</td>
<td>21.41</td>
<td>8.70</td>
</tr>
<tr>
<td>Female</td>
<td>55</td>
<td>44.72%</td>
<td>32.58</td>
<td>7.84</td>
<td>21.27</td>
<td>7.62</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>%</th>
<th>Positive M</th>
<th>Positive SD</th>
<th>Negative M</th>
<th>Negative SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 – 21</td>
<td>40</td>
<td>32.52%</td>
<td>34.50</td>
<td>7.96</td>
<td>20.28</td>
<td>7.51</td>
</tr>
<tr>
<td>22 – 25</td>
<td>54</td>
<td>43.90%</td>
<td>34.59</td>
<td>7.53</td>
<td>22.48</td>
<td>9.18</td>
</tr>
<tr>
<td>26 and older</td>
<td>29</td>
<td>23.58%</td>
<td>31.00</td>
<td>7.02</td>
<td>20.72</td>
<td>7.10</td>
</tr>
</tbody>
</table>

The participants reported currently matriculating at schools across the US, both public and private colleges and universities, and in the Northeast, Midwest, South, and East regions as defined by the US Census Bureau (2015). The majority of the participants matriculate in public institutions, and in the South region of the US. The categorization of these designations along with means and standard deviations, are in Table 5.

Table 5

PANAS participants by school designation and school region

<table>
<thead>
<tr>
<th>School Designation</th>
<th>n</th>
<th>%</th>
<th>Positive M</th>
<th>Positive SD</th>
<th>Negative M</th>
<th>Negative SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>96</td>
<td>78.05%</td>
<td>33.92</td>
<td>7.66</td>
<td>21.50</td>
<td>8.43</td>
</tr>
<tr>
<td>Private</td>
<td>27</td>
<td>21.95%</td>
<td>33.00</td>
<td>7.70</td>
<td>20.81</td>
<td>7.46</td>
</tr>
<tr>
<td>South</td>
<td>89</td>
<td>72.36%</td>
<td>33.98</td>
<td>7.68</td>
<td>21.67</td>
<td>8.70</td>
</tr>
<tr>
<td>Northeast</td>
<td>18</td>
<td>14.63%</td>
<td>32.06</td>
<td>8.22</td>
<td>19.50</td>
<td>6.36</td>
</tr>
<tr>
<td>Midwest</td>
<td>11</td>
<td>8.94%</td>
<td>33.82</td>
<td>6.35</td>
<td>23.82</td>
<td>5.56</td>
</tr>
<tr>
<td>West</td>
<td>5</td>
<td>4.07%</td>
<td>34.80</td>
<td>9.01</td>
<td>16.80</td>
<td>8.70</td>
</tr>
</tbody>
</table>
The students reported coming from eleven different countries of origin. These countries, the number of students, means and standard deviations are featured in Table 6. The majority of students reported India as their country of origin, with China and South Korea being the second and third most chosen.

Table 6

<table>
<thead>
<tr>
<th>Country</th>
<th>n</th>
<th>%</th>
<th>Positive M</th>
<th>Positive SD</th>
<th>Negative M</th>
<th>Negative SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>82</td>
<td>66.67%</td>
<td>34.67</td>
<td>8.09</td>
<td>20.84</td>
<td>8.36</td>
</tr>
<tr>
<td>China</td>
<td>15</td>
<td>12.20%</td>
<td>30.93</td>
<td>7.09</td>
<td>20.33</td>
<td>6.00</td>
</tr>
<tr>
<td>South Korea</td>
<td>9</td>
<td>7.32%</td>
<td>28.33</td>
<td>3.67</td>
<td>21.44</td>
<td>7.32</td>
</tr>
<tr>
<td>Japan</td>
<td>5</td>
<td>4.07%</td>
<td>37.20</td>
<td>3.63</td>
<td>27.80</td>
<td>13.76</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3</td>
<td>2.44%</td>
<td>32.67</td>
<td>9.07</td>
<td>19.00</td>
<td>7.56</td>
</tr>
<tr>
<td>Singapore</td>
<td>2</td>
<td>1.63%</td>
<td>31.00</td>
<td>4.24</td>
<td>25.50</td>
<td>6.36</td>
</tr>
<tr>
<td>Thailand</td>
<td>2</td>
<td>1.63%</td>
<td>37.50</td>
<td>12.02</td>
<td>27.00</td>
<td>14.14</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2</td>
<td>1.63%</td>
<td>28.50</td>
<td>2.12</td>
<td>25.00</td>
<td>7.07</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1</td>
<td>0.81%</td>
<td>34.00</td>
<td>n/a</td>
<td>22.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Nepal</td>
<td>1</td>
<td>0.81%</td>
<td>34.00</td>
<td>n/a</td>
<td>28.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Pakistan</td>
<td>1</td>
<td>0.81%</td>
<td>39.00</td>
<td>n/a</td>
<td>18.00</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Students were enrolled in every undergraduate level (freshman, sophomore, junior, and senior) and as graduate students. In addition, the average time spent living in the US was 25.95 months, with a median of 17 months and a mode of 6 months. The longest amount of time reported was 135 months and the least amount of time reported was 1 month, for a range of 134 months. The itemization of these attributes along with means and standard deviations are in Table 7.
Table 7

**PANAS participants by school classification and time spent living in the US**

<table>
<thead>
<tr>
<th>Classification</th>
<th>n</th>
<th>%</th>
<th>Positive M</th>
<th>Positive SD</th>
<th>Negative M</th>
<th>Negative SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>14</td>
<td>11.38%</td>
<td>34.29</td>
<td>8.11</td>
<td>20.64</td>
<td>7.64</td>
</tr>
<tr>
<td>Sophomore</td>
<td>6</td>
<td>4.88%</td>
<td>33.83</td>
<td>6.18</td>
<td>19.50</td>
<td>7.56</td>
</tr>
<tr>
<td>Junior</td>
<td>17</td>
<td>13.82%</td>
<td>35.71</td>
<td>8.77</td>
<td>23.47</td>
<td>7.95</td>
</tr>
<tr>
<td>Senior</td>
<td>9</td>
<td>7.32%</td>
<td>29.33</td>
<td>7.28</td>
<td>23.11</td>
<td>11.13</td>
</tr>
<tr>
<td>Graduate Student</td>
<td>77</td>
<td>62.60%</td>
<td>33.68</td>
<td>7.42</td>
<td>20.95</td>
<td>8.12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time in US</th>
<th>n</th>
<th>%</th>
<th>Positive M</th>
<th>Positive SD</th>
<th>Negative M</th>
<th>Negative SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 6 mos.</td>
<td>41</td>
<td>33.33%</td>
<td>34.49</td>
<td>7.07</td>
<td>20.15</td>
<td>8.28</td>
</tr>
<tr>
<td>7 – 24 mos.</td>
<td>35</td>
<td>28.46%</td>
<td>33.54</td>
<td>8.26</td>
<td>20.29</td>
<td>8.76</td>
</tr>
<tr>
<td>25 mos. or longer</td>
<td>47</td>
<td>38.21%</td>
<td>33.17</td>
<td>7.77</td>
<td>23.19</td>
<td>7.51</td>
</tr>
</tbody>
</table>

CESD-R

The sample size for the CESD-R was 119 participants. The age range was 18 – 35 years old with a mean of 23.28 years and a 3.80 standard deviation. These results are in Table 8.

Table 8

**CESD-R participants by gender and age**

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>66</td>
<td>55.46%</td>
<td>17.73</td>
<td>16.25</td>
</tr>
<tr>
<td>Female</td>
<td>53</td>
<td>44.54%</td>
<td>18.83</td>
<td>13.61</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 – 21</td>
<td>39</td>
<td>32.77%</td>
<td>17.31</td>
<td>14.70</td>
</tr>
<tr>
<td>22 – 25</td>
<td>52</td>
<td>43.70%</td>
<td>19.81</td>
<td>16.66</td>
</tr>
<tr>
<td>26 and older</td>
<td>28</td>
<td>23.53%</td>
<td>16.54</td>
<td>12.49</td>
</tr>
</tbody>
</table>
The participants reported currently matriculating at schools across the US, both public and private colleges and universities, and in the Northeast, Midwest, South, and East regions as defined by the US Census Bureau (2015). The categorization of these designations along with means and standard deviations, are in Table 9. Of note, these descriptive statistics do not vary much from the ones for PANAS above.

Table 9

<table>
<thead>
<tr>
<th>Designation</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>93</td>
<td>78.15%</td>
<td>17.68</td>
<td>14.93</td>
</tr>
<tr>
<td>Private</td>
<td>26</td>
<td>21.85%</td>
<td>20.15</td>
<td>15.76</td>
</tr>
<tr>
<td>South</td>
<td>86</td>
<td>72.27%</td>
<td>18.59</td>
<td>15.47</td>
</tr>
<tr>
<td>Northeast</td>
<td>17</td>
<td>14.29%</td>
<td>15.24</td>
<td>14.46</td>
</tr>
<tr>
<td>Midwest</td>
<td>11</td>
<td>9.24%</td>
<td>21.91</td>
<td>14.74</td>
</tr>
<tr>
<td>West</td>
<td>5</td>
<td>4.20%</td>
<td>13.80</td>
<td>11.88</td>
</tr>
</tbody>
</table>

The students reported coming from eleven different countries of origin. These countries, the number of students, means and standard deviations are featured in Table 10. As stated above, the majority of the students reported India as their home country.
Table 10

CESD-R participants by country of origin

<table>
<thead>
<tr>
<th>Country</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>80</td>
<td>67.23%</td>
<td>18.30</td>
<td>15.41</td>
</tr>
<tr>
<td>China</td>
<td>14</td>
<td>11.76%</td>
<td>15.43</td>
<td>13.62</td>
</tr>
<tr>
<td>South Korea</td>
<td>8</td>
<td>6.72%</td>
<td>11.00</td>
<td>5.07</td>
</tr>
<tr>
<td>Japan</td>
<td>5</td>
<td>4.20%</td>
<td>25.00</td>
<td>23.41</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3</td>
<td>2.52%</td>
<td>19.33</td>
<td>9.87</td>
</tr>
<tr>
<td>Singapore</td>
<td>2</td>
<td>1.68%</td>
<td>16.50</td>
<td>16.26</td>
</tr>
<tr>
<td>Thailand</td>
<td>2</td>
<td>1.68%</td>
<td>25.00</td>
<td>32.53</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2</td>
<td>1.68%</td>
<td>37.00</td>
<td>8.46</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1</td>
<td>0.84%</td>
<td>16.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Nepal</td>
<td>1</td>
<td>0.84%</td>
<td>29.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Pakistan</td>
<td>1</td>
<td>0.84%</td>
<td>15.00</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Students were enrolled in every undergraduate level (freshman, sophomore, junior, and senior) and as graduate students. The average time spent living in the US was 26.02 months, with a median of 17 months and a mode of 6 months and a standard deviation of 26.81. The longest amount of time reported was 135 months and the least amount of time reported was 1 month, for a range of 134 months. These figures can be found in Table 11.
Table 11

*CESD-R participants by school classification and time spent living in the US*

<table>
<thead>
<tr>
<th>Classification</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>13</td>
<td>10.92%</td>
<td>18.38</td>
<td>19.01</td>
</tr>
<tr>
<td>Sophomore</td>
<td>6</td>
<td>5.04%</td>
<td>22.00</td>
<td>13.80</td>
</tr>
<tr>
<td>Junior</td>
<td>17</td>
<td>14.29%</td>
<td>18.35</td>
<td>17.05</td>
</tr>
<tr>
<td>Senior</td>
<td>9</td>
<td>7.56%</td>
<td>17.56</td>
<td>13.52</td>
</tr>
<tr>
<td>Graduate Student</td>
<td>74</td>
<td>62.18%</td>
<td>17.93</td>
<td>14.49</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time in US</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 6 months</td>
<td>39</td>
<td>32.77%</td>
<td>17.21</td>
<td>16.00</td>
</tr>
<tr>
<td>7 – 24 months</td>
<td>34</td>
<td>28.57%</td>
<td>17.85</td>
<td>14.61</td>
</tr>
<tr>
<td>25 months or longer</td>
<td>46</td>
<td>38.66%</td>
<td>19.35</td>
<td>14.87</td>
</tr>
</tbody>
</table>

**ASSIS**

The sample size for the ASSIS was 108 participants. The age range was 18 – 35 years old with a mean of 23.25 and a 3.40 standard deviation. Gender and age characteristics are in Table 12.

Table 12

*ASSIS participants by gender and age*

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>57</td>
<td>52.78%</td>
<td>83.26</td>
<td>25.54</td>
</tr>
<tr>
<td>Female</td>
<td>51</td>
<td>47.22%</td>
<td>87.61</td>
<td>26.12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 – 21</td>
<td>38</td>
<td>35.19%</td>
<td>87.00</td>
<td>25.53</td>
</tr>
<tr>
<td>22 – 25</td>
<td>45</td>
<td>41.67%</td>
<td>80.40</td>
<td>27.69</td>
</tr>
<tr>
<td>26 and older</td>
<td>25</td>
<td>23.15%</td>
<td>91.60</td>
<td>21.51</td>
</tr>
</tbody>
</table>
The participants reported currently attending school at institutions across the US, both public and private colleges and universities, and in the Northeast, Midwest, South, and East regions as defined by the US Census Bureau (2015). The participants by school designation and school region are in Table 13. As with the descriptive statistics for PANAS and CESD-R, these figures are similar in scope.

Table 13

<table>
<thead>
<tr>
<th>ASSIS participants by school designation and school region</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>Public</td>
</tr>
<tr>
<td>Private</td>
</tr>
<tr>
<td>South</td>
</tr>
<tr>
<td>Northeast</td>
</tr>
<tr>
<td>Midwest</td>
</tr>
<tr>
<td>West</td>
</tr>
</tbody>
</table>

Eleven different countries of origin were represented in the sample for ASSIS. These countries, the number of students, means and standard deviations are featured in Table 14. Most students hailed from India, with China and South Korea being the second and third most reported home countries.
<table>
<thead>
<tr>
<th>Country</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>73</td>
<td>67.59%</td>
<td>82.51</td>
<td>25.07</td>
</tr>
<tr>
<td>China</td>
<td>12</td>
<td>11.11%</td>
<td>92.33</td>
<td>23.04</td>
</tr>
<tr>
<td>South Korea</td>
<td>7</td>
<td>6.48%</td>
<td>84.86</td>
<td>28.80</td>
</tr>
<tr>
<td>Japan</td>
<td>4</td>
<td>3.70%</td>
<td>103.75</td>
<td>41.50</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3</td>
<td>2.78%</td>
<td>98.33</td>
<td>19.04</td>
</tr>
<tr>
<td>Singapore</td>
<td>2</td>
<td>1.85%</td>
<td>89.50</td>
<td>36.06</td>
</tr>
<tr>
<td>Thailand</td>
<td>2</td>
<td>1.85%</td>
<td>49.00</td>
<td>15.56</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2</td>
<td>1.85%</td>
<td>113.00</td>
<td>1.41</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1</td>
<td>0.93%</td>
<td>80.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Nepal</td>
<td>1</td>
<td>0.93%</td>
<td>102.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Pakistan</td>
<td>1</td>
<td>0.93%</td>
<td>94.00</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Each undergraduate grade level (freshman, sophomore, junior, and senior) and graduate students were represented in the ASSIS sample. The mean time spent living in the US was 25.78 months, with a median of 17 months and a mode of 6 months. The standard deviation was 27.35. The longest amount of time reported was 135 months and the least amount of time reported was 1 month, for a range of 134 months. These figures can be found in 15.
Table 15

**ASSIS participants by school classification and time spent living in the US**

<table>
<thead>
<tr>
<th>Classification</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>12</td>
<td>11.11%</td>
<td>80.75</td>
<td>28.09</td>
</tr>
<tr>
<td>Sophomore</td>
<td>6</td>
<td>5.56%</td>
<td>98.83</td>
<td>13.01</td>
</tr>
<tr>
<td>Junior</td>
<td>16</td>
<td>14.81%</td>
<td>96.44</td>
<td>33.83</td>
</tr>
<tr>
<td>Senior</td>
<td>7</td>
<td>6.48%</td>
<td>80.00</td>
<td>21.63</td>
</tr>
<tr>
<td>Graduate Student</td>
<td>67</td>
<td>62.04%</td>
<td>82.82</td>
<td>23.90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time in US</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 6 months</td>
<td>37</td>
<td>34.26%</td>
<td>83.73</td>
<td>22.64</td>
</tr>
<tr>
<td>7 – 24 months</td>
<td>30</td>
<td>27.78%</td>
<td>76.27</td>
<td>25.63</td>
</tr>
<tr>
<td>25 months or</td>
<td>41</td>
<td>37.96%</td>
<td>93.37</td>
<td>26.67</td>
</tr>
<tr>
<td>longer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gender

It was hypothesized that scores would significantly differ between female and male participants on the three researched instruments. The 108 participants who completed all three instruments were analyzed. There were 57 (52.78%) male students and 51 (47.22%) female identified students (*Figure 1*). The outcome measure by gender as in Table 16.

*Figure 1. Participants by gender*
Table 16

Outcome measures by gender

<table>
<thead>
<tr>
<th></th>
<th>Male $M$</th>
<th>Male $SD$</th>
<th>Female $M$</th>
<th>Female $SD$</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Affect</td>
<td>34.18</td>
<td>7.42</td>
<td>32.94</td>
<td>8.01</td>
<td>108</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>21.47</td>
<td>8.66</td>
<td>21.10</td>
<td>7.67</td>
<td>108</td>
</tr>
<tr>
<td>CESD-R</td>
<td>17.77</td>
<td>16.55</td>
<td>19.20</td>
<td>13.75</td>
<td>108</td>
</tr>
<tr>
<td>ASSIS</td>
<td>83.26</td>
<td>25.54</td>
<td>87.61</td>
<td>26.12</td>
<td>108</td>
</tr>
</tbody>
</table>

Time spent living in the US

Of the 108 students who completed all three instruments, there were differences in the mean scores and standard deviations by how long they had lived in the US (Table 17). Thirty-seven students (34.26%) reported living in the US for 1 – 6 months, 30 (27.78%) for 7 – 24 months, and 41 (37.96%) from 25 months to 135 months (Figure 2). These differences are further analyzed in the inferential statistics section.

Figure 2. Participants by time spent in the US
Table 17

*Outcome measures by time spent in the US, in months*

<table>
<thead>
<tr>
<th></th>
<th>1–6 M</th>
<th>1–6 SD</th>
<th>7–24 M</th>
<th>7–24 SD</th>
<th>25 or more M</th>
<th>25 or more SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pos. affect</td>
<td>34.24</td>
<td>7.10</td>
<td>33.67</td>
<td>8.63</td>
<td>32.95</td>
<td>7.63</td>
<td>108</td>
</tr>
<tr>
<td>Neg. affect</td>
<td>20.05</td>
<td>8.38</td>
<td>20.17</td>
<td>9.10</td>
<td>23.24</td>
<td>7.02</td>
<td>108</td>
</tr>
<tr>
<td>CESD-R</td>
<td>17.38</td>
<td>16.09</td>
<td>16.97</td>
<td>14.21</td>
<td>20.49</td>
<td>15.33</td>
<td>108</td>
</tr>
<tr>
<td>ASSIS</td>
<td>83.73</td>
<td>22.64</td>
<td>76.27</td>
<td>25.63</td>
<td>93.37</td>
<td>26.67</td>
<td>108</td>
</tr>
</tbody>
</table>

Countries of Origin

Countries of origin were separated into three groups, India, China and South Korea, and other Asian countries. India, China, and South Korea had the largest number of respondents in the study and are also three of the four top-producing international students studying abroad in the US (Institute of International Education, 2018). Seventy-three of the respondents (67.59%) reported India as their country of origin. Twelve students reported China as their country of origin, and seven reported South Korea for a total of 19 students (17.59%). In order to have better statistical power, China and South Korea were combined. This combination may also be appropriate due to cultural similarities between China and South Korea when compared to India. The remaining 16 respondents (14.81%) reported being from Japan, Indonesia, Singapore, Thailand, Vietnam, Malaysia, Nepal, and Pakistan (*Figure 3*). The means and standard deviations for the groups can be found in Table 18.
Figure 3. Participants by country of origin

Table 18

Outcome measures by country of origin

<table>
<thead>
<tr>
<th></th>
<th>India M</th>
<th>India SD</th>
<th>China, S. Korea M</th>
<th>China, S. Korea SD</th>
<th>Other countries M</th>
<th>Other countries SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pos. affect</td>
<td>34.41</td>
<td>8.10</td>
<td>29.95</td>
<td>6.46</td>
<td>34.19</td>
<td>6.07</td>
<td>108</td>
</tr>
<tr>
<td>Neg. affect</td>
<td>21.20</td>
<td>8.54</td>
<td>20.16</td>
<td>6.37</td>
<td>23.56</td>
<td>8.41</td>
<td>108</td>
</tr>
<tr>
<td>CESD-R</td>
<td>18.40</td>
<td>15.34</td>
<td>13.95</td>
<td>12.05</td>
<td>24.00</td>
<td>17.15</td>
<td>108</td>
</tr>
<tr>
<td>ASSIS</td>
<td>82.51</td>
<td>25.07</td>
<td>89.58</td>
<td>24.79</td>
<td>93.06</td>
<td>29.36</td>
<td>108</td>
</tr>
</tbody>
</table>

School Classification

Participants were separated into two groups by their school classification. Forty-one students (37.96%) reported being an undergraduate, and 67 (62.04%) reported being a graduate student (Figure 4). Table 19 shows the means and standard deviations for these two groups.
Figure 4. Participants by school classification

Table 19

<table>
<thead>
<tr>
<th>Outcome measures by school classification</th>
<th>Undergraduate</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
<td><strong>M</strong></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>33.49</td>
<td>7.99</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>21.76</td>
<td>7.99</td>
</tr>
<tr>
<td>CESD-R</td>
<td>19.29</td>
<td>16.72</td>
</tr>
<tr>
<td>ASSIS</td>
<td>89.39</td>
<td>28.44</td>
</tr>
</tbody>
</table>

Age

The age of the participants was separated into three groups. Thirty-eight participants (35.19%) were between ages 18 and 21, 45 (41.67%) were between 22 and 25, and 25 (23.15%) were between ages 26 and 35 (Figure 5). The means and standard deviations for the four dependent variables are shown in Table 20.
Figure 5. Participants by age

Table 20

<table>
<thead>
<tr>
<th>Outcome measures by country of origin</th>
<th>18 - 21</th>
<th>22 - 25</th>
<th>26 or older</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Pos. affect</td>
<td>34.53</td>
<td>8.12</td>
<td>34.42</td>
</tr>
<tr>
<td>Neg. affect</td>
<td>20.00</td>
<td>7.53</td>
<td>22.64</td>
</tr>
<tr>
<td>CESD-R</td>
<td>17.24</td>
<td>14.90</td>
<td>19.89</td>
</tr>
<tr>
<td>ASSIS</td>
<td>87.00</td>
<td>25.53</td>
<td>80.40</td>
</tr>
</tbody>
</table>

Part II: Inferential Statistics

Statistics for the analysis began with a two-way multiple analysis of variables (MANOVA) to determine interaction effects and simple main effects of the variables.

Follow up analyses on significant results was done with tests of between-subjects effects and the Tukey Honestly Significant Difference (Tukey HSD) post hoc test. The results are classified by the hypotheses below.
Hypothesis 1

The first hypothesis explored if there would be a significant direct impact of age, school classification, and gender on affectivity, depressive symptoms, and acculturative stress among Asian international college students. The 108 students who completed all three outcome measures were the sample population. The data were first explored by creating levels in the independent variables of age and school classification. As gender was already dichotomized into male and female, this was not changed further. Respondents’ school classification was coded as undergraduate and graduate student levels. Age was stratified into three groups, 18 – 21, 22 – 25, and 26 and older.

Levels were created in the dependent variables as well, by below and above mean scores and cutoff scores as follows. For the positive subscale of PANAS, scores between 10 – 29 were below mean scores and scores from 30 to 50 were coded as above mean scores, as the mean is reported to be 29.7 by the developers of the instruments (Watson et al., 1988). In regard to the negative subscale of PANAS, scores between 10 – 14 were coded as below mean scores, and scores from 15 – 50 were above mean scores, as the developers reported 14.8 to be the mean score (Watson et al., 1988). CESD-R and ASSIS scores possessed both mean scores and cut-off scores for clinical relevance. Due to the small number of participants (n = 12) who fell between the above mean score (M = 10.7) and cut-score for possible depression (16), the CESD-R was coded into two levels, below cut-score and above cut-score. Eaton and colleagues (2004) reported the mean score for the instrument to be 10.7 and the cut-score for possible depression as sixteen. ASSIS scores from 36 to 66 were coded as below mean scores, 67 – 108 as above mean
scores, and scores of 109 to 180 as high acculturative stress. Sandhu and Asrabadi (1998) stated that a score of 109 would be two standard deviations above the mean and could be “indicative of high acculturation stress and could require psychological intervention.”

Table 21

<table>
<thead>
<tr>
<th>Variable</th>
<th>F-value</th>
<th>p-value</th>
<th>Wilks’ Λ</th>
<th>partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.384</td>
<td>.928</td>
<td>.968</td>
<td>.016</td>
</tr>
<tr>
<td>School classification</td>
<td>.540</td>
<td>.707</td>
<td>.978</td>
<td>.022</td>
</tr>
<tr>
<td>Gender</td>
<td>1.151</td>
<td>.338</td>
<td>.953</td>
<td>.047</td>
</tr>
<tr>
<td>Age*Classification</td>
<td>.652</td>
<td>.733</td>
<td>.947</td>
<td>.027</td>
</tr>
<tr>
<td>Age*Gender</td>
<td>.267</td>
<td>.976</td>
<td>.978</td>
<td>.011</td>
</tr>
<tr>
<td>Classification*Gender</td>
<td>1.113</td>
<td>.355</td>
<td>.955</td>
<td>.045</td>
</tr>
<tr>
<td>Age<em>Classification</em>Gender</td>
<td>1.018</td>
<td>.402</td>
<td>.958</td>
<td>.042</td>
</tr>
</tbody>
</table>

There was homogeneity of variances, as assessed by Levene's Test of Homogeneity of Variance ($p > .05$) ($p = .942$). There was no statistically significant direct impact between age, school classification, or gender on the combined dependent variables, nor was there a statistically significant interaction effect (Table 21). There were also no statistically significant interactions or effects on the tests between-subjects effects. Interestingly, there was a statistically significant finding on the Tukey HSD post hoc test. The Tukey HSD post hoc test informs that students ages 22 – 25 had a higher mean on levels of positive affect ($M = 1.80$, $SD = .41$) than students aged 26 and older ($M = 1.48$, $SD = .51$), a mean increase of 0.32, 95% CI [0.05, 0.59] which was statistically significant ($p = .016$).
Hypothesis 2

The second hypothesis examined if country of origin and time spent in the US would have a significant direct impact on affectivity, depressive symptoms, and acculturative stress among Asian international college students. Participants were separated into three groups, the first being students reporting India as their country of origin (n = 73), the second being students reporting China or South Korea as their country of origin (n = 19), and the third being students claiming one of the remaining eight countries as being their country of origin (Japan, Indonesia, Singapore, Thailand, Vietnam, Malaysia, Nepal, and Pakistan; n = 16). In order to have proper statistical significance, the Chinese international student and South Korean international student groups were combined into one, seeing as, while there are many differences between the two East Asian nations, they share more of a common history and culture than between an East Asian nation and a South Asian nation. The participants were divided into three group depending on how long they reported living in the US, 1 – 6 months, 7 – 24 months, and 25 months or longer.

Table 22

<table>
<thead>
<tr>
<th>Variable</th>
<th>F-value</th>
<th>p-value</th>
<th>Wilks’ Λ</th>
<th>partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>2.030</td>
<td>.045*</td>
<td>.851</td>
<td>.077</td>
</tr>
<tr>
<td>Time</td>
<td>1.473</td>
<td>.169</td>
<td>.889</td>
<td>.057</td>
</tr>
<tr>
<td>Country*Time</td>
<td>.949</td>
<td>.499</td>
<td>.892</td>
<td>.038</td>
</tr>
</tbody>
</table>

* denotes a significant value, p < .05
There was homogeneity of variances, as assessed by Levene's Test of Homogeneity of Variance ($p > .05$) ($p = .648$). Time spent in the US was not found to be statistically significant ($p = .169$), nor was there a statistically significant interaction effect between country and time on the dependent variables ($p = .499$). Country of origin was found to be statistically significant, $F(8, 194) = 2.030, p < .05$ ($p = .045$); Wilks’ $\Lambda = .851$; partial $\eta^2 = .077$. These results can be found in Table 22.

**Table 23**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>$F$-value</th>
<th>$p$-value</th>
<th>partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>Positive</td>
<td>3.697</td>
<td>.028*</td>
<td>.069</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>1.154</td>
<td>.320</td>
<td>.023</td>
</tr>
<tr>
<td></td>
<td>CESD-R</td>
<td>2.423</td>
<td>.094</td>
<td>.046</td>
</tr>
<tr>
<td></td>
<td>ASSIS</td>
<td>.402</td>
<td>.670</td>
<td>.008</td>
</tr>
<tr>
<td>Time</td>
<td>Positive</td>
<td>.239</td>
<td>.788</td>
<td>.005</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>3.812</td>
<td>.025*</td>
<td>.071</td>
</tr>
<tr>
<td></td>
<td>CESD-R</td>
<td>2.490</td>
<td>.088</td>
<td>.047</td>
</tr>
<tr>
<td></td>
<td>ASSIS</td>
<td>2.010</td>
<td>.139</td>
<td>.039</td>
</tr>
<tr>
<td>Country*Time</td>
<td>Positive</td>
<td>.573</td>
<td>.634</td>
<td>.017</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>1.108</td>
<td>.349</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>CESD-R</td>
<td>.754</td>
<td>.522</td>
<td>.022</td>
</tr>
<tr>
<td></td>
<td>ASSIS</td>
<td>1.052</td>
<td>.373</td>
<td>.031</td>
</tr>
</tbody>
</table>

* denotes a significant value, $p < .05$

There was a statistically significant effect on positive affect scores based on country of origin, $F(2, 100) = 3.697, p < .05$ ($p = .028$); partial $\eta^2 = .069$ (Table 22). Due to significant results on Levene’s Test of Equality of Error Variances, these results should be interpreted with caution. According to the Tukey Honestly Significant Difference (Tukey HSD) post hoc test, students from India had a higher mean score on the levels of
positive subscale of the PANAS ($M = 1.75, SD = 0.43$) than students from China or South Korea ($M = 1.42, SD = 0.51$), a mean increase of 0.33, 95% CI [0.05, 0.61], which was statistically significant ($p = .016$).

While not seen on the MANOVA, time spent in the US also had a significant main effect on negative affect on the tests of between-subjects effects, $F(2, 100) = 3.812$, $p < .05$ ($p = .025$); partial $\eta^2 = .071$ (Table 23). On closer examination with the Tukey HSD, students living in the US 25 months or longer had a higher mean score on negative affect levels ($M = 1.88, SD = .33$) than students living in the US for 1 – 6 months ($M = 1.65, SD = .48$), a mean increase of 0.23, 95% CI [0.00, 0.46], which was nearly significant ($p = .055$).

The multiple comparisons table of the Tukey HSD also revealed another significant result not seen on the MANOVA or tests of between-subjects effects. There was an increase in acculturative stress score (ASSIS) from the 7 - 24 months group ($M = 1.63, SD = 0.62$) to the 25 months or longer group ($M = 2.15, SD = 0.69$), a mean increase of 0.51, 95% CI [0.15, 0.88], which was statistically significant ($p = .004$).

Hypothesis 3

The third hypothesis examined if there is a significant interaction impact of all five independent variables on the four dependent variables on the study. A MANOVA was run which found the following statistically significant finding regarding country of origin (Table 24). It should be noted that, with a relatively small sample size ($n = 108$), some of the associations between variables could not be calculated on the MANOVA, as the subgroups became quite small.
Table 24

**MANOVA statistical values for all independent and dependent variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>F-value</th>
<th>p-value</th>
<th>Wilks’ Λ</th>
<th>partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>3.295</td>
<td>.002*</td>
<td>.688</td>
<td>.171</td>
</tr>
</tbody>
</table>

* denotes a significant value, p < .05

There was homogeneity of variances, as assessed by Levene’s Test of Homogeneity of Variance (p > .05) (p = .591). Country of origin was the only independent variable found to be statistically significant under this multivariate analysis, $F(8, 128) = 3.295, p < .05$ (p = .002); Wilks’ Λ = .688; partial η² = .171 (Table 24). A further tests of between-subjects effects for all variables is included (Table 25).

Table 25

**Tests of between-subjects effects for all variables**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>F-value</th>
<th>p-value</th>
<th>partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Positive</td>
<td>4.600</td>
<td>.013*</td>
<td>.121</td>
</tr>
<tr>
<td>Country</td>
<td>Positive</td>
<td>6.583</td>
<td>.002*</td>
<td>.164</td>
</tr>
</tbody>
</table>

* denotes a significant value, p < .05

There was a statistically significant effect on positive affect levels based on age $F(2, 67) = 4.600, p < .05$ (p = .013); partial η² = .121, as well as on positive affect levels based on country of origin, $F(2, 67) = 6.583, p < .05$ (p = .002); partial η² = .164. Due to significant results on Levene’s Test of Equality of Error Variances, these results should be interpreted with caution. The Tukey HSD post hoc test further validated the potential finding in Hypothesis 1 regarding the effect of age on positive affect. Students ages 22 –
25 had a higher mean on levels of positive affect \( (M = 1.80, SD = .41) \) than students aged 26 and older \( (M = 1.48, SD = .51) \), a mean increase of 0.32, 95% CI [0.08, 0.56] which was statistically significant \( (p = .005) \). The Tukey HSD post hoc test for country of origin further validated the finding in Hypothesis 2. Indian international college students had a higher mean score on positive affect \( (M = 1.75, SD = 0.43) \) than Chinese and South Korean international college students \( (M = 1.42, SD = 0.51) \), a mean increase of 0.33, 95% CI [0.09, 0.58], which was statistically significant \( (p = .005) \).

**Part III: Qualitative Analysis**

Twenty-six participants returned to the Qualtrics website and uploaded either control or experimental journals. In total, there were 48 control journal entries and 30 experimental journal entries. Word frequencies for the journals are seen in Tables 26 – 29.

**Table 26**

**Word Counts**

<table>
<thead>
<tr>
<th>Control entries</th>
<th>Average per entry</th>
<th>Experimental entries</th>
<th>Average per entry</th>
<th>All entries</th>
<th>Average per entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>13602</td>
<td>283.38</td>
<td>11835</td>
<td>394.50</td>
<td>25437</td>
<td>326.12</td>
</tr>
</tbody>
</table>
Table 27

**Words Appearing 50 Times or More in All Journal Entries**

<table>
<thead>
<tr>
<th>Word</th>
<th>Frequency</th>
<th>Word</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td>127</td>
<td>plan</td>
<td>63</td>
</tr>
<tr>
<td>time</td>
<td>126</td>
<td>home</td>
<td>62</td>
</tr>
<tr>
<td>work</td>
<td>110</td>
<td>want</td>
<td>55</td>
</tr>
<tr>
<td>get</td>
<td>105</td>
<td>next</td>
<td>55</td>
</tr>
<tr>
<td>back</td>
<td>85</td>
<td>week</td>
<td>52</td>
</tr>
<tr>
<td>day</td>
<td>85</td>
<td>around</td>
<td>51</td>
</tr>
<tr>
<td>just</td>
<td>83</td>
<td>people</td>
<td>50</td>
</tr>
<tr>
<td>friends</td>
<td>74</td>
<td>also</td>
<td>50</td>
</tr>
<tr>
<td>like</td>
<td>68</td>
<td>life</td>
<td>63</td>
</tr>
<tr>
<td>one</td>
<td>66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 28

**Words Appearing More than 25 Times in Control Entries**

<table>
<thead>
<tr>
<th>Word</th>
<th>Frequency</th>
<th>Word</th>
<th>Frequency</th>
<th>Word</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td>122</td>
<td>friends</td>
<td>41</td>
<td>one</td>
<td>31</td>
</tr>
<tr>
<td>work</td>
<td>96</td>
<td>dinner</td>
<td>38</td>
<td>spend</td>
<td>29</td>
</tr>
<tr>
<td>time</td>
<td>85</td>
<td>lunch</td>
<td>38</td>
<td>done</td>
<td>28</td>
</tr>
<tr>
<td>plan</td>
<td>65</td>
<td>around</td>
<td>37</td>
<td>room</td>
<td>27</td>
</tr>
<tr>
<td>day</td>
<td>64</td>
<td>hour</td>
<td>36</td>
<td>study</td>
<td>27</td>
</tr>
<tr>
<td>get</td>
<td>62</td>
<td>take</td>
<td>35</td>
<td>exam</td>
<td>26</td>
</tr>
<tr>
<td>back</td>
<td>59</td>
<td>went</td>
<td>35</td>
<td>working</td>
<td>26</td>
</tr>
<tr>
<td>home</td>
<td>51</td>
<td>also</td>
<td>31</td>
<td>classes</td>
<td>25</td>
</tr>
<tr>
<td>week</td>
<td>50</td>
<td>friend</td>
<td>31</td>
<td>going</td>
<td>25</td>
</tr>
<tr>
<td>next</td>
<td>48</td>
<td>meeting</td>
<td>31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 29

**Words Appearing 25 Times or More in Experimental Entries**

<table>
<thead>
<tr>
<th>Word</th>
<th>Frequency</th>
<th>Word</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>just</td>
<td>68</td>
<td>still</td>
<td>35</td>
</tr>
<tr>
<td>like</td>
<td>62</td>
<td>friends</td>
<td>33</td>
</tr>
<tr>
<td>life</td>
<td>45</td>
<td>now</td>
<td>33</td>
</tr>
<tr>
<td>get</td>
<td>43</td>
<td>person</td>
<td>31</td>
</tr>
<tr>
<td>want</td>
<td>43</td>
<td>know</td>
<td>29</td>
</tr>
<tr>
<td>people</td>
<td>42</td>
<td>something</td>
<td>29</td>
</tr>
<tr>
<td>time</td>
<td>41</td>
<td>felt</td>
<td>28</td>
</tr>
<tr>
<td>even</td>
<td>38</td>
<td>back</td>
<td>26</td>
</tr>
<tr>
<td>feel</td>
<td>38</td>
<td>always</td>
<td>25</td>
</tr>
<tr>
<td>one</td>
<td>35</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis 4

The fourth hypothesis explored what are the common themes to emerge from the experimental and control journals written by Asian international college students. Seventy-eight journal entries from twenty-six participants were analyzed using NVivo 12 and the LIWC2015 software developed by James Pennebaker and colleagues. Forty-eight of the journals were from the control condition, and the remaining 30 were from the experimental condition. NVivo is a software developed for qualitative and mixed-method research, in order to analyze text, code, and discover themes (QSR International, 2019). LIWC2015 is the latest version of the original LIWC which was created to analyze writings specifically from the expressive writing protocol (Pennebaker, Boyd, Jordan, & Blackburn, 2015). The software codes the written entries for themes along with word counts. Analysis with the LIWC2015 software presents results from coding
natural language. The themes of affective processes, which is subdivided into positive emotion and negative emotion, social processes, and cognitive processes were examined.

Several themes emerge from the NVivo textual analysis, largely associated with an academic focus. While participants were asked to write about yesterday (first entry), tomorrow (second entry) and next week (third entry) they were not specifically asked to write about academics, though it was one of three examples given of topics on which they could write. A focus on time also emerged, though this may be due to the fact that participants were asked to consider their time (i.e., yesterday, tomorrow, next week).

Figure 6. Visual representation of themes from control entries
Different themes emerged from the experimental journal entries than from the control entries. Participants were asked to write about their “very deepest thoughts and feelings about the most traumatic experience of your entire life or an extremely important emotional issue that has affected you and your life,” per the Pennebaker expressive writing protocol. Themes appear to center around friends, family, relationships, school, home, feelings, and one’s comfort zone. In addition, words such as “still,” “always,” and “now” appear frequently indicating that the writer is speaking about feelings and thoughts in the present moment and may be actively processing these feelings.

![Figure 7. Visual representation of themes from experimental entries](image-url)
Table 30

**Word Counts for Affective Processes**

<table>
<thead>
<tr>
<th>Processes</th>
<th>Control entries</th>
<th>Average per entry</th>
<th>Experimental entries</th>
<th>Average per entry</th>
<th>All entries</th>
<th>Average per entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective emotion</td>
<td>250</td>
<td>5.21</td>
<td>696</td>
<td>23.20</td>
<td>946</td>
<td>12.13</td>
</tr>
<tr>
<td>Positive emotion</td>
<td>203</td>
<td>4.23</td>
<td>348</td>
<td>11.60</td>
<td>551</td>
<td>7.06</td>
</tr>
<tr>
<td>Negative emotion</td>
<td>39</td>
<td>0.81</td>
<td>331</td>
<td>11.03</td>
<td>370</td>
<td>4.74</td>
</tr>
<tr>
<td>Unspecified</td>
<td>8</td>
<td>0.17</td>
<td>17</td>
<td>0.57</td>
<td>25</td>
<td>0.32</td>
</tr>
</tbody>
</table>

The expressive writing group used 23.20 affective processing words per journal entry in comparison to the 5.21 words per entry used by the control group. This trend is also seen in the positive emotion word count (11.60 versus 4.23) and the negative emotion word count (11.03 versus 0.81), suggesting that participants in the expressive writing group experienced more emotional processing in their journal writing as seen in their greater use of positive and negative emotion words.

Table 31

**Word Counts for Social and Cognitive Processes**

<table>
<thead>
<tr>
<th>Processes</th>
<th>Control entries</th>
<th>Average per entry</th>
<th>Experimental entries</th>
<th>Average per entry</th>
<th>All entries</th>
<th>Average per entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>709</td>
<td>14.77</td>
<td>1156</td>
<td>38.53</td>
<td>1865</td>
<td>23.91</td>
</tr>
<tr>
<td>Cognitive</td>
<td>964</td>
<td>20.08</td>
<td>1841</td>
<td>61.37</td>
<td>2805</td>
<td>35.96</td>
</tr>
</tbody>
</table>

As with affective processes, the expressive writing group utilized more words indicating social processes (38.53/entry versus 14.77/entry) and cognitive processes (61.37/entry versus 20.08/entry) than the control group. This suggests that along with
expressing affect in terms of positive and negative emotion, the experimental group journals also had greater levels of processing socially and cognitively. This suggests not only compliance with the journaling instructions, but also engagement with an activity that allowed the students to actively process issues they may currently be facing.

Summary

The data analyses suggest that time spent in the US potentially has a main effect on negative affect and acculturative stress. The data further indicate that country of origin may have a main effect on positive affect in Asian international college students. Furthermore, time spent in the US and age may have an interaction effect, where time influences different age groups in their positive affect. Country of origin and school classification could have an interaction effect, where country of origin influences the undergraduate and graduate students reporting of positive affect. In addition, qualitative analyses revealed that the expressive writing protocol enabled Asian international college students to use affective, social, and cognitive processing on problems they are experiencing in comparison to a control group. A further discussion of these findings and recommendation for further study will be explored in Chapter Five.
CHAPTER FIVE

Summary, Discussion, and Recommendations

This chapter discusses a summary of the research findings, followed by a discussion, and recommendations for further research by academics.

Summary

This research study explored the potential for utilization of the expressive writing protocol for use with Asian international college students studying in the US in order to impact depressive symptoms, affectivity, and acculturative stress. The impact of independent variables including time spent in the US, gender, country of origin, school classification, and age were also explored for their impact. The scores of the research participants on the PANAS, CESD-R, and ASSIS were investigated for differences from established means and cut-scores where applicable for these instruments. Also, journal entries written by participants in the control and experimental groups were examined for differences in affective (including positive and negative emotion), social, and cognitive processes. Research outcomes and conclusions are further examined below. Due to the issues inherent to online self-reporting mechanisms (Eysenbach & Wyatt, 2002) caution is suggested in generalizing these results to all Asian international college students. Caution is also advised due to the sample size. Replication studies are strongly suggested for further validation of the data.
Hypothesis 1

The first hypothesis examined if there would be a significant direct impact of age, school classification, and gender on affectivity, depressive symptoms, and acculturative stress in Asian international college students. The data were analyzed using a MANOVA to compare these independent variables to the levels of outcome measures. While neither the MANOVA itself nor the tests of between-subjects effects revealed any statistically significant findings, there was a statistically significant result on the Tukey HSD. This result showed a statistically significant difference in the means between students aged 22 – 25 and students aged 26 and older on positive affect., with students aged 22 – 25 scoring higher on this measure. One possibility for this finding could be the unique stressors facing graduate students, which may decrease the score of students older than 26 on positive affect. Graduate students may experience distress with marriage and family, the academic/professional relationship with their advisor, or making time for social connection (Hyun, Quinn, Madon,& Lustig, 2006). It is possible that a combination of developmental and phase of life factors along with study abroad stressors may account for the lower positive affect scores.

Hypothesis 2

Hypothesis 2 posits that country of origin and time spent in the US may impact affectivity, depressive symptoms, and acculturative stress among Asian international college students. A MANOVA was run for the analysis of this hypothesis, and showed that Indian international college students scored higher on positive affect than students from China and South Korea which was further validated with the tests of between-
subjects effects and the Tukey HSD. This was a statistically significant result. Of note, Indian international college students also scored higher than students from other Asian countries, though this was not a statistically significant result. The higher scores of the Indian international college students may have to do with cultural perceptions of positive and negative affect. According to Bagozzi, Wong, & Yi (1999), interdependent cultures, in contrast to independent such as the US, do not view positive and negative affect as contradictory, but rather as co-existent or dialectical. This may help explain not only the statistically significant elevations seen on the positive subscale of the PANAS, but also the average elevated scores on all the instruments in this study. It is also possible that Indian international college students were conceptualizing their day-to-day through a different lens than their Chinese, South Korean, and other Asian international counterparts in this study.

Another statistically significant result was seen on the tests between-subjects effects, though not on the MANOVA. Time spent in the US was significant on the tests between-subjects effects. When further examined on the Tukey HSD post hoc test, students living in the US for 25 months or longer had a higher mean negative affect score, with more participants scoring above the mean for negative affect than students in the 1 – 6-month group. This result was nearly statistically significant on the Tukey HSD ($p = .055$).

Time spent in the US impacting acculturative stress also came up as a significant result on the multiple comparisons on the Tukey HSD, though this was not significant on the MANOVA or tests of between-subjects effects. Students living in the US for 25 or
more months were more likely to be in the above mean or above cut-score levels of the ASSIS than students living in the US from 7 – 24 months. The results suggest that the longer an Asian international college student has been living in the US, the more likely the student is to report higher negative affect and acculturative stress levels. This result may be related to the fact that Asian international college students are more likely to speak about mental health concerns and issues the more acculturated they become to the US culture (Atkinson & Gim, 1989; Chen & Lewis, 2011; Frey & Roysircar, 2006; Liao et al., 2005; Zhang & Dixon, 2003).

**Hypothesis 3**

The third hypothesis examines if there is a significant interaction impact of all five independent variables on the four dependent variables of this study. A MANOVA was utilized and revealed that country of origin was the only statistically significant independent variable under this analysis, suggesting an interaction effect. Further investigation with the tests of between-subjects effects showed that country of origin had a direct impact on positive affect, and that age of respondent directly impacted positive affect as well. The Tukey HSD post hoc tests further validated the result of Hypothesis 1 regarding age; that students between ages 22 – 25 score higher on positive affect than students aged 26 or older. Post hoc testing with Tukey HSD also further validated the finding on Hypothesis 2 that international students from India have higher positive affect than international students from China and South Korea.
Hypothesis 4

The fourth hypothesis looked at the common themes found in the expressive writing protocol and control journals of Asian international college students. In the control journals, themes that emerged included an academic focus and time, whereas in the experimental journals themes emerged around friends, family, relationships, home, feelings, and one’s comfort zone along with academics. Also, words such as “now,” “always,” and “still” featured frequently in the experimental entries suggesting that students may have been dissecting their feelings in the present moment while writing.

In addition to this qualitative analysis which used NVivo 12, affective, social, and cognitive processing were explored using LIWC2015, a software developed for word analysis by James Pennebaker and colleagues for the expressive writing protocol. It was found that the experimental group utilized more words indicating affective, social, and cognitive processing than the control group, suggesting that the expressive writing protocol helped students to process their emotions and past or present upsetting events.

Discussion

Asian international college students are significant members of the US higher education student population, though resources on college campuses do not always fit their needs (Mori, 2000). This research points to directions and possible interventions for this student population. The MANOVA that was executed on the data revealed that there was no statistically significant difference between genders on the outcome measures. This result suggests that gender might not play a significant role in the reported affectivity, depressive symptoms, and acculturative stress of Asian international college
students. Gender may not have been found to be statistically significant in this study, but, as a significant part of one’s identity, counselors should be ready to address the impact of gender roles, including cultural expectations based on gender. Previous research on written emotional disclosure has been performed on women almost twice as often as men (Frattaroli, 2006), and there may be a significant gap on whether this intervention is appealing to or effective for men. In terms of counseling Asian international college students, male and female identified Asian international college students may not present with the same issues, but that they may be similarly in distress or report similar positive affect on these instruments. Counselors should consider international and US gender roles in assessing Asian international college students, however, in order to adequately assess the needs related to different aspects of identity.

There were no statistically significant differences between undergraduate and graduate student outcomes on the instruments. This suggests that, perhaps generally, undergraduate students are no more or less in distress nor have higher or lower positive affect than graduate students. Counselors should be mindful, however, of other factors that may impact wellbeing of this student population. Age did not appear to be related to a lower score for positive affect for students over age 26. This may be due to a combination of graduate school stress and life stressors that occur in one’s mid to late twenties versus early twenties. Length of time in the US led to higher reporting of negative affect and acculturative stress, which may suggest acculturation playing a role in student being more comfortable with reporting these symptoms, or with greater distress once a student has been away from their home country for a significant period of time. A
“U-shape” theory has been previously suggested for international students in regard to distress during their time studying in different country (Lysgaard 1995, as cited in Sumer, Poyrazli, & Grahame, 2008). In this theory, students are excited to be in their new host country and do not report significant distress; after a period of time, this excitement wears off, and students may feel lonely and have other issues. Later, students adjust to the host country and report less distress. Not all studies have validated the “U-shaped” theory, however (Sumer, Poyrazli, & Grahame, 2008).

Country of origin appeared to play a role in higher reporting of positive affect, with Indian international college students reporting higher than Chinese and South Korean international students. One possible explanation for this, along with the dialectic ideas previously mentioned, is perception of one’s English proficiency. Prior research has suggested that higher English proficiency is linked with lower rates of depression (Dao et al., 2007). India, with a population of 1.2 billion, is believed to have 10% of its population, or 120 million citizens, as English-speakers, making India the second-largest English-speaking country (Masani, 2012). The EF English Proficiency Index has ranked India as 28th in the world in proficiency, followed by South Korea at 31st, and China at 47th (EF EPI, 2018). While proficiency in terms of spoken, written, and auditory English is a complex issue, future researchers may wish to examine the possibility that country of origin along with English proficiency may contribute to positive affect in Asian international college students.

In regard to the descriptive statistics of the population, it may be noteworthy that the mean scores of each sample of students fell above the standard mean scores for each
instrument, even when accounting for the 95% confidence interval. In terms of cut-scores for the CESD-R and ASSIS, nearly half of the 119 students who took the CESD-R scored above the cut-score signaling possible depression, and nearly one-in-five students of the 108 who completed the ASSIS scored above its cut-score, signaling acculturative stress that may warrant counseling.

Recommendations

The following is recommended for clinicians, academics, and researchers working with Asian international college students studying in the US. First, replication of the study with more salient incentive for full completion. While an incentive of a drawing for one of ten $25 Amazon gift cards was offered to participants, this did not seem a sufficient enough incentive for participants to persist through to the end of the research. Class credit or extra credit, as is often offered for students taking undergraduate psychological classes, may be a more enticing incentive for students. Second, examining the appropriateness of the expressive writing protocol instructions for Asian international college students may also be of benefit.

Second, the instructions may appear too intrusive into the private lives of students, in spite of the assertions of confidentiality mentioned in the informed consent. The length of the instructions may also be a deterrent for a modern student audience. Abbreviated instructions may yield better adherence and continuance with completing the journal entries. Third, clinicians should note that some Asian international college students, such as Indian international students, may report positive affect and feelings, perhaps in session or on intake forms, and this may not be fully indicative of the distress
the student is experiencing, as they may be culturally and dialectically entertaining both positive and negative emotions. A possible best practice would be to periodically check in on symptoms of depression with this population, although the student may not mention these symptoms.

Fourth, students who are newer to the US and not as acculturated may underreport their symptoms of distress due to stigma and cultural differences. Counselors should be aware that the student may be in more distress than they report or appear to be in session and to follow up with the student accordingly. Fifth, undergraduate and graduate students may report similar levels of distress but their sources of distress may be quite different. It would be beneficial for counselors to be familiar with the common stressors for Asian international undergraduate students in contrast to Asian international graduate students. In continuing research, it is recommended that researchers examine the potential interaction of independent variables not covered in this study, such as English proficiency, to see if there is a moderating or interaction effect on reports of positive affect or distress.

Conclusion

Chapter Five reviewed the findings of the study with discussion and recommendations for academics, counselors, and researchers working with Asian international college students. Determinants contributing to the reporting of positive affect, negative affect, and acculturative stress were explored and explained. Recommendations for replication of the study to reach more participants and create more robust results were stated, as were factors for counselors to be mindful of when assessing
and working with this student population. The expressive writing protocol was launched online for the first time with the Asian international college student population, and while there were too few participants for statistical pre- and post-test results, it appears that processing may have taken place with the experimental journal entries as seen with affective, cognitive, and social processing. It is suggested that recommendations be followed to make the expressive writing protocol more relatable to Asian international college students in order to help alleviate their levels of negative affect, depressive symptoms, and acculturative stress.
REFERENCES


APPENDICES
APPENDIX A

INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL
Wednesday, September 12, 2018

Tara Overzet
Counselling and Human Services
Penfield College of Mercer University
2930 Flowers Rd.
Atlanta, GA 30341

RE: An Examination of Affectivity, Depression, and Acculturative Stress in Asian International College Students using an Online Written Disclosure Protocol (M1808231)

Dear Overzet:

On behalf of Mercer University’s Institutional Review Board for Human Subjects Research, your application submitted on 29-Aug-2018 for the above referenced protocol was reviewed in accordance with Federal Regulations 21 CFR 56.110(B) and 45 CFR 46.1109 (for expedited review) and was approved under category(ies) 07 per 63 FR 60364.

Your application was approved for one year of study on 12-Sep-2018. The protocol expires on 11-Sep-2019. If the study continues beyond one year, it must be re-evaluated by the IRB Committee.

Item(s) Approved:
A new student application for quantitative experiment research design using questionnaire in experimental and control groups to examine effects on positive and negative affectivity, depression, and acculturative stress in Asian international students has not been previously done and may be of great benefit to this population.

NOTE: You MUST report to the committee when the protocol is initiated. Report to the Committee immediately any changes in the protocol or consent form and ALL accidents, injuries, and serious or unexpected adverse events that occur to your subjects as a result of this study.

We at the IRB and the Office of Research Compliance are dedicated to providing the best service to our research community. As one of our investigators, we value your feedback and ask that you please take a moment to complete our Satisfaction Survey and help us to improve the quality of our service.

It has been a pleasure working with you and we wish you much success with your project! If you need any further assistance, please feel free to contact our office.

Respectfully,

Aviva Chamblos-Richardson, Ph.D., CIP, CIM.
Director of Research Compliance
Member
Institutional Review Board

"Mercer University has adopted and agrees to conduct its clinical research studies in accordance with the International Conference on Harmonization’s (ICH) Guideline for Good Clinical Practice."

Mercer University IRB & Office of Research Compliance
Phone: 478-301-4101 | Email: DRC_Mercer@Mercer.edu | Fax: 478-301-2329
1501 Mercer University Drive, Macon, Georgia 31207-0001
APPENDIX B

PERMISSION EMAIL: POSITIVE AND NEGATIVE AFFECT SCHEDULE (PANAS)
Dr. Watson,

Thank you very much for your permission and for reaching out to the APA on my behalf! I will be sure to include the citation, and will let you know of my results.

Best,

Tara

Tara Overzat, MS, LPC, NCC
Doctoral Candidate, Counselor Education & Supervision, Mercer University
Assistant Director, Multicultural Student Affairs, University of North Georgia
(404) 345-9693
Tara.B.Overzat@live.mercer.edu

Dear Tara,

I appreciate your interest in the Positive and Negative Affect Schedule (PANAS), and I am pleased to grant you permission to use the PANAS in your dissertation research. Please note that to use the PANAS, you need both our permission and the permission of the American Psychological Association (APA), which is the official copyright holder of the instrument. Because I am copying this email to APA, however, you do not have to request permission separately from APA; this single e-mail constitutes official approval from both parties.

We make the PANAS available without charge for non-commercial research purposes. We do require that all printed versions of the PANAS include a full citation and copyright information. Thus, any printed copies should state:


Thanks again for your interest in the PANAS. Good luck with your dissertation.
Regards,

David Watson

David Watson. Ph.D.
Andrew J. McKenna Family Professor of Psychology
Co-Director, Center for Advanced Measurement of Personality & Psychopathology
University of Notre Dame
(574) 631-1403 (office)
(574) 631-7029 (CAMPP)

On Sun, Jun 17, 2018 at 5:40 PM, Tara B. Overzat <Tara_B_Overzat@live.mercer.edu> wrote:

Dear Drs. Watson, Clark, & Tellegen,

I am a doctoral student from Mercer University writing my dissertation titled *An Examination of Affectivity, Depression, and Acculturative Stress in Asian International College Students using an Online Written Disclosure Protocol*. I am researching how an online version of written emotional disclosure (in the style of James Pennebaker and colleagues) would affect self-reported psychological symptoms and mood in this population. This research is being conducted under the direction of my dissertation committee chaired by Dr. Karen Rowland, who can be reached by phone at 678-547-6049 or by email at Rowland_KD@mercer.edu.

I would greatly appreciate your permission to use the Positive and Negative Affect Schedule (PANAS) questionnaire in this research study. I would like to use PANAS under the following conditions:

- I will use the questionnaire only for my research study and I will not sell it or use it with any compensated activities.
- I will include the copyright statement on all copies of the instrument.
- I will send a copy of my completed research study to your attention upon completion of the study.

If these terms and conditions are acceptable to you, please confirm so by replying to me at Tara_B_Overzat@live.mercer.edu.

Thank you very much for your assistance with my dissertation research.

Sincerely,
Tara Overzat

Tara Overzat, MS, LPC, NCC
Doctoral Candidate, Counselor Education & Supervision, Mercer University
Assistant Director, Multicultural Student Affairs, University of North Georgia
(404) 345-9693
Tara.B.Overzat@live.mercer.edu
APPENDIX C

POSITIVE AND NEGATIVE AFFECT SCHEDULE
Worksheet 3.1  The Positive and Negative Affect Schedule (PANAS; Watson et al., 1988)

PANAS Questionnaire
This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. **Indicate to what extent you feel this way right now, that is, at the present moment OR indicate the extent you have felt this way over the past week** (circle the instructions you followed when taking this measure)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Slightly or Not at All</td>
<td>A Little</td>
<td>Moderately</td>
<td>Quite a Bit</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

1. Interested
2. Distressed
3. Excited
4. Upset
5. Strong
6. Guilty
7. Scared
8. Hostile
9. Enthusiastic
10. Proud
11. Irritable
12. Alert
13. Ashamed
14. Inspired
15. Nervous
16. Determined
17. Attentive
18. Jittery
19. Active
20. Afraid

**Scoring Instructions:**
Positive Affect Score: Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 – 50, with higher scores representing higher levels of positive affect. Mean Scores: Momentary = 29.7 ($SD = 7.9$); Weekly = 33.3 ($SD = 7.2$)

Negative Affect Score: Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 – 50, with lower scores representing lower levels of negative affect. Mean Score: Momentary = 14.8 ($SD = 5.4$); Weekly = 17.4 ($SD = 6.2$)

APPENDIX D

PERMISSION EMAIL: CENTER FOR EPIDEMIOLOGIC STUDIES DEPRESSION

SCALE - REVISED
From: Tara B. Overzat  
To: Carles Muntaner  
Subject: Re: Requesting Permission to use CESD-R for Dissertation Research  
Date: Thursday, June 22, 2017 7:58:43 PM

Thank you very much, Carles!

From: Carles Muntaner <carles.muntaner@utoronto.ca>  
Sent: Thursday, June 22, 2017 9:42:34 AM  
To: William Eaton; Tara B. Overzat  
Cc: Corey.Smith@gpchtb.org; michele@innovativepublichealth.org; allen@mdlogix.com; Karen Rowland  
Subject: RE: Requesting Permission to use CESD-R for Dissertation Research

Dear Tara

I also follow Bill’s decision.

Cordially

Carles

Carles Muntaner MD PhD MHS,  
Professor  
Dalla Lana School of Public Health, Bloomberg Faculty of Nursing, Dept. of Psychiatry and Center for Research in Inner City Health, St Mike’s Hospital, University of Toronto  
http://www.dlsph.utoronto.ca/faculty-profile/carles-muntaner

From: William Eaton [waton1@jhu.edu]  
Sent: June 21-17 6:54 PM  
To: Tara B. Overzat  
Cc: Corey.Smith@gpchtb.org; michele@innovativepublichealth.org; Carles Muntaner; allen@mdlogix.com; Karen Rowland  
Subject: Re: Requesting Permission to use CESD-R for Dissertation Research

Tara

You may use the CESD-R in whatever way you wish. Good luck with your research!

Bill

Sent from my iPhone  
William W. Eaton  
Professor  
Department of Mental Health  
Johns Hopkins Bloomberg School of Public Health  
624 North Broadway  
Baltimore, MD  21205
On Jun 21, 2017, at 1:20 PM, Tara B. Overzat <Tara.B.Overzat@live.mercer.edu> wrote:

Dear Drs. Eaton, Smith, Ybarra, Muntaner, & Tien,

I am a doctoral student from Mercer University writing my dissertation titled Does an Online Written Emotional Disclosure Protocol Affect Depression, Affectivity, and Acculturative Stress in Asian International College Students? I am researching how an online version of written emotional disclosure (in the style of James Pennebaker and colleagues) would affect self-reported psychological symptoms and mood in this population. This research is being conducted under the direction of my dissertation committee chaired by Dr. Karen Rowland, who can be reached at 678-547-6049 or Rowland_KD@mercer.edu.

I would greatly appreciate your permission to use the Center for Epidemiologic Studies Depression Scale – Revised (CESD-R) questionnaire in this research study. I would like to use CESD-R under the following conditions:

- I will use the questionnaire only for my research study and will not sell it or use it with any compensated activities.

- I will include the copyright statement on all copies of the instrument.

- I will send a copy of my completed research study to your attention upon completion of the study.

If these terms and conditions are acceptable to you, please confirm so by replying to me at Tara.B.Overzat@live.mercer.edu.

Thank you very much for your assistance with my dissertation research.

Sincerely,

Tara Overzat

Tara Overzat, MS, LPC, NCC
Doctoral Candidate, Counselor Education & Supervision, Mercer University
Assistant Director, Multicultural Student Affairs, University of North Georgia
(404) 345-9693
Tara.8.Overzat@live.mercer.edu
APPENDIX E

CENTER FOR EPIDEMIOLOGIC STUDIES DEPRESSION SCALE - REVISED

(CESD-R)
## Center for Epidemiologic Studies Depression Scale – Revised (CESD-R)

Below is a list of the ways you might have felt or behaved. Please check the boxes to tell me how often you have felt this way in the past week or so.

<table>
<thead>
<tr>
<th></th>
<th>Not at all or Less than 1 day</th>
<th>1-2 days</th>
<th>3-4 days</th>
<th>5-7 days</th>
<th>Nearly every day for 2 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>My appetite was poor.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I could not shake off the blues.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I had trouble keeping my mind on what I was doing.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt depressed.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My sleep was restless.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt sad.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I could not get going.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Nothing made me happy.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt like a bad person.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I lost interest in my usual activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I slept much more than usual.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt like I was moving too slowly.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt fidgety.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I wished I were dead.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I wanted to hurt myself.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I was tired all the time.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I did not like myself.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I lost a lot of weight without trying to.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I had a lot of trouble getting to sleep.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I could not focus on the important things.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

APPENDIX F

PERMISSION EMAIL: ACCULTURATIVE STRESS SCALE FOR INTERNATIONAL STUDENTS (ASSIS)
Tara B. Overzat

From: Tara B. Overzat
Sent: Wednesday, June 13, 2018 7:15 PM
To: Daya Sandhu
Subject: Re: Requesting Permission to use ASSIS for Dissertation Research

Thank you very much, Dr. Sandhu! I will let you know how it goes.

From: Daya Sandhu <sandhu@lindsey.edu>
Sent: Tuesday, June 12, 2018 10:59:53 PM
To: Tara B. Overzat
Subject: Re: Requesting Permission to use ASSIS for Dissertation Research

Dear Tara Overzat,
Thank you for your interest in my research and publications. You have my permission to use my "Acculturative Stress Scale for International Students" to "complete your dissertation research entitled, "Does an Online Written Emotional Disclosure Protocol Affect Depression, Affectivity, and Acculturative Stress in Asian International College Students?" To facilitate the process, I am attaching a copy of the ASSIS for your review and use. Should you have any questions, please feel free to contact me at Sandhu@lindsey.edu. Best of luck with your dissertation research!
With my best wishes,

Daya Singh Sandhu

Dr. Daya Singh Sandhu, Ed.D., NCC, NCCC, NCSC, LPCC
Director of Research and Professor
Doctoral Program in Counselor Education and Supervision
Chairperson: Institutional Review Board (IRB)
Office: Goodin Building 233
210 Lindsey Wilson Street
Lindsey Wilson College
Columbia, KY 42728
(270) 384-8583 or (502) 931-2158 (cell)
Sandhu@lindsey.edu or Dayasandhu13@hotmail.com

Fullbright Senior Research Scholar (2002 & 2010)
Fellow: American Counseling Association
Diplomate: American Mental Health Counselors Association
President: Association of Multicultural Counseling and Development
Hind Rattan: NRI Society and Govt.of India (2014)

On Tue, Jun 12, 2018 at 3:42 PM, Tara B. Overzat <Tara.B.Overzat@ive.mercer.edu> wrote:

| Tara B. Overzat (Tara.B.Overzat@ive.mercer.edu) added themselves to your Guest List | Remove them | Block them |

Good afternoon Dr. Sandhu,
I left you a message approximately an hour ago on your office phone regarding requesting permission to use the Acculturative Stress Scale for International Students (ASSIS) questionnaire in my research study, and stated that I would follow up with this email. My dissertation is currently titled "An Examination of Affectivity, Depression, and Acculturative Stress in Asian International College Students using an Online Written Disclosure Protocol." I am researching how an online version of written emotional disclosure (in the style of James Pennebaker and colleagues) would affect self-reported psychological symptoms and mood in this population. This research is being conducted under the direction of my dissertation committee chaired by Dr. Karen Rowland, who can be reached at 678-547-6049 or Rowland_KD@mercer.edu.

I would greatly appreciate your permission to use the Acculturative Stress Scale for International Students (ASSIS) questionnaire in this research study. I would like to use ASSIS under the following conditions:

- I will use the questionnaire only for my research study and will not sell it or use it with any compensated activities.
- I will include the copyright statement on all copies of the instrument.
- I will send a copy of my completed research study to your attention upon completion of the study.

If these terms and conditions are acceptable to you, please confirm so by replying to me at Tara.B.Overzat@live.mercer.edu.

Thank you very much for your assistance with my dissertation research.

Sincerely,

Tara Overzat

Tara Overzat, MS, LPC, NCC
Doctoral Candidate, Counselor Education & Supervision, Mercer University
Assistant Director, Multicultural Student Affairs, University of North Georgia
(404)845-9693
Tara.B.Overzat@live.mercer.edu

From: Tara B. Overzat
Sent: Wednesday, June 21, 2017 4:57 PM
To: SandhuD@lindsey.edu
Cc: Karen Rowland
Subject: Requesting Permission to use ASSIS for Dissertation Research

Dear Dr. Sandhu,

I am a doctoral student from Mercer University writing my dissertation titled Does an Online Written Emotional Disclosure Protocol Affect Depression, Affectivity, and Acculturative Stress in Asian International College Students? I am researching how an online version of written emotional disclosure (in the style of James Pennebaker and colleagues) would affect self-reported psychological symptoms and mood in this population. This research is being conducted under the direction of my dissertation committee chaired by Dr.
Karen Rowland, who can be reached at 678-547-6049 or Rowland_KD@merc.edu.

I would greatly appreciate your permission to use the Acculturative Stress Scale for International Students (ASSIS) questionnaire in this research study. I would like to use ASSIS under the following conditions:

- I will use the questionnaire only for my research study and will not sell it or use it with any compensated activities.
- I will include the copyright statement on all copies of the instrument.
- I will send a copy of my completed research study to your attention upon completion of the study.

If these terms and conditions are acceptable to you, please confirm so by replying to me at Tara.B.Overzat@live.mercer.edu.

Thank you very much for your assistance with my dissertation research.

Sincerely,

Tara Overzat

Tara Overzat, MS, LPC, NCC
Doctoral Candidate, Counselor Education & Supervision, Mercer University
Assistant Director, Multicultural Student Affairs, University of North Georgia
(404)345-9693
Tara.B.Overzat@live.mercer.edu
APPENDIX G

ACCULTURAL STRESS SCALE FOR INTERNATIONAL STUDENTS (ASSIS)
An Acculturative Stress Scale for International Students

Directions:

As foreign students have to make a number of personal, social, and environmental changes upon arrival in a strange land, this cultural-shock experience might cause them acculturative stress. This scale is designed to assess such acculturative stress you personally might have experienced. There are no right or wrong answers. However, for the data to be meaningful, you must answer each statement given below as honestly as possible.

For each of the following statements, please circle the number that BEST describes your response.

1= Strongly disagree, 2= disagree, 3= not sure, 4 = agree, 5 = strongly agree

Because of my different cultural background as a foreign student, I feel that:

1. Homesickness for my country bothers me. 1 2 3 4 5
2. I feel uncomfortable to adjust to new foods and/or to new eating habits 1 2 3 4 5
3. I am treated differently in social situations. 1 2 3 4 5
4. I feel rejected when people are sarcastic toward my cultural values. 1 2 3 4 5
5. I feel nervous to communicate in English. 1 2 3 4 5
6. I feel sad living in unfamiliar surroundings here. 1 2 3 4 5
7. I fear for my personal safety because of my different cultural background. 1 2 3 4 5
8. I feel intimidated to participate in social activities. 1 2 3 4 5
9. Others are biased toward me. 1 2 3 4 5
10. I feel guilty to leave my family and friends behind. 1 2 3 4 5
11. Many opportunities are denied to me. 1 2 3 4 5
12. I feel angry that my people are considered inferior here. 1 2 3 4 5
13. I feel overwhelmed that multiple pressures are placed 1 2 3 4 5
upon me after my migration to this society.
14. I feel that I receive unequal treatment. 1 2 3 4 5
15. People from some ethnic groups show hatred toward 1 2 3 4 5
me nonverbally.
16. It hurts when people don’t understand my cultural values. 1 2 3 4 5
17. I am denied what I deserve. 1 2 3 4 5
18. I have to frequently relocate for fear of others. 1 2 3 4 5
19. I feel low because of my cultural background. 1 2 3 4 5
20. I feel rejected when others don’t appreciate my cultural 1 2 3 4 5
values.
21. I miss the country and people of my national origin. 1 2 3 4 5
22. I feel uncomfortable to adjust to new cultural values. 1 2 3 4 5
23. I feel that my people are discriminated against. 1 2 3 4 5
24. People from some other ethnic groups show hatred 1 2 3 4 5
toward me through their actions.
25. I feel that my status in this society is low due to my 1 2 3 4 5
cultural background.
26. I am treated differently because of my race. 1 2 3 4 5
27. I feel insecure here. 1 2 3 4 5
28. I don't feel a sense of belonging (community) here. 1 2 3 4 5
29. I am treated differently because of my color. 1 2 3 4 5
30. I feel sad to consider my people’s problems.  
31. I generally keep a low profile due to fear from other ethnic groups.  
32. I feel some people don’t associate with me because of my ethnicity.  
33. People from some other ethnic groups show hatred toward me verbally.  
34. I feel guilty that I am living a different lifestyle here.  
35. I feel sad leaving my relatives behind.  
36. I worry about my future for not being able to decide whether to stay here or go back.
APPENDIX H

PERMISSION EMAIL: EXPRESSIVE WRITING INSTRUCTIONS
Tara B. Overzat

From: Tara B. Overzat
Sent: Thursday, June 22, 2017 8:00 PM
To: Karen Baikie
Subject: Re: Requesting Permission to use Expressive Writing Instructions for Dissertation Research

Thank you so much for the support, Karen! I will let you know how it goes.

From: Karen Baikie <karenbaikie@optusnet.com.au>
Sent: Thursday, June 22, 2017 5:30:47 PM
To: Kay Wilhelm
Cc: Tara B. Overzat; lgee5924@uni.sydney.edu.au; Karen Rowand
Subject: Re: Requesting Permission to use Expressive Writing Instructions for Dissertation Research

Hi Tara,

Yes of course, appreciate your request, and very happy for you to use our instructions. I'm also happy to sign anything if you need that.

And I'd love to hear how it goes too.

All the best,
Karen.

Karen Baikie, PhD
Clinical Psychologist
Certified Hakomi Therapist and Trainer
www.karenbaikie.com.au

On 22 Jun 2017, at 3:53 pm, Kay Wilhelm <Kay.Wilhelm@svha.org.au> wrote:

Dear Tara,

If you want to use our instructions, I have no problem with that and happy to sign anything, or have Karen Baikie sign it.

I will see if she responds to this.

Good luck with your thesis. It sounds interesting. I would like to know how you are accommodating the cultural differences. Cheers K

Prof Kay Wilheim AM, MBBS, MD, FRANZCP
Conjoint Professor, School of Psychiatry, University of NSW
Professor and Head of Discipline, University of Notre Dame, Sydney
Consultant Psychiatrist, Consultation Liaison Psychiatry and
Research Director, Urban Health and Wellbeing Research Centre
St Vincent's Hospital, Darlinghurst, NSW 2010

Level 4, O'Brien Centre, ST Vincent's Hospital
From: Tara B. Overzat [mailto:Tara.B.Overzat@live.mercer.edu]
Sent: Thursday, 22 June 2017 11:08 AM
To: karenbaikie@optusnet.com.au; lgee5924@uni.sydney.edu.au; Kay Wilhelm
Cc: Karen Rowland
Subject: Requesting Permission to use Expressive Writing Instructions for Dissertation Research

Dear Dr. Baikie, Ms. Geerigs, & Dr. Wilhelm,

I am a doctoral student from Mercer University writing my dissertation titled *Does an Online Written Emotional Disclosure Protocol Affect Depression, Affectivity, and Acculturative Stress in Asian International College Students?* I am researching how an online version of written emotional disclosure (in the style of James Pennebaker and colleagues) would affect self-reported psychological symptoms and mood in this population. This research is being conducted under the direction of my dissertation committee chaired by Dr. Karen Rowland, who can be reached at 678-547-6049 or Rowland_KD@mercer.edu.

I would greatly appreciate your permission to use the expressive writing instructions as printed in your 2012 article *Expressive writing and positive writing for participants with mood disorders: An online randomized controlled trial* in this research study. I would like to use the instructions under the following conditions:

- I will use the instructions only for my research study and will not sell them or use them with any compensated activities.

- I will include the copyright statement on all copies of the instructions.

- I will send a copy of my completed research study to your attention upon completion of the study.

If these terms and conditions are acceptable to you, please confirm so by replying to me at Tara.B.Overzat@live.mercer.edu.

Thank you very much for your assistance with my dissertation research.

Sincerely,

Tara Overzat

Tara Overzat, MS, LPC, NCC
Doctoral Candidate, Counselor Education & Supervision, Mercer University
Assistant Director, Multicultural Student Affairs, University of North Georgia
(404)345-9693
Tara.B.Overzat@live.mercer.edu
This email and any attachments to it (the "Email") is confidential and is for the use only of the intended recipient, and may not be duplicated or used by any other party without the express consent of the sender. If you are not the intended recipient of the Email, please notify the sender immediately by return email, delete the Email, and do not copy, print, retransmit, store or act in reliance on the Email. St Vincent's Health Australia ("SVHA") does not guarantee that the Email is free from errors, viruses or interference. Emails to and from SVHA or its related entities may be scanned and filtered in locations outside Australia.
APPENDIX I

PERMISSION EMAIL: WRITTEN EMOTIONAL DISCLOSURE PROTOCOL
Tara B. Overzat

From: Tara B. Overzat
Sent: Tuesday, June 19, 2018 4:49 PM
To: James W Pennebaker
Subject: Re: Requesting Permission to use Writing Paradigm for Dissertation Research

Thank you so much for your response, Dr. Pennebaker! I will send you my results.

Best,

Tara

Tara Overzat, MS, LPC, NCC
Doctoral Candidate, Counselor Education & Supervision, Mercer University
Assistant Director, Multicultural Student Affairs, University of North Georgia
(404) 345-9693
Tara.B.Overzat@live.mercer.edu

From: James W Pennebaker <pennebaker@utexas.edu>
Sent: Sunday, June 17, 2018 9:21:23 PM
To: Tara B. Overzat
Subject: Re: Requesting Permission to use Writing Paradigm for Dissertation Research

Tara--
I received your phone message. You certainly have my permission to use my expressive writing protocol and to change it as you see fit. You actually don’t need my permission since this is published research. Feel free to use any of my questionnaires in any way you would like. Change them, rewrite them, or drop questions as you see fit.

Good luck on your research. I look forward to hearing what you find out.

Jamie Pennebaker

On Sun, Jun 17, 2018 at 7:43 PM, Tara B. Overzat <Tara.B.Overzat@live.mercer.edu> wrote:
Dear Dr. Pennebaker,

Thank you for your body of work on the physical and emotional healing effects of writing. It has greatly inspired me. I am a doctoral student from Mercer University writing my dissertation titled An Examination of Affectivity, Depression, and Acculturative Stress in Asian International College Students using an Online Written Disclosure Protocol. I am researching how an online version of your written emotional disclosure paradigm would affect self-reported psychological symptoms and mood in this population. This research is being conducted under the direction of my dissertation committee chaired by Dr. Karen Rowland, who can be reached at 678-547-6049 or Rowland_KO@mercer.edu.

I would greatly appreciate your permission to use an adaptation of your written emotional disclosure protocol in this research study. I would like to use it under the following conditions:
I will use the protocol only for my research study and will not sell it or use it with any compensated activities.

I will include the copyright statement on all copies of the instrument.

I will send a copy of my completed research study to your attention upon completion of the study.

If these terms and conditions are acceptable to you, please confirm so by replying to me at Tara.B.Overzat@live.mercer.edu.

Thank you very much for your assistance with my dissertation research.

Sincerely,

Tara Overzat

Tara Overzat, MS, LPC, NCC
Doctoral Candidate, Counselor Education & Supervision, Mercer University
Assistant Director, Multicultural Student Affairs, University of North Georgia
(404) 345-9693
Tara.B.Overzat@live.mercer.edu

From: Tara B. Overzat
Sent: Wednesday, June 21, 2017 8:33:41 PM
To: pennebaker@mail.utexas.edu
Cc: Karen Rowland
Subject: Requesting Permission to use Writing Paradigm for Dissertation Research

Dear Dr. Pennebaker,

Thank you for your body of work on the physical and emotional healing effects of writing. It has greatly inspired me. I am a doctoral student from Mercer University writing my dissertation titled Does an Online Written Emotional Disclosure Protocol Affect Depression, Affectivity, and Acculturative Stress in Asian International College Students? I am researching how an online version of your written emotional disclosure paradigm would affect self-reported psychological symptoms and mood in this population. This research is being conducted under the direction of my dissertation committee chaired by Dr. Karen Rowland, who can be reached at 678-547-6049 or Rowland_KD@mercer.edu.

I would truly appreciate your permission to use an adaptation of your written emotional disclosure protocol in this research study. I would like to use it under the following conditions:

- I will use the protocol only for my research study and will not sell it or use it with any compensated activities.
- I will include the copyright statement on all copies of the instrument.
I will send a copy of my completed research study to your attention upon completion of the study.

If these terms and conditions are acceptable to you, please confirm so by replying to me at Tara.B.Overzat@live.mercer.edu.

Thank you very much for your assistance with my dissertation research.

Sincerely,

Tara Overzat

Tara Overzat, MS, LPC, NCC
Doctoral Candidate, Counselor Education & Supervision, Mercer University
Assistant Director, Multicultural Student Affairs, University of North Georgia
(404) 345-9693
Tara.B.Overzat@live.mercer.edu

---

Regents Centennial Professor of Psychology and Executive Director of Project 2021

Psychology website  512-232-2781
You Are Invited to Participate in a Research Study

My name is Tara Overzat, and I am a doctoral candidate in Counselor Education & Supervision at Mercer University.

I am looking to learn more about how online journal writing can affect Asian international college students’ personal and psychological wellbeing.

You are invited to be in the study IF you are:

- Over age 18
- Currently studying in the United States at a college or university
- In possession of a F-1 or J-1 Visa
- Enrolled in an academic program that is not English as a Second Language (ESL), an English Learning Institute, or another English language learning program
- From an Asian country or report an Asian country as your “home country”

As part of this research, you will:

- Need access to the internet
- Answer questions on a survey, then take some time over the next few days to do some journal writing, and then will upload the journals and answer some more survey questions. The survey questions should take approximately 15–25 minutes to answer, and the journal writing should take approximately 20 minutes for each journal entry.

You can participate in the research by clicking this link:

https://merceruniversity.col.qualtrics.com/jfe/form/SV_es8iIfAwA1THAxL

Upon completion of the study, you may enter a drawing for one of ten $25 Amazon gift cards.

Your participation in the study is completely voluntary, and you can decide to leave the study at any time.

If you have any questions about this study, please contact the Principal Investigator, Tara Overzat, MS, LPC, NCC, at Tara.B.Overzat@live.mercer.edu or the Faculty Advisor, Karen D. Rowland, PhD, at Rowland_KD@mercer.edu.

Mercer University’s Institutional Review Board (IRB) reviewed study #H1808211 and approved it on 12-Sep-2018. If you have questions about your rights or are dissatisfied at any time with any part of this study, you can contact, anonymously if you wish, the Institutional Review Board by phone at (478) 301-4101 or email at IRB_Research@Mercer.Edu.

Thank you,

Tara Overzat, MS, LPC, NCC
Doctoral Candidate, Counselor Education & Supervision, Mercer University
(404) 345-9693
APPENDIX K

INFORMED CONSENT
Informed Consent

Researcher: Tara Overzat, MS, LPC, NCC, Mercer University

Faculty Sponsor: Karen D. Rowland, PhD, Mercer University

Description of research: College is a time of emotional upheaval and adjustment. Asian international college students may benefit from an online writing protocol to help with mental health and emotional distress.

Procedure: To be eligible to participate, you must be over age 18 and currently studying in the United States at an institute of higher education on a temporary academic visa for a degree-bearing program. Research participants will need to self-report an Asian country as their “home country” to be eligible for the study. If you participate in this study, you will be invited to fill out questionnaires online and write journal entries. The surveys will take approximately 15 – 25 minutes for the first part of the research. The 3 journal entries will take approximately 20 minutes each. The last part of the research questionnaires will take 15 – 25 minutes.

Voluntary Participation: Your participation in this research is completely voluntary. You may choose to leave the study at any time, such as by closing your browser window or emailing this researcher that you no longer wish to participate.

Risks or Discomforts: There is minimal risk associated with participating in this study. You may feel a slight increase in negative feelings when writing the journal entries, but this should be temporary. The discomfort you may experience should not be beyond what you may feel in ordinary daily life.

Benefits: Potential benefits of participation include assisting in providing data that will help us better comprehend how journaling can help college students. While you may not receive direct benefit from this research, the research results may help others.

Incentive: Upon completion of the study, you may enter a drawing for one of ten $25 Amazon gift cards.

Confidentiality: Your participation in the study will be confidential, except in the case of imminent threat to the health and safety of yourself or to somebody else. Each participant will be assigned a participant number to keep track of their questionnaires and journal entries. Identifying information will only be known to the researcher. Data will be kept on a password-protected computer.

Contact Information: If you have any questions about this study, please contact the Principal Investigator, Tara Overzat, MS, LPC, NCC, at Tara.B.Overzat@live.mercer.edu or the Faculty Advisor, Karen D. Rowland, PhD, at Rowland_KD@mercer.edu.

Mercer University’s Institutional Review Board (IRB) reviewed study #H1808211 and approved it on 12 Sep 2018. If you have questions about your rights or are dissatisfied at any time with any part of this study, you can contact, anonymously if you wish, the Institutional Review Board by phone at (478) 301-4101 or email at ORC_Research@Mercer.Edu.

*I have read the above informed consent regarding this study. I understand that by checking that “I agree” and pressing “Continue” that I hereby consent to participate in this study.

☐ I agree to the informed Consent and wish to participate in this study.

☐ I do not agree to the informed Consent, and do not wish to participate in this study.
Q2 Age:
________________________________________________________________

Q3 Gender:
  o Male
  o Female

Q4 Name of college or university you are currently attending:
________________________________________________________________

Q5 Are you currently in an English language learning program (e.g., English as a Second Language (ESL) or an English Learning Institute)?
  o Yes
  o No

Q6 Do you currently hold a F-1 or J-1 visa?
  o Yes
  o No

Q7 Country of origin:
  o Afghanistan
  o Bangladesh
  o Bhutan
  o British Indian Ocean Territory
  o Brunei
  o Burma
  o Cambodia
  o China
  o Hong Kong
  o India
  o Indonesia
  o Japan
  o Laos
  o Macau
  o Malaysia
  o Maldives
  o Mongolia
  o Nepal
  o Pakistan
  o Paracel Islands
  o Philippines
  o Singapore
Q8 School classification:
- Freshman (1)
- Sophomore (2)
- Junior (3)
- Senior (4)
- Graduate Student (5)
- Graduate Medical Education (6)
- Other (7)

Q9

<table>
<thead>
<tr>
<th></th>
<th>Years</th>
<th>Months</th>
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<tr>
<td>How long have you studied in the United States?</td>
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</table>

Q10 Email address (For encrypted emails with further instructions. Your email will remain confidential and will not be given out to third parties):

__________________________________________________________________________