Parental Pressure for Academic Success in India

by

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ABSTRACT

Academic achievement among Asians has been widely recognized in the literature, but the costs of this success may be tied to significant mental health consequences. Three samples of undergraduate students in India were recruited from cities such as Chennai, Kerala, and Delhi totaling 608 (303 male, 301 females). Both online and in class recruitment occurred.

There were three main purposes of this study: 1) to construct a quantitative measure of parental pressure, 2) to evaluate whether self-esteem was a potential buffer of the negative impacts of parental pressure and academic stress, and 3) to understand better the factors impacting suicidality among adolescents in India by testing a path model of possible predictors suggested by the literature. Prevalence data of suicidal ideation and attempt history were also collected. Reporting on their experience over the past six months, 14.5% (n = 82) of the participants endorsed suicidal ideation and 12.3% (n = 69) of the participants admitted to having deliberately attempted to hurt or kill themselves.

Five constructs were explored in this study: parental pressure, academic stress, depression, suicidality, and self-esteem. The Parental Pressure for Success Scale, designed for this study, was used to measure parental pressure. The Educational Stress Scale-Adolescents was used to measure academic stress. The Center for Epidemiological Studies-Depression scale was used to measure depressive symptomology. Two items from the Youth Self-Report Checklist were used as a measure of suicidality in the past six months. The Rosenberg Self-esteem Scale was used to measure global self-esteem. Preliminary support for the reliability and validity of the Parental Pressure for Success Scale was found. While self-esteem was not a significant moderator in this study, it was a

predictor of both stress and depression. Results of the path analysis indicated that parental pressure predicted academic stress, stress predicted depression, and depression predicted suicidality. Parental pressure indirectly predicted suicidality through academic stress and depression. Results were discussed in the context of cultural influences on study findings such as the central role of parents in the family unit, the impact of cultural valuing of education, collectivistic society, and the Hindu concept of *dharma*, or duty.

DEDICATION

This dissertation is lovingly dedicated to mother, Mrs. Girija Sitalakshmi Sharma and my father, Dr. Arun Sharma. Amma, thank you for being my mentor, friend, guide, and role model for life. You are my strength and my inspiration! Appa, thank you for always showing me the right path through your words and deeds. The sweet blessing you shared fills my heart: "Angaad angaad hrudayaat adhi jaayate . . . so goes the beautiful Sanskrit verse sending our blessings to you, the extension of ourselves. Our heart goes out to bless you success in your education and all noble ventures of your life for the good of this world and all beings here." I could not have made it this far without the love, care, and sacrifices you both made in your lives to help me achieve this success! I would also like to convey love to my beloved son Krishna and my ever-supportive husband Rajesh who stood by me every step of the way.

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CHAPTER 1

THE PROBLEM IN PERSPECTIVE

Stress has been defined as perceiving oneself as unable to meet the demands or expectations of the environment (Lazarus & Folkman, 1984). Although one can seemingly *choose* which demands are most essential, within Asian society, meeting the expectations of significant others is a critical aspect of fulfilling one's duty to one's family, maintaining family honor, and showing respect (Markus & Kitayama, 1991). Likewise, *not* fulfilling family expectations can be a sign of shame, dishonor, and loss of respect not only for the individual but also for the family and the community as a whole (Mohan, 1975). Given the central role of academics in the lives of Asian youth, school-related stress, also known as academic stress, has often been cited as the main cause of adolescent distress (i.e., Rao, 2009). The present study explored how perceptions of parental pressure affect academic stress, depression, and suicidality and whether self-esteem served as a buffer against the negative effects of perceived parental pressure among three samples of undergraduates in India.

Purpose

There were three main purposes of this study. The first goal was to construct a quantitative instrument to measure overt and covert forms of parental pressure for academic and professional success within the context of a South Asian cultural lens. The second goal was to examine the role of self-esteem as a potential buffer against the negative impacts of pressure and stress, respectively. Finally, this study was designed to test a model of the impact of parental pressure, stress, and depression on suicidality.

Defining the Cultural Group Explored

The concepts explored in this study were derived from the literature relating to Asians and Asian Americans as a whole and was broadly conceptualized within the framework of Asian culture. This dissertation, however, focused on the cultural sub-group of South Asians, and specifically Indians, as opposed to Asians at large. Although the term South Asian still includes a broad, heterogeneous group of people, it is a more representative sub-group than Asians as a whole. South Asia pertains to the southern part of the continent of Asia and includes the countries India, Bangladesh, Bhutan, Nepal, Pakistan, Maldives, and Sri Lanka (United Nations Statistics Division, 2014). These countries share similarities of family structure, language roots, food, clothing, and customs.

India as a nation is also a very diverse country with multiple languages, dialects, religions, and sub-cultures present. While many potential differences exist between participants of such a diverse country, researchers must strike a balance between reducing unnecessary variance and including a representative sample of participants to be able to make generalizations. There are indeed unifying characteristics among Asian cultures. High valuing of education, respect for elders, collectivism, hierarchical family structure, and family honor are some of the values that bind Asian cultural groups together. Unique factors between groups may include religion, caste, language, socio-political factors, film and media, and cultural norms and mores. In an attempt to better understand the factors impacting parental pressure for success, academic stress, depression, and suicidality for adolescents in India, a group less studied, this paper outlined both the broad aspects of Asian culture that impact these variables as well as culture-specific indicators unique to India.

References to "Asians," "Asian culture," or "Asian Americans" in this paper signified the broad category of Asians at large while studies conducted in India or neighboring countries within South Asia were identified by the country where the study took place. Understanding the research conducted among Asians at large helped identify potential relationships between variables that may be relevant to Indian adolescents, especially when considering research pertaining to broadly Asian values, as discussed above. Given the relative dearth of research specifically pertaining to South Asians, this literature review included studies that pertain to Asians in general and, when available, those that focus specifically on adolescents in India or South Asian countries.

Literature Review

Parental Pressure

The concept of duty and responsibility to one's parents is a particularly salient value in Asian culture. Asian parents take deep pride in the success of their children and are often willing to make significant time-related and economic sacrifices to encourage their children's academic endeavors (Fuligni & Pederson, 2002). As a result, however, Asian children tend to internalize a sense of responsibility to their parents and feel driven to meet their parents' high expectations (Chow & Chu, 2007). This may cause Asian youth to feel pressure, both directly and indirectly, from their parents to achieve academic success.

Parental Pressure in Asian Culture. Parental pressure for academics is a concept widely recognized in Asian culture. In a qualitative investigation of academic achievement among Chinese immigrants in Britain, Archer and Francis (2006) interviewed 80 British Chinese adolescents between the ages of 14 and 16, 30 Chinese

immigrant parents living in Britain, and 30 British teachers. Adolescents consistently described their family as their major source of inspiration, motivation, and support. Both parents and adolescents discussed the role of social competition as a form of social capital among Chinese families to motivate youth to achieve high standards. Achievement was described in collective terms, such as not wanting to disappoint one's family and wanting to bring honor to the family. Parents displayed strong commitment to their children's education by providing them with extra paid tutoring and expressing willingness to provide support in whatever ways they can, regardless of social class. Many of the parents expressed a desire to help their children achieve what they could not achieve due to limited economic and practical resources they had experienced in their lives. The adolescents expressed awareness about their parents' aspirations for them and a desire to meet their family's expectations. However, they struggled with the idea that "'doing your best'" was not good enough in Asian culture, and it was only by striving to "'[be] the best'" that they could align with their parents' values (p. 41). While the success of relatives was often held up as a standard for at least how much one should strive to achieve, only traditional career choices that had a known track record for providing successful results were encouraged on the basis of what others within the community had accomplished.

Many of the findings discussed in Archer and Francis's (2006) study explain the foundation of parental valuing of education and the process by which adolescents begin internalizing messages from their parents. While the benefits of the "be the best" philosophy creates a culture where one always has room for improvement, upward mobility, and self-growth, with it may come a "psychic cost" of "'never feeling good

enough'" and perpetual self-doubt in spite of high achievement (p. 42). The collective value that the culture places on educational success intensifies the drive to succeed for the individual. The family plays a pivotal role in pushing, or pressuring, the child to succeed but often does so in a way that also bolsters and supports their child's progress toward academic and professional success. Parental support, however, also becomes intertwined with the underlying pressure to succeed, because it often increases feelings of indebtedness to one's parents for their support and sacrifice.

Gloria and Ho's (2003) study of 160 East Asian American college students further explained the complex impact of Asian parental involvement in academics. They found that although participants perceived 88% of their mothers and 81% of their fathers as providing strong support for getting a college education, students reported that they felt more supported overall by their friends than by family. Gloria and Ho explained that adolescents may simultaneously perceive both strong familial support and high pressure to achieve and that the consequences of academic failure may result in not only shame, guilt, and feelings of inferiority about not being able to meet family expectations but also loss of support from the family and community.

The family is at the center of Asian adolescent lives and, within the hierarchical family structure, each individual in the family unit knows his or her unique role and function. The primary responsibility of Asian adolescents is to focus on school and achieve academic success to bring honor to the family. In Asian culture, this role is defined as early as primary school. Schneider and Lee (1990) conducted in-depth qualitative interviews with 73 East Asian American and European American secondary school children, 16 teachers and administrators, and 62 East Asian immigrant and

European American parents. Nearly 60% of the East Asian parents claimed to have begun teaching their children reading, writing, and math prior to kindergarten. This academic focus continued into elementary school and beyond for East Asian immigrant parents, as over 80% reported having provided additional assignments at home to supplement their children's education and also paid for their children to attend additional recreational classes. The East Asian American children out-performed the European American children academically and had higher expectations for academic success from parents, teachers, and peers as well as from themselves. Schneider and Lee noted, "Parent expectations are extremely powerful and are transmitted through a cultural context in which education is highly valued because it leads to self-improvement and increased self-esteem" (p. 374). They further explained that academic success is influenced by not only high expectations but also by Asian values that are taught at home and encouraged at school. East Asian American children expressed frustration at their parents' constant push for better performance but acknowledged the importance of their academic success in bringing happiness, pride, and honor to the family.

A study of 2,142 secondary school students in Hong Kong and the Mainland of China similarly found that over-expectations from families and pressure to succeed led to adolescent distress, regardless of perceptions of familial support (Ngai & Cheung, 2000). Academic over-expectation was the strongest and most frequently reported cause of stress for the adolescents in the study, even above more direct confrontations such as quarrels in the family.

Investigating the role of family obligation among different ethnic groups in the United States (U.S.) including European Americans, as well as a group of Latin

Americans and Asians from countries such as the Philippines, China, and Taiwan who were mostly immigrants, Fuligni (2007) conducted a 14-year longitudinal study of over 600 students and in-depth interviews with 35 participants during the final stages of the study. He found that the Asian and Latin American students consistently reported "a stronger sense of obligation to support, assist, and respect the authority of the family" than did European American students, with increases in these feelings between the ages of 19 and 21 and among foreign-born students (p. 97). Fuligni explained the tendency among these ethnic groups to feel indebted to their parents for the sacrifices they had made and viewed academic success as a form of repayment.

Filial piety, one's sense of duty to one's family, is an important Confucian value that has been studied in relation to academic motivation. For example, Chow and Chu (2007) examined the role of filial piety and parental involvement on academic achievement among nearly 300 middle school students in Hong Kong. Reviewing the literature, Chow and Chu discussed the role of filial piety on parenting styles and intergenerational relations, such as the hierarchy of elders and honoring of ancestors. They explained that "authoritarian moralism" is a guiding feature of filial piety, emphasizing respect for authority figures such as parents and teachers, and values of obedience, self-control, right conduct, and the needs of others over one's own (p. 95). In their study, Chow and Chu found that parental valuing of education and filial piety, particularly the value of "self-sacrificing obedience," were positively related to academic achievement motivation. High parental achievement expectations coupled with little feedback from the parents, however, were related to academic amotivation or lack of motivation. Their findings emphasized the importance of parental values, expectations,

and feedback in encouraging Asian youth to succeed academically due to the strong values of familial duty in Asian culture.

In another study of academic motivation and the role of self- and other-expectations, Chen and Stevenson (1995) conducted a large-scale cross-cultural study of 11th graders in the U.S. and in Asia. Participants were 304 Asian Americans, 1,958 European Americans, 1,475 students in Taiwan, and 1,120 students in Japan. Academic success was related to intrinsic motivation, such as working hard to meet one's own high standards or for the sake of knowledge, versus extrinsically driven goals, such as to get a better job or as a means of getting into college. Asian students tended to endorse effort as the strongest predictor of academic performance while the two groups of students in the U.S. tended to believe that the quality of the teacher was the best predictor. Compared to Asian Americans and European Americans, the Taiwanese and Japanese students consistently reported the highest standards for themselves and from their parents and peers, as well as the most investment in education. The Taiwanese and Japanese students also scored highest on math achievement. A large percentage of Taiwanese (35%) and Japanese (29%) students endorsed the view that their parents' expectations for them were too high. Chen and Stevenson (1995) described the strong influence that the Asian Confucian belief in hard work and effort as the route to success has on students in Asia by emphasizing personal responsibility.

In spite of these pressures, higher standards for Asian youth did not correlate with psychological maladjustment in their study (Chen & Stevenson, 1995). It is important to note, however, that Chen and Stevenson (1995) devised their own questionnaire for the study and did not employ validated instruments to measure the impact of these variables

on psychological maladjustment and distress. The current study conducted a pilot study to ensure that the parental pressure to succeed instrument designed for this study displayed adequate reliability. Additionally, the study employed widely accepted and validated instruments to examine the role that parental expectations and pressures played on psychological health.

Parental Pressure in Indian Culture. Indian online news media are filled with stories of "academic pressurization" by parents. These and other articles speculate about the risk of pushing children "over the edge" from excessive pressure, which has been hypothesized to be a major cause of adolescent suicides in India (i.e., Bertolote, Fleischmann, Leo, & Wasserman, 2004). Indian educational culture has been recognized as "fiercely competitive" due to the density of India's population set against limited availability of resources including jobs, seats at prestigious colleges, and opportunities to work abroad.

One Indian news article discussed the collective experience of academic stress in Indian families, including both students and their parents (Boruah, 2014). The article headline, published in The Times of India, read "Exam season puts parents in city in stress mode." Boruah (2014) discussed her interview with a local psychologist who was consultant to 28 cases of parents who had experiences such as a "nervous breakdown," "high blood pressure," sleep deprivation, anxiety, and/or depression due to their children's exams. One case described parents of a 10th grader who had been "spending sleepless nights for the past one month, keeping their daughter company as she studies through the night. Their lack of sleep, though has left them anxious and depressed, and with high blood pressure." Stress levels were noted to be particularly high around March

prior to college entrance exams. Other parents were described as having taken sabbaticals for up to six months to help their children prepare for the exams. The psychologist who had been interviewed in the article explained, "It is a prestige issue for parents, as they too have peer and family pressure burdening them." The extent of collectivism within Indian society was highlighted in the article when counselors from toll-free crisis phone lines in India reported that the total number of calls they receive has recently doubled and that parents and even grandparents are frequenters of this service.

Empirical research studies about the impact of parental pressure in India are scant. Research in this area generally focuses on pressure for academic achievement or professional success. Academic subjects are valued in relation to their prestige rather than their relative fit with the individual's personal interests or inclinations (Gupta & Tracey, 2005). Science and mathematics are particularly venerated, while subjects in the humanities are considered "less than" (Roysircar, Carey, & Koroma, 2010).

A study conducted in the neighboring country of Pakistan, examined the effect of parental and peer pressure on academic achievement among a sample of 156 graduate level students (Akhtar & Aziz, 2011). Akhtar and Aziz (2011) distributed "opinionnaires" to examine students' perceptions of pressure from their parents and peers. No information about specific items in the survey was provided. Parental pressure, however, was conceptualized as expectations from parents to abide by certain values and norms. The placing of these expectations itself was described as pressure, but they operationalized pressure as having a more neutral valence and not being either positive or negative. They further describe past research that categorizes parental pressure into two domains: pressure to perform and pressure to conform. Graduation examination scores

were used as the measure of academic achievement. Results of their study indicated that parental pressure and academic achievement were positively correlated. That is, the more parental pressure the student received the better scores they received on their exam.

Examining how Indians conceptualize their ideal selves as compared to their Western counterparts, Naidoo and Fielder (1962) surveyed 100 Indian and 100 American male graduate students in the U.S. No further information was provided in the study about citizenship, race, or ethnicity of the participants. While Indian students had higher standards for their "ideal self", they were less likely than American students to believe that they could meet these expectations. Although Naidoo and Fielder acknowledged that Indian men who study abroad were likely to be a "highly select group" (p. 124), the general trend of their finding, that Indians have extraordinarily high expectations for themselves, has been supported by later research (i.e., Mohan, 1975). Although their study only investigated self-expectations, it would be reasonable to surmise that these expectations had at least some origin in what they were taught growing up.

To understand better the qualitative nature of parental pressure and the severity with which it can influence Indian college students, Mohan (1975) interviewed 25 middle and upper class undergraduate students in an out-patient psychiatric clinic in India. All participants cited problems with academic distress, including feelings of being unable to meet their own academic expectations. While students' initial presenting concerns related to self-expectations, their struggles with meeting parental demands and their perceptions of parental pressure were revealed during the in-depth interviews. Themes included having a parent who had to work hard to progress up the socio-economic ladder, being pressured to surpass their parents' achievements, being prevented from socializing to

avoid interference with academics, and experiencing extreme guilt and fear of disappointing parents by not studying hard enough or passing all the exams. Perceiving their parents' push for educational success as pressure, which resulted in severe stress, was a theme present across the cases.

Mohan (1975) noted that Indian parents demonstrated their own commitment to their children's education in this study. He described cases of mothers who would during exam time provide special meals, make frequent visits to their children in the dormitories (known as hostels), create an environment at home conducive to studying, and pay for extra coaching classes to help their children be successful on exams. Mohan explained the importance of academic achievement in post-independence India as a source of social mobility for the individual, family, and the caste group, since formerly oppressed groups depended heavily on the successes of individuals within their group to obtain greater acceptance within society.

Of the few published empirical studies about parental pressure in India, many are dated or have limited information on validity and reliability of instruments used, dearth of information on the construct of parental pressure, and scant descriptions of methodology. In some cases, reliability information was provided, but no explanation was offered when instruments indicating low Cronbach's alpha reliabilities were used to draw conclusions about the findings.

Intersection of Culture and Religion in India. Sense of duty and responsibility to elders and to one's family is an essential component of Indian cultural and religious norms. While cultural practices in India can be unique from religion, studies have indicated that Indians are very spiritual and religion is intertwined with daily life (Rao,

2009). While all the world's five major religions, as well as many more, are represented in India, the two religions with the largest number of followers in India are Hinduism and Islam, respectively.

Value of Elders in Hinduism. Hinduism, the dominant religion in India, contains many traditions that convey respect to one's elders. A common Hindu saying in Sanksrit is "Maatru devo bhava; pitru devo bhava; acharya devo bhava." This means that one's mother, father, and teacher are representations of God and that they should be treated as such. A manifestation of this is the common tradition of paying obeisance to elders by touching their feet or prostrating on the ground in front of them to seek their blessings. The very notion that elders possess the power to offer such blessings signifies the importance they are afforded among Hindus. Elders often pray for their children to gain *buddhi,* or knowledge. Elders also commonly offer blessings for their children as well as for other children to obtain academic success, such as by telling the individual that he or she should do well on an exam, study hard, or as stated in a common Tamil blessing, "*Nalla buddi oda iru*" – may you be knowledgeable.

Value of Education in Hinduism. Among Hindus, Goddess Saraswathi, the goddess of knowledge and wisdom, is honored annually during the celebration Vijaya Dashami (called different names in different parts of India). Local businesses close for the day in her honor. On the night before the celebration, school children are expected to place all of their school books on an altar at home and pray rather than study. On the morning of Vijaya Dashami, children read a page from every book and engage in academic pursuits since new endeavors begun on that day are believed to be blessed with auspicious beginnings. In Hindu culture, books are considered sacred and must not be

shown any disrespect. If, for example, one's feet were to touch the pages of any book, then one would be expected to seek forgiveness by touching the page and then touching one's forehead, mirroring the process of paying obeisance to elders or the sign of respect one shows when entering a temple. In Hinduism, knowledge and education are revered as a gift from the Goddess Saraswathi.

Value of Parents in Islam. In Islam, teachings are based on the holy scripture, the Qur'an, and by hadith, which are stories and teachings by Prophet Muhammad that have been preserved through oral and written traditions. Hadith by Prophet Muhammad frequently emphasized the importance of honoring one's parents and never committing the sin of disobeying them (i.e., Chapter 31, Verse 14). Common sayings underscore the importance of pleasing and obeying one's parents in order to please God. For example: "He who wishes to enter Paradise through its best door must please his parents;" or "God's pleasure is in the pleasure of the father, and God's displeasure is in the displeasure of the father." Similar important messages have been adopted within the culture, such as "It is a pity that some people may not attain Paradise, on account of not serving their old parents." The holy Prophet Muhammad of Islam was said to have made a number of statements, hadith, supporting education such as "The acquisition of knowledge is a duty incumbent one every Muslim, male and female," "Seek knowledge from the cradle to the grave," and "He who leaves home in search of knowledge, walks in the path of Allah [God]" (One-Islam.org, 2009).

Across religions in India, it is expected that children will care for their parents in old age. These religious teachings and practices represent core beliefs and values that help shape Indian culture. Based on this high value and the respect one's parents are

given in Indian culture, it follows that meeting parental expectations would be a basic part of one's role in the family.

Education is also valued in Indian society. It is encouraged as more than just a means to an end, is valued instead for its inherent goodness, and is linked closely with sacred duty. The existence of these common practices and beliefs speaks to the foundation of Indian cultural values or attitudes toward education. These are widespread practices with which the majority of Indians, even those from different religious groups, are familiar. Additionally, the passing down of such values through extended family, grandparents, and society at large re-emphasizes their importance for each new generation. As Laungani (1996) noted, certain core values bind a culture together in spite of differences.

Familial Duty. While education has a solid spiritual basis in India, it also has noteworthy practical components. As mentioned above, Indian children, especially the oldest sons, have the responsibility of caring for their parents when they become old. Sending a parent to a nursing home would be a sign of shame and deep disrespect to the family. Rather than being perceived as merely a burden, elders are valued in the Indian household for their wisdom, guidance, life experience, and the support they offer in maintaining family customs with the new generation of grandchildren. This system contains an inherently inter-dependent structure. Parents dedicate themselves to their children's education fully during their growing years and prioritize education over all else. Later, when the children grow up, there is an expectation that they will obey their parents' word and pursue a career that will provide the family with a secure future, rather than pursuing a career that they find interesting, as would be common in Western society.

Parental Pressure in Indian Cinema. In recent years, Indian films have begun to showcase the grave ills of parental pressures for academics on youth. *Taare Zameen Par* (2007), a popular Bollywood (or Bombay, India's version of Hollywood) film, advocates as its motto, "Every child is special." The story is of a young boy who does poorly in school and is frequently mistreated by his parents and teachers until an inspirational teacher accepts him and helps him find his inner artistic genius. The film identifies the lack of awareness of problems with learning in Indian society, since no one recognized that the child's problems with focus and style of instruction resembled features of Dyslexia. Similarly, *Dhoni* (2012) is a recent "Tollywood" (Tamil Nadu, India's version of Hollywood) film that depicts a young boy who is sent to the hospital from having been beaten brutally by his father for failing out of school. The father recognizes his mistake and later supports his son's dream of becoming a famous cricket athlete. The film highlights the problems of forcing children into particular subjects and careers without considering their interests and skills.

While popular media is known for presenting unique aspects of prevalent social problems, parental pressure for academics is often a more subtle phenomenon. Pressure is conveyed indirectly through a process of early socialization toward certain critical values such as respect for elders, the importance of education, responsibility to one's family, and *dharma,* or one's duty in life, which is most often linked to social responsibilities of career and family. These values become part of the individual from an early age and are later internalized as one's own.

Parental Pressure in the Present Study. While high parental valuing of education in Asian societies has been established in the literature (i.e., Chen &

Stevenson, 1995; Kao, 2001; Kung, 2002), no measure of parental pressure for academic achievement was found in the literature. Since parental pressure is conveyed in a variety of ways and is nuanced by Asian cultural and religious values, it is often difficult to identify how pressure may be imposed on and internalized by Asian adolescents. A measure of perceived parental pressure was created for this study. The instrument included items about beliefs, values, behaviors, and perceptions that have been identified in the literature as being both directly and indirectly linked to stress among Asians. Items addressed themes of needing to work harder, not doing well enough, fear of being a disappointment, needing to please one's parents, and needing to be successful and financially secure. The scale also included themes that have been identified in the literature as contributing to increased mental health such as support for leisure, sports, emotional support, or doing one's best, which was reverse coded.

Academic Stress

Academic stress is an issue of great significance among adolescents globally but particularly so among Asians. Examining the pressures and expectations from Asian families to "be the best" and Asian cultural norms that value education, hard work, persistence, and constant self-improvement, cross-cultural studies in the U.S. and the United Kingdom have found that Asians are more stressed than are their Western counterparts (Archer & Francis, 2006; Schneider & Lee, 1990). The dangers of severe and chronic stress have been documented in the U.S. literature by studies that indicated an inverse relationship between stress and mental and physical health (i.e., Sherman, Bunyan, Creswell, & Jaremka, 2009). A meta-analytic review of over 300 empirical

articles suggested that stress affects immune system functioning differently based on whether the stress is acute or chronic, with more severe health consequences for chronic stress resulting in increased vulnerability to disease and infection (Segerstrom & Miller, 2004).

Studies in Asia have also supported these findings. For example, Chung and Cheung (2008) found that academic stress was the most powerful risk factor for disturbed sleep among 1,629 12 to 19 year olds in Hong Kong. In a review of the literature on mental health in Hong Kong, Biggs (2002) reported statistics that between 10% and 15% of children in Hong Kong are "psychologically at risk" (p. 205) due to academic stress, lack of time outdoors and engagement in physical activity, and parental attitudes that favor respect over love. Biggs described the Hong Kong educational system as "harsh and exam-dominated" (p. 205) beginning as early as pre-school. He explained that pre-schools were originally created out of parental concern about their children getting admission into a good university. As a result, pre-school education became "drill-driven" as part of a chain reaction of exam preparations, although the government has made recent initiatives to create a more holistic educational philosophy (p. 206). A study of nearly 600 middle and high school students in China reported that academics were the most stressful aspect of their daily lives (Guiping & Huichang, 2001).

Studies of students in Thailand similarly reported significant problems with stress and health. Investigating stress, self-esteem, and health promoting behaviors among a random sample of 1,072 high school students in Thailand, Chandanasotthi (2003) found that health-promoting behaviors were positively related to self-esteem and negatively related to stress. The author described the intense competition and exam-related stress

experienced by Thai adolescents who must pass entrance exams to enter high school and college, as well as conflicts with parents about which field to enter.

Bartlet (1996) described the negative effects of academic pressure on youth in Pakistan including a "wave of psychosomatic problems" materializing during exam time, reports of four year olds carrying backpacks weighing over 12 pounds, and very sickly children being sent to school by their parents due to concern about exams, in spite of being instructed by administrators not to attend when ill. Bartlet also described early psychiatric reports from a developing country, where students were said to be experiencing psychotic symptoms from extreme sleep deprivation, constant studying, and intense anxiety about exams.

Similarly, studies in India have also supported the negative effect of academic stress on health. In a study of 183 undergraduate first-year medical students in India, Chandrashekara et al. (2007) investigated the effect of exam stress on the immune system by measuring tumor necrosis factor alpha (TNF-α) levels, a protein molecule that plays a key role in providing immunity against tumors and infections given that it is not over or under produced. Following a widely accepted academic examination stress model protocol to test their research hypotheses, they found that academic stress, combined with high anxiety and low coping skills, resulted in adverse immune system response. Chandrashekara et al. (2007) suggested that stress can create a "negative feedback loop between the immune system and neuroendocrine functions" (p. 68). In another study about stress and health, Chakravarty (2006) examined the incidence of chronic daily headaches among a clinic-based sample of 8 to 15 year olds in India. Chakravarty noted that chronic headaches are uncommon among children and adolescents and found that

they were largely due to academic stress that Indian children experience "year after year not particularly related to examination times" (p. 798).

Recently, Sun, Dunne, Hou, and Xu (2011) conducted a preliminary validation of the Educational Stress Scale for Adolescents (ESS-A), a new instrument to measure academic stress among Asians. Examining educational stress, depression, suicidal thoughts, and academic performance, the researchers recruited a cross-sectional sample of over 2,000 11 to 20 year old adolescents in grades 7 to 12 in China. Educational stress was positively correlated with depression and suicidal thoughts. Grades were negatively correlated with educational stress, suggesting that the more poorly a student is doing in school, the more stress he or she tended to experience. The ESS-A used in Sun et al.'s (2011) study focused purely on academic items. Other measures of academic stress, such as Kohn and Frazer's (1986) Academic Stress Scale and Schafer's (1987) College Stress Scale, have tended to include items on a variety issues related to academic stress such as drinking, sex, drugs, and peer pressure. The present study used the ESS-A to explore whether the relationship between perceptions of parental pressure and academic stress is moderated by self-esteem.

Exploring the history of stress research in India cross-culturally, Laungani (1996) presented four main areas of focus: Problem-centered research, psychometric testing, research on life events, and organizational stress. While he did not address research on academic stress specifically, it appears that research on academic stress has spanned all four domains. He explained that there is no equivalent for the word "stress" in Indian languages and claimed that since the construct itself is inherently foreign, a definition of stress needs to encompass the "social and philosophical pre-concerns of a given culture"

(p. 31). Laungani presented common problems associated with cross-cultural research, including methodological concerns and language barriers that limit generalizability of findings. He argued for the creation of research based on "core values" of the society being investigated and noted that it is these core values that bind a culture together in spite of internal diversity. Laungani (1996) attempted to make a comparison to stress indigenously by citing Rao's (1983) work on two Indian concepts that he deemed to be comparable to Western conceptions of stress. The terms he suggested, "klesha" and "dukha," translate to fate and depression, respectively, which fail to capture the entirety of what stress entails.

Studies of adolescents in India have supported the argument that academic stress is indeed a significant issue. For example, Husain, Kumar, and Hussain (2008) found that academic stress was inversely related to adjustment, with greater stress related to poorer overall adjustment in schools among a sample of 100 9th grade students in India, with half of the sample coming from public schools and the other half from government schools. Mehrotra and Kumari (2009) used a purposive sampling method to identify what participants deemed as stressful in their daily lives and devised a daily hassles instrument based on these reports. They found that academic stress was the most frequently reported hassle among their sample of 272 high school students between the ages of 15 and 20.

Similarly, Verma, Sharma, and Larson (2002) used an Experience Sampling Method to study time use and study habits of 100 urban, middle-class 8th graders. They found that Indian adolescents were spending one third of their waking hours on academics and that school work caused them to experience negative affective states. Verma et al. discussed the "trade-off" of those who spent more time on leisure having

less negative affect but more stress and lower academic achievement compared to those who spent more time studying experienced more negative emotional states and more frequency of internalizing. Verma et al. advocated for helping Indian youth find more balance between healthy leisure activities and schoolwork.

Exploring the factors of academic stress and adolescent distress both quantitatively and qualitatively, Rao (2009) surveyed 588 12th grade students in Chennai, India on issues of anxiety and depression and conducted in-depth semi-structured interviews with 24 students. She found that 15.6% of the sample scored in the clinical range for depression based on the Beck Depression Inventory and that compared to Western norms in previous studies, the Indian students experienced a high level of state and trait anxiety. The Indian students spent an average of 8 to 9 hours per week in additional study and instruction outside of school, called tuitions or coaching classes. Stress and depression were not related to anxiety as expected, and Rao (2009) speculated that different groups of students may experience distress differently. In Rao's study, however, stress was measured by a single item that asked students whether they believed the coming academic year would be stressful or not and this item lacks the psychometric sophistication to detect actual stress levels. The current study examined whether self-esteem moderates the relationship between academic stress and depression measured by psychometrically sound instruments.

A study by Sinha, Wilson, and Watson (2000), however, found that Indians reported less stress and more daily uplifts than did Canadians when 225 undergraduates from Northern India were compared to 380 undergraduates from Western Canada. This was unexpected given common issues of over-population, pollution, and less access to

amenities that Indians must face daily. Sinha et al. claimed that Indian cultural values of contentment, acceptance, and gratitude highlight the significance of small positive events which eventually may reduce perceptions of stress for Indians. Another explanation for this finding was that Indian students may have adapted to their difficult living conditions since they are a part of daily life. Indian students were, however, less satisfied with their social support than were Canadian students. Sinha et al. speculated that Indians may have had higher expectations for social support due to having been part of a collectivistic society and claimed that globalization may be contributing to a decrease in communication. Sinha et al. did not take into account the possibility that families were focused on encouraging academic pursuits rather than offering emotional support, as has been suggested in other studies among Asians (i.e., Archer & Francis, 2006; Mohan, 1975; Thompson & Bhugra, 2000).

The present study explored the role of perceived parental pressure on perceptions of academic stress to understand this relationship better. Another potential issue with Sinha et al.'s (2000) study could have been the use of the Western-based daily hassles measure that may not have been as relevant to the Indian students, thereby not accurately capturing the stress they experience. The current study utilized a measure of stress that has been tested and validated among samples of Asian adolescents.

Depression

Depression and its impact on individuals has long been an issue of scientific inquiry not only in the field of psychology but also in medicine and philosophy (Jackson, 1986). Reviewing the literature on depression among adolescents and children, Cicchetti and Toth (1998) claimed that depression has been operationalized in three main ways: as

depressive disorders, depressive syndromes, and depressed mood. As presented in the key reference guide for practicing clinicians, the Diagnostic and Statistical Manual of Mental Disorders (DSM IV), depressive disorders are considered under the category of mood disorders and contain two main sub-types. The first is Major Depressive Disorder, which can have single or recurrent episodes of depression and is characterized by a two week period of intense sadness or loss of interest in pleasure or most activities (anhedonia). The second is Dysthymia, which tends to be less severe in symptomology but more chronic in nature, needing to have lasted at least two years to meet cutoff criteria (DSM IV; American Psychiatric Association, 1994). The disorder is marked by changes in weight, sleep, appetite, concentration, sexual drive, and energy and can significantly impact the depressed individual and his or her family (Cicchetti & Toth, 1998). Depressive disorders tend to co-occur with other mental health disorders such as anxiety disorders, substance abuse disorders, and schizophrenia and have been strongly linked to suicide in the literature (Cicchetti & Toth, 1998). Depressed mood, which is characterized by one or more symptoms of a depressive disorder as suggested above, indicates dysphoric affect. It is most commonly assessed by self-report measures (Cicchetti & Toth, 1998). Depressed mood was a focus of empirical inquiry in the current study.

Global rates of depression among young adults indicate that by age 24, up to 25% will have experienced a depressive episode (Kessler & Walters, 1998). Studies in the U.S. have also indicated that, among college students, depression is a particularly salient issue, and rates tend to be relatively high (Pace & Trapp, 1995). For example, one study of 1,455 college students found that over 50% of the sample considered themselves

depressed due to academics, loneliness, finances, and relationship issues (Furr, Westefeld, McConnell, & Jenkins, 2001). Dixon and Robinson-Kurpius (2008) surveyed 455 college students in the U.S. on their levels of perceived mattering, self-esteem, college stress, and depression and explored whether these variables differed by gender. They found that women tended to report higher rates of college stress and depression than men and that mattering and self-esteem predicted stress and depression. Self-esteem enhanced the ability of stress to predict depression.

Depression Among Asians. In Asia, prevalence rates of depression and gender variations are notably different both across and within countries. For example, investigating factors that affect wellness – such as depression, anxiety, and body image – among a sample of 320 college students in a public university in Thailand, Ratanasiripong and Rodriguez (2011) found that nearly 80% of their sample reported moderate to severe depressive symptoms, with men reporting more depressive symptoms than women. In another Thai study of health risks among 2,311 adolescents, Ruangkanchanasetr et al. (2005) found that19.9% of their sample was depressed.

In a cross-cultural study comparing high school seniors in Korea and the U.S., researchers Lee and Larson (2000) used the Experience Sampling Method to investigate patterns of time use and corresponding affective states as well as levels of clinical depression. Of the Korean sample, 36% fit the cutoff for clinical depression as compared to only 16% of their counterparts in the U.S. In both samples, girls tended to report more depression than did boys, but the gender differences were not statistically significant. Lee and Larson hypothesized that the higher rates of depression among the Korean adolescents could have been due to the inordinate number of hours they spend on

academics per day, 7.7 hours on average, compared to 3.7 hours per day for adolescents in the U.S. and accompanied by the distinctly negative affective states of the Korean adolescents while doing schoolwork. In fact, they found that negative affective states while studying played the largest role in explaining depression, even more than did number of hours spent studying. While negative affect during class predicted depression for both groups, the relationship was stronger for Korean adolescents.

Depression in India. In India, studies vary significantly in their reports of depression. Rates of depression range from as little as none of the participants reporting depressive symptoms to 60% of a community-based Indian sample reporting symptoms of depression (as cited in Sahoo & Khess, 2010). Sahoo and Khess (2010) noted these variations and speculated that the studies may not have been assessing the same thing since each study used different instruments to measure depression. To address this concern, they recruited a stratified sample of 500 male college students in Ranchi, India and assessed depression both categorically and dimensionally by administering the Mini International Neuropsychiatric Interview (MINI) and the Depression, Anxiety and Stress Scale-21 (DASS-21). The results of their study indicated a prevalence rate of 18.5% reporting some depressive symptoms, ranging from mild (6.4%) to severe (2%) symptomology. It is important to note, however that they only surveyed male participants thereby ignoring potential gender differences.

Including both males and females in their investigation, Singh and Upadhyay (2010) examined the effects of academic stress on depression and other measures of psychological health. They surveyed 400 first and third year Indian college students. Their study found a significant gender effect for depression, with women reporting more

depression than men in both groups. An earlier study (Thomas & Vindhya, 2000) exploring the relationships among depression, self-esteem, and stressful life events among a sample of 300 20 to 55 years old adult women in South India from lower and middle socio-economic class groups indicated that self-esteem moderated the relationship between stressful life events and depression. Given the centrality of academics in the lives of Indian adolescents, academics stressors may pose as significant "stressful life events." Thus, this study hypothesized that self-esteem would moderate the relationship between academic stress and depression.

Models of Depression. Two major models currently exist in the literature to explain depression – the vulnerability model and the scar model. Providing an overview of these two models, Orth, Robins, and Roberts (2008) explained that according to the vulnerability model, life stressors make an individual vulnerable to depression and low self-esteem is a significant risk factor that can cause depression. This suggests that self-esteem would be inversely related to depression. Orth et al. cited Aaron Beck's claim that negative self-beliefs are central to the core conceptualization of depressive disorders, not just in its symptomology. The scar model on the other hand suggests that depressive episodes may "leave scars in the individual's self-concept that progressively chip away at self-esteem over time (Orth et al., 2008, p. 695)." Orth et al. claimed that while there has been a great deal of empirical support for the vulnerability model, the scar model is less represented in the literature. In addition, they noted that existing research has reported conflicting findings based on differences in methodology and measures used to assess each variable. Based on high correlations between the two variables in a series of studies, Orth and colleagues proposed a common factor model of depression, suggesting that

depression and self-esteem may be part of one common construct of negative emotionality.

To address these concerns, Orth and colleagues (2008) undertook to test the vulnerability, stress, and common factor models simultaneously to determine whether self-esteem predicts depression or vice versa or whether both self-esteem and depression are part of one common factor. Using latent variable modeling, they examined two large longitudinal data sets – the National Longitudinal Survey of Youth (NLSY79), which included 2,403 participants, and the Berkley Longitudinal study, which consisted of 359 participants. The results of their study provided support for the vulnerability model of depression. In both samples, self-esteem predicted future levels of depression, but the reverse did not hold true; that is, depression did not predict later levels of self-esteem. Based on these results, the current study explored whether self-esteem moderates the relationship between academic stress and depression in an Indian sample.

Suicide

Suicide, or the taking of one's own life, is an issue of international significance. Reviewing the literature on suicide, Beautrais (2006) reported that 60% of all suicides in the world occur in Asia. The Indian subcontinent, which includes India, Pakistan, Bangladesh, Nepal, Bhutan, Afghanistan, the Maldives, and Sri Lanka, accounts for 10% of the world's suicides; (Khan, 2002; Maithri, 2010). While these figures may be partially attributable to the larger population in Asia as a whole and India, rates of suicide in Asian countries vary. Rates of suicide have increased by as much as 60% in some

countries over the past 45 years and now stands as the third leading cause of death of individuals between the ages of 15 and 35 globally (World Health Organization, 2002). Data on suicide prevalence in Asian countries is limited. Among a sample of 2,311 adolescents in Thailand, 12% had thoughts about suicide and 8% had attempted it in the last 12 months (Ruangkanchanasetr et al., 2005). Liu, Tein, Zhao, and Sandler (2005) reported that suicide is among the leading cause of death among 15-34 year olds in China and found in their study of 1,362 Chinese high school students that 19% had suicidal ideation, or thoughts about suicide, and 7% had attempted it in the past 6 months.

Examining the associations between negative life events, psychopathology, and suicidal behavior in a non-clinical cross-sectional sample of 1,362 adolescents in rural China, Liu and Tein (2005) identified that academic stress, high parental expectations, and family conflict were the major sources of stress for those most at risk for suicidal behavior. Adolescents who had experienced parental conflicts were two to three times more likely to report suicidal ideation or attempts. The authors described the cultural context of parental pressure for academic success since, especially for these students in rural China, gaining admission into a college was the only way to move up the socio-economic ladder, leave the village, and rise above their family's status. Liu and Tein further described the negative feedback loop of high parental expectations and extreme academic competitiveness in turn leading to even more mental health problems and suicidal behavior.

Suicide in India. According to the Indian Crime Records Bureau, India's national suicide rate has risen over the past 10 years and is currently at 10.5% for those between 15 and 35 years of age (Express India; Maithri, 2010; Thompson & Bhugra, 2000). Nath,

Paris, Thombs, and Kirmayer (2011) recently conducted a study of 1,817 undergraduates in Gujarat, India to estimate the prevalence rates of suicidal behaviors among Indian college students and identify potential risk factors for suicidality. They discussed difficulties associated with obtaining accurate prevalence rates since suicide is a punishable offense by law and families often conceal suicide to avoid stigma, shame, and legal consequences. Nath et al.explained that cross-national prevalence estimates conducted through local studies in India display considerable variability. Further, they cite research by Bertolote and Fleischmann (2005) suggesting that, on a global level, for every one completed suicide, there may have been up to 10 to 40 unreported attempts. Prevalence rates of lifetime suicidal ideation for their sample was 11.7% and lifetime suicide attempt rate as 4%. Based on these figures, suicide among Indian adolescents is clearly an important concern.

The Stress-Vulnerability Model of Suicide. Bonner and Rich (1987) developed the transactional stress-vulnerability model of suicidal ideation and behavior to explain the causes or precipitants of suicide, the factors related to suicidal thoughts and/or behaviors, and how these precipitants and factors impact the individual. They conceptualize suicidal ideation and behavior as "a multidimensional process that evolves through ongoing transactions of social, emotional, cognitive, behavioral, and environmental variables" (p. 265). Isolation (both social and emotional), cognitive distortions, and a dearth of available, adaptive coping resources and strategies create a "coping vulnerability" within an individual that makes him or her more susceptible to suicidal ideation when faced with stressful situations. Once this ideational pattern emerges, the individual is considered at heightened risk for increasing social isolation,

depression, and stress, in turn magnifying suicidal thoughts. Repeated exposure to chronic stress with a perceived (or real) inability to cope with the stress over time leads to feelings of hopelessness and helplessness, in many cases intensifying suicidal thoughts that may begin translating into plans, acquiring access to means of self-harm, self-injurious behaviors, and overt gestures in the form of suicidal attempts.

The model further accounts for fluidity of the factors involved by specifying its "transactional" nature. That is, factors related to suicide within this model are not considered to occur in a linear, step-by-step pattern or order. Instead, factors are considered inter-related and may impact the development or intensification of each another. Jacob (2008), in his research about suicide in India, similarly identified that suicide is a complex behavior and cannot be addressed by any one single causal factor. The present study undertook to explore the impact of significant stress-vulnerability factors, including parental pressure, academic stress, and depression on suicidality, that are pertinent to Indian youth who are older adolescents. The proposed model suggests that each, parental pressure, academic stress, and depression, has a direct relationship with suicidality.

Suicide and Parental Pressure. Reviewing the literature on self-harm among Asians, Thompson and Bhugra (2000) described Indian cultural pressures to succeed and claimed that "This tradition incorporates a premium on academic and economic success, a stigma attached to failure, the over-riding authority of elders, and an unquestioning compliance from younger family members" (p. 38). Their proposed theoretical model suggests that high parental pressure affects perceptions of stress that leads to deliberate self-harm among Asian adolescents. Thompson and Bhugra noted the negative impact of

social isolation among Asians, which they claimed creates feelings of social loneliness in the individual that can instigate thoughts of suicide and self-harm.

Gehlot and Nathawat (1983) similarly emphasized the central role of family in the development of suicidal behavior in India and described the occurrence of "performance suicides" (p. 276), or suicide that is triggered by not being able to meet parental expectations for academic success. Gehlot and Nathawat claimed that those who resorted to suicide were often shamed by their parents and made to feel guilty for damaging the family name. They highlighted the inordinate strain that parental pressure to achieve and expectations for academic success place on youth in Indian culture and concluded that "Suicides by academic failures are but another manifestation of the loss of self-esteem, loss of face, and generating of guilt by our [Indian] society" (p. 276). Indian parents clearly play an important role in impacting their children's own personal expectations of themselves.

Research on factors related to social support and suicidality further supports this theory. A recent U.S. study by Joiner et al. (2009) found that perceptions of low familial support and perceived burdensomeness predicted current suicidal ideation above depression indices in a sample of 815 emerging adults between 19 and 26 years old. This suggests that feeling socially isolated and like a burden to one's family, friends or society uniquely contributed to the understanding of suicidality over and above depression. Another U.S. study by D'Attilio, Campbell, Lubold, Jacobson, and Richard (1992) also found that social support variables accounted for 52% of the variance in suicide potential among their sample of 50 adolescents. Given the central role of family in Indian culture, it is likely that these findings are cross-culturally applicable.

Parents play an integral role in Indian adolescents' lives because children develop their beliefs about education, success, and self-worth based on perceptions of their parents' expectations and values. Over time, parents' values and expectations often become their own. The research literature indicates a high correlation between personal and parental valuing of education among Asians (i.e., Sarma, Payakkakom, & Robinson-Kurpius, 2012). Parents may not even intend to "pressurize" their children but may be indirectly impacting them through common behaviors such as social comparison or bragging about their children's academic success, which reinforces the belief that academic success is the most important aspect of their lives. The subtle, implied message connected to such beliefs may convey that if one is *not* academically successful, he or she has thereby lost purpose in life.

The consequences of these indirect impacts of parental pressure and expectations can, in some cases, be deadly. Indian newspapers have reported on individuals who commit suicide when they feel unable to meet their own incredibly high personal standards. The story of Nitin, a senior at the prestigious Indian Institute of Technology (IIT) Madras who committed suicide after finding out that he would have to stay back to do one more semester of school, made headlines in India (Tehelka, 2011). The response of the boy's father, "If it is my son's fault, then I am ready to take the blame" represents the inter-relatedness of success and failure among Indian families, such that academic success brings pride and honor to the family while failures may bring blame, loss of face, or shame. However, Indian psychologists involved in Nitin's case and other similar cases suggest that stress-related suicides may actually have been caused by undiagnosed

depression (Tehelka, 2011). This indicates the importance of including depression in the model to better understand the factors impacting suicidality.

Suicide and Depression. As suggested by Rich and Bonner's (1987) stress-vulnerability model of suicidality, depression has been considered an important precursor to the development of suicidal thoughts and behaviors. The relationship between suicide and depression has been widely recognized in the literature. In their meta-analytic review of 31 articles on psychiatric diagnoses and suicide, Bertolote, Fleischmann, Leo, and Wasserman (2004) identified that 98% of cases of completed suicide had a diagnosis of at least one mental disorder. In the articles reviewed, diagnoses of cases of completed suicides were determined retrospectively via the psychological autopsy method, analysis of clinical records, or both. Of the disorders identified, mood disorders accounted for 30% of the completed suicides investigated. Other diagnoses implicated in cases of completed suicide included substance-use related disorders, schizophrenia, and personality disorders. Bertolote et al. suggested that depression may not be the only mental illness impacting suicidality at the global level and recommended assessing for multiple diagnoses that may be impacting suicidality. Given that the present study explored the relationship of depression and suicidality in a non-clinical sample, however, only depression and reasons for living, an indicators of suicidality, were measured in this study.

Loneliness, social isolation, hopelessness, perceived burdensomeness, helplessness, and worthlessness have all been identified as important indicators of depression that are particularly related to suicidality. For example, Page, Yanagishita, Suwanteerangkul, Zarco, Mei-Lee, and Miao (2006) examined whether loneliness and

hopeless were related to suicidal behavior by surveying high school students from three Asian countries including 2,624 students from Taiwan, 2,519 from Thailand, and 3,320 from the Philippines. Students who had a past history of suicide attempts tended to score higher on measures of hopelessness and loneliness than those who had never attempted suicide. This supports Thompson and Bhugra's (2000) theory that increased social isolation and feeling hopeless about life are strongly related to attempted suicide.

In terms of worthlessness, which is also associated with depression, Chatard, Selimbegovic, and Konan (2009) investigated the relationship between national suicide rates and self-esteem in 53 countries. Based on data from the International Sexuality Description Project (ISDP), nearly 17,000 college students completed the Rosenberg Self-Esteem Scale, which had been translated into 28 languages. Results of the study indicated that suicide was inversely related to self-esteem at the national level such that countries with individuals who had comparatively lower levels of self-esteem tended to have higher rates of suicide. This relationship was supported across age, sex, and age of suicide and was independent of the nation's economic affluence, state of transition, individualism, subjective well-being, and neuroticism.

Suicide and Academic Stress. Academic stress has been suggested as a major precipitant to adolescent suicide in Asia. In Le, Nguyen, Tran, and Fisher's (2012) study analyzing two population-based samples of Vietnamese adolescents, perceiving that one's study load as too heavy was an important predictor of suicidality. In a cross-sectional study of 1,362 adolescents in rural China, Liu and Tein (2005) found that academic stress and family conflict were the most prominent risk factors for adolescent suicidal behavior in their sample.

Similarly, Jacob (2008) suggested that, for adolescents in India, stress may be a more salient risk factor for suicide than mental illness. Reviewing the literature on suicide in developed and developing nations, he noted that while the high prevalence of mental illness among those who commit suicide in the West has been identified, Indian adolescents may be impacted by unique factors. Comparing suicides in the West with India, he explained:

> "The Indian experience, on the other hand, suggests that many suicides are impulsive and related to stress…While people with mental illness do commit suicide in India, the proportion of people with mental illness contributing to the high suicide rate would appear to be small compared to the number of suicides secondary to stress and conflict. The relationship between stress, impulsivity, and suicide is commonly acknowledged by mental health professionals in the developing world (p. 103)."

This suggests that stress is a predictor of suicide among Indians and should be included in the model of factors impacting suicidality.

Indian newspapers are filled with reported stories of children or adolescents who resorted to suicide as a result of being unable to handle academic stress (Asia One, 2010). The Asia Times (2008) reported statistics from the National Crime Records Bureau and stated that 5,857 students in India committed suicide due to academic stress in 2006. Extreme measures by teachers who may be physically or emotionally abusive in the name of enforcing strict discipline have been reported. Corporal punishment, although far less common, is still a method of discipline in some Indian schools and can be a source of intense fear and anxiety among students. An Indian newspaper reported that a 6th grader had been beaten with a cane by his teacher for being late to class and stated that he jumped off a school balcony out of fear of further beatings (India Today, 2010).

Measuring Suicidality in the Present Study. Epidemiological studies in Asia have frequently adapted two questions, "I think about killing myself" and "I deliberately try to hurt or kill myself," from the Youth Self-Report of Child Behavior Checklist (YSR; Achenbach, 1991) to assess suicidality (i.e., Liu & Tein, 2005; Liu, Tein, Zhao, et al., 2005; Page et al., 2006). Factor analyzing 6 commonly used measures of suicide among a sample of 305 undergraduates in the U.S., Range and Antonelli (1990) found that each instrument accounted for unique variance in suicidality and recommended that studies employ a battery of these tests to gain a broad perspective on suicide. Since the present study explored multiple factors that have been related to suicide in Asian culture, two instruments were used to assess suicidality, the YSR and the Brief Reasons for Living Inventory for Adolescents (BRFL-A; Osman, Kopper, Barrios, Osman, Besett, & Linehan, 1996).

Self-Esteem

Self-esteem has been defined in various ways by different researchers. Overall, it includes one's thoughts, feelings, beliefs, attitudes, and evaluations of one's own worth as a person (Rosenberg, 1965). Other researchers have conceptualized it as "the extent [to which] a person believes him- or herself [to be] competent, successful, significant, and worthy" (Coopersmith, 1967, p. 1-2). Self-esteem has been linked to academic success and persistence, particularly in studies conducted in the U.S. (i.e., Dixon & Robinson Kurpius, 2008; Li et al., 2010; Liu & Iwamoto, 2006).

Some researchers have argued that self-esteem is an individualistic construct that has limited relevance to those in collectivistic societies (i.e., Sinha & Watson, 2007) because it pertains to one's own evaluations of oneself rather than accounting for the significant role others play in developing these self-perceptions. Indeed, researchers have long agreed that, in Asian culture, the development of self-esteem is more influenced by significant others and that the emphasis is on self-in-relation-to-others (i.e., Markus & Kitayama, 1991). While Western societies tend to place value on autonomy, independence, and the pursuit of one's own happiness, Asian culture emphasizes the values of interdependence, harmony, contentment, and the good of collective whole (Sarma, Payakkakom, & Robinson-Kuripus, 2012).

The present study explored whether self-esteem was a significant buffer to the negative impacts of parental pressure and academic stress. The challenge in choosing an instrument to measure self-esteem, however, is finding a scale that appears culturally relevant to Indian undergraduates, has appropriate validity and reliability data to support the use of this scale with an Indian sample, and focuses exclusively on the construct of self-esteem to avoid unnecessary overlap that may contain too much multi-collinearity with the variables of interest or with other constructs such as self-efficacy.

Investigating the influence of parent-child interaction and perceptions of emotional support on self-esteem, Ross, Zeller, Srisaeng, Yimmee, Sawatphanit, and Somchid (2006) surveyed 307 baccalaureate nursing students in Thailand. Through path analyses, they identified that parent-child interaction, measured by how much individuals perceive their parents as loving, understanding, caring for, and being proud of them, preceded self-esteem in the prediction model. In their study, however, the relationship

between parent-child interaction and self-esteem was mediated by a combination of perceptions of emotional support and self-perception. Ross et al. explained that 95% of their sample lived away from home in the dormitory and that the influence of parental interactions may have been less immediate than the support of friends. Support from family and from friends equally contributed to predicting self-esteem.

There was a great deal of overlap in the instruments used in the Ross et al. (2006) study. Emotional support was assessed by questions about whether the individuals felt they had *someone* who loves, cares for, and understands them, while the parent-child interaction instrument assessed whether they perceived their parents as caring, loving, and understanding. Similarly, global self-esteem was assessed by the Rosenberg Self-Esteem Scale, which is primarily based on how one views oneself in terms of worth and value, and the self-perception scale had participants dichotomously choose which term they identify with more (e.g., kind or mean). Perception of one's parents as loving, caring, and understanding was an important predictor of self-esteem among Thais.

In another investigation of self-esteem among 410 undergraduates from public and private universities in Thailand, Sarma, Payakkakom, and Robinson-Kurpius (2012) examined the relationship between parental and personal valuing of education. They found that among private university students, self-esteem moderated the relationship between parental and personal valuing of education for individuals with low and moderate self-esteem. That is, parental values were most influential in increasing personal valuing of education for those attending a more prestigious university and who valued themselves less or had low self-esteem.

In a cross-cultural study of 188 Indian and 344 Canadian first-year college students, Sinha and Watson (2007) explored the influence of self-esteem, stress, and coping on psychological symptoms, as assessed by the Brief Symptom Inventory (BSI). The results supported Sinha et al.'s (2000) earlier finding in that Indian students reported less stress than did their Canadian counterparts but extended the earlier study by identifying that Indian students also reported more psychological symptoms such as depression. The personal-social variables such as stress, coping, and self-esteem explained less of the variance in psychological symptoms for Indians than for Canadians. For example, while low self-esteem explained over 35% of the variance in depression for Canadian students, variance accounted for in the Indian sample ranged from only around 2 to 7%. Sinha and Watson (2007) speculated that self-esteem has less relevance in the collectivistic Indian society where duty and social responsibility are valued more than individualistic valuing of the self. This explanation appears to contradict other studies that have found that self-esteem plays a major role in psychological well-being among Asians (i.e., Chen et al., 2010). An alternate explanation may be that the measures Sinha and Watson used did not adequately capture the construct being investigated.

For example, although the Coopersmith's (1981) Self-Esteem Inventory, which was used in Sinha and Watson's (2007) study, has been used in a number of other studies in India (i.e., Bidlan, 2004; Rao, 1978; Wood, Hillman, & Sawilowsky, 1995), it contains items that overlap with perceptions of stress that was also measured in these studies. Coopersmith's (1981) scale measures self-esteem in multiple domains, such as family, social, academic, and general self ratings rather than focusing on a single factor of global self-esteem. However, academic self-esteem ratings could then overlap with other

variables being measured such as perceptions of daily hassles. Depression could also have overlapped with low family-related self-esteem.

Currently most self-esteem scales contain items that overlap with other constructs. For example, expanding on Coopersmith's (1967) Self-Esteem Inventory, Thomas and Raj (1984) devised their own version of the scale by integrating select items from Rosenberg's Self-Esteem Scale (1965) and the Janis and Field Feelings of Inadequacy Scale (Hovland & Janis, 1959). They tested their 50-item scale on a sample of 400 9th graders in Kerala, South India. The final scale consisted of 25 items relating not only to global self-esteem but also to perceptions of home life, parental regard, academic performance, social anxiety, and decision making.

If the very definition of self-esteem is different in Asian societies, such that perceptions of other people's evaluations are actually part of the same construct, then the Rosenberg Self-Esteem Scale (RSES) would not address the influence of the "other" adequately. On the other hand, if an individual's self-perceptions are influenced differently depending on his or her culture but the underlying construct of self-esteem is still the same, then the RSES would be the best option to measure this construct without extraneous factors confounding the variable. Put another way, while those in Asian cultures may place greater importance on what others, such as parents or teachers, think of them than would those in Western cultures, the underlying construct of self-esteem may be the same across cultures, although the factors that influence its development are different.

When investigating the inter-relationships of self-esteem and other highly correlated constructs, such as academic stress or depression, overlap may limit the

variability of interest and reduce power in identifying meaningful differences in the sample. Thus, of the self-esteem scales examined, Rosenberg's (1965) Self-Esteem Scale remains the most tightly constructed measure of global self-esteem, focusing on the individual's evaluation of his or her own worth as an individual. Based on this premise, the current study examined whether self-esteem serves as a potential buffer of the impact of parental pressure on academic stress or serves as a moderator of the relationship between academic stress and depression.

A Focus on India

Researchers have emphasized the importance of studying specific cultural groups within the broad "Asian" umbrella, especially considering the vast regional variability and the number of unique cultures present in the continent of Asia (Gloria & Ho, 2003). In India alone, there are 22 official languages (Constitution of India, 2007), 33 more languages that are not officially recognized but are spoken by over 100,000 people each, and 1,652 dialects (Laungani, 1996). Each state is known for its own unique culture, language, customs, and traditions. Regionally, South India is distinct from North India in terms of food, clothes, language families and customs. Indian researchers have recommended studying trends in different parts of India to expand the literature (Laungani, 1996).

As the second most populated country in the world, India has experienced a phase of rapid expansion and industrialization in recent years. The technological boom in India has also led to increased availability of jobs and more call centers for out-sourcing by Western industrialized nations. Affirmative action-type policies aimed at supporting and

encouraging underprivileged caste groups have expanded access to education to a broader range of people in the years since India's independence from Britain in 1947. Given the heterogeneity of India's population and the impact of region on culture, recruiting participants from different cities in India contributed to a more representative sample of Indian undergraduate students.

Summary

The high value that Asian parents place on education, while often serving as a strong motivational force, can also translate into direct and indirect pressure to succeed for Asian youth. Indian youth tend to internalize cultural and parental values of hard work and high standards of success from a young age such that eventually the pressure to succeed may even become self-generated. The need for interconnectedness and interdependence can lead to great social and material rewards for success and devastating isolation for those who fail. Thus the fear of failure, disappointing one's family, and persistent guilt may affect perceptions of stress, depression, and suicidality. Self-esteem has been found to be a significant buffer to perceptions of stress in past research in Asia. Given the high rates of academic stress, suicide, and depression in India based on parental and cultural pressures to succeed, this study explored the inter-relationships of these variables among undergraduates in India.

Hypotheses

Proposed Models and Rationale

As discussed in the literature review above, research studies have suggested a clear link between parental pressure and academic stress among Asians. Self-esteem has

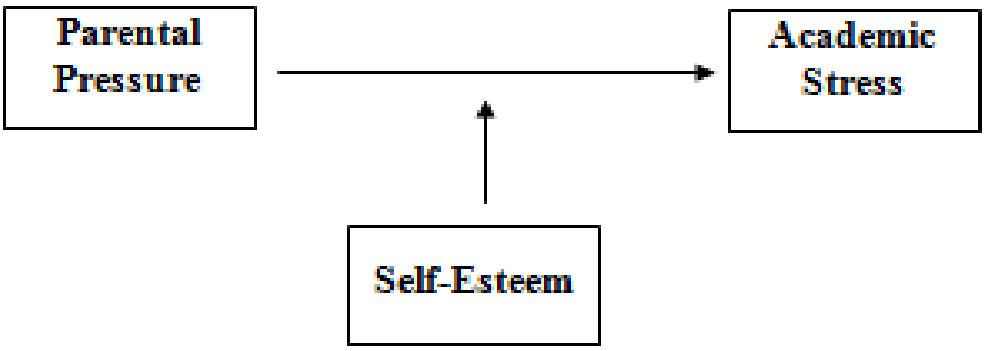
been alluded to as an important buffer of this relationship theoretically but has not been directly tested by any study found in the literature. Hypothesis 1 tested whether the relationship between parental pressure and academic stress would differ as a function of self-esteem. Specifically, it was hypothesized that this relationship would be weaker for individuals with higher self-esteem because they may be less likely to internalize parental beliefs and behavior as pressure.

H1: Self-esteem will moderate the relationship between parental pressure and academic stress.

Both the research literature and news media have suggested a link between academic stress and depression. The stress-vulnerability model would further indicate that academic stress would make individuals more susceptible to becoming depressed. Psychologists and researchers in India suggest that increased self-esteem development among youth would buffer against this negative impact of academic stress (Thomas & Vindhya, 2000). Those individuals with higher self-esteem may be less negatively impacted by exposure to the same stress as would someone with low self-esteem (i.e., Chaurasia, 2013). While this belief is a common suggestion among schools, theorists, and policy makers, this study tested used an interaction model to test the hypothesis empirically. Thus, hypothesis 2 predicted that the relationship between academic stress and depression would vary as a function of self-esteem (see Figure 2).

Figure 1

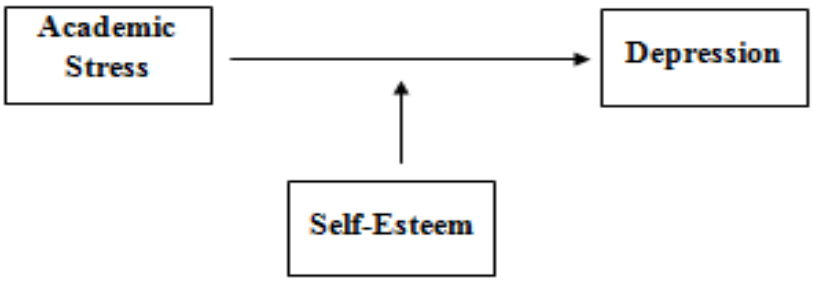
Hypothesis 1 Predicted Moderation Model



H2: Self-esteem will moderate the relationship between academic stress and depression.

Figure 2

Hypothesis 2 Predicted Moderation Model



The third hypothesis proposed a model of the relationships between parental pressure, academic stress, depression, and suicidality. As discussed in the literature review, parental pressure has been linked to academic stress in multiple empirical studies among Asians (i.e., Akhtar and Aziz, 2011; Boruah, 2014; Verma, Sharma, and Larson, 2002). Parental pressure has been conceptualized to take the form of both overt and covert messages and behaviors about academic and professional achievement. It can also involve seemingly supportive behaviors that over time accumulate into a feeling of indebtedness to one's parents and wanting to fulfill high parental academic expectations in return for their many sacrifices. Additionally, feelings of burdensomeness to one's family have been linked to suicidality. Extreme parental pressure is often described as a

major contributor to adolescent suicide in India (i.e., Boruah, 2014; Gehlot & Nathawat, 1983; Thomas & Bhugra, 2000). The link between academic stress and depression has also been suggested by researchers and by Indian psychologists (Boruah, 2014; Lee & Larson, 2000). In Indian news articles of investigations of student suicides, academic stress is usually suggested by the media and psychologists analyzing the case tend to suggest later that depression may have been the cause (i.e., Boruah, 2014; Tehelka, 2011). This study tested a model of relationships between study variables to understand better the factors that may impact suicidality. The proposed model of these relationships is depicted in Figure 3.

Path analysis, based on a foundation of multiple regression, was used to test hypothesis three. A benefit of using path analysis is the ability to test multiple relationships simultaneously within a predicted model (Templin, 2012). An *a priori* model was proposed based on the relationships between variables suggested in the literature. Important considerations when designing a path model include examining which "causal" variables to include, how to order the sequence, which paths are predicted to have a direct relationship with the criterion, and which paths are *not* significant to the model (Templin, 2012). The research literature review presented above has suggested the following direct relationships:

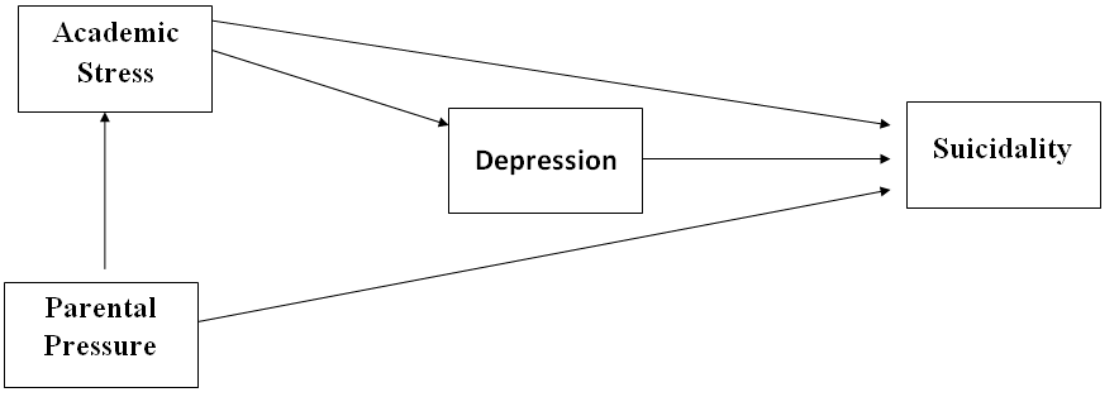
1. Parental pressure → Academic stress,
2. Parental pressure → Suicidality
3. Academic stress →Depression
4. Academic stress → Suicidality
5. Depression →Suicidality

Path analysis tests two models: the proposed model (or "reduced" model) against the "full" or "baseline" model. In this way, it has been said that the paths *not i*ncluded in the proposed model are just as important as the ones that are included since the analysis will produce results based on this theory. Figure 3 below depicts the hypothesized model and Figure 4 represents the "full model" it was compared to. As shown in the figures, the main difference between the full and the predicted models is that no direct path between parental pressure and depression has been predicted. This is because parental pressure has been conceptualized in this study as including both overt and covert (direct and indirect) forms of pressure that may even appear "supportive" or "encouraging" in some contexts but may have a cumulative effect of creating a perception of pressure among Indian youth. All other direct relationships depicted in the full model are based on theoretical support from the literature.

H3: Parental pressure will predict academic stress, which will in turn predict depression and suicidality, parental pressure will predict suicidality, and depression will predict suicidality.

Figure 3

Hypothesis 3 Predicted Path Model



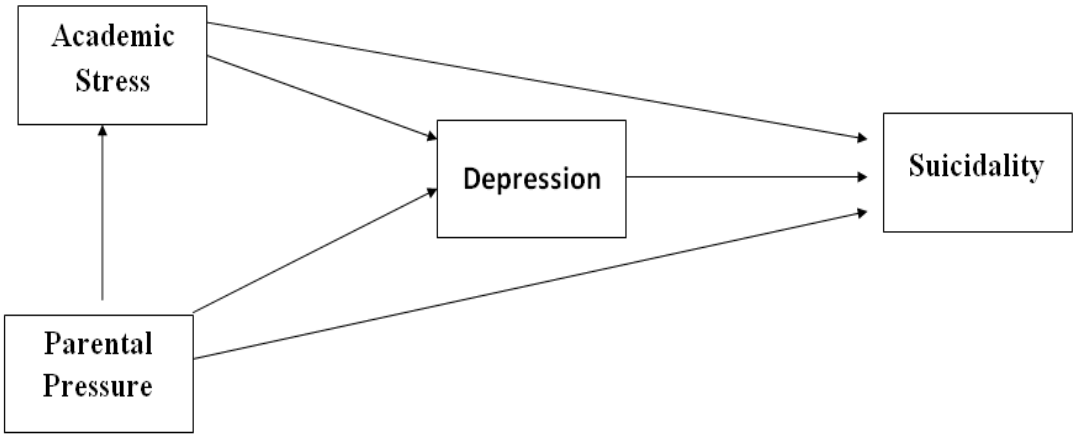
The research questions for this hypothesis include:

1) Is the proposed model – which describes the directional relationships among the variables parental pressure, academic stress, depression, and suicidality – consistent with the observed correlations among variables?

2) If so, what are the estimated direct, indirect, and total "causal" effects among the variables?

Figure 4

Hypothesis 3 "Full" Path Model



CHAPTER 2

METHOD

Recruitment

Institutional Review Board approval was obtained prior to survey administration (see Appendix A). A formal letter from the researcher requesting permission to recruit participants for the study and to allow students to complete surveys during class time was sent to principals (deans) and professors (see Appendix D). To protect participant anonymity, signed informed consent letters were not collected. Instead, all participants were provided a written consent letter either as the first screen of the online survey or as the first page in the printed materials. The written consent form (see Appendix B) informed participants that their participation is voluntary and that they may withdraw from the study at any time.

For this study, 608 undergraduate students were recruited from various colleges across India. Recent graduates were also accepted. Surveys were administered through both an anonymous online survey as well as paper-pencil format to increase accessibility. All surveys were written in English. For the online version of the survey, participants were recruited through word of mouth, postings on university social media pages, and through letters requesting college "principals" to disseminate the researcher's recruitment email to students. Three university principals were contacted requesting their support in forwarding the survey to their students via email. Only one principal from an engineering college agreed to participate and forwarded the researcher's request to "classroom student leads" who in turn shared the email with their peers. Paper-pencil data collection was offered for professors in colleges where students had more limited access to computers

and the internet. Three professors from three different colleges in India were recruited by word-of-mouth and were asked to administer the paper-pencil surveys to students at their respective colleges. All three professors agreed to serve in this role.

Power Analysis

Statistical power ($1 - \beta$) is the probability of rejecting the null hypothesis when it is indeed false in the population (Park, 2008). Power is determined by various factors in a study including sample size, the length and appropriateness of instruments chosen, the number of response options for each item in an instrument, the complexity of hypotheses proposed, and the number of predictors (Frazier, Tix, & Barron, 2004). Thus, although statistical power analyses produce possibilities of the number of participants needed for a study, determination of the amount of power needed must take these various factors into account. A power analysis was conducted using the software G*Power to determine the minimum number of participants needed to detect significant differences in the sample given a low to moderate effect size in the population. Most social science research assumes a moderate effect size of approximately .15 in the population. The larger the effect size in the actual population, the less power needed in the study to detect differences among variables of interest. G*power estimated that with 2 predictors, the maximum number in the study, an alpha level of .05, a moderate effect size of .15 in the population, and the highest level of power, .95, a minimum of 110 participants would be needed to detect a relationship between the variables if one truly existed. Based on the a priori support of these relationships in the literature, it is reasonable to estimate that a moderate effect size exists in the population. However, if one were to estimate a low effect size of .05 in the population and use a .90 level of power, 250 participants would

be needed. This study exceeded the basic required number of participants to ensure adequate power, accounting for the possibility of more conservative estimates of effect size in the population to reduce the probability of committing a Type II error. Appendix E contains two charts from the G*Power analysis.

Participants

Participants were 608 (303 male, 301 female) undergraduate students living in India and who ranged in age from 17 to 32 (M = 20.19, SD = 1.67). Fifty-seven percent of participants were at least comfortably fluent in English while approximately 37% reported feeling "A little fluent" and 2% reported feeling "Not at all fluent." Regarding religious affiliation, 508 participants identified as Hindu (84.4%), 28 as Muslim (4.7%), 47 as Christian (7.7%), 9 as Jain (1.5%), 3 as Sikh (0.5%), and 7 as "Other" (1.2%). Approximately 20% of participants were first years, 28% second years, 42% third years, 8% 4th years, and 2% were 5th years. The majority of participants, approximately 81% (n = 462), reported that their families had a "middle income," while 84 participants (14.8%) considered that their families had a "low income" and 23 participants (4%) considered their families to have a "high income." Most participants (71%) claimed that their responses were based on both their parents, while 19% claimed that the responses were largely based on their mothers and 10% claimed that the responses were largely based on their fathers. Similarly, 45% and 51% of participants claimed that both their parents were involved in their academics and career choice, respectively.

Participants were recruited from three different samples: A rural, government-aided humanities college in Kerala, two private colleges in Chennai, a private engineering college in Delhi, and respondents from colleges in various metropolitan cities in India.

Data collection procedures varied and have been described below. Table 1 depicts demographic information by sample.

Sample 1. Sample 1 included 202 (49 male, 151 female) participants ranging in age from 17 to 23 (M = 19.09, SD = 1.20) from a rural, government-aided college in the state of Kerala. Seventy-six percent (n = 150) of participants in this sample were Hindu, 5.6% (n = 11) were Muslim, and 18.3% (n = 36) were Christian. Approximately 34% (n = 68) were first years, 41% (n = 83) were second years, and 24% (n = 48) were third years. All students in this sample majored in humanities subjects. Fifty-nine percent (n = 119) of this sample reported that their father's highest education level was high school (including "junior college" which is equivalent to 11th and 12th grade in the U.S.), 12.9% (n = 26) reported that it was undergraduate education, 5.4% (n = 11) reported that it was post-graduate education, 11.9% (n = 24) claimed that it was secondary school, 6.5% (n = 13) claimed that it was primary school, and no participants reported that their father had obtained a doctoral degree. In terms of mother's highest level of education, approximately 63% (n = 127) claimed that it was high school, 11.4% (n = 23) had undergraduate education, 5.9% (n = 12) reported post-graduate education, 10% (n = 20) had secondary school, 5% (n = 10) had primary school, and one person (0.5%) reported a doctorate.

Sample 1 participants were recruited by a professor at their college who offered the opportunity to complete surveys during class time. Paper-pencil surveys were administered due to limited access to computers for participants in this sample. In this sample, 38 participants (22%) considered themselves to have a "low income" family background, 131 participants (77%) classified themselves as "middle income," and

Table 1

Demographic Information by Sample

Variable	Sample 1 Kerala (*n*= 202) *n*	*%*	Sample 2 Delhi + Online (*n* =354) *n*	*%*	Sample 3 Chennai (*n*= 64) *n*	*%*
Gender						
Male	49	24.5%	214	62.9%	40	62.5%
Female	151	75.5%	126	37.1%	24	37.5%
Income Level						
Low	38	18.8%	44	13.1%	2	3.1%
Middle	131	77.1%	275	82.1%	56	87.5%
High	1	0.5%	16	4.8%	6	9.4%
Religion						
Hindu	150	76.1%	301	88.3%	57	89.1%
Muslim	11	5.4%	13	3.8%	4	6.3%
Christian	36	17.8%	8	2.3%	3	4.7%
English Fluency						
Not at all	5	2.7%	6	1.8%	1	1.6%
A little	117	63.2%	92	27.2%	17	27.0%
Comfortable	56	30.3%	198	58.6%	36	57.1%
Very Fluent	5	2.7%	42	12.4%	9	14.3%
Year in College						
1st Year	68	34.2%	15	4.5%	33	58.9%
2nd Year	83	41.7%	75	22.5%	5	8.9%
3rd Year	48	24.1%	193	58.0%	4	7.1%
4th Year	0	0%	44	13.2%	4	7.1%
5th Year	0	0%	6	1.8%	10	17.9%

only 1 person (0.6%) claimed to come from a "high income" family. Approximately 8 undergraduate classrooms of courses in the humanities, with around 30-40 students in each class, were recruited to participate. Permission from each course instructor was obtained informally via verbal request to administer surveys during class time. Oral and written informed consent was provided to participants of this sample. Completion of the survey packet reflected informed consent. Those who did not wish to participate were able to submit blank surveys without the knowledge of the professor since the cover page was the informed consent letter.

Translation of Surveys for Sample 1. Surveys were orally translated to the local language, Malayalam, by the professor administering surveys to Sample 1 participants. These instructions were not given to the professor at the time the liaison relationship for data collection was established. The professor later informed the researcher that he had decided to translate the survey during every administration and to ensure that students understood the questions being asked. Indeed, 63% (n = 117) of this sample claimed that they were only "A little fluent" in English," 30% (n = 56) claimed that they were "Comfortably fluent," 2.7% (n = 5) of participants claimed to be "Not at all fluent" while another 2.7% (n = 5), claimed that they were "Very fluent." The professor provided opportunities for participants to clarify any terms they did not understand. All surveys for this sample were administered by the same professor to reduce error variance introduced by multiple administrators. A total of 250 surveys were distributed to this sample. Of these surveys, 48 were discarded due to invalid responses – participants either marking all or none of the possible response options. The final number of participants included in Sample 1 was 202.

Sample 2. Sample 2 included 354 (214 male, 126 female) online respondents, ranging in age from 17 to 28 (M = 20.43, SD = 1.23). Participants for this sample were recruited across India on social networking sites, by word of mouth, and through the dissemination of the email recruitment letter by one college principal. No parental education level was collected for this sample due to an online system error. The online survey, hosted on QuestionsPro, indicated that 628 individuals began the survey, out of which 354 "completed" it. "Completed" surveys included any participant who arrived at the final screen of the survey by clicking through the entire survey, regardless of whether or not they answered items. Twelve of these surveys were discarded due to being over 95% incomplete. Forty-five participants from colleges across the nation, including major cities such as Mumbai, Chennai, and Hyderabad among others, submitted "completed" surveys online. One principal forwarded the researcher's email recruitment letter to "classroom student leads" who in turn shared the email with their peers, yielding 309 "completed" online surveys.

Sample 3. Sample 3 included 64 (40 male, 24 female) participants from two private colleges, one business and one medical, in Chennai, a metropolitan city in southern India. These participants ranged in age from 20 to 32 (M = 22.23, SD = 2.16). Eighty –nine percent of this sample was Hindu (n = 57), 6% Muslim (n = 4), and 4% Christian (n = 3). These participants were recruited informally by professors at each college who distributed paper-pencil surveys to students and gave students the opportunity to return the surveys at their leisure. While 150 completed surveys were returned to the researcher, 86 of these surveys were not used for this study due to the professors misunderstanding eligibility criteria and including MBA (graduate) students in

the participant pool. These surveys were extracted from the participant pool and excluded from analyses.

Procedures

Online surveys took an average of 25 minutes to complete whereas paper-pencil surveys took from 20-50 minutes to complete due to language barriers for the students in the rural college in Kerala, India. Respondents to the online survey were offered entry into one of five raffles of Rs. 1,000 each, equivalent to approximately $20, for submitting a completed survey. Students were prompted to send an email to a unique email address, created for the purpose of this study to maintain anonymity of responses, if they wish to be entered in the raffle.

Study Constructs

The demographics questionnaire included items about (1) the participant's age, gender, religion, caste, year in college, (2) education level, income, perceived socio-economic status for both mother and father, (3) mother tongue (language spoken at home), and perceptions of proficiency in English, (4) perceptions of involvement of parents in academics, and (5) college and major. These questions had been included in previous studies conducted among college students in Asia and have also been identified as important factors relating to study constructs (i.e., Kurrien, 2008; Nieuwsma, 2008; Payakkakom, 2008; Rao, 2009). Five constructs were explored in this study: parental pressure, academic stress, depression, suicidality, and self-esteem.

Parental Pressure. Parental pressure was measured by the Parental Pressure to Succeed Scale (PPSS), which was designed for this study. The research used to guide and develop this scale were based on Asian and Asian American cultural paradigms

presented in theoretical papers and empirical studies and through the author's own life experience and perspective as a self-identified Indian American woman. The PPSS contained 45 items constructed by the researcher based on themes in the literature that have been identified as forms of both overt and covert parental pressure among Asian adolescents. Overall, items addressed themes of needing to work harder, not doing well enough, fear of being a disappointment, needing to please one's parents, and needing to be successful and financially secure. The PPSS also included items with themes that have been identified in the literature as contributing to increased mental health such as support for leisure/sports, emotional support, or doing one's best. The PPSS assesses overall parental pressure to succeed both academically and professionally, since the literature has identified that the two are intertwined in Asian culture.

Perceptions of parental beliefs and behaviors were conceptualized together to form a unidimensional construct of parental pressure, since they are both linked to direct and indirect forms of parental pressure. Beliefs and behaviors were measured on a 6-point Likert-type scale, ranging from 1 to 6. Scale anchors were adjusted based on type of pressure assessed. For example, the scale ranged from "Strongly disagree" (1) to "Strongly agree" (6) for perceptions of parental beliefs, whereas anchors for perceived frequency of parental behaviors ranged from "Never" (1) to "Almost Always" (6). Total scores for the PPSS range from 45 – 270, with higher scores representing more perceived parental pressure. Sample parental beliefs included "My parents believe that I should be working harder in school" or "My parents believe that it is my duty to support them financially when they become old." Items also depicted seemingly "positive" beliefs and behaviors that have been suggested to lead to feelings of pressure in the Asian literature.

An example of a "positive" belief used was, "My parents believe that it is worth sacrificing their personal desires for the sake of my academic and professional success." An example of a "positive" behavior used was, "My parents do special things for me close to exam times like cook special food, allow me to skip housework, etc." The internal consistency reliability estimate for responses to the PPSS for participants in this study was .86.

Pilot Study of PPSS. A two-phase pilot study was employed to assess the validity and reliability of the PPSS. Phase one involved recruiting five participants, including professionals, professors, and graduate students, to provide feedback on the scale. All participants had earned a Master's degree or higher degree. Three professors of Indian descent who were fluent in both English and a native Indian language were recruited from various fields to provide feedback on the clarity, content, and structure of the scale. Two other participants were graduate international students familiar with statistics, scale construction, instrument development, and social science research. These two participants were asked to provide feedback on aspects of scale development in addition to feedback on the clarity and content. Each of the five experts submitted completed surveys. Based on the written feedback obtained as well as through follow-up conversations with reviewers and further discussion with the faculty advisor, 38 items were discarded. These items were identified by one or more reviewers as redundant, unclear, unrelated to parental pressure, or not fitting with the rest of the scale. The researcher and faculty advisor together made final decisions about whether to exclude or reword items. The original PPSS, containing 83 items, was reduced to 45 items in the final version,

including 25 parental beliefs and 20 parental behaviors. The agreement among the expert raters reflects content validity.

For phase 2 of the pilot study, 104 graduate students and professionals (54 males and 50 females) of Indian descent ranging in age from 18 to 35 (M = 25.14, SD = 4.07) were recruited to participate. The majority of participants in the pilot study, about 80% (n = 83), identified as Hindu. The purpose of phase 2 was to identify items that did not reliability fit with the rest of the scale. Participants were recruited by word of mouth, social networking media, professional list-serves, and handing out recruitment fliers at local events geared toward South Asian Americans. Participants of the pilot study were offered entry into a raffle to win a $25 gift certificate. A reliability analysis was conducted on the PPSS based on complete responses from 82 of the participants. Twenty-two cases were omitted due to missing data. Average parental pressure scores were M = 3.98, SD = 0.70 in the pilot study. The 45-item PPSS obtained a Cronbach's alpha of .93 in phase 2 of the pilot study.

Academic Stress. The Educational Stress Scale for Adolescents (ESS-A; Sun et al., 2011) is a16-item measure of academic stress that was designed to address issues relevant to Asians. The five latent variables assessed by this measure include pressure from study, workload, grade-related worry, self-expectation, and despondency. The 5-point Likert-type response scale ranges from (1) "Strongly disagree" to (5) "Strongly agree" with total scores ranging from 16 – 80 and higher scores indicating more stress. Sample items include "There is too much competition among classmates that brings me a lot of academic pressure" and "I feel stressed when I do not live up to my own standards." Since the scale was published recently, there is limited reliability and validity

information about this scale available. However, Sun et al. (2011) reported an internal consistency reliability of .81 among their sample of 2,000 Chinese adolescents and moderate to good test-retest reliability at more than 2 weeks based on the interclass correlation coefficients ranging from .44 to .67. Supporting concurrent and predictive validity, the ESS-A was positively correlated (r = .51) to the Academic Expectations Stress Inventory (Ang & Huan, 2006), the Center for Epidemiology Studies-Depression Scale (r = .47) (CES-D; Radloff, 1977), and suicidal thoughts (r = .17). The Cronbach's alpha of the ESS-A for the present study was .88.

Depression. Designed for adults in the community rather than for a clinical population, the Center for Epidemiological Studies – Depression Scale (CES-D; Radloff, 1977) is a 20-item measure of depressive symptomology. The four main factors of the CES-D are 1) depressed affect, 2) positive affect, 3) somatic issues and psychomotor retardation, and 4) interpersonal issues. Sample symptoms include "I felt sad," "I had crying spells," and "I did not feel like eating; my appetite was poor." Items measure the frequency of symptoms experienced by the participant in the past week on a 4-point response scale ranging from (0) "Rarely or none of the time (Less than 1 day)" to (3) "Most or all of the time (5-7 days)." Responses are summed to form total scores ranging from 0 to 60. Higher scores represent more severe depressive symptomology. A score of 16 is used as the standard cutoff to indicate presence of depressive symptomology (Radloff, 1977) but has been found to overestimate the likely prevalence of depression (45%) in samples of college students (Santor, Zuroff, Ramsay, Cervantes, & Palacios, 1995). Comparing the discriminant validity of the CES-D and the Beck Depression Inventory (BDI), Santor et al. (1995) found that although the CES-D was better at

predicting depression among college students, the BDI was better at assessing more severe depression across a range of depressive symptoms. Considering that the present study investigated a non-clinical sample of college students, the CES-D was deemed to be a more appropriate instrument to measure depressive symptomology. Additionally, since the measure was used as a continuous variable, rather than as discrete categories, the over-classification of depression was of less concern in terms of study hypotheses.

Adjustments to wording identified during the pilot phase of the study were incorporated. One example of an adjustment was including parentheses with a short translation for colloquial terms in the CES-D scale for items such as "During the past week I felt that I could not shake off the blues even with help from my family and friends." In this item, the phrase "shake off the blues" was identified as a colloquial expression that may not be familiar to Indian students. As such, a parenthetical aside translating, "shake off the blues (stop feeling low)" was included. Similar adjustments were made accordingly.

Establishing criterion validity, Santor et al. (2005) reported a correlation of .87 between the CES-D and the BDI. Lin et al., (2008) reported an internal consistency reliability of .93 for the Mandarin version of the CES-D in their study of 9, 586 adolescents in Taiwan and a two-week test-retest reliability of .78. Sun et al. (2011) reported an alpha level of .85 for the Chinese version of the CES-D in their cross-sectional study of over 2,000 Chinese adolescents. Nieuwsma (2008) reported an internal consistency reliability of .84 among college students in North India and .87 in his U.S. sample. The Cronbach's alpha for the present study was .87.

Suicidality. Two measures of suicidality were completed. The Brief Reasons for Living Inventory for Adolescents (BRFL-A; Osman et al., 1996) was modified from the original Reasons for Living Inventory (RFL) by Linehan et al. (1983). The original inventory contained 48 potential reasons why one would want to live as opposed to committing suicide. This scale was modified into a 12-item scale called the Brief Reasons for Living Inventory by Ivanoff (1994). Osman et al. (1996) devised the Brief Reasons for Living Inventory for Adolescents by removing the Child-Related Concerns subscale that contained items about one's children, which may not be relevant to most adolescents and young adults. Results of confirmatory factor analysis indicated strong support for a 5-factor oblique model of the data after removal of these items. The 5 categories are fear of social disapproval, moral objections to suicide, beliefs about survival and coping, responsibility to family, and fear of suicide. The 14-item BRFL-A measures, as the original scale intended, potential reasons for one to *not* commit suicide on 6-point Likert-type response scale ranging from (0) "Not at all important" to (5) "Extremely important." Total scores range from 0-70 with lower scores indicating higher risk of suicidality. Sample items include "I believe only God has the right to end my life," "My family depends upon and needs me," and "Other people would think I am weak and selfish." Adequate internal consistency reliability information was presented by Osman et al. (1999) among 115 high school students in the U.S. They found that 4 out of 5 subscales displayed predictive validity by differentiating between suicidal and non-suicidal adolescents. Osman et al. reported a high inter-correlation of .92 between the BRFL-A and the original RFL. The Cronbach's alpha for the present study was .84.

A second measure related to suicidality is the Youth Self-Report of Child Behavior Checklist (YSR; Achenbach, 1991) which contains two items that have been used in previous studies to assess suicidality (i.e., Sun, Dunne, Hou, & Xu, 2011). These two items are "I think about killing myself" and "I deliberately try to hurt or kill myself." Responses range from (0) "not true" to (2) "very true or often true during the past 6 months." Responses are examined at the item level so total scores are not calculated. Since these two questions were extracted from another scale and there is no reliability or validity information available. The two items, however, had a Cronbach's alpha of .74.

Self-Esteem. The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) contains 10 statements about one's own value and worth as a person. Some statements suggest positive self-esteem such as "I feel that I am a person of worth, at least on an equal basis with others" and others are phrased negatively like "At times I think I am no good at all" and are reverse coded. Statements are responded to on a four-point Likert-type response scale ranging from (1) "Strongly agree" to (4) "Strongly disagree." Responses are typically summed to form total scores ranging from 10 – 40 with higher scores indicating a higher level of self-esteem. The RSES has been translated into over 28 languages (Schmitt & Allik, 2005). One month test-retest reliability of .82 was reported among undergraduates in the U.S. (Flaming & Courtney, 1984) and two-week test-retest reliability was .74 among 9,586 adolescents in Taiwan (Lin et al., 2008). Payakkakom (2008) reported a .80 Cronbach's alpha level in his study of 271 undergraduates in Thailand. Schmitt and Allik (2005) investigated a cross-national data set of nearly 17,000 participants from 53 countries around the world and reported a Cronbach's alpha coefficient of .81 and a Guttman split-half of .73 for the RSES among

college students in India. Schmitt and Allik (2005) found structural equivalence of global self-esteem across cultures and supported the use of the RSES to measure self-esteem in spite of cultural differences of collective versus individualistic countries. Cronbach's alpha for the RSES was.67 for the present study.

Data Analysis Plan. Hierarchical linear regression analyses were used to test Hypotheses 1 and 2 and path analysis was used to test Hypothesis 3.

CHAPTER 3

RESULTS

Three hypotheses were proposed in this study. Data on 608 (303 males and 301 females, 4 did not report a gender) undergraduates in India were analyzed to test these hypotheses. Manipulation checks were conducted on all study hypotheses to ensure that findings did not differ as a function of sample and were thus analyzed as one unit.

Descriptive Statistics

Table 2 presents the means, standard deviations, and correlations among the study variables. The Pearson's correlations conducted indicated that the BRFL-A, which measured reasons for *not* committing suicide, did not demonstrate appropriate convergent validity in this study. Prior research has used BRFL-A as a suicide resiliency factor. Higher values on this scale have been theorized to represent less suicidality since the individual would be endorsing stronger beliefs about various reasons for living. Based on the theory, the BRFL-A should be positively related to self-esteem and negatively related to stress, depression, and pressure. The BRFL-A was positively related to self-esteem in this study, $r = .10$, $p < .05$, but it was also positively correlated with academic stress, $r = .32$, $p < .01$, and parental pressure, $= .28$, $p < .01$.

These correlations emerged as the opposite of what has been found in prior research. Additionally, if the BRFL-A is an accurate (inverse) measure of suicidality, then being positively correlated with stress and pressure does not make conceptual sense. The BRFL-A was not correlated with the direct measures of suicidality obtained by the Youth Self Report (YSR) items that assessed for suicidal ideation and recent suicide attempts or self-injurious behavior in the past six months, $r = .05$, $p > .05$. Finally, the

BRFL-A was also not correlated with depression, $r = .1$, $p > .05$, a significant predictor of suicide in both the U.S. and Asia (Samuel & Sher, 2013). Convergent validity suggests constructs that are supposed to be related are in fact related. In this study, the BRFL-A was not related to direct measures of suicidality or to depression, as would be expected based on theory.

Correlation analyses between each of the five factors of the BRFL-A, as defined by Osman et al. (1996), and each of the study constructs were conducted. All five factors of the BRFL-A, fear of social disapproval, moral objections, survival and coping beliefs, responsibility to family, and fear of suicide, were again positively correlated with stress and pressure. Only factor 3, survival and coping beliefs, was negatively correlated with depression and suicidality, $r = -.16$, $p < .01$ and $r = -.13$, $p < .01$, respectively.

Table 2

Descriptive Statistics and Correlations among Study Variables

Variable	*M*	*SD*	1	2	3	4	5
1. Academic Stress	3.16	.70					
2. Self-Esteem	2.86	.42	-.27**				
3. Parental Pressure	3.98	.53	.41**	-.02			
4. Depression	1.92	.55	.39**	-.46**	.10		
5. Reasons for Living	3.87	.97	.32**	.10*	.28**	.10	
6. Suicidality	2.36	.87	.15**	-.22**	.02	.36**	.05

Note. Values based on scale means. *M* = Mean, *SD* = Standard Deviations.
* $p < .05$. ** $p < .01$.

Although this factor was negatively correlated with variables appropriately, it was still positively correlated with stress and pressure. Thus, neither the BRFL-A nor the individual factors identified within the BRFL-A demonstrated sound convergent validity in this study. Based on these findings, the BRFL-A was not used as a measure of suicidality as had been proposed. The BRFL-A did not appear to be related to suicidality for participants in this study.

Two different measures had been collected to predict suicidality. While the BRFL-A was not related to suicidality in this study, the two Youth Self-Report (YSR) items were a direct measure of suicidality and asked participants about whether the they had suicidal ideation or demonstrated any suicidal or self-harm behaviors in the past six months. These two items obtained a Cronbach's alpha of .74. Thus, a suicidality measure was created by calculating the total score of the two YSR items, ranging from 2 (not true) to 6 (very true), with higher scores indicating more suicidality. The correlations between this measure and other study variables were included in Table 2.

Suicidality was positively correlated with stress, $r = .15$, $p < .01$ and depression, $r = .36$, $p < .01$ and negatively correlated with self-esteem, $r = -.22$, $p < .01$. This indicates that the suicidality measure had appropriate concurrent validity, or in other words, that it was significantly correlated with variables in a way that makes conceptual sense. Academic stress was negatively correlated with self-esteem, $r = -.27$, $p < .01$ and positively correlated with perceived parental pressure, $r = .41$, $p < .01$, and depression, $r = .39$, $p < .01$. Self-esteem was negatively correlated with depression, $r = -.46$, $p < .01$. Table 3 shows the means and standard deviations for each construct by sample.

Responses to the items from the YSR provided general prevalence data of suicidality in the sample. Across samples, 564 participants responded to the item asking about suicidal ideation and 14.5% (n = 82) of these participants endorsed having had suicidal thoughts in the past six months. In terms of acting on these thoughts, 559 participants responded to the question about suicidal behavior and 12.3% (n = 69) of the participants who responded admitted to having deliberately attempted to hurt or kill themselves in the past six months.

Table 3
Means and Standard Deviations of Study Variables by Sample

Variable	Sample 1 Kerala (n= 202)		Sample 2 Delhi (n =354)		Sample 3 Chennai (n= 64)	
	n	*M (SD)*	*n*	*M (SD)*	*n*	*M (SD)*
Parental Pressure	128	4.00 (0.54)	262	3.97 (0.54)	54	4.00 (0.45)
Academic Stress	165	3.17 (0.59)	272	3.16 (0.78)	56	3.11 (0.62)
Depression	120	1.02 (0.52)	254	0.86 (0.56)	43	1.01 (0.50)
Self-Esteem	174	2.74 (0.35)	300	2.92 (0.45)	58	2.88 (0.42)
Reasons for Living	147	4.06 (0.89)	282	3.78 (1.02)	54	3.89 (0.85)
Suicidality	193	2.47 (0.99)	305	2.29 (0.79)	61	2.41 (0.86)

Note. M = Mean, *SD* = Standard Deviations (shown in parentheses), *n* = sample size.

In terms of depression, 417 participants provided complete data about their level of depression over the past week. The Center for Epidemiological Studies-Depression (CES-D) scale has been used to determine prevalence rates of depression in countries around the world. A total score cut-off of 16 or above on the CES-D has been used in

prior research to indicate presence or absence of depressive symptomology. The average total score for depression was above this cut-off (M = 18.42, SD = 10.97). Across samples, 54% of participants (n = 225) met the criteria for at least mild depressive symptomology.

Hypothesis Testing

Hypothesis 1 predicted that self-esteem would moderate the relationship between parental pressure and academic stress. The predictor, moderator, and outcome variables were calculated using the mean of the scale scores for each variable. Prior to testing the model, the raw scores of the predictor, parental pressure, and the moderator, self-esteem, were centered based on the conventions described by Frazier, Tix, and Barron (2004) regarding testing moderator variables. A new variable that was centered was created for each term by subtracting the mean of the entire sample for that variable, such as the mean of all participants on parental pressure, from the mean of the scale score for each participant. This process was repeated for the predictor and the moderator but not for the outcome variable. This process standardizes the scores by putting them into deviation units. Next, a cross-product term was created by multiplying the centered predictor and centered moderator variables. According to Frazier and his colleagues, this makes the results more meaningful and reduces unnecessary multi-collinearity or the degree of inter-correlation, between variables in the model. Dalal and Zickar (2012) also supported this claim and demonstrated in their research that mean centering does not change the power, standard error, R^2, or significance of results in hypothesis testing.

Missing values were observed in the data. A missing values analysis indicated that more than one percent of the observed values in the variables of interest were

missing. Little's (1988) Missing Completely At Random (MCAR) test was conducted to assess whether missing values were MCAR. Results of the missing values analysis were significant, $\chi^2 = 37.19$, $p < .01$, indicating that the missing data were not MCAR. Based on the recommendations of Graham (2009) on handling missing data that are not MCAR, multiple imputation (MI) was used as an estimation maximation (EM) method to predict values in place of the missing values for variables with less than 20% of the data missing. Variables with more than 20% of its data missing were not imputed. For H2, the academic stress and self-esteem means were imputed while parental pressure and the self-esteem by parental pressure cross product means were not imputed due to missing more than 20% of its data. Graham (2009) recommends conducting three to five imputations when data are only minimally missing. However, given the larger percentage of missing data in the present study, 20 imputations were conducted to ensure adequate balancing of statistical power.

Finally, a hierarchical linear regression analysis was conducted to test the hypothesis. In step one, the variable "sample" was dummy coded into two variables to represent the three groups and was entered into the equation as a manipulation. This was to check whether results were the same across samples. Next, in step two, the centered parental pressure and centered self-esteem variables were put into the equation. In step three, the cross-product term was added. In the original data set, 380 participants were included in the analysis. After conducting MI, 32 more cases were added to the final analysis. Hypothesis 1 was analyzed with a total of 412 participants for the pooled results. Results of the regression analysis for hypothesis 1 is shown in Table 4.

Results indicated that hypothesis 1 was not supported. Sample was not a significant predictor of stress in any of the 20 imputations, i.e., ΔF (1,410) = .02, p = .90. Given the relative novelty of MI as a technique for handling missing data, no standards

Table 4

H1: Hierarchical Linear Regression Analysis Regressed on Academic Stress

Variable	R^2	adj. R^2	ΔF	S.E.	*B*	*t*	*p*
Step 1	.00	-.00	0.17	0.69			
Sample Dummy Coded1				0.12	-0.04	-0.29	.78
Sample Dummy Coded2				0.08	-0.03	-0.41	.68
Step 2	.22	.21	56.25	0.62			
Cen_PPSS				0.06	0.48	7.82	.01**
Cen_RSES				0.08	-0.47	-6.10	.01**
Step 3	.22	.21	0.10	0.62			
Cen_PPSSxCen_RSES				0.13	0.03	0.21	.84

Note: Values based on Pooled imputation results.
*p < .05, **p < .001

have as of yet been outlined for reporting the pooled results of the imputations. Pooled results reported here were derived by calculating the average R^2, adjusted R^2, and ΔF statistics, respectively, for each block (i.e., steps one through three) across all 20 imputations, not including the original non-imputed results. While parental pressure and self-esteem negatively predicted academic stress, ΔF(2,408) = 57.32, p < .01, the interaction term of self-esteem by parental pressure did not add to the prediction of stress,

$\Delta F(1, 407) = .18$, $p = .75$. Parental pressure and self-esteem explained 22% of the variance in stress, adjusted $R^2 = .21$. When the interaction term was added to the model, however, no additional variance was explained. While parental pressure and academic stress were positively correlated (see Table 2), the relationship between parental pressure and stress did not vary as a function of self-esteem.

Frazier et al. (2004) noted that, in interpreting the results of a moderation hypothesis, one must use the unstandardized (*B)* coefficient as opposed to the standardized regression beta weight (β) to interpret the results because the beta weight is not appropriately standardized and interpretable for the interaction term. Pooled *B* coefficients, t-tests results, and corresponding *p*-values were produced in SPSS output and did not have to calculated manually. Inspection of individual variables indicated that both parental pressure ($B = .49$, $t = 7.86$, $p < .01$) and self-esteem ($B = -.46$, $t = -5.98$, $p < .01$) accounted for unique variance in the prediction of stress while the interaction term ($B = .03$, $t = .26$, $p = .80$) did not.

Hypothesis 2 predicted that self-esteem would moderate the relationship between academic stress and depression. Again, Frazier et al.'s (2004) protocol was observed. Means were computed for each scale and the predictor, academic stress, and the moderator, self-esteem, were centered. A cross-product term was created by multiplying the centered academic stress and centered self-esteem variables. Prior to running the regression, Little's (1988) MCAR t-test was conducted for the variables in hypothesis 2. The results were not significant, $\chi^2 = 10.25$, $p = .42$, indicating that the missing data in these variables were likely MCAR. Based on the recommendations of Graham (2009) on handling missing data that are MCAR, data were analyzed using SPSS default of list-wise

deletion, as opposed to multiple imputation, for parsimony of results. A total of 364 participants were included in this analysis.

Hierarchical linear regression was then conducted to test hypothesis 2. Again, the dummy coded "sample" variables were entered as a manipulation check in step one. In step two, the centered academic stress and centered self-esteem variables were entered into the equation. The cross-product term was added in step three. Table 4 depicts the results of the hierarchical linear model regressed on depression for hypothesis 2.

Results indicated that hypothesis 2 was not supported (see Table 5). While academic stress and self-esteem did predict depression, $\Delta F(2,360) = 73.78$, $p < .01$, the interaction term of self-esteem by academic stress did not add to the prediction of stress, $\Delta F(1, 359) = .02$, $p = .88$. Academic stress and self-esteem explained 30% of the variance in stress, adjusted $R^2 = .30$. However, when the interaction term was added to the model, no additional variance was explained. Table 1 indicates that academic stress was positively correlated with depression and that depression was negatively correlated with self-esteem. However, the relationship between stress and depression did not vary as a function of self-esteem.

Inspection of individual variables indicated that both academic stress ($B = .21$, $t = 6.12$, $p < .01$) and self-esteem ($B = -.50$, $t = -8.27$, $p < .01$) accounted for unique variance in the prediction of stress while the interaction term ($B = .01$, $t = .15$, $p = .88$) did not. Part correlations squared provide a measure of the unique variance accounted for by each predictor on the outcome. These results indicated that stress uniquely explained 7% of the variance in depression and self-esteem uniquely accounted for 13% of the variance in

depression while the interaction term accounted for less than 1% of the variance in depression. H2 was not supported.

Table 5

H2: Hierarchical Linear Regression Analysis Regressed on Depression

Variable	R^2	adj. R^2	ΔF	S.E.	*B*	*t*	*p*
Step 1	.02	.02	4.37	0.55			
Sample Dummy Coded1				0.11	0.09	0.86	.39
Sample Dummy Coded2				0.06	-0.14	-2.23	.03*
Step 2	.31	.30	74.16	0.46			
Cen_ESSA				0.03	0.22	6.28	.01**
Cen_RSES				0.06	-0.49	-8.24	.01**
Step 3	.31	.30	0.04	0.46			
Cen_ESSAxCen_RSES				0.07	0.02	0.21	.84

*$p < .05$, **$p < .001$

To understand better the factors impacting suicidality, Hypothesis 3 proposed a model of the relationships between parental pressure, academic stress, depression, and suicidality among undergraduates in India. Path analysis was conducted using MPLUS 6.11 software to compare the proposed model with the "full" model to determine goodness of fit. A benefit of conducting the analysis in MPLUS is the opportunity to conduct regression analyses simultaneously on multiple relationships and to determine both direct and indirect effects. A total of 557 participants were included in this analysis.

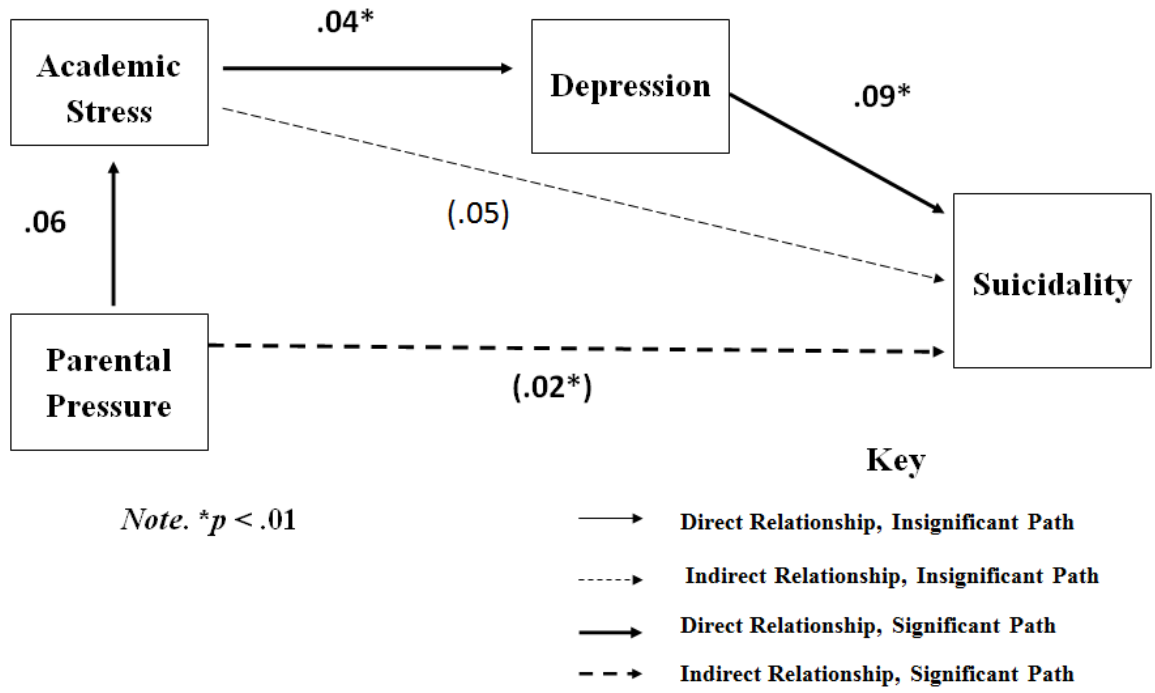
Assessment of the results of the path analysis indicated that there was indeed an identified model, that the algorithm converged, and that the standard errors were stable. Support for model fit was indicated. The full model is presented in Figure 5. A number of indices were used to determine goodness of fit of the proposed model. These indices assessed whether the proposed model functioned better than the full or "baseline" model in explaining the directional relationship of the variables. The pictorial representation of the model with associated causal relationships enhances interpretability. Given that the current study used observational data, however, no causal inferences can be made.

Endogenous variables are those variables that are not being explained by any other variable in the model. In regression terminology, it would be considered the independent variable. In this model, the endogenous variable was parental pressure (un-centered PPSS average). Exogenous variables in a path analysis are those that are being explained by something else, or the dependent variables. For this model, suicidality was an exogenous variable. Intervening variables, such as academic stress (ESS-A average) and depression (CES-D average) served as intermediary variables.

Fit indices for the proposed model were supported. The Chi-square test of model fit compares the saturated, full model with the independent variables model. A significant result would indicate that the proposed model does *not* do better than the full, saturated model. The Chi-square test of model fit was not significant ($\chi^2 = 1.21$, $df = 1$, $p = 0.27$), indicating that the independence model proposed was appropriate. The Root Mean Square Error of Approximation (RMSEA) is an index of goodness of fit that accounts for error of approximation in the population (Byrne, 1998). RMSEA values of below .05 indicate good fit. The RMSEA for the proposed path model was .02, thereby indicating

good fit. Values for both the Comparative Fit Index (CFI) and Tucker Lewis Index (TLI) were 0.99. CFI and TLI values above 0.95 indicate good fit. The Standardized Root Mean Square Residual (SRMR) was 0.01, which is below the 0.08 cutoff, again indicating support for the proposed model. The diagram illustrates that parental pressure positively predicted suicide, which predicted depression, which in turn predicted suicidality (see Figure 5). Each of these direct paths was significant. Additionally, parental pressure indirectly predicted suicidality through academic stress and depression, but not through stress alone.

Figure 5
Path Diagram Results of Proposed Model



Note. $*p < .01$

CHAPTER 4

DISCUSSION

This study explored the relationships between self-esteem, parental pressure, depression, academic stress, and suicidality by combining three samples of undergraduates in India. The emphasis on education, academic and professional success, and achievement in Asian culture is a widely recognized phenomenon. Parental values are often seamlessly passed down to children within a socio-cultural context that places respect for elders, obedience, and family honor above individual needs and desires (Markus & Kitayama, 1991). At its best, the Asian family unit can function as a source of motivation and inspiration for academic and professional success (Archer & Francis, 2006; Chow & Chu, 2007). However, the cost of chronic perceptions of pressure and desire to meet unreasonably high parental expectations has also been linked to countless negative physical and mental health consequences among Asians (i.e., Sun et al., 2011; Lin & Qinghai, 1995) and among Indians (i.e., Chatterjee & Basu, 2010; Purandare, 2010, Samuel & Sher, 2013).

The purposes of this study were three-fold. The first purpose was to construct a quantitative instrument to measure perceptions of overt and covert parental pressure. The second purpose was to examine the role of self-esteem as a potential buffer to the negative impacts of parental pressure and stress. The third purpose was to understand better the factors impacting suicidality by testing a path model testing possible predictors suggested by the literature.

The first purpose of the study, constructing an instrument to measure parental pressure and determining preliminary support for the reliability and validity of the scale,

was accomplished. Results of this study indicate initial support for the reliability and validity of the Parental Pressure to Succeed Scale (PPSS). The PPSS obtained a Cronbach's alpha of .93 in the pilot study and .86 in the full study. Support for predictive validity emerged from the ability of the PPSS to predict academic stress The final 45-item instrument appears to be a potentially sound measure of overt and covert parental pressure.

The relationship between parental pressure for education and the development of internalized personal pressure has been suggested by the literature, particularly among Asian adolescents. In particular, high parental valuing of education, subsequent personal valuing of education, and corresponding high achievement observed among Asians have been documented (i.e., Archer & Francis, 2006; Fuligni, 2007; Schneider & Lee, 1990). Some studies have even indicated that more parental pressure was linked to academic achievement, such as Akhtar and Aziz's (2011) study of Pakistani graduate students. While no conclusions about the link between parental pressure and achievement can be drawn from this study since achievement data were not collected, it does appear that Indian college students tend to align themselves with their perceptions of their parents' values. The correlation between the Parental Pressure for Success Scale (PPSS) and a measure of personal pressure supported this relationship. While personal pressure was not one of the constructs analyzed in this study, the fact that it was significantly correlated with the PPSS supports the concurrent validity of the PPSS and provides further empirical support for the argument that Indian parents' views are indeed transmitted to their children.

Bahadur and Dhawan's (2008) research also supports this claim. In their investigation of 120 urban middle class families in Allahabad, India, Bahadur and Dhawan discussed the impact of changing family structures on the development of values among Indian parents and children. Their paper discussed the shift toward nuclear families, dual earner households, and Western influences on Indian values. They found, however, that in spite of these emerging changes in India's family structure and cultural context, parents are still largely influential in determining their children's value systems.

The second purpose of the study was to explore the role of self-esteem as a potential buffer against the negative impacts of stress and pressure. Two hypotheses were proposed to investigate these relationships. Hypothesis 1 predicted that self-esteem would moderate the relationship between parental pressure and academic stress.

Asian parents (and as a consequence, Asian adolescents) place extraordinary importance on education. Research in Asia and in the U.S. has suggested that self-esteem may serve as buffer against the negative impacts of academic stress (i.e., Dixon & Robinson Kurpius, 2008; Li et al., 2010; Liu & Iwamoto, 2006). While self-esteem has not been directly tested as a moderator of the relationship between parental pressure and academic stress, researchers in the field have suggested this relationship may exist. More specifically, it had been hypothesized that individuals with higher self-esteem may not internalize parental pressure in the same way as do individuals with low self-esteem, in that those with a more positive self-concept have reduced perceptions of stress which those with low self-esteem do not. . This would imply that the relationship between parental pressure and academic stress is weaker for students with higher self-esteem. The data, however, did not support this hypothesis.

While self-esteem was not a significant moderator of the relationship between parental pressure and stress, both parental pressure and self-esteem were significant predictors of academic stress. That is, the relationship between parental pressure and academic stress did not vary as a function of self-esteem. The strength of the relationship between parental pressure and academic stress remained constant across levels of self-esteem. In terms of linear relationships, the more parental pressure an individual perceived, the more academic stress they reported. Similarly, self-esteem was inversely related to academic stress such that the more global self-esteem an individual endorsed the less perceived academic stress they reported.

The finding that parental pressure was a significant predictor of academic stress is consistent with previous research. Countless studies (i.e., Archer & Francis, Chakravarty. 2005; Chatterjee et al., 1978; Choi, Meininger, & Roberts, 2006; Chung & Cheung, 2008; Ganesh & Magdalin, 2007; Hussain et al., 2008) have alluded to the negative impact of excessively high parental expectations on youth academic stress levels. Additionally, this is the first study found in the literature to operationalize parental pressure with consideration of both overt and covert forms of pressure. A high score of parental pressure in this study included dimensions such as parental sacrifice, support, bragging, comparison, restriction, and punishment. This includes aspects of parental involvement that, at first glance, would appear supportive. In Western culture, parents paying tuition expenses may be seen as a sign of support from parents. In Indian culture, however, these abundant forms of support and sacrifice accumulate to form a sense of indebtedness among youth. The news articles about the increasing numbers of parents who internalize

the same pressure to succeed that they impose on their children (i.e., The Times of India, 2011) represents the interconnected nature of Indian families.

In Indian culture, the child's success is shared by the whole family and community, as are failures internalized and borne by the family. The fear of failure, disappointing one's family or not meeting their high expectations would then reasonably lead to feelings of academic stress. Pressure increases as a function of the types of parental messages, beliefs, and behaviors conveyed about academic success. In the highly context-driven Indian culture, children are taught to observe and infer familial preferences, expectations, and norms non-verbally from contextual factors. In this way, even a simple gesture such as praising a sibling for his or her academic success may translate into indirect pressure to maintain these high standards. Focusing on academics is seen as the primary duty of Asian children (Schneider & Lee, 1999). Unlike many Western cultures where adolescents may obtain part-time jobs to subsidize their income, it is very uncommon for Indian adolescents to engage in non-academic-related pursuits. Thus, within the traditional Indian family system, the underlying message conveyed to children is that in order to do one's duty, one must achieve high standards of academic success.

Duty and responsibility to one's family is a concept that is widely applicable to Asian cultural groups. Discussions of filial piety indicate the importance of respecting one's elders, honoring one's ancestors, behaving obediently, and placing the needs of others above one's own (Chow & Chu, 2008). While filial piety specifically is more of an East Asian concept, the underlying values espoused are similar to those present in South Asian culture. The concept of *dharma*, or one's duty, is a uniquely South Asian,

specifically Hindu, ideology (Gupta & Tracey, 2008). Dharma is core philosophy that outlines an individual's roles and responsibilities and is inherently a self-in-relation-to-other concept. Each member of the family knows their role because their dharmic duties are outlined for them in the scriptures and passed down from generation to generation through oral and written traditions. The primary duty of an Indian child is to bring honor to their family, namely through the pursuit of knowledge and academic success. The Vedas, or the most ancient of Hindu scriptures, specifically outlines the responsibilities of individuals at each stage of their lives. The Brahmacharya stage is the period of celibacy before one attains puberty when their lives are dedicated to the pursuit of knowledge. Modernization has impacted trends somewhat, but the underlying concepts remain the same.

Gupta and Tracey (2008) conducted a study to understand the extent to which Indians living in the U.S. adhere to dharmic values and its relation to career development. They developed the Dharmic Adherence Scale, a measure of acculturation based on the Hindu concept of dharma. Individuals with more dharmic adherence were perceived to be more traditional, or less acculturated, while those with less dharmic adherence were considered to have more modern leanings, or were more acculturated to Western values. As discussed in their article, dharma is an integral part of Indian culture and often extends into the academic and professional realm. They found that Indian Americans engaged in less career exploration because they tended to gravitate toward fields that would be acceptable to their parents. In Indian culture, finding a career with higher earning capacity and bringing honor and prestige to one's family can be perceived as a form of duty to one's parents. The PPSS in this study similarly included items that measured

participants' perceptions of their parents' expectations. These parental expectations included aspects of dharma such as caring for parents in their old age or helping support their family financially in the future. In this study, higher levels of these forms of duty-bound perceptions were linked to greater levels of academic stress.

In a related study, Wang, Puri, Slaney, Methikalam, and Chadha (2012), surveyed a cross cultural sample of 132 Indian and 386 Caucasian college students to examine the relationships among personal perfectionism, perceived family perfectionism, self-esteem, and depression. They proposed an interaction model with collectivistic values as the moderator. They found that family factors were more strongly correlated to other variables among those with higher collectivistic values. Results indicated that the link between academic stress (such as high academic expectations) and depression was stronger for those with more adherence to collectivistic, as opposed to individualistic values. In other words, collectivism moderated the relationship between high expectations and depression. Family standards or expectations were not correlated with depression and those with more collectivistic values reported lower levels of depression in their study. Collectivism was a moderator of the relationship between family-related variables and depression. This suggests that in the U.S., family-related variables are stronger predictors of outcome variables for individuals with more collectivistic outlooks.

This makes sense since valuing familial involvement is a key characteristic of collectivism. Individuals living abroad may have varying levels of adherence to collectivism, especially when they have immigrated to an individualistic society. Indians living abroad may display varying levels of acculturation based on a multitude of factors. Thus, the exploration of collectivism as a moderator of the relationship between

academic stress and depression made conceptual sense for their study. Wang et al. (2012) recognized the salience of parental pressures for academic success in Indian culture and drive towards "perfection," even among those living abroad.

While examining adherence to collectivism among Indians living abroad made sense in Wang et al.'s (2012) study, participants in this study were all living in India, a collectivistic society, at the time of data collection. Self-esteem was proposed as a more appropriate moderator of the relationship between academic stress and depression, given that it measures an individual's global perceptions of self-worth. Self-esteem as measured by the RSES is an individualistic factor that may differentiate between students who are more easily impacted by negative external stimuli, such as academic stress. These negative stimuli can include excessive workloads, fear of poor performance, or fear of disappointing a respected authority such as parents or teachers. Past research indicated that for some students, these pressures lead to feelings of depression (i.e., Lin et al., 2008). Academic stress, as measured by the ESS-A, contained multiple self-in-relation to others items including fear of disappointing one's parents or teachers. Thus, although self-esteem was not a significant moderator of the relationship between parental pressure and academic stress, both parental pressure and self-esteem significantly predicted academic stress.

The second hypothesis proposed that self-esteem would moderate the relationship between academic stress and depression. Research has suggested that the high levels of academic stress contribute to students feeling depressed (i.e., Purandare, 2010; Sahoo & Khess, 2010). Low self-esteem has also been found to be related to depression in previous studies. For example, in Lin et al.'s (2008) study of 9,586 adolescents in

southern Taiwan, lower self-esteem and poor academic performance were predictors of depression.

The current study tested whether self-esteem buffers against the negative impacts of stress on depression. It was hypothesized that the link between academic stress and depression would be stronger for those with lower self-esteem than for those with higher self-esteem. The results did not support this hypothesis. While academic stress and self-esteem both predicted depression, self-esteem was not a significant moderator. That is, the strength of the relationship between academic stress and depression remained consistent across levels of self-esteem. Table 2 indicates that stress and depression were positively correlated. The results of hypothesis 2 suggest that academic stress levels predicted levels of depression such that the more stress an individual perceived, the more depressed they felt. Although self-esteem did not moderate this relationship, the results did suggest that those with higher self-esteem tended to report lower rates of depression so self-esteem is an important protective factor against depression for Indian adolescents.

The third purpose of the study was to understand better the factors that impact suicidality among Indian adolescents by testing a path model of possible predictors of suicidality. Suicide has been identified as an issue of international significance and is a leading cause of death among college-aged students (Chatterjee & Basu, 2010). A multi-factorial approach has been recommended for assessing suicidality. Mental health concerns such as mood disorders, particularly depression, have been implicated as well-known pre-determinants of suicide (Singh et al., 2012; Singh & Joshi, 2008). While depression, childhood adversity, hopelessness, helplessness, and burdensomeness have been explored as possible pre-determinants of suicide in prior research (i.e., Joiner et al.,

2009; Nath et al., 2011; Singh et al., 2012; Singh & Joshi, 2008), researchers have increasingly suggested the consideration of protective factors, such as reasons for living, in the conceptualization of suicide (i.e., Chatterjee & Basu, 2010; Oquendo et al., 2005; Rich & Bonner, 1987).

In their investigation of the concurrent validity of a stress-vulnerability model of suicidal ideation and suicidal behavior, Bonner and Rich (1987) surveyed 202 college students in the U.S. and explored the factors related to self-predicted suicide probability. Participants filled out a battery of instruments and also reported on their self-predicted suicide probability, how likely they would be to act on their ideation in the future. Having few reasons for living was among the top predictors of self-predicted suicide probability in the model. Similarly, examining extrinsic and intrinsic factors that could relate to suicidal ideation among female college students in Kolkata, India, Chatterjee and Basu (2010) surveyed 120 female college students and found that 12.5% of their sample had "high" suicidal ideation. Results indicated a significant inverse relationship between reasons for living and suicidal ideation. Specifically, moral objections and future-related concern were negatively correlated with suicidal ideation. Other subscales, including survival and coping beliefs, responsibility to friends, fear of suicide, and fear of social disapproval, were not significantly correlated with suicidal ideation.

In spite of the presence of these and other studies that indicate a significant inverse relationship between having more reasons for living and suicidal ideation in both the U.S. (i.e., Malone, 2000; Oquendo et al., 2005; Bonner & Rich, 1987) and India (i.e., Chatterjee & Basu, 2010), reasons for living were not related to suicidality in the present study. The Brief Reasons for Living Inventory for Adolescents (BRFL-A) was not

inversely correlated with either suicidality or depression in this study as has been suggested by prior research. Also contrary to prior research, all five factors of the BRFL-A were significantly positively related to parental pressure and academic stress. This did not make conceptual sense since reasons for living are conceptualized as positive, protective factors unlike perceptions of stress and parental pressure, which were conceptualized as causing adolescent distress. The BRFL-A was not a valid measure of suicidality in this study. It was not correlated with the items that directly asked about suicidal ideation and recent attempts. Thus, the items directly measuring suicidality from the YSR were used to investigate study hypotheses.

To understand further the factors that impact suicidality, a model was proposed based on constructs in the study. Path analysis was used to investigate the relationships among these variables. Based on a review of the literature, it was hypothesized that parental pressure would predict academic stress and suicidality; academic stress would predict depression and suicidality; and depression would predict suicidality. These relationships had been suggested in the literature and the proposed model was based on an *a priori* theoretical framework. This model was tested using path analysis. As described earlier, path analysis is based on a foundation of regression. Thus, although it is often described as an analysis of "causal" relationships, it is widely acknowledged that a causal relationship cannot be established from observational data, such as that used in this study. Therefore, results presented here only indicate support for a proposed model of relationships.

The proposed model was in fact supported. This suggests that parental pressure leads to adolescents perceiving more academic stress, which makes them feel more

depressed and ultimately more suicidal. Based on this model, parental pressure indirectly impacts suicidality through academic stress and depression. In other words, rather than being a direct cause of suicidality among undergraduate students in India, parental pressure works by influencing the individual's perceptions of stress, which over time impacts their mood, particularly feelings of depression, and eventually impacts suicidal thoughts. Based on the stress-vulnerability model, depression is directly related to suicidality since it includes feelings of helplessness and hopelessness. Awareness of these relationships and the possible directional paths through which they are influenced provides a framework for future investigations of these constructs. The results of this model corroborates past research.

Research has suggested a link between parental pressure and academic stress (i.e., Akhtar & Aziz, 2011; Lakshmi & Arora, 2006; Wang et al, 2006). Parental pressure and academic stress have also been implicated in adolescent suicides in Asia (i.e., Beautrais, 2006; Bertolote et al., 2004; Jacob, 2008; Liu & Tein, 2005; Samuel & Sher, 2013). The link between academic stress and depression has been identified in studies of Asian adolescents (i.e., Ang & Huan, 2006; Bjorkman, 2007; Sun et al., 2011). Finally, depression has been considered a major precursor to the development of suicidality (i.e., Bertolote et al., 2004; Jacob, 2008; Joiner et al., 2009).

The importance of education in Asian society served as a foundation for this study. Social comparison exists not only at the child level, but also between parents as marks of status, prestige, or honor based on how one's child performs at school. High standards have the double effect of motivating high achievement, on the one hand, and over-burdening an individual if the standards exceed his or her capacity, on the other.

Pressure comes from many avenues including parents, teachers, friends, relatives, and society at large. Parents, however, are at the center of the Asian family unit and have the strongest influence on a child's development. Thus, parental pressure was explored in this study. Both covert parental pressure, such as sacrifices that parents make, expectations they hold, and their beliefs about success and education, as well as overt pressures such as punishment, restriction, and social comparison, impact feelings of pressure and academic stress for Indian adolescents.

Academic stress was, in turn, related to depression. Given that stress was defined by Lazarus and Folkman (1984) as perceiving oneself as unable to meet the demands or expectations of the environment, it would make sense that feeling overwhelmed with stress would lead to feelings of depression. Common feelings associated with depression include hopelessness, helplessness, and worthlessness. When an individual repeatedly experiences demands that seem to exceed their perceived capacity, over time they may feel helpless at being able to handle their circumstances. Additionally, without control over the conditions they face, such as excessive homework, fear of disappointing respected elders, and repeated exposure to this stress, they may feel hopeless about whether their situation will ever improve. That they are unable to manage the situation or improve independently may make them feel worthless and lose interest in life. These dejected feelings may lead to a sense that there is no hope for a better future. All combined, this may make an individual more susceptible to thoughts of passive suicidal ideation, fantasizing about "giving up," "wanting it all to end," or "just not being able to handle it anymore. The next level of ideation moves to more active thoughts such as wanting to kill or significantly hurt oneself. These may develop into plans of what one

can do and eventually individuals may act out their fantasy and self-injure or actually attempt suicide. According to the participants in this study, 12.3% had come to a point where they could no longer bear the pressure, stress, and painful emotions so they attempted to kill or harm themselves in the past six months. It is a well-known fact that the best predictor of future suicide probability is past suicidal behavior. That 69 of these participants attempted to end their lives based on this pressure is a tragedy.

As an additional part of the third purpose of this study, better understanding suicidality in India, prevalence rates of suicidal ideation and suicidal attempt behavior was also collected. Prevalence rates of suicidality in Asia have been found to vary significantly. Singh, Manjula, and Phillip (2012) recruited a cross-sectional sample of 436 undergraduate students in Bangalore, India and found that 15% of their sample had suicidal ideation with a plan. As mentioned previously, Chatterjee and Basu (2010) reported that 12.5% of their sample of 120 female college students in Kolkata, India had "high" suicidal ideation. In this sample, suicidal ideation rates were at 14.5%. Clearly this is an issue of international significance.

Limitations

Several limitations of this study should be noted. One potential issue was the heterogeneity of the samples. In striving to create a more representative sample of Indian undergraduate students to increase generalizability of findings, this also introduces more error. University context for each of the samples was different, including concepts such as rural versus urban, tuition costs, average family income level, and self-reported language proficiency. In Sample 1, students attended a public, government-aided

university whereas in Samples 2 and 3, participants attended private universities. For the private colleges, tuition would have been more expensive, parents would need to be more affluent, courses were taught in English, and many students would have goals of working abroad in the future. Additionally, surveys were collected across the span of one year and participants submitted surveys at varying times. This may have introduced unintended variability since vulnerability factors such as stress levels, depression, and pressure may have been influenced by exam schedules. It was noted, however, that the relative time point in the semester (mid-late semester) was similar across samples.

A number of factors may have contributed to the lack of support for hypotheses 1 and 2 in the present study. One possibility is that while the Rosenberg's Self-Esteem Scale (1965) was chosen due to having a strong history of cross-cultural data to indicate adequate reliability and evidence of validity from studies both in the U.S. and across the globe, it may not be a construct that is as salient for Indian undergraduate students given the inter-dependent nature of the culture. Indeed, reliability analyses indicated that reverse coded items appeared qualitatively different than non-reverse coded items.

Another reason could have been that the PPSS did not assess all aspects of parents' educational views that can be perceived as pressure. Items were constructed largel based on theoretical models and quantitative research related to Asians/Asian Americans. More quantitative measures and research may enhance the ability of the scale to capture nuances of overt and covert pressure. There is also a possibility that a more complex model underlies these relationships.

The age range and group considered may not have captured the peak of stress for students. For example, while most undergraduate college students still live at home as

opposed to in dormitories, high school students may have more direct contact with parents and thus more perceived pressure from parents, more feelings of academic stress than college students. Indeed, Iqbal, Shahnawaz, and Alam (2006) found that high school students were more depressed than college students in Haryana, India. High school students still living at home and under the intense pressure of college entrance exams, for example, may perform differently on these variables.

The issue of the reliabilities of measures in Sample 1 for the RSES requires some attention. The most salient problem with low reliability is a resulting lack of power, which in turn reduces the likelihood of obtaining significant differences in hypothesis testing. Language barriers may have been a primary concern. Specifically, adequate reliabilities for RSES scores have been obtained in both urban and rural Indian samples when the RSES was translated into Hindi. Sample 1 data was collected in the state of Kerala where the common language spoken is Malayalam. While Kerala has one of the highest literacy rates in India, the majority of participants in Sample 1 rated themselves as only "a little fluent" in English. Therefore, English language proficiency may have been an issue. Asian cultural values of self-effacement and humility (i.e., Weisz, 1989) may have been at play with regards to students' perceived language proficiency. It is possible that students erred on the side of caution and under-reported their ability to communicate in English. The professor who administered the Sample 1 surveys, Dr. Vineeth Mathoor, noted that students were particularly self-conscious about their English proficiency. He explained:

> "The tragedy is that students are encouraged to learn English and there are a large number of English medium schools in India, but many of the students are scared of English because it's taught as a very scary subject.

> From the parents and the local people, they say that unless you learn English you are going to amount to nothing. Even though it is a simple language, if you introduce a subject as big as a Himalaya, of course they will be scared. This takes place even in the primary school level. They will say that there is no point in learning any language but English. Students are very scared whether their grammar, spelling, or language is right when they speak English. If you do not speak, there is no criticism."

Regardless of self-perceptions, however, if students did not interpret the questions as intended, this could have affected the Cronbach's alpha estimates and validity of the scales for Sample 1.

The Cronbach's alsph of Sample 1 was in fact always slightly lower than for the rest of the sample. In general, however, all of the Cronbach's alpha levels of Sample 1 were still above the .70 cutoff except the RSES, which for Sample 1 was .47. Cronbach's alphas for Samples 2 and 3 for the RSES is comparable to other studies using the RSES in India (i.e., Joshi & Srivatsava, 2009; Schmitt & Allik, 2005). It is important to note, however, that some of those studies may have been conducted in urban settings since it is much easier to recruit participants from big cities due to access to transportation, internet, electronics, and fluency in English.

The reliability of each instrument was examined for Sample 1. If in fact the problem was only due to translation issues, then low reliabilities should have been obtained across instruments. This was not the case, however. All the instruments in Sample 1 had acceptable Cronbach's alphas (above .70) except for the RSES. This suggests that the low reliability of RSES may not have been due to translation effects, since if it were, all the instruments would have been similarly, if not equally, impacted. Thus, there may have been other reasons for these differences in reliability.

Participant fatigue and/or carelessness may have impacted reliability as well since the ordering of instruments was consistent across all administrations of the survey and the RSES was always last. If it were simply fatigue, however, the reliabilities of the instruments should have indicated some gradual reduction toward the end of the survey. If it were carelessness, this attitude would have impacted the reliability of other scales in the survey but, as mentioned above, that was not the case. Since the RSES is only 10 items and was the last page on the survey in the paper-pencil form (used for Sample 1), if the participants were merely fatigued, their fatigue should also have impacted the reliability of the instruments directly before the RSES. This was not the case. In fact, even the scales directly before the RSES - the Brief Reasons for Living Inventory and the Youth Self-Report items - had acceptable reliabilities, which suggests that translation and ordering of instruments may not have been the sole causes of this difference in reliability between Sample 1 and the other two samples.

That leaves the question of whether any aspect of the content or structure of the RSES was in question. Reliability analyses in the present study indicated that the reverse coded items in the RSES reduced the reliability most. Each item of the RSES was examined and some key differences were noted between reverse coded items and non-reverse coded items. The reverse coded items were worded in the negative, such as "At times I think that I am no good at all." Also, there were more "I" related statements in the reverse coded items as opposed to the presence of "other" related and more "positive" statements in the non-reverse-coded items. From a cultural stand point, rural regions in India may be less influenced by globalization and western individualism than are the urban regions. Thus, the RSES may have held up better in the urban sample because 1)

concepts of the individual self may have been more salient for students living in urban areas due to the impact of western culture in these areas, and 2) collective self-esteem may be more indicative of self-esteem for students in the rural regions given the acceptable reliability of the scale when the 5 reverse coded items were removed. The non-reverse coded items contained more themes of "self-in-relation to others," a critical lens for those embedded in inter-dependent culture such as the Indian culture.

Another issue that arose was lack of convergent validity of the BRFL-A in this study. There are many possible reasons why the BRFL-A did not act as hypothesized and theorized in prior research. Language issues may have been a factor. Participants responded to the survey in English, which could easily have been their second, third, or even fourth language since many Indians speak a number of languages due to the heterogeneity of India's culture. Phrasing in various key parts of the survey such as in the directions and in the anchors of the scale may have been confusing to participants. For example, the directions were phrased in the negative, "reasons for 'NOT' committing suicide," and could have been misleading. Similarly, the anchors of the scale ranged from 1 to 6 with varying levels of "unimportant" to "important." Since there are only 2 letters that differentiate between unimportant and important, these terms could have blurred and increased participant carelessness or confusion. The ordering of instruments may also have been an issue since the BRFL-A was always the second to the last survey. Participant fatigue and/or carelessness may have impacted their responses.

Another issue could have been that although the instrument measured ratings, or *level* of importance, for each reason for living, it did not account for the weight of each item. Consider this example: A participant may mark, "6," meaning that this is an

"extremely important" reason *not* to commit suicide, on only one item and mark values of "1," or "Not at all important" for all other items in the scale. Based on the logic of the BRFL-A, this response pattern would indicate that he had few reasons for living and was thereby more likely to be suicidal. This participant, however, may not need multiple reasons to rule out suicide an option. The one item about not wanting to hurt his family may be important enough to him that he ruled out suicide altogether and did not need additional reasons not to kill himself. That means when he is compared with a person who marked values of "6" on all items, the logic of the BRFL-A assumes that these two participants have a differential probability of suicidality, which may not be the case. Thus, the construct validity of the BRFL-A in this study is in question since it does not capture these nuances and does not relate to suicidality in this study. Additionally, there was no assessment of passive suicidal ideation, which may have represented more of the range of suicidality for participants, especially given that this is a non-clinical college sample.

That being said, the BRFL-A obtained high internal consistency reliability with a Cronbach's alpha of .84. If these explanations mentioned above were the cause of this discrepancy, then that would have likely introduced much more variability and impacted the Cronbach's alpha level of the scale. Since the reliability remained high, this suggests that it is more likely that whatever caused participants to answer as they had would have impacted the participants in the sample similarly since they responded in a similar pattern.

Another possible explanation for why the BRFL-A did not act as hypothesized could have been that the BRFL-A was measuring some other underlying construct for the

Indian adolescents in this study. For example, two subscales, fear of social disapproval and responsibility to family, related to how "others" or "family" may perceive them. Since these six items represented nearly half of the scale, this may explain why the BRFL-A was positively correlated with parental pressure and academic stress since they all accounted for an aspect of "other-orientation" which is a salient collectivistic value for Indian adolescents. Even if this were the case, it was unclear why having more reasons for living was not inversely related with depression in this study. Due to these issues, the two items of the YSR were used to measure suicidality instead. Using a scale of only two items limits the breadth of understanding for that construct. There is also no prior reliability and validity information about using these two items as a scale. For this study, the two items obtained a Cronbach's alpha of .74. These and other factors may have impacted the results found in this study.

Conclusions

In spite of the limitations present in this study, a number of important objectives were accomplished. First, a preliminary measure of parental pressure for success, the PPSS, was constructed. Based on the participants in this sample, the PPSS appears to have good preliminary reliability for use with college students in different states in India. The expert reviewers who participated in the pilot phase of the study endorsed the construct validity of the PPSS and eliminated items that did not appear to contribute to the construct of parental pressure, aiding in tightening the scale. The PPSS also demonstrated good convergent validity in being correlated with the personal pressure scale (not analyzed in this study). Future studies are needed to further validate this instrument.

While self-esteem was not a significant moderator in this study, parental pressure did predict academic stress among the undergraduates in this study. The more perceived parental pressure a student noted, the more reported academic stress they felt. Additionally, academic stress did predict depression. The more academic stress a student reported, the more depressed they tended to feel. Although self-esteem was not a significant moderator, it did predict both academic stress and depression. Self-esteem was negatively correlated with both stress and depression, indicating that the more self-esteem an individual had, the less stressed or depressed they felt. These relationships were further explained by the path model that included their relationships to suicidality, a serious issue facing Indian youth. The final model indicated that parental pressure impacts academic stress directly, and that academic stress impacts depression – as suggested by the literature. A unique finding was the indirect effect parental pressure has on suicidality through academic stress and depression. In this case, academic stress and depression were key intervening variables in the relationship between parental pressure and suicidality. This supports popular belief that parental pressure for academic success in India is a key player in adolescent suicides, even if it is through its indirect impact on feelings of stress and depression.

These findings present empirical support for the argument that parental pressure, academic stress, depression and suicidality are significant concerns for Indian undergraduate students. Furthermore, it highlights significant risk factors for Indian youth and potential causes of suicide, including parental pressure, academic stress, and depression. Parental pressure impacted perceptions of academic stress which, in turn, impacted feelings of depression, which then led to suicidal thoughts and behaviors. As

predicted, parental pressure and academic stress were implicated in the development of these negative, sometimes deadly, risk factors – albeit indirectly through the development of depressive symptomology. Adolescent distress and suicide are issues of key concern and need to be addressed.

Implications of this study for parents, teachers, administrators, and policy makers include having more formal empirical support for the trends recognized informally by the media following tragic incidents of student suicide. The Indian government appears aware of this woeful trend and has been taking some initiatives to increase access to social programs to educate the public about the negative consequences of academic stress and parental pressure. A systemic shift can be difficult to orchestrate given the embededness of these social values of achievement in a highly competitive job market with limited access to resources. Further educating the public about research that supports the use of authoritative versus authoritarian or permissive parenting styles in actually enhancing student success may be beneficial. Additionally, describing the construct of parental pressure as discussed in this study – as containing both overt and covert dimensions and even taking the form of seemingly harmless or "supportive" acts of sacrifice – may help parents better understand the impact their beliefs and behaviors have on their children.

Directions for Future Research

The results of this study indicated support for the proposed model of relationships between parental pressure, academic stress, depression, and suicidality. Understanding these factors in greater depth may fuel a number of additional research topics. While the PPSS designed for this study indicated strong reliability within this study, further

research is needed to validate this instrument. The scale may benefit from further dimension reduction and more extended development and validation of the construct of parental pressure. More information is needed on how the scale performs when translated, back-translated, and administered to different Indian sub-populations. Validating this instrument for use across Indian, Asian, and international sub-group populations would increase its functionality and use in cross-cultural research investigations. Also, based on the limitations of path analysis to determine "causal" inferences, experimental research would provide clearer evidence. Additionally, more qualitative research aid the understanding of these constructs from an emic perspective.

This research focused on three primary objectives – developing the PPSS, examining the potential role of self-esteem as a moderator, and testing the use of a model to explain the relationships between variables in the study that may predict suicidality. The proposed model provides a preliminary framework for understanding factors that impact suicidality both directly and indirectly among adolescents in India. Given that self-esteem has not been given much attention in the discussion of suicidality in the research literature, it was not included in the path model. The findings from this study, however, suggest that self-esteem is a significant predictor of both academic stress and depression. Future research should explore the possibility of integrating self-esteem and other prophylactic factors into the model to better understand both the factors that put adolescents at risk as well as those that serve protective functions.

There were also many dimensions that have yet to be explored including, but not limited to, age, gender, socio-economic status, Indian sub-culture, caste, religion, and many other factors. Different age groups may experience stress differently and it may be

interesting to identify when exactly these pressures begin and the trajectory of pressure across one's academic and professional development. Longitudinal research may be able to identify these trends better. Additionally, gender is another key element in Indian culture due to the largely patriarchal society and the great variability in women's roles depending on level of traditionality versus modernity. Many former studies indicated a difference in access to educational opportunities and cultural norms and expectations for men versus women. Studies also suggested group mean differences in levels of self-esteem. An interesting question to explore may be whether gender differences intersect with other dimensions to form more complex relationship underlying these constructs. Socio-economic status and the concept of rural versus urban settings may be another area to explore given the vast diversity of settings in India and how that may impact development of pressure, such as high expectations to achieve that are driven by a need to maintain high status or to rise above the family's plight and provide a better life for them. Other issues may be stereotype threat for those from marginalized castes and covert discrimination, even within the family, based on skin tone and other features. Indeed, a study conducted in the state of Gujarat found that caste-related issues were major factors relating to negative life events and perceptions of stress.

Another interesting issue is the concept of the "golden mean" of parental pressure that some researchers have alluded to, suggesting that it can be effective in improving motivation or achievement to a certain degree until it crosses a certain point and then becomes counterproductive. Future research may explore whether there is such a thing as "golden mean" of parental pressure and how parents can find this balance. In other

words, what factors determine a healthy amount of parental pressure versus excessive pressure?

Further exploratory research may uncover more complex relationships. The dearth of empirically-based studies and standardized measures to investigate problems facing Indians makes this particularly challenging; but the benefits outweigh the costs. Considering the many negative consequences of high perceptions of stress, including suicide and depression, it is essential to identify and address factors impacting perceptions of stress and pressure. More interventions may be designed to neutralize the negative impacts of pressure, improve mood, and reduce suicidal thinking. Further enhancing and designing instruments from within the Asian cultural context would increase our understanding of these phenomena. More instruments assessing self-in-relation to others factors would provide additional insight about how students conceptualize their worlds. These measures should be sensitive to cultural factors such as honor, shame, and duty to one's parents. The current research highlights the need for continued investigation of factors related to parental pressure, especially in terms of its relationship to academic stress, depression, and suicide among Indians.

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APPENDIX A

INSTITUTIONAL REVIEW BOARD

APPROVAL FOR EXEMPT RESEARCH

ASU Knowledge Enterprise Development

Office of Research Integrity and Assurance

To:	Sharon Kurpius EDB
From:	Mark Roosa, Chair Soc Beh IRB
Date:	06/29/2012
Committee Action:	**Exemption Granted**
IRB Action Date:	06/29/2012
IRB Protocol #:	1206007969
Study Title:	College Stress in India

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

APPENDIX B

INFORMED CONSENT LETTER

Dear Participant,

My name is Arti Sarma and I am a Ph.D. student at Arizona State University, USA. For my thesis, I am exploring Indian undergraduate students' perceptions of their parents' involvement in academics and their feelings of academic stress. It would be a great help if you could fill out my 15 minute, anonymous survey.

Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you may skip them or you can withdraw from the survey at any point without penalty. Your survey responses will be strictly anonymous and confidential. Your information will be coded and will only be reported as a summary with all other respondents. If you have questions at any time about the survey or the procedures, you may contact Arti Sarma by email at arti.sarma@asu.edu or Dr. Sharon Robinson-Kurpius at Sharon.kurpius@asu.edu. Thank you very much!

If you have questions at any time about the survey or the procedures, you may contact me by email at Arti.Sarma@asu.edu or my advisor, Dr. Sharon Robinson-Kurpius at Sharon.Kurpius@asu.edu.

If you know other undergraduate students living in India, please share it with them!

Thank you for considering my request!

Sincerely,

Arti Sarma, M.A.

Arizona State University
Counseling Psychology Program

http://artidissertation.questionpro.com

APPENDIX C

SURVEY

DIRECTIONS: Please read all directions carefully. Each section will have its own set of directions. Answer questions as honestly as possible and try not to leave any blank. For questions presented in a table, mark your answer by placing a "check mark" (☑) in the appropriate box. The survey is printed on 2-sided paper, so please check both sides of each page to ensure you have answered all the questions.

Demographics

What is your gender?

- □ Male
- □ Female

What is your age? _____

What is your mother tongue (language spoken at home)? (Please circle below)

1. Tamil
2. Telegu
3. Kannada
4. Malayalam
5. Hindi
6. Other

How fluent are you in English? (Please circle below)

1. Not at all fluent
2. A little fluent
3. Comfortably Fluent
4. Very fluent

Which city in India do you live in?

_____

What is your religion? (Check the appropriate box)

- □ Hindu
- □ Muslim
- □ Christian
- □ Jain
- □ Sikh
- □ Buddist
- □ Other: _____

What is your caste? (optional) _____

What is your Major/Academic field of study?

_____

What is the name of your college/university?

_____

What year are you in college? (Check the appropriate box)

- 1st
- 2nd
- 3rd
- 4th
- 5th

What is the highest education level your parents have completed? (choose 1 for your mother and 1 for your father)

	Father	Mother
Primary School	❑	❑
Secondary School	❑	❑
High School	❑	❑
Junior College	❑	❑
Undergraduate	❑	❑
Post-Graduate	❑	❑
Doctoral	❑	❑

What income level would you consider your family to be: (Please circle below)

1. Low income
2. Middle income
3. High income

Part 1: Perceptions of Parental Beliefs

DIRECTIONS: PLEASE READ

Rate your level of agreement or disagreement with each statement based on what you think your parents believe ranging from Strongly Disagree to Strongly Agree.

My PARENTS believe that…	**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Agree**	**Strongly Agree**
…a good education is the best way to become successful.	❑	❑	❑	❑	❑	❑
…as long as I try my best, it does not matter what marks/grades I receive.	❑	❑	❑	❑	❑	❑

…academics should be the main focus of my life right now.	❑	❑	❑	❑	❑	❑
…I should be allowed to choose any field of study that I like.	❑	❑	❑	❑	❑	❑
…it is my duty to support them financially when they become old.	❑	❑	❑	❑	❑	❑
…I can be doing better than I am doing right now academically.	❑	❑	❑	❑	❑	❑
…it is my duty to help my brothers and/or sisters financially in the future.	❑	❑	❑	❑	❑	❑
…it is my responsibility to earn enough money to be able to support my extended family (such as grandparents, etc) if they need it in the future.	❑	❑	❑	❑	❑	❑
…I should pursue the profession that they choose for me rather than one that I choose for myself.	❑	❑	❑	❑	❑	❑
…society's opinion about my academic success or failure is important.	❑	❑	❑	❑	❑	❑
…it is more important to choose a profession that offers financial stability rather than choosing a profession that I enjoy.	❑	❑	❑	❑	❑	❑
…I should push myself to be the best academically.	❑	❑	❑	❑	❑	❑
…it is worth sacrificing their personal desires for the sake of my academic and professional success.	❑	❑	❑	❑	❑	❑
…when I perform poorly in college it reflects badly on them.	❑	❑	❑	❑	❑	❑
…having a successful career is a sign of hard work.	❑	❑	❑	❑	❑	❑
…having an undergraduate degree is essential to getting a good job in the future.	❑	❑	❑	❑	❑	❑
…having a post-graduate degree is essential to getting a good job in the future.	❑	❑	❑	❑	❑	❑
…having a career that is respected by the community is	❑	❑	❑	❑	❑	❑

important.						
…they are responsible for my successes and for my failures.	❑	❑	❑	❑	❑	❑
…I should aim for the highest professional goal regardless of barriers that may get in the way.	❑	❑	❑	❑	❑	❑
…my success will bring honor to our family, our society, and our country.	❑	❑	❑	❑	❑	❑
…my choice of profession will have an impact on who I marry.	❑	❑	❑	❑	❑	❑
…I can accomplish anything if I work hard enough.	❑	❑	❑	❑	❑	❑
…spending time with friends will distract me from my studies.	❑	❑	❑	❑	❑	❑
…helping me be successful is one of their primary goals in life.	❑	❑	❑	❑	❑	❑

	Mother	Father	Both Parents
Which parent were most of your responses based on?	❑	❑	❑
Who is/was more involved with your academics?	❑	❑	❑
Who is/was more involved with your career choice?	❑	❑	❑

Part 3: Personal Academic Beliefs Scale

DIRECTIONS: PLEASE READ
Rate your personal level of agreement or disagreement with each statement ranging from Strongly Disagree to Strongly Agree.

I BELIEVE THAT...	**Strongly Disagree**	**Disagree**	**Some-what Disagree**	**Some-what Agree**	**Agree**	**Strongly Agree**
… it is important for me to be able to support my parents financially if they need it once I complete my studies.	❑	❑	❑	❑	❑	❑

…it is important for me to be able to financially support my brothers and sisters if they need it once I complete my studies.	❑	❑	❑	❑	❑	❑
…it is important for me to be able to financially support my relatives, such as grandparents, aunts, or uncles, if they need it once I complete my studies.	❑	❑	❑	❑	❑	❑
…it is my duty to help pay for my brother or sister's wedding.	❑	❑	❑	❑	❑	❑
…making my parents proud is a priority in my life.	❑	❑	❑	❑	❑	❑
…it is my duty as a son or daughter to meet my parents' expectations.	❑	❑	❑	❑	❑	❑
…disappointing my parents would feel unbearable.	❑	❑	❑	❑	❑	❑
…obeying my parents conveys my respect for them.	❑	❑	❑	❑	❑	❑
…bringing honor to my family is one of my primary duties.	❑	❑	❑	❑	❑	❑
…making my parents happy is more important than making myself happy.	❑	❑	❑	❑	❑	❑
…it is my responsibility to care for my parents or contribute to their care when they become old.	❑	❑	❑	❑	❑	❑
…it is important to be a good role model for my brothers and sisters.	❑	❑	❑	❑	❑	❑
…being a good role model for others in my family or community is important.	❑	❑	❑	❑	❑	❑
…maintaining my parents' social status by finding a profession with at least as much prestige as theirs is important.	❑	❑	❑	❑	❑	❑
…my professional success would be a reflection of my parents' hard work in raising me.	❑	❑	❑	❑	❑	❑

…if I were to fail to achieve my academic goals, it would make my parents look bad to society.	❑	❑	❑	❑	❑	❑

Part 4: Mood

DIRECTIONS: Below is a list of the ways you might have felt or behaved. Please rate how often you have felt this way during the past week.

DURING THE PAST WEEK...	**Rarely or none of the time (Less than 1 day)**	**Some or a little of the time (1-2 days)**	**Occasionally or a moderate amount of time (3-4 days)**	**Most or all of the time (5-7 days)**
...I was bothered by things that usually don't bother me.	❑	❑	❑	❑
…I did not feel like eating; my appetite was poor.	❑	❑	❑	❑
…I felt that I could not shake off the blues (stop feeling low) even with help from my family or friends.	❑	❑	❑	❑
…I felt I was just as good as other people.	❑	❑	❑	❑
…I had trouble keeping my mind on what I was doing.	❑	❑	❑	❑
…I felt depressed.	❑	❑	❑	❑
…I felt that everything I did was an effort.	❑	❑	❑	❑
…I felt hopeful about the future.	❑	❑	❑	❑
…I thought my life had been a failure.	❑	❑	❑	❑
…I felt fearful.	❑	❑	❑	❑
…My sleep was restless.	❑	❑	❑	❑
…I was happy.	❑	❑	❑	❑
…I talked less than usual.	❑	❑	❑	❑
…I felt lonely.	❑	❑	❑	❑
…People were unfriendly.	❑	❑	❑	❑

…I enjoyed life.	❑	❑	❑	❑
…I had crying spells.	❑	❑	❑	❑
…I felt sad.	❑	❑	❑	❑
…I felt that people dislike me.	❑	❑	❑	❑
…I could not get going" (get motivated to do things).	❑	❑	❑	❑

Part 5: Academic Stress

DIRECTIONS: Rate your level of agreement with each statement ranging from Strongly Disagree to Strongly Agree.

	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
I feel a lot of pressure in my daily studying.	❑	❑	❑	❑	❑
There is too much competition among classmates that brings me a lot of academic pressure.	❑	❑	❑	❑	❑
Future education and employment bring me a lot of academic pressure.	❑	❑	❑	❑	❑
My parents care about my academic grades too much that brings me a lot of pressure.	❑	❑	❑	❑	❑
I feel that there is too much homework.	❑	❑	❑	❑	❑
I feel that there is too much schoolwork.	❑	❑	❑	❑	❑
I feel that there are too many tests/exams in the school.	❑	❑	❑	❑	❑
I feel that I have disappointed my teacher when my test/exam results are not ideal.	❑	❑	❑	❑	❑
I feel that I have disappointed my parents when my test/exam results are poor.	❑	❑	❑	❑	❑
Academic grade is very important to my future and even can determine my whole life.	❑	❑	❑	❑	❑

I feel stressed when I do not live up to my own standards.	❑	❑	❑	❑	❑
When I fail to live up to my own expectations, I feel I am not good enough.	❑	❑	❑	❑	❑
I usually cannot sleep because of worry when I cannot meet the goals I set for myself.	❑	❑	❑	❑	❑
I always lack confidence in my academic grades.	❑	❑	❑	❑	❑
It is very difficult for me to concentrate during class.	❑	❑	❑	❑	❑
I always lack confidence with my academic scores.	❑	❑	❑	❑	❑

Part 6: Reasons for Living
How important to you is this reason for NOT committing suicide?

	Not at all important	**Quite unimportant**	**Some-what unimportant**	**Some-what important**	**Quite important**	**Extremely important**
I am concerned about what others would think of me.	❑	❑	❑	❑	❑	❑
Other people would think I am weak and selfish.	❑	❑	❑	❑	❑	❑
I would not want people to think I did not have control over my life.	❑	❑	❑	❑	❑	❑
I believe only God has the right to end a life.	❑	❑	❑	❑	❑	❑
My religious beliefs forbid it.	❑	❑	❑	❑	❑	❑
I consider it morally wrong.	❑	❑	❑	❑	❑	❑
I believe I can find other solutions to my problems.	❑	❑	❑	❑	❑	❑
I believe everything has a way of working out for	❑	❑	❑	❑	❑	❑

the best.						
I have the courage to face life.	❑	❑	❑	❑	❑	❑
My family depends upon me and needs me.	❑	❑	❑	❑	❑	❑
I love and enjoy my family too much and could not leave them.	❑	❑	❑	❑	❑	❑
It would hurt my family too much and I would not want them to suffer.	❑	❑	❑	❑	❑	❑
I am afraid of death.	❑	❑	❑	❑	❑	❑
I am afraid of the unknown.	❑	❑	❑	❑	❑	❑

DURING THE PAST 6 MONTHS...

	Not true	True	Very True
...I have thought about killing myself.	❑	❑	❑
...I have deliberately tried to hurt or kill myself.	❑	❑	❑

Part 7: Self-Beliefs

DIRECTIONS: Please rate your level of agreement with the following statements ranging from Strongly Disagree to Strongly Agree.

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
I feel that I am a person of worth, at least on an equal basis with others.	❑	❑	❑	❑
I feel that I have a number of good qualities.	❑	❑	❑	❑
All in all, I am inclined to feel that I am a failure.	❑	❑	❑	❑

I am able to do things as well as most other people.	❑	❑	❑	❑
I feel that I do not have much to be proud of.	❑	❑	❑	❑
I take a positive attitude toward myself.	❑	❑	❑	❑
On the whole, I am satisfied with myself.	❑	❑	❑	❑
I wish I could have more respect for myself.	❑	❑	❑	❑
I certainly feel useless at times.	❑	❑	❑	❑
At times I think that I am no good at all.	❑	❑	❑	❑

Was there anything about the way you answered the survey that we should know? (optional)

Comments/Suggestions (optional):

APPENDIX D

PRINCIPAL RECRUITMENT LETTER

ASU
ARIZONA STATE UNIVERSITY

October 5, 2013

Dear College Principal:

My name is Arti Sarma and I am a Ph.D. student at Arizona State University, USA. I am writing to request your support in my data collection efforts for my Ph.D. dissertation/thesis work. For my thesis study, I am exploring Indian undergraduate students' perceptions of their parents' involvement in academics and their feelings of academic stress. I am in the final year of my Ph.D. studies and am currently working full-time as a therapist at my university's counseling center to fulfill the "practical" internship component of my doctoral work. Due to my academic and professional responsibilities at the university, I am unable to travel to India to collect my data independently at this time. I am recruiting the help of researchers in India to administer my surveys and mail them back to me via post. The survey underwent review by my university's Ethics Board and was granted approval as an ethical study both in content and proposed methodology.

Participation in my study would be completely voluntary and there are no foreseeable risks associated with this project. Survey responses will be strictly anonymous and confidential. Information will be coded and will only be reported as a summary with all other respondents.

If you have questions at any time about the survey or the procedures, you may contact me by email at Arti.Sarma@asu.edu or my advisor, Dr. Sharon Robinson-Kurpius at Sharon.Kurpius@asu.edu.

The survey is also available online at: http://artidissertation.questionpro.com.

Thank you for considering my request!

Sincerely,

Arti Sarma

Arti Sarma, M.A.
Arizona State University
Counseling Psychology Program
http://artidissertation.questionpro.com

APPENDIX E

RECRUITMENT EMAIL

Hello!
My name is Arti Sarma and I am a Ph.D. student at Arizona State University, USA. For my thesis, I am exploring Indian students' perceptions of their parents' involvement in academics. It would be a great help if you could fill out my 15 minute, anonymous online survey.

To thank you for completing the survey, you will be given the option of being entered into one of five raffles for the chance to win 500Rs. Please share this survey with other undergraduates in India!

If you have questions at any time about the survey or the procedures, you may contact me by email at Arti.sarma@asu.edu or my advisor, Dr. Sharon Robinson-Kurpius at
Sharon.kurpius@asu.edu.

The survey can be accessed at: http://artidissertation.questionpro.com

Thank you for considering my request!

Sincerely,

Arti Sarma, M.A.

APPENDIX F

POWER ANALYSES

Figure 5: Power Analysis Assuming Small Effect Size of .05

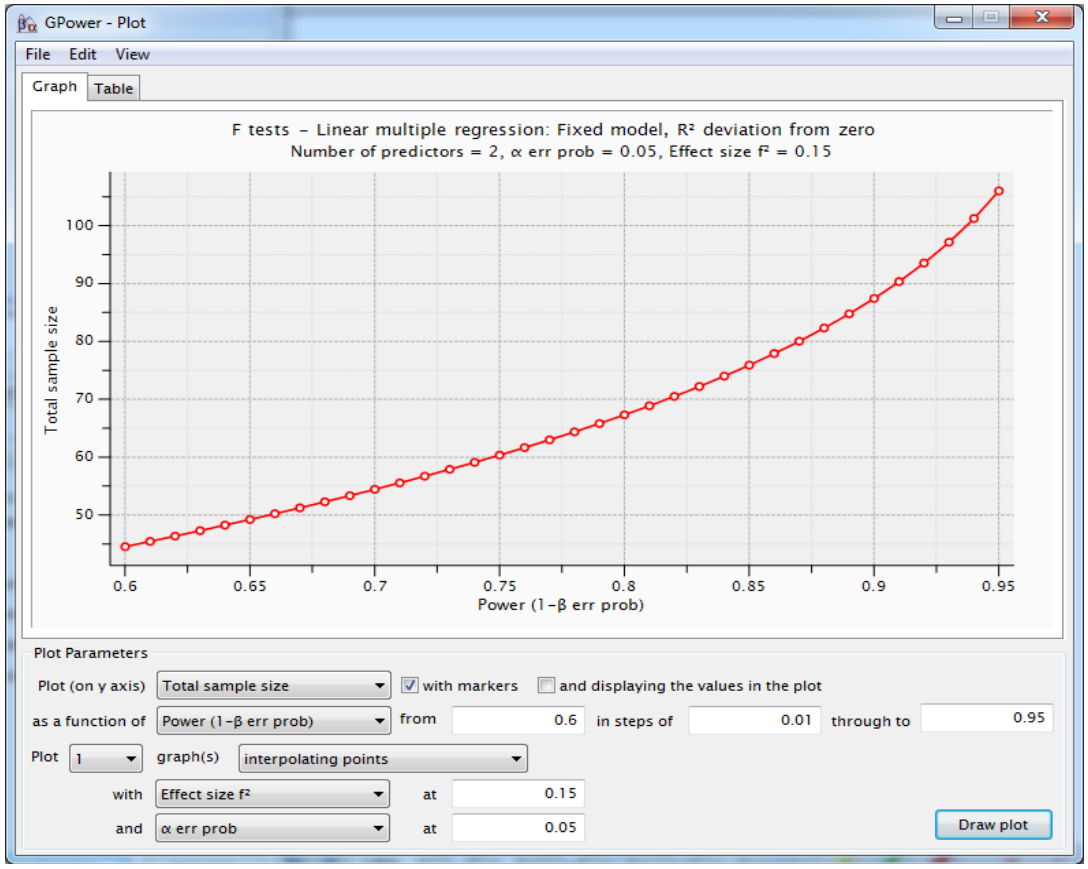
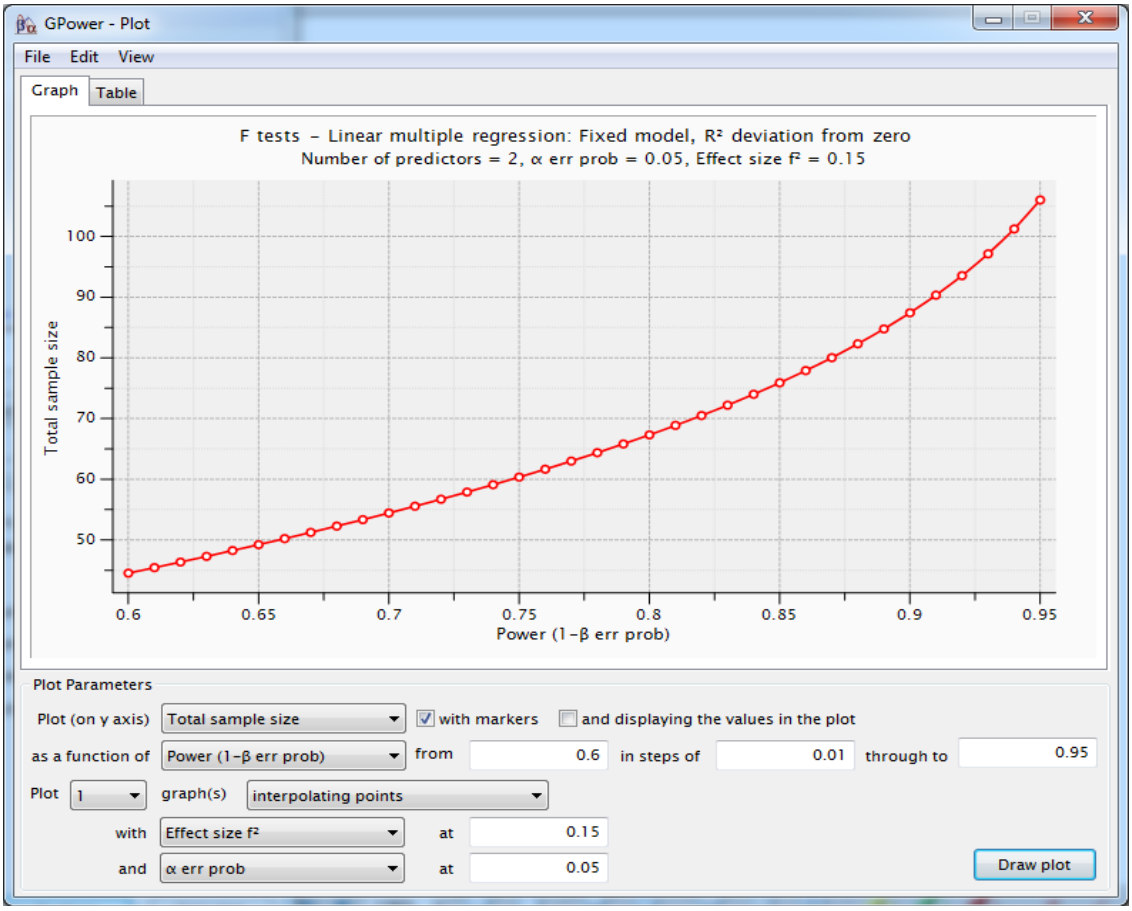


Figure 6: Power Analysis Assuming Moderate Effect Size of .15



APPENDIX G

PILOT STUDY PHASE 1 SURVEY FOR EXPERTS

Parental Pressure for Academic Success Scale

Background: Asians have been identified for their extraordinary academic performance by popular media as well as by the research literature. Researcher theorists have suggested that the drive to succeed among Asians is greatly attributable to Asian cultural values. Children are taught from a young age to respect, obey, and please their parents and elders. Since education is highly valued in Asian societies, parents often make many sacrifices to provide access to the best education they can afford for their children. Asian youth often strive to achieve academic success to repay their parents for their sacrifices and to bring honor to the family. Asian youth are often pushed by parents, teachers, peers, and relatives to meet high expectations and the potential for failure may contribute to the high levels of stress that has been found among Asian youth.

Defining Pressure: Pressure to succeed is often subtle and covert based on the Asian value system rather than through direct means. This may include beliefs such as the belief that one must always strive to *be* the best rather than merely "try your best" as would be common in Western culture. Covert behaviors that may represent pressure can include indirectly influencing academics by, for example, secluding the individual from friends to encourage academic focus. Overt behaviors that convey pressure, on the other hand, are more direct and can include punishing him/her for performing below parental expectations.

Purpose: The purpose of this scale is to measure overt and covert forms of parental pressure to succeed academically by examining college students' perceptions of their parents' beliefs and behaviors.

Psychological Vocabulary:

- "Instrument" or "measure" – refers to the questionnaire
- "Items" - refers to statements in the questionnaire

Your Roles as an Expert Reviewer: You have been asked to serve as an expert reviewer of this instrument based on your knowledge about Indian cultural norms, psychological research, and/or instrument development. I am looking for your feedback on the following questions:

1. Are items clear and concise? If not, do you have suggestions about how to reword it?
2. Does each statement relate either directly or indirectly to an individual feeling pressured by parents to succeed?
    a. For example: If one perceived that his/her parents believe "A good education is the best way to become successful," would this result in Asian students potentially putting that pressure on themselves?
    b. Less feelings of pressure may also be represented in the scale. For example, would a parent's belief that "My happiness is more important than how much money I make" be related to less feelings of pressure to succeed academically?
3. Are there any items that don't appear to fit with the rest of the scale that you would omit?

4. Are there any words or phrases that a typical Indian undergraduate student would not understand?

Part 1: Perceptions of Parental Beliefs
Students will be asked to rate their level of agreement or disagreement with each statement based on their perception of their **parents'** beliefs. 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Somewhat Agree, 5 = Agree, 6 =Strongly Agree.

My **parents** believe…	1	2	3	4	5	6
1. A good education is the best way to become successful.						
2. As long as I try my best, it does not matter what marks I receive.						
3. Academics should be the main focus of my life right now.						
4. I should be allowed to choose any college major or subject that I prefer to study.						
5. It is my duty to support them financially when they become old.						
6. I can be doing better academically than I am doing right now.						
7. It is my duty to support my siblings or relatives.						
8. It is their right to choose my career for me.						
9. Society's opinion about my academic success or failure is important.						
10. My happiness is more important than how much money I make.						
11. I should push myself to be the best.						
12. No sacrifice is too large for the sake of my academic and professional success.						
13. A negative academic evaluation reflects poorly on them.						
14. Having a successful career is a sign of hard work.						
15. College and post-graduate degrees are essential to having a good career.						
16. Having a career that is respected by						

the community is important.						
17. They are responsible for my successes or failures.						
18. I should aim for the highest goal rather than set my sights low.						
19. My success would bring honor to our family, our culture, and our country.						
20. My choice of profession will have an impact on who I marry.						
21. I can accomplish anything if I work hard enough.						
22. Socializing with friends will distract me from my studies.						
23. Helping me be successful is one of their primary goals in life.						

REVIEWER FEEDBACK:

Part 2: Perceptions of Parental Behaviors

In this section, participants will be asked to rate how frequently they perceive their parents have behaved a certain way, with 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Frequently, 5 = Very Frequently, 6 = Almost Always.

My parents…	1	2	3	4	5	6
1. Compare me with others academically.						
2. Encourage me to pursue leisure activities such as sports.						
3. Tell friends, family, or neighbors when I do well academically.						
4. Pay for things I need such as books, materials, or fees.						
5. Tell me to keep it up when I get good marks.						
6. Push me to achieve more than I think I am capable of.						
7. Tell me stories of successful relatives, siblings, or friends of the family in hopes that I will follow in their footsteps.						
8. Point out examples of people who failed to motivate me to do better and avoid making those mistakes.						
9. Allow me to be independent.						
10. Have punished me in the past due to academic issues.						
11. Have prevented me from socializing with friends because they thought it was more important for me to study.						
12. Ask me about my academic performance.						
13. Discuss my future career goals with me.						
14. Ask me questions about my friends' or peers' academic performance.						
15. Do special things for me close to exam times.						

16. Have made sacrifices for the family or worked extra to pay for my college expenses.						
17. Compare me with others academically.						
18. Encourage me to pursue leisure activities such as sports.						
19. Tell friends, family, or neighbors when I do well academically.						

Survey Check:

Most of your responses were based on? Mother Father Both

Who is more involved with your academics? Mother Father Both

Who is more involved with your career choice? Mother Father Both

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REVIEWER FEEDBACK

Directions for Reviewer: The next 2 parts relate to personal beliefs (part 3) and behaviors (part 4) that can relate to feeling pressured to succeed academically.

1. Are items clear and concise? If not, do you have suggestions about how to reword it?
2. Does each statement relate either directly or indirectly to an individual feeling pressured to succeed?
    a. For example: If an Asian student believed "Making my parents proud is a priority in my life" would this result in him/her feeling more pressure to succeed academically?
3. Are there any items that don't appear to fit with the rest of the scale that you would omit?
4. Are there any words or phrases that a typical Tamil undergraduate student would not understand?

Part 3: Personal Sense of Duty to Family

Participants will be asked to rate their ***personal*** level of agreement or disagreement with each statement with 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Somewhat Agree, 5 = Agree, 6 = Strongly Agree.

	1	2	3	4	5	6
1. Being able to support my family financially, including parents and siblings, is important to me.						
2. Making my parents proud is a priority in my life.						
3. It is my duty as a son or daughter to meet my parents' expectations.						
4. Disappointing my parents would feel unbearable.						
5. Obeying my parents conveys my respect for them.						
6. Bringing honor to my family is one of my primary duties.						
7. Making my parents happy is more important than making myself happy.						
8. It is my responsibility to care for my parents or contribute to their care when they become old.						
9. Being a good role model for others in my family and community is important to me.						

Part 4: Personal Behaviors

Directions: Read each statement and rate how frequently each statement has occurred, with 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Frequently, 5 = Very Frequently, and 6 = Almost Always

	1	2	3	4	5	6
1. I have argued with my parents about academics in the past.						
2. I feel indebted to my parents for the sacrifices they have made for my education.						
3. I am honest with my parents when they ask about my academic performance.						
4. I find it difficult to live up to my parents' academic expectations.						
5. I tend to follow my parents' advice and do what they tell me is right.						
6. I feel pressure from my parents to do well in college.						
7. I do not tell my parents when I do poorly on an exam so they do not get upset or worry.						
8. I worry about disappointing my parents.						
9. I have lied to my parents about my academic performance.						
10. I feel upset when my parents value what others will think over what I think.						

REVIEWER FEEDBACK:

BIOGRAPHICAL SKETCH

Arti R. Sarma is a doctoral candidate at Arizona State University (ASU) in the counseling psychology program and is currently doing her APA-approved pre-doctoral internship at ASU Counseling Services. Arti has focused her research and clinical work on issues of academic stress, body image, supervision, and college student mental health, with an emphasis on diversity and multicultural issues. Arti is a recipient of the American Psychological Association of Graduate Students (APAGS) Diversity Dissertation Scholarship for her current research on parental pressure for academics among undergraduates in India. She was also awarded the Graduate & Professional Student Association (GPSA) Graduate Research Support Program fellowship for her dissertation work. Her dissertation developed from her master's thesis. The thesis, which has been published in the Journal of Asia Pacific Counseling (JAPC), focused on academic stress among undergraduates in Thailand. Arti is particularly interested in Asian/Asian American issues that impact young adults and college student populations.