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The Role of Academic Psychological Capital in the Relationship Between Socioeconomic Status and College Academic Adjustment Among College Students

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THE ROLE OF ACADEMIC PSYCHOLOGICAL CAPITAL IN THE RELATIONSHIP BETWEEN SOCIOECONOMIC STATUS AND COLLEGE ACADEMIC ADJUSTMENT AMONG COLLEGE STUDENTS

by

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ABSTRACT

The transition from high school to college is challenging for many students. Studies have shown that students from low Socioeconomic Status (SES) backgrounds tend to experience more difficulty adjusting to college. Besides financial difficulty, students from low-SES backgrounds also tend to have fewer psychological resources to handle the adjustment. However, few studies looked into psychological factors' role in the relationship between SES and college adjustment. The present study sought to explore the potential mediation role of psychological capital (PsyCap) in the SES-college adjustment relationship. Another goal was to explore four PsyCap components'(i.e., self-efficacy, hope, optimism, and resilience) potential mediation roles in the SES-college adjustment relationship. A sample of 214 participants was recruited from undergraduate courses and asked to complete an online survey. The current study did not found PsyCap, optimism, and resilience mediate the SES-college adjustment relationship. But found self-efficacy and hope mediate the SES-college adjustment relationship. These findings supported the idea that PsyCap plays an important role in students' college adjustment process. Further research and practical implications were discussed.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The 2017 United States (U.S.) census data suggested that about 40 million people in the United States lived below the poverty line (Fontenot, Semega, & Kollar, 2018). Additionally, those data suggest vulnerable populations such as children and racial or ethnic minorities are disproportionately influenced by poverty. For instance, while children make 23% of the population, they are 31% of the poor. Additionally, poverty rates for African Americans (21.2%) and Hispanics (18.3%) significantly exceeded the national average (12.3%), comparing to non-Hispanic whites (8.7%) and Asians (10%), suggesting poverty disproportionately impacts racial/ethnic subgroups.

It is well established that poverty is positively associated with mental health problems (Saraceno & Barbui, 1997; Weich & Lewis, 1998). Data from the 2009–2013 National Health Interview Survey (NHIS) suggested that the prevalence of serious psychological distress among US adults aged 18 and over is 3.4%. However, for adults that live below the federal poverty line, the prevalence of significant psychological distress is 8.7%, compared with 1.2% of individuals among those whose incomes are at or above 400% of the poverty level (Weissman, Pratt, Miller, & Parker, 2015). Impoverished individuals are also vulnerable to stressors such as unemployment, violent crimes, and financial difficulties, and generally lack access to coping resources and professional help, which translates to the heightened prevalence of mental illness (Murali & Oyebode, 2004). It is

not surprising, then, that the World Health Organization (WHO) considers poverty as one of the biggest threats of mental health (Funk, Drew, & Knapp, 2012).

Many individuals consider obtaining a college education as a way out of poverty (Adair, 2001; Howard, 2001; Pandey & Kim, 2008). Indeed, higher education attainment (such as to obtain a bachelor or higher degree) often means more job opportunities, higher income expectancy, and less risk of poverty (Barham, Boadway, Marchand, & Pestieau, 1995; Carnevale, Smith, & Strohl, 2013; Fontenot et al., 2018). The research suggested that an increasing number of employers expect their potential employees to possess a bachelor's or higher degree. By 2020, 35% of job openings would require at least a bachelor's degree, up from 16% from 1973 (Carnevale et al., 2013). Having a college degree also significantly increases one's income expectancy. Research suggests that bachelor's degree holders, on average, earn 74 % more than those with just a high school diploma (Carnevale et al., 2013). Due to the significant discrepancy in job opportunity and income between bachelor's degree holders and their peers with no postsecondary education, it is not surprising that people aged 25 and older without a high school diploma (24.5%) are five times more likely to suffer from poverty, compared with among people with at least a bachelor's degree (4.8%; Fontenot et al., 2018). In a word, having a college degree is associated with increased individual's job opportunities, increased income expectancy, and decreased the risk of poverty. Higher educational attainment also predicts a happier and longer life. It is well documented that one's education level is associated with a variety of positive health outcomes including decreased mental health risks (Reiss, 2013), higher subjective well-being (Witter, Okun,

Stock, & Haring, 1984), better physical health (Winkleby, Fortmann, & Barrett, 1990), and longer life expectancy (Rogot, Sorlie, & Johnson, 1992).

Despite the importance of obtaining a college degree, individuals from lower-income backgrounds are significantly less likely to attend college. Research has suggested that the college enrollment rate among college-aged people in the lowest income quartile is roughly half (33.3% vs. 75.5%) of their highest income quartile counterparts (Lovenheim, 2011). On the other hand, it is well established that students from lower *socioeconomic status* (SES) backgrounds are also more likely to drop out (Markus & Stephens, 2017). Several studies have pointed out that college adjustment may play an important role in the SES-dropout relationship (Ostrove & Long, 2007; Richardson Jr& Skinner, 1992). This is consistent with the fact that most dropout happens within the first four semesters after attending college (Tinto, 2006). In addition, empirical studies confirmed that low SES students tend to experience more difficulty in adjusting to college comparing to their high SES peers (Inkelas, Daver, Vogt, & Leonard, 2007; Terenzini et al., 1994).

The role of SES in college adjustment may be explained in several ways. One of the most prominent barriers is financial difficulty. Although grants, low-interest loans, and work-study opportunities help to ease the financial burden of college for low-income students (U.S. Department of Education, 2017), many low SES students still found the skyrocketing educational expense unaffordable (Waltzer, 2015), some even face food and housing insecurity (Broton & Goldrick-Rab, 2016). Apparently, it is hard to achieve optimal adjustment when students struggle with housing and food.

In addition to financial explanations, the SES-adjustment relationship also may be explained by psychological factors. On the one hand, childhood poverty was shown to have a long-term adverse effect on one's neurocognitive development (Farah et al., 2006) and emotion regulation (McLeod & Kaiser, 2004), which influence one's educational attainment (McLeod & Kaiser, 2004). On the other hand, students from lower SES background tend to be less prepared academically (Pascarella, Pierson, Wolniak, & Terenzini, 2004), less likely to utilize university resources to enhance their academic performance (Stephens, Hamedani, & Destin, 2014), and demonstrate lower academic motivation (Maehr & Midgley, 1991). As a result, even among the top students (top third or top quartile on standardized tests) who apparently possess above-average intelligence and good work ethics, those from low SES background have a higher risk of dropping out comparing to their high SES peers (Akerhielm, Berger, Hooker, & Wise, 1998; Ottinger, 1991).

Social class theories explain this phenomenon from a resource-based perspective (for a review, see Krieger, Williams, & Moss, 1997). Although traditional social class theories often emphasize the wealth inequality among different classes, increased attention is being given to the class-difference in the psychological domain (e.g., Liu, Soleck, Hopps, Dunston, & Pickett Jr, 2004; Manstead, 2018). Manstead (2018) proposed that the material conditions (e.g., income, wealth, and social network) shapes individual's cognition, emotion, and behavior. An individual from different social classes would have different psychological characteristics. For example, research suggested that high SES individual perceives more control over their environment (Bailis, Segall, Mahon, Chipperfield, & Dunn, 2001), is more optimistic (Finkelstein, Kubzansky, Capitman, &

Goodman, 2007), and has higher self-esteem (Twenge & Campbell, 2002). In other words, high SES individual tends to have more psychological resources that help them to adapt to and success in their environment.

Psychological Capital Theory (Luthans, Luthans, & Luthans, 2004) provided a more sophisticated theoretical framework to investigate psychological resources. The construct of Psychological Capital (PsyCap) includes *self-efficacy, hope, optimism,* and *resilience*. Self-efficacy is defined as "confidence to take on and put in necessary effort to succeed at challenging tasks" (Luthans, Youssef, & Avolio, 2007, p. 3); Optimism is "making a positive attribution about succeeding now and in the future" (p. 3); Hope is "persevering toward goals and when necessary, redirect in paths to goals in order to succeed"(p. 3); Resilience is "when beset by problems and adversity, sustaining and bouncing back and even beyond to attain success" (p. 3). Luthans et al. (2007) proposed that PsyCap is the higher-order factor that links the four psychological resources. It also provides extra explanatory power than the four components combined. The PsyCap theory was originally developed in the working domain to explain the relationship between employee's psychological status and their productivity. Since the current study applies PsyCap theory in academic setting, the term PsyCap will be used referring to PsyCap in the academic domain or academic PsyCap.

Although no previous studies have empirically examined the relationship between SES and PsyCap, research suggested that SES is positively related to four components of PsyCap: Self-efficacy (Hughes & Demo, 1989), Hope (Otis, 2015), Optimism (Brody, Murry, Kim, & Brown, 2002), and Resilience (Masten & Reed, 2002). Therefore, it is reasonable to assume that SES is positively related to PsyCap. On the other hand,

researchers have found that PsyCap plays a vital role in college adjustment, explaining 74% of the variance in students' academic adjustment (Liran & Miller, 2019). It seems that PsyCap may potentially mediate the relationship between SES and college adjustment.

Statement of problem

Poverty is a major social justice issue and one of the most significant threats to people's mental health (Funk et al., 2012). As social justice advocacy is an important value in counseling psychology, research is needed to better understand the psychological effects of poverty and SES. Education, especially post-secondary education, is widely recognized as a way out of poverty. However, individuals from lower SES backgrounds (e.g., poverty, being reared in a lower-income family, being a first-generation college student) tend to exhibit disproportionately high dropout rates once they enter college. One reason for the increased dropout risk seems to be that low SES students experience more difficulties adjusting to the college environment (Ostrove, & Long, 2007). They tend to be less academically prepared, demonstrate lower academic motivation, less likely to utilize university resources, and achieve lower Grade Point Average (GPA; Haveman & Smeeding, 2006; Markus & Stephens, 2017; Pascarella et al., 2004). Given that an individual's educational attainment strongly influences his or her employment opportunity and income expectancy (Bowen, Kurzweil, Tobin, & Pichler, 2006), those who fail to adjust to college and drop out are more likely to remain/fall into poverty.

From the perspective of social class theory, poverty has objective and subjective aspects (Manstead, 2018). This means that low SES individuals (including, but not limited to, people living in poverty) not only suffer from lacking material wealth but also

have a variety of psychological disadvantages. Therefore, financial aid alone, despite its obvious importance, might not be sufficient to decrease the drop out risk among low SES students. Psychological interventions may be essential to address the psychological challenges that low SES students face as they attempt to adjust to college.

Many studies have investigated factors that influence college adjustment. For example, Tinto (1973) proposed that in order to achieve positive academic adjustment, students should achieve good grades in class and also have sufficient interactions with the faculties and staff. As mentioned above, low SES students often demonstrate difficulties in both areas. This might be related to some of their psychological characteristics, such as self-efficacy (Stephens et al., 2014). Based on their study, Stephens and colleagues' (2014) also developed a self-efficacy focused intervention that successfully improved low SES students' academic adjustment by encouraging them to utilize university resources.

PsyCap is a construct that includes self-efficacy, hope, optimism, and resilience. Given that PsyCap is positively related to both SES and college academic adjustment (Liran & Miller, 2019). It is possible that PsyCap may play a mediation role in the SES-adjustment relationship. Exploring the role of PsyCap only deepens our understanding of how student's SES background predicts their college adjustment, but also opens the possibility of developing a brief intervention that improves low SES college students' PsyCap and helps them achieve better adjustment. Similar PsyCap-improving intervention has been developed and proved to be effective (Luthans, Avey, & Avolio, & Peterson, 2010).

In summary, the present study aims to empirically examine whether PsyCap mediates the relationship between SES and college adjustment. It is intended to explore the

potential psychological disadvantages of low SES college students and seeks to inform future interventions that improve students' PsyCap.

Socioeconomic Status

The theoretical model of social class. The classic Marxist definition of social class is based on one's relationship with the means of production. Those who process means of production (such as land, machine, or raw material) are classified as bourgeoise, and those who do not are proletariats, the later have to sell their labor in exchange for a salary. The binary division of society was clear and relatively accurate in 19th century western Europe, where the majority of the population can be classified either as owner or worker. In modern society, the class divisions are not only based on material wealth (economic capital) but also rely on one's marketable skills (human capital), social network (social capital), and knowledge of the system (cultural capital; Manstead, 2018).

It is no surprise that one's position in the social hierarchy could have a massive influence on one's thoughts, feelings, and behaviors. This appears to be true for both animals and humans. For example, anthropologists have learned to use behavior markers such as pant grunts and aggressive dyadic interactions to classify male chimpanzees into four ranks. They found that Chimpanzees' social ranks are a good predictor of their behavioral patterns such as associations, grooming, proximity, coalitions, meat sharing, and patrols (Mitani, Watts, Pepper, & Merriwether, 2002). Similar results can be seen among other social animals such as monkeys (e.g., Waser, 1975), elephants (e.g., Chiyo et al., 2011), dolphins (e.g., Wells, Scott, & Irvine, 1987), and horses (e.g., Krueger, & Heinze, 2008).

Likewise, social class is a fundamental determent of human development, well-being, physical and mental health, all of which are primary concerns for psychologists (APA, 2009). Extensive evidence has indicated that social class status is associated with socio-structural factors such as legal, educational, and economic systems (Liu & Ali, 2005), interpersonal variables such as parenting style (e.g., Radziszewska, Richardson, Dent, & Flay, 1996), marriage quality (e.g., Shafer & James, 2013), aggression (e.g., Straus & Sweet, 1992), conduct problem (e.g., Dodge, Pettit, & Bates, 1994), career aspiration (e.g., Howard et al., 2011), personal factors such as self-esteem (e.g., Twenge & Campbell, 2002), self-efficacy (e.g., Tong & Song, 2004), locus of control (e.g., Stipek, 1980), resilience (e.g., Nussbaum & Sen, 1993), and optimism (e.g., Nussbaum & Sen, 1993). Generally speaking, higher social class is associated with more desirable outcomes.

Overall, despite the significant psychological influence of social class, most existing research on this topic focuses on illuminating one aspect of the influence (e.g., Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012; Stephens et al., 2014). There is only a limited amount of comprehensive theories explaining the psychological impact of social class. Two prominent theories will be reviewed: Manstead's Integrative Model (Manstead, 2018) and Liu's Social Class Worldview Model (SCWM; Liu et al., 2004).

Manstead's integrative model. Manstead's theory is an integration of a number of previous research, especially Nicole Stephens and colleagues' work on class-based cultural mismatching theory (see Markus & Stephens, 2017; Stephens, Markus, & Phillips, 2014), and Michael Kraus and colleagues' research on how behaviors and emotional states maintain social inequality (see Kraus, Côté, & Keltner, 2010; Kraus et

al., 2012; Kraus, Piff & Keltner, 2011). These theories can be classified as "the capital accumulation paradigm (CAP)" (Liu et al., 2004). This approach emphasizing that the material inequality (e.g., income, wealth) leads to inequality in access to valued resources such as goods (e.g., vehicle, book, computer), services (e.g., education, health care), information (e.g., knowledge about the system and how to take advantage of it), and social connections (e.g., high-status friends who could potentially provide information, advice, support, and opportunities; APA, 2009).

The Manstead model is made up of social class and its influence on one's social cognition, emotion, and social behavior. Manstead divided the construct "social class" into objective social status (or socioeconomic status; SES).

SES is generally defined in terms of one's economic position, educational attainment, and occupation (for a review, see Berzofsky, Smiley-McDonald, Moore, & Krebs, 2014; Diemer, Mistry, Wadsworth, López, & Reimers, 2013). Applying the terminology of the Capital Accumulation Paradigm (CAP), SES can be seen as made up of economic capital (income and wealth), social capital (friendship networks), and cultural capital (knowing how systems works), the latter two can be attained through education and occupation (Manstead, 2018). Manstead did not include "human capital" (skills and knowledge) in his model, but it makes sense to include it as a part of SES as it is also an extension of one's education and occupation (Luthans, Avey, Avolio, Norman, & Combs, 2006).

SES differences would inevitably be reflected in social signals, which can be used by individuals to evaluate their positions in society. Research indicates that people can assess strangers' social class from Facebook photographs and spoken words with above-

chance accuracy (Becker, Kraus, & Rheinschmidt-Same, 2017; Kraus, Park, & Tan, 2017). By comparing their income, education, jobs, hobbies, and lifestyles with others, people can determine their position in the social hierarchy (Manstead, 2018).

In order to illustrate the mechanism of how SES influences one's feelings, thoughts, and behaviors. This approach is what Liu called "economic culture" (Liu et al., 2004). The basic idea is that people from different social classes develop distinct cultures. Kraus et al. (2012) argued that the low SES has a "contextualism" culture, which is an external orientation to the environment motivated by managing contextual constrains and external requests. On the other hand, the upper-class people have a "solipsism" culture which is an individualistic orientation motivated mainly by internal needs. The fundamental difference here is a different level of perceived control over one's environment. Similarly, Stephens et al. (2014) argued that people's social class backgrounds give them culture-specific selves as well as specific patterns of thinking, feeling, and behaving. Those who come from working-class backgrounds would develop a style they labeled as "hard interdependence." They tend to emphasize similarity and connection with people and highly aware of social hierarchy. In contrast, people who lived in a middle-class environment tend to develop an "expressive independence" self, which focuses on self-expression, independence, and equality with others. Although both styles are adaptive within their social class contexts (Stephens et al., 2014), when working-class students enter college, they might experience some difficulty as most colleges endorse the middle class "expressive independence" values (Stephens et al., 2014). Working-class students might feel not belong to the college because of the perceived cultural differences between them and educators (Ostrove & Long, 2007). This cultural mismatch might cause a sense

of incongruence with the college environment and experience difficulty with accomplishing tasks that reflect the expressive independence cultural ideal (e.g., "express yourself" or "find your passion"). As a result, they may experience more difficulty in meeting the academic requirement and demonstrate more reluctance to take advantage of campus resources (e.g., talking to a professor or using tutoring services). Researchers argued that such an "unseen disadvantage" could eventually translate into a higher dropout rate among low SES students (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012).

Liu's Social Class Worldview Model (SCWM) theory. The SCWM, to some extent, could be seen as an extension of classical resource-based social class theory, such as the Manstead model. The SCWM provided a more detailed analysis of social class's psychological impact. It emphasizes that one's perceived reality would shape his/her world view, which includes five interrelated domains: (a) Consciousness, attitudes, and salience (i.e., one's capacity of understanding and articulating the relevance and meaningfulness in his/her context); (b) Referent groups (i.e., people[past, now, future] in one's life who provide guidance for the development of worldview and mediate social class behaviors) ; (c) Property relationships (i.e., materials one values, uses to define himself/herself, and uses to exclude others); (d) Lifestyle (i.e., the way one chooses to organize his/her resources to remain congruent with his/her economic culture); (e) Behaviors (i.e., purposeful and instrumental actions that reinforce one's social class worldview).

Liu et al. (2004) argued that an individual would seek congruency between various domains of the SCWM. In other words, people tend to accumulate valued capital and

maintain their social class world view. The strategy people utilize to achieve this goal is defined as classism in Liu's classism theory. Liu predicted that those who can live up to their social class worldview would experience satisfaction, and those who cannot experience frustration.

In summary, both Manstead's integrative model and Liu's SCWM provide a theoretical framework illustrating the relationship between social class and people's thoughts, feelings, and behavior. The integrative model is a summary of resource-based social class theories, which is a traditional approach in social class studies. The SCWM offers a unique perspective of classism, providing a detailed analysis of how people understand and internalize their social class and strive to maintain consistent with their perceived social class position. In a review article, Diemer, Mistry, Wadsworth, Lopez, and Reimers (2013) concluded that the SCWM approach and its measure are primarily used by portioners to understand individual's internalized classism and the class-related distress. Since this is not the focus of the present study, this study will use Manstead's integrative model as the primary theoretical framework for SES.

SES Research in Psychology. SES is one of the fundamental aspects of human life that has an enormous influence on an individual's development, physical health, and psychological well-being (APA, 2009). Extensive research has shown that SES is significantly associated with individual's self-esteem (Twenge & Campbell, 2002), personality traits (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007), optimism (Heinonen et al., 2006), brain development (Bradley & Corwyn, 2002; Noble, Houston, Kan, & Sowell, 2012), cognitive ability (Turkheimer, Haley, Waldron, d'Onofrio, & Gottesman, 2003), eating habit (Paeratakul, White, Williamson, Ryan, & Bray, 2002;

Sobal, & Stunkard, 1989), sleep pattern (Gellis et al., 2005), learning style (Caldwell & Ginthier, 1996), academic achievement (Sirin, 2005), language ability and executive functioning (Calvo & Bialystok, 2014), parenting style (Hoff, Laursen, Tardif, & Bornstein, 2002), traumatic experience (McLeod & Kessler, 1990), psychological distress (Twenge & Nolen-Hoeksema, 2002), and physical health (Williams, 1990).

While it is evident that SES has a significant impact on people's psychological processes and outcomes (American Psychological Association [APA], 2009), it is understudied in psychology comparing to other individual determinants such as gender and race (Ostrove & Cole, 2003). Some researchers argued that the paucity of SES-related research might reflect "the border political zeitgeist in the US" (p. 679, Ostrove & Cole, 2003), as mass social movements tend to focus on gender (e.g., women's rights movement) and race (e.g., civil right movement). Another reason might be the ideal of the so-called American Dream, which tends to emphasize the upward mobility in US society and depicts the country as a classless society (Kumar, 2004).

To address the gap of SES-related research in psychology as well as in response to the widening income gap in the U.S., APA published the "Resolution on Poverty and Socioeconomic Status" in 2000. The APA also established a committee on SES and initiated the "Stop skipping class" campaign, which advocates for more research on SES and related issues (APA, 2009).

Measuring SES. The measurement of SES has been a critical but challenging area. One goal of the APA Task Force on socioeconomic status established in 2004 was to provide best practice advice for researchers who are measuring SES (APA, 2009).

However, the task force concluded that existing measures for SES were too crude and could not offer specific standards for the measurement of SES.

Diemer et al. (2013) reviewed an extensive body of research and divided SES measures into two domains: prestige-based and resource-based. Prestige-based assessments depict one's relative social-political-economic standing and are commonly measured with occupational prestige indices such as Duncan's Socioeconomic Index (SEI). The majority of SES measures are resource-based, which usually measure factors such as income, wealth, educational attainment, and the lack of such resources (e.g., poverty, limited access to educational resources). Diemer and colleagues recommend researchers to decide appropriate measures for their studies as these two types of measures are differentially associated with separate outcomes. The present research will use resource-based assessments.

Diemer et al. (2013) reviewed some of the composite SES measures, such as the Hollingshead four-factor Index of Socioeconomic Status (Hollingshead, 1975) and Nam-Powers Socioeconomic Status Score (NPSSS; Nam & Powers, 1983). They suggested not to use these measures as they based on an outdated classification system and blur the unique contribution of each SES component. They recommend using individual indicators of SES, such as family incomes, educational attainment, and occupation (see also, APA, 2009; Duncan & Magnuson, 2003).

For younger populations such as undergraduate students, Diemer et al. (2013) recommended using parental educational attainment as an SES indicator. These authors did not recommend asking youth about their family income or wealth as the response tends to be inaccurate. Another challenge of using income data is it could be highly

volatile from year to year, especially among lower SES families (Duncan & Rodgers, 1988). Besides, accumulated wealth, mortgages, loans, geographic areas, and rural/urban residence could also moderate income's correlation with SES (APA, 2009).

In summary, this study will follow Diemer et al. (2013)'s recommendation and many other examples in prior research (e.g., Stephens, Markus, & Townsend, 2007; Grossmann & Varnum, 2011), to use parental education as a single indicator for participant's SES.

Because of the lack of a "golden standard" SES measure, researchers have been using a variety of indicators to evaluate people's SES including but not limited to generational status (first-generation vs. continued-generation college student), family income (low-income vs. average or high-income family), and parental job (working class vs. middle or upper class). For the sake of simplicity, Lower SES will be used interchangeably with the following terms: *first-generation college student*, from a low-income family, identifies himself/herself as working-class or Lower SES background as individual from Low SES background. Meanwhile, individuals who are continued-generation college student, from an average or high-income family, identifies as from middle class or upper-class background will be referred to as individual from Higher SES (**Table. 1**).

Table 1

Distinguish between Lower SES and Higher SES

Lower SES	**Higher SES**
First-generation college student,	Continued-generation college student,
From low-income family	From average or high-income family
Identify as working class	Identify as middle or upper class

Note. SES = Socioeconomic Status;

College Adjustment

Theoretical models of College Adjustment. Since most dropouts happened in the first year of college, which marked by the process transition and integration (Tinto, 2006), **s**tudents' adjustment to college is one of the core issues discussed in student retention theories. Two theories will be reviewed and compared in this section: Tinto's student integration model (also known as "model of student departure"; Tinto, 1975) and Bean's student attrition model (Bean, 1985).

As one of the most widely recognized theories of student retention (Aljohani, 2016; Reisinger, 2016), Tinto's 1975 article of the integration model has been cited for more than 10,000 times according to Google Scholar. Tinto's theory was originally built on Durkheim (1951)'s theory of suicide and Spady (1970)'s work. Durkheim pointed out that the lack of integration contributes to the increase of suicide incidents in society, and Spady applied this idea to the study of college dropout.

The theory was examined and revised multiple times by the author and other researchers (e.g., Cabrera, Castaneda, Nora, & Hengstler, 1992; Jacobi, 1991 Pascarella & Terenzini, 1980; Tinto 1982, 1988, 1993). Tinto argues that students carry attributes including family background, skills and abilities, and prior schooling before they enter the college. These pre-entry attributes largely shape their commitment to graduation (goal commitment) and commitment to their institutions (institutional commitment). A higher level of commitment indicates a higher possibility of persistence (Cabrera et al., 1992).

Tinto (1975) suggested that there are two systems in the college: an academic system and a social system. Students integrate into these systems through formal (e.g., academic performance and extracurricular activities) and informal (e.g., faculty staff interactions

and peer group interactions) approach. Those who successfully accomplish the integration process are more likely to persist in college (Tinto, 1975, 1993). In addition, external commitments to family, friends, and/or job obligations may have positive (e.g., supportive parents) or negative (e.g., working multiple part-time jobs) influences on students' goals and institutional commitment.

As mentioned above, Tinto's model has been adopted and empirically tested in various college systems (Aljohani, 2016). One of the most comprehensive assessments of this model was conducted by Braxton, Sullivan, and Johnson (1997). They outlined 15 propositions from the original integration model (Tinto, 1975) and found that only five propositions were strongly supported by relevant literature. As a result, Braxton, Doyle, Hartley III, Hirschy, Jones, and McLendon (2014) proposed an alternative model of college persistence which eliminate the academic integration from the Tinto model and put more emphasis on social integration. However, this new model is not perfect. Reisinger (2016) pointed out that this model is based on a small sample of residential college/university, and only half (three out of six) of its antecedent propositions were strongly supported by data.

Bean (1980) disagreed with Spady and Tinto's approach of applying Durkheim's theory of suicide to dropping out of school, because "there is insufficient evidence for this premise" (p. 156). He proposed to generalize Price's (1977) model of turnover in work organizations to student attrition. He argued that since both students and employees are organization members who may leave, this model may deepen our understanding of student attrition process. Synthesizing elements from various literature, he proposed a causal model of student attrition. In this model, Bean (1981) identified four types of

variables: background variables, organizational variables, environmental variables, and attitudinal and outcome variables. These variables influence an individual's intention to leave directly or indirectly. He intended to build this model as a theoretical framework, to which variables can be added or removed in order to suit the particular context.

In summary, both the student integration model and student attrition model are widely recognized and cited in the student retention literature (Aljohani, 2016). Cabrera et al. (1992) examined both models and found significant similarities between the two models: both models emphasize the complex interaction between pre-college characteristics and experience in the institution. Persistence is seen as a result of successful matching between the student and the institution. Two major differences were mentioned in Cabrera et al. (1992)'s research, including that the student attrition model emphasizes the role of external factors (Tinto included the external factors in his 1993 revised model), another one is that Bean (1980) takes academic performance as an outcome variable while Tinto (1993) includes it as a part of academic integration.

Empirical evidence suggested that the student integration model is more statistically robust as 70% of its hypothesis validated, while only 40% of student attrition model's premises validated. Cabrera et al. (1992) concluded the integration of both models might provide a better understanding of the process of student attrition.

The current study will primarily be based on Tinto's student integration model (Tinto, 1993). This model is more suitable than Braxton et al.'s (2014) revision of the integration model because this study intends to look into the process of academic adjustment, which is closely related to Tinto's construct of "academic integration." The 1993 Tinto model also included the issue of external factors which covers the weakness

Bean's (1980) attrition model and Cabrera et al.'s (1992) integration model try to address.

College Academic Adjustment. The transition to college could be challenging for many students, as they have to adjust to new social and academic environments (Leary & DeRosier, 2012). The process of adjustment is termed as "academic and social integration" in student integration model (Tinto, 1993). Tinto (1993) pointed out that colleges are, first of all, learning communities. It is not surprising that for most colleges, "academic involvement matters more than social involvement" (p. 131). Tinto (1993) suggested that successful academic integration includes achieving satisfying academic performance and having positive interactions with various faculty and staff.

It is not surprising that students' academic performance in the freshmen year is one of the key predictors of college persistence (Pascarella & Terenzini, 2005). Tinto pointed that if a student does not have a positive experience in the academic domain, he/she might re-evaluate his/her educational expectation and voluntarily choose to drop out even if he/she is socially integrated into the college (Tinto, 1975). On the other hand, low academic performance may lead to involuntary dropouts such as academic dismiss or losing scholarships. Another reason why academic performance is important is that it is closely related to pre-collegiate academic preparation. Students who have superior critical thinking skills, attend high school with rigorous curricula, and take advanced placement courses, are more academically prepared for college (Atherton, 2014; Boden, 2011; Choy, 2001). Accordingly, these students would have an easier academic transition and achieve higher grades when they enter college.

Another part of academic integration is interaction with faculties and staff. Students can benefit from these interactions in multiple ways. First is that interactions (in a classroom or during office hours) with faculties such as visiting a professor during office hours may provide extra learning opportunities for the students to obtain higher grades. Secondly, the process of integration includes "adoption of the values and norms of the community's defining group" (Tinto, 1993, P. 105). Therefore, interactions with the faculties and administrative staff help students understand the values and norms of the academic community (Tinto, 1975). For example, a student may ask a professor how to cite other people's work without committing plagiarism. Scholars have discussed other benefits of the informal student-faculty interaction, such as improved academic self-concept, higher motivation (Komarraju, Musulkin, & Bhattacharya, 2010), having a role model (Chang, 2005), and higher satisfaction of the institution (Fusani, 1994). Although a full discussion of faculty-student interaction is beyond the scope of this study, research has consistently shown that faculty-student interaction has a positive impact on academic adjustment and outcomes such as grades and persistence (for a review, see Kuh & Hu, 2001; Thurmond & Wambach, 2004).

SES and College Academic Adjustment. Extensive research has shown that students from low SES backgrounds (i.e., low SES, working-class, and/or first-generation college students) often experience a more difficult transition when they enter the college (Inkelas et al., 2007; Terenzini et al., 1994). They tend to demonstrate lower academic achievement and a higher risk of dropout (Haveman & Smeeding, 2006; Markus & Stephens, 2017; Pascarella, Pierson, Wolniak, & Terenzini, 2004). Other class-related psychological characteristics such as self-esteem and locus of control also influence

student's academic adjustment (for a review, see Aspelmeier, Love, McGill, Elliott, & Pierce, 2012).

Stephens and colleagues (2014) proposed that the social-class achievement gap may partly due to the cultural difference experience low SES students often have when they enter the college. Individual's SES background gives him/her a class-based cultural identity, as well as patterns of thinking, feeling, and acting. Since most higher education institutions endorse middle-class independent norms, low SES students who were raised in the interdependent cultural atmosphere may experience "culture shock" due to the mismatch. This would put an extra burden on low SES students when they try to adjust to college life.

Pascarella et al. (2004) looked in the experience of first-generation college students (predominantly from lower SES background) and concluded that first-generation college students are "at a distinct disadvantage" in areas such as "basic knowledge about postsecondary education (e.g., costs and application process), level of family income and support, educational degree expectations and plans, and academic preparation in high school" (P. 250). As a result, first-generation college students tend to complete fewer credit hours in the first year, spend less hour on learning and more hour on working (because they receive less financial support from family), less likely to take humanities and fine arts courses, and less likely to participate in an honors program (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996).

As mentioned before, first-generation college students have less knowledge about how the academic system works comparing to continuing-generation peers who can get this information from their parents (Pascarella et al., 2004). They are less likely to take

advantage of university resources, such as visiting professors during their office hours (Stephens et al., 2014). In addition, Pascarella and colleagues (2004) found that they tend to under-estimate faculty's concern about students and teaching (i.e., they assume that they are on their own since the teacher does not care about whether they understand the material). Fortunately, Stephens et al. (2014) proved that the tendency of underutilize university resources could be reversed through brief interventions such as ask first-generation college graduates to share their real-life stories about how they take advantage of university resources to overcome difficulties.

In summary, an SES-gap in academic adjustment does appear to exist between low SES students and their high SES peers. Students from low SES backgrounds tend to less prepared for college, achieve lower grades, and appear to be less likely to using university academic resources to improve their academic performance.

Overall, Tinto's (1993) student integration model provides a theoretical framework for the process of students' transition to college. The construct "academic integration" included two important aspects of academic adjustment: achieving good grades on courses and having interactions with faculties and administrative staff. Unfortunately, significant class-gaps exist in both areas. Students from lower SES backgrounds tend to demonstrate lower academic performance, and they are less likely to reach out to professors for help.

Psychological Capital theory

Psychological Capital (PsyCap). Students with higher SES backgrounds are less likely to worry about financial problems, which allow then to focus more on the college

adjustment. Another advantage of the high-SES individual might be having more psychological resources.

The term "Positive Psychological Capital" (PsyCap) was developed in 2004 (Luthans, F., Luthans, K., & Luthans B, 2004). The purpose of the theory is to expand companies' attention beyond traditional economic capital (i.e., "what you have," including finances and tangible assets), human capital (i.e., "what you know," including experience, education, skills, knowledge, and ideas), social capital (i.e., "who you know," including relationships, network of contacts, and friends), and start to a look at "positive psychological capital" (i.e., "who you are" and "whom are you becoming"). According to their theory, PsyCap is made up of four positive psychological capacities of self-efficacy, hope, optimism, and resilience – four states that contribute to improved performance, such as higher productivity (Luthans et al., 2004).

In PsyCap theory, self-efficacy is defined as "confidence to take on and put in necessary effort to succeed at challenging tasks" (Luthans, Youssef, & Avolio, 2007, p. 3); optimism is defined as "making a positive attribution about succeeding now and in the future" (p. 3); hope is "persevering toward goals and when necessary, redirect in paths to goals in order to succeed"(p. 3); resilience is "when beset by problems and adversity, sustaining and bouncing back and even beyond to attain success" (p. 3). Although some of the terms are commonly used in daily language and appear to have similar meanings (such as hope and optimism), all constructs have specific definitions and were supported by extensive theoretical and empirical research. A literature review for these four constructs will be presented in the following sections.

Although self-efficacy, hope, optimism, and resilience are conceptually distinct to each other, they are also associated. Extensive research has shown that self-efficacy, hope, optimism, and resilience are positively and significantly correlated (e.g., Bullough, Renko, & Myatt, 2014; Feldman & Kubota, 2015; Hamill, 2003; Magaletta & Oliver, 1999; Malik, 2013; Youssef & Luthans, 2007). This is not a surprising result. An individual who is confident in his or her ability to accomplish tasks (i.e., high in self-efficacy), would also likely to have more positive outcome expectancy (i.e., high in optimism) and generates more approaches to reach the goal (i.e., high in hope), he/she would also likely to demonstrate higher abilities to cope with adverse situations and to bounce back (i.e., high in resilience).

Since there are four conceptually distinct positive constructs that are consistently correlated according to empirical evidence. Luthans and colleagues (2007) proposed that there is a high-order factor that connects these constructs, which they termed as PsyCap. They argued that the PsyCap represents "a mechanism shared across each of the facets that contribute to a motivational propensity to accomplish tasks and goals" (p. 548). Essentially, PsyCap represents one's "positive appraisal of circumstances and probability for success based on motivated effort and perseverance" (p. 550). Luthans and colleagues (2007) proposed that the combined construct of PsyCap would have stronger explanatory power than any of its individual components, as it captures not only the effect of individual facets but also the interaction of them. They referred to Bandura (1997)'s study, which suggested that an efficacious and hopeful employee would have higher work performance than an efficacious employee or a hopeful employee. Two empirical

studies, Luthans and colleagues (2007) conducted also supported their hypothesis that overall PsyCap was a better predictor of employee performance and satisfaction.

Luthans et al. (2007) proposed that one distinctive feature of PsyCap is that it is a state-like construct, which means that PsyCap is relatively malleable and open to change.

In summary, Psychological Capital theory is a resource-based theory. The construct of PsyCap includes four factors that have been extensively studied: self-efficacy, hope, optimism, and resilience. Luthans et al. (2007) proposed that PsyCap is the higher-order core factor that links these four constructs. They also found that PsyCap provides extra explanatory power than the four components combined. PsyCap is a state-like construct, which means it is relatively stable but also open to development. The state-like feature is essential to PsyCap because it allows interventions to be developed to improve an individual's PsyCap (e.g., Dello Russo & Stoykova, 2015).

Self-Efficacy. As mentioned previously, PsyCap is comprised of four aspects: self-efficacy, optimism, hope, and resilience. Self-efficacy is one's confidence in his/her ability to achieve desired goals (Bandura, 1982). There are four routes to develop self-efficacy: (a) the most effective way of establishing high self-efficacy is through mastery experience (i.e., experience success as a result of one's effort); (b) the second route is through social model (i.e., seeing people similar to oneself succeed by effort); (c) the third way is social persuasion (i.e., being persuaded verbally that one processes the ability to success); (d) the fourth way is reducing one's stress reactions, altering one's negative emotional proclivities and misinterpretations of their physical states. (Bandura, 1994). His theory of self-efficacy was integrated into PsyCap theory (Luthans et al., 2004;

Luthans et al., 2010) and was used to develop interventions that increase PsyCap (Luthans, Luthans, & Avey, 2014).

Self-efficacy has both state-like aspects and trait-like aspects. Bandura stated that "some experiences created circumscribed mastery expectations" (p.194, Bandura, 1977) and emphasized that the concept is "domain-linked" (p. 396, Bandura, 1986). But he also admitted that a generalized self-efficacy is possible (Bandura, 1977).

When it comes to the measurement, both general self-efficacy measures (e.g., Chen, Gully, & Eden, 2001; Schwarzer, & Jerusalem, 1995; Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982) and specific self-efficacy measures (e.g., Horan, Kim, Gendler, Froman, & Patel, 1998; Jinks & Morgan, 1999; Owen, & Froman, 1988) have been developed and used in research. Bandura maintained a cautious attitude towards generalized self-efficacy measures as he thinks self-efficacy should be measured at "the optimal level of specificity that corresponds to the criterion task being assessed and the domain of functioning being analyzed" (p. 16, Van der Biji & Shortridge-Baggett, 2001). Woodruff and Cashman (1993) compared specific and general self-efficacy scales and concluded that "general self-efficacy" is essentially an averaging of various task efficacies. Whether it is useful in predicting people's behavior largely depends on the dimension of life being considered.

Self-efficacy and SES. The positive relationship between SES and self-efficacy is well documented. Research has shown that high self-efficacy is associated with SES indicators including occupational prestige (e.g., Hughes & Demo, 1989), individual education (e.g., Kerpelman, Eryigit, & Stephens, 2008; Pajares, 1996; Zimmerman, Bandura, & Martinez-Pons, 1992), parental education (e.g., Hellman, 1996; Ramos-

Sánchez & Nichols, 2007), and income (e.g., Champion, Skinner, & Menon, 2005; Henry, Reimer, Smith, & Reicks, 2006).

This result is not surprising. Gecas and Schwalbe (1983) proposed that an individual's SES has a significant impact on his/her self-efficacy development. They argued that the most important source of self-efficacy is effective action (activities that provide what Bandura called "mastery experience"), and the opportunity to engage such action is largely influenced by one's SES. A number of empirical data provided supportive evidence.

Bandura (1994) pointed out that parents who provide an environment that stimulates children's curiosity and allows for master experiences would help improve their children's self-efficacy. Because low-income parents are less likely to be able to afford materials (such as toys, books, or electrical devices) and activities (such as traveling or various sports) that satisfy children's curiosity and provide master experiences. Low SES parents also tend to work more extended time, experience more financial stress, and more likely to have dual-earner which limited the parental time with their children, as well as decrease their sense of parental efficacy (Currie & Thomas, 2001; Nock & Kingston, 1988; Mistry, Vandewater, Huston, & McLoyd, 2002). Whitbeck, Simons, Conger, Wickrama, Ackley, and Elder Jr (1997) pointed out that family economic stress affects the father's parenting and, subsequently, the children's sense of self-efficacy. Besides family, low SES background students are more likely to end up in the underfunded public school where the teachers there tend to have lower self-efficacy in their teaching skills and less likely to motivates their students to have mastery experience in school. In addition, individuals who live in a more impoverished community are at higher risk of

encountering examples of gang violence, drug use, teenage pregnancy than positive, successful role models (Leventhal & Brooks-Gunn, 2000). Overall, people from lower SES backgrounds tend to have lower self-efficacy because they have far fewer opportunities to develop self-efficacy.

Self-efficacy and College Adjustment. By definition, individuals with firmer self-efficacy beliefs are confident in their ability to achieve goals even in most challenging tasks. As a result, they are more likely to persist through difficult situations and to overcome obstacles by determined effort (Bandura, 1977). Since the transition to college is mostly a challenge for the freshmen students, it is expected that students with higher self-efficacy would adjust to college more effectively. Bean and Eaton (2001) included self-efficacy as a central construct when they develop their model of college student retention. They proposed that since self-efficacy belief contributes to higher self-confidence and a higher level of persistence, increased self-efficacy would predict higher academic integration.

The positive relationship between self-efficacy and college adjustment is supported by empirical studies. Peterson (1993) examined the relationship between career decision-making self-efficacy and institutional integration of underprepared college students under Tinto's (1975, 1987) integration model. He found that career decision-making self-efficacy was the strongest predictor for overall and academic integration. Similarly, Reid (2013) reported that a heightened sense of self-efficacy is positively associated with a higher level of academic and social integration.

Chemers, Hu, and Garcia (2001) attempted to explore how self-efficacy influences college adjustment. They identified three mediating processes of self-efficacy effects:

cognitive, motivational, and affective processes. People with higher self-efficacy are able to use more advanced metacognitive strategies (accurately evaluate their resources and make full use of them), have higher motivation, and manage negative emotions more effectively. They proposed that the "challenge-threat evaluation" plays a central moderating role in the process: self-efficacy beliefs influence "students' perceptions of their capacities for responding to the demands of college life" (p. 62). Based on the perception of available resources/capacity, students then decide (often unconsciously) whether college transition would be a threat or a challenge to them. If students view college adjustment as a challenge, they would have a higher expectation for the outcome and interpret the stress of adjustment as excitement rather than anxiety. On the contrary, if they see college adjustment as a threat, they would have lower expectations and experience more anxiety due to the stressful situation.

While self-efficacy is primarily a domain-specific construct, it can sometimes be generalized to other domains of one's life. A considerable body of research suggested that individual from a higher SES background tends to have more opportunities to develop self-efficacy. People would have more confidence in their ability and resources. As a result, higher self-efficacy would likely be associated with an increased likelihood of successful adjustment to college.

Hope. Despite its common usage, *hope* has a specific meaning in the literature of positive psychology. Snyder and colleagues (1991) developed a theory of hope in the early 1990s. According to their theory, hope reflects one's perception regards his/her ability to (a) clearly conceptualize goals, (b) develop strategies to reach the goals, which they termed as "pathways thinking," and (c) initiate and sustain the motivation for

applying the strategies, which they termed as “agency thinking” (Snyder, Lopez, Shorey, Rand, & Feldman, 2003). To put it simply, hope is the will and the ways to achieve a goal. The hope theory argues that both pathways and agency components are necessary to sustain the goal pursuit (Snyder et al., 2003).

Hope theory suggests that pathway and agency thinking are related but distinguishable constructs. This was supported by empirical data from four studies using the Hope Scale designed to measure the two components of hope (Anderson, 1988; Gibb, 1990, as cited in Snyder et al., 1991). Principal-components exploratory factor analyses with oblique rotation were performed to explore the relationship between pathway and agency components. The result shows that items that were designed to tap agency demonstrate high loadings on agency factor do not load on pathway factor while pathway items generally load on pathway factor but not on agency factor. This result supports the assumed separation of pathway and agency component in the hope theory. In addition, the factor analyses result also suggests that agency and pathways component scores are positively correlated with correlation coefficient ranging from .38 to .46.

A higher level of hope involves “greater reciprocally derived perceptions of agency and pathways as people consider goals” (p. 581, Snyder et al., 1991). Extensive research supported that higher hope is positively associated with better academic performance (e.g., Day, Hanson, Maltby, Proctor, & Wood, 2010; Feldman, & Kubota, 2015; Marques, Lopez, & Pais-Ribeiro, 2011; Rand, Martin, & Shea, 2011). Research showed that hope as an individual-differences variable predicts semester GPA even when the shared variance related to cumulative GPA is removed (Curry, Snyder, Cook, Ruby, & Rehm, 1997). The relationship between hope and a positive outcome is, obviously,

bidirectional: higher hope is often a result of an accumulation of successful experiences, and it, in turn, facilitates goal attainment.

Snyder, Cheavens, and Sympson (1997) discussed the mechanism of why higher hope is related to better performance in various tasks. They found that higher hope is associated with an increased tendency of dismissing the unsatisfying outcome and focusing on satisfying results. In contrast, lower hope is associated with heightened attention to the inadequacy (Snyder et al., 1997). Another finding is that people with higher hope tend to have "stretch goals" (Snyder et al., 2003). They seem to prefer difficult tasks to enjoy the challenge. It appears that higher hope is related to the tendency of breaking down large goals into smaller ones and enjoying every step rather than be overwhelmed by the formidable "big mission" (Snyder et al., 1997).

Like self-efficacy, hope has trait-like aspects and state-like aspects. Trait-like hope reflects a general tendency across situations and times (Snyder et al., 1991), while state-like hope is a snapshot of a person's goal-directed thinking in a particular time and situation. The state hope provides a description of the temporal state that is related to the ongoing events in people's lives (Snyder, Sympson, Ybasco, Borders, Babyak, & Higgins, 1996). Snyder and colleagues (1996) proposed that one's dispositional hope sets the range within which his/her state hope varies. In other words, people with higher dispositional hope would generally demonstrate higher state hope.

Hope and SES. Little research discussed the relationship between SES and hope. Otis (2015) looked into the antecedents of adolescents' hope. He evaluated student's SES based on their lunch program (free, reduced, and regular), and found that those who take regular lunch showed significantly higher hope scores than those who received free

lunch, but the reduced lunch group did not differ significantly from other two groups. Although this provides some support that individual from higher SES background tends to have higher hope, the result is inconclusive due to the drastically unequal sample sizes among three groups (89% regular lunch, 2% reduced lunch, and 9% free lunch) and the unconventional SES indicator (i.e., lunch program, common SES indicators include family income, parental education, and parental job prestige).

Hope and College Adjustment. To date, very little research has been carried out on the relationship between hope and college adjustment. However, the existing literature on hope suggested that higher hope is generally related to better adjustment to adversity (e.g., Cramer & Dyrkacz, 1998; Michael & Snyder, 2005; Kwon, 2002) and higher academic performance in college (e.g., Curry et al., 1997; Day, Hanson, Maltby, Proctor, & Wood, 2010; Snyder, Shorey, Cheavens, Pulvers, Adams III, & Wiklund, 2002).

It is well documented that higher hope predicts adaptive coping strategies and positive adjustment when individual faced in challenging situations (e.g., Barnum, Snyder, Rapoff, Mani, & Thompson, 1998; Feldman & Snyder, 2005; Lewis & Kliewer, 1996; Michael & Snyder, 2005; Stanton, Danoff-burg, & Huggins, 2002). Snyder and colleagues (1991) tested the different reaction high-hope, and low-hope students would have when they received poor grades in a perceived-important class. They found that while low-hope students' scores in both agency and pathway thinking dropped, the high-hope group demonstrated a boost in both agency and pathway score. In other words, high-hope students show even higher hope when they encounter adversity. Michael and Snyder (2005) pointed out that hopeful thinking helps individuals to focus on "present concerns and begin the process of moving toward important goals in the present and

future" (p. 454). They concluded that hope is helpful for adjustment partly because it helps people to redefine themselves and establish new roles in an effort to push forward with their lives. Kwon's (2002) study confirmed that high hope predicts better adjustment. He also discussed the defensive hopelessness, in which case lower hope also generate reasonable adjustment. He pointed out that even if the individual envisions failure, as long as he/she adopts non-avoidant coping strategy and uses the anxiety to fuel goal-oriented motivation, the individual can still achieve favorable adjustment. It is the coping approach that people choose ultimately decides the outcome of adjustment.

Generally speaking, college students with higher hope tend to report feeling more confident, inspired, energized, and challenged by their life goals (Snyder et al., 1991). It is not surprising that high-hope students are more likely to achieve a higher GPA, higher possibility of graduation, and lower academic dismissal rate comparing to their low-hope counterparts. Snyder and colleagues (2002) summarized four advantages high-hope students have: a) they can conceptualize goals more clearly based on their own experience, ability, and needs. This makes it easier for them to attune to their goals and decide how to achieve them; b) high-hope students have better control over their attention. Their "on-task" thinking prevents them from being distracted by "task-irrelevant thoughts and detrimental negative feelings" (p. 824); c) high-hope students are able to generate multiple ways to attain the goal and more open to new approaches. They are more likely to learn from previous failures and generate other feasible ways; d) higher hope students tend to have a higher level of motivation. They are internally motivated to achieve the goal they set for themselves. Also, the high correlation between hope,

optimism, and self-efficacy means these students may also have an optimistic view and confidence in their ability, both of which contribute to improved motivation.

In summary, hope is defined as the will (agency thinking) and the ways (pathway thinking) to achieve a goal. Existing research suggested that a higher level of hope generally related to better performance. When faced with challenging tasks (such as the transition to college), high-hope individuals tend to use more adaptive coping strategies and more effectively overcome the difficulties. Hope is both dispositional and state-like. While the dispositional hope sets the range of state hope, researchers suggest that state hope is a stronger predictor for the goal-directed performance in a specific situation. While little research specifically looks into the relationship between hope, SES, and college adjustment, existing literature suggested that these three constructs are positively correlated: people from higher SES backgrounds tend to have a higher level of hope and adjust to college more effectively.

Optimism. Optimism is defined as "generalized expectations of the occurrence of good outcomes in one's life" (p. 239, Scheier & Carver, 1985). This optimism model is rooted in a general model of self-regulation (Scheier & Carver, 1985), which is built on the assumption that there is a series of negative feedback systems (see Carver & Scheier, 1982, for details) that guides people's goal-directed behaviors. When individuals focus on the self, these goal-directed behaviors become increasingly engaged. Individuals may adjust current behaviors or start new behaviors to reduce (and/or keep minimized) any perceived discrepancy between current behaviors and goals or standards. When the discrepancy reduction is perceived to be difficult, the goal-orienting behaviors would be temporarily interrupted, and an assessment would take place. The assessment is a

subjective evaluation of the possibility of discrepancy reductions, or in other words, an outcome expectancy. Scheier and Carver termed the degree of positive outcome expectancy as Optimism.

According to the theory, the outcome expectancy influences the behavior in both directions: a favorable expectancy leads to a renewed effort while an unfavorable one causes reduced effort or giving up on the task. Therefore, higher optimism should predict increased effort, and lower optimism should be associated with the decreased effort in goal-directed behaviors. It is well documented that higher optimism score is related to better health outcomes (see Mondloch, Cole, & Frank, 2001; Rasmussen, Scheier, & Greenhouse, 2009, for a review), more effective coping strategies (see Nes, & Segerstrom, 2006, for a review), lower psychological distress (e.g., Carver et al., 1993; Miller, Manne, Taylor, Keates, & Dougherty, 1996; Trunzo & Pinto, 2003), higher psychological well-being (e.g., Scheier, Carver, & Bridges, 2001), more positive organizational behaviors (e.g., Youssef & Luthans, 2007), higher academic performance (see Richardson, Abraham, & Bond, 2012, for a review).

While optimism is mostly a positive character that benefits people in various ways, some researchers did notice the possible negative effect of high optimism. Janoff-Bulman and Brickman (1982) pointed out that high expectation for success could lead people to "waste a great deal of time and energy working on tasks for which no satisfactory solution can be found" (p. 211), the futile persistence may also cost people opportunities for more desirable alternatives because when individual finally realize the problem is unsolvable, the option left may be far worse than these initial ones. Oettingen (1996) pointed out that another potential risk of optimism is that it may generate positive

fantasies or daydreams which district individuals from making concrete plans to achieve the goal.

James, Strogatz, Wing, & Ramsey (1987) brought up an interesting point about the importance of resources in the relationship between optimism and outcome variables. They looked into the relationship between SES and John Henryism (coping with chronic stress by putting in the extended effort which often leads to accumulation of physiological costs) and found that when people from low SES background (i.e., have limited material resources to facilitating success) believe that they can control the outcome of their lives by hard-working, they tend to be hypertensive which is related to adverse health outcomes. In other words, striving to gain control over events without sufficient objective resources could lead to negative consequences. Peterson (2000) commented that positive psychologists should be aware of people's external situation when they study positive psychological characteristics, as "positive" traits are not always adaptive in all circumstances.

Taking together, while optimism generally contributes to favorable outcomes, it could be counterproductive if there were not enough internal and external resources to fulfill the expectancy (i.e., unrealistic optimism, either because the expectancy is too high or because the resources were too little).

Scheier and Carver (1985) argued that optimism is a trait and should be stable over a long period of time. This claim was supported by empirical studies (Atienza, Stephens, & Townsend, 2004; Lucas, Diener, & Suh, 1996; Scheier & Carver, 1985; Scheier, Carver, & Bridges, 1994, as cited in Carver, 2014). However, recent studies suggested that

optimism may also have a state-like aspect, as optimism changed significantly in some studies (Segerstrom, 2007; Sweeny, Carroll, & Shepperd, 2006).

Optimism and SES. A number of studies, including several longitudinal studies, have looked into the relationship between optimism and SES. As expected, there is extensive evidence that higher SES is related to higher optimism score (and lower pessimism score in studies that take optimism and pessimism as two distinct factors; e.g., Brody et al., 2002; Chen & Matthews, 2001; Heinonen et al., 2006). One of the most robust evidence comes from Heinonen and colleagues' (2006) longitudinal study, which looks into how an individual's SES is associated with his/her optimism, specifically, whether childhood SES and adulthood SES have different influences. They found that both childhood SES and adulthood SES are positively associated with optimism, with higher SES predicts increased optimism. In addition, one's childhood family SES predicts optimism even after controlling for the adulthood SES. Interestingly, those the downwardly mobile group (high SES in childhood but intermediate/low SES in adulthood) demonstrates higher optimism than the upwardly mobile group (low SES in childhood but intermediate/ high SES in adulthood). This means that those who spent a majority of his/her childhood in a wealthy family and later end up in middle or low SES in their adulthood might be more optimistic than those who had impoverished childhood but made it to a higher SES in their adulthood.

In terms of the mechanism between childhood SES and optimism, Chen and Matthews (2001) proposed that low SES children learned to adapt to their low SES environments (which is typically more dangerous and unstable than high SES environments) by constantly being vigilant to threat. They tend to perceive the

ambiguous situation as a potential threat and demonstrate heightened cardiovascular reactivity, even aggressiveness. As a result, low SES children tend to be pessimistic about the future. A couple of researchers refer to the reserve capacity model (Gallo & Matthews, 2003) to illustrate the mechanism. The model proposed that low SES individuals experience more stress in their daily lives, which reduces their reserved capacity to handle stress. This, in turn, makes them even more vulnerable to negative emotions and cognitions, which further undermine their ability to deal with stressful events in their lives. In light of this model, the low SES individuals' pessimism is understandable: they encounter more stressful events in their lives and have fewer resources to overcome these challenges. The pessimism may, to some extent, reflects a realistic prediction of the outcome.

Optimism and College Adjustment. Only a few researchers have specifically focused on the relation between optimism and college adjustment. For example, Aspinwall and Taylor (1992) conducted research on a sample of 672 freshmen and found a direct positive effect of optimism on college adjustment. Besides that, it is well documented that college students with higher optimism scores have higher retention rates (e.g., Gerdes & Mallinckrodt, 1994; Solberg Nes, Evans, & Segerstrom, 2009). For example, Solberg Nes et al. (2009) looked into the influence of optimism on freshman's retention, motivation, performance, and adjustment based on a sample of 2189 college students. The result showed that the more optimistic participants are less likely to drop out of college after the first year. They found that the optimistic participants demonstrate higher academic motivation, better academic performance (measured by GPA), and less distress (which indicates better psychological adjustment).

A number of studies try to explore the mechanism of how optimism leads to a higher retention rate. Most of the research focuses on two factors: motivation and coping. As for the motivation, consistent with Scheier and Carver (1985)'s Optimism theory, research showed that freshman college students with optimistic expectancies tend to put more effort and more likely to bounce back in adverse situations (Solberg Nes et al., 2009). There is also evidence that optimism is positively associated with conscientiousness (Nes, Carlson, Crofford, de Leeuw, & Segerstrom, 2011), which includes a general tendency of hard-working, self-discipline, and persistence. As a result, they have a better chance to overcome the challenges in their lives and demonstrate better performance in various situations.

Optimism is positively related to more effective coping strategies. As an important life transition, many freshmen students experience college life as stressful. Brissette, Scheier, and Carver (2002) found that students with higher optimism at the beginning of the first semester of college report higher perceived social support by the end of the first semester (optimists tend to have larger friendship networks, but their size does not increase significantly during the semester.) Researchers commented that it seems that optimistic students seem to have higher quality friendships, but not necessarily more extensive social networks. Beside social support, research suggests among men who were at risk of Acquired Immunodeficiency Syndrome (AIDS), the optimists were more likely to use positive attitudes (e.g., "Try to keep a positive outlook on life," and "Try to keep me from worrying about getting AIDS, since there is no use in worrying") to cope with the stress caused by the risk of AIDS. They also tended to seek personal growths (e.g., involvement in spiritual activities) and to help others to decrease the thoughts of getting

AIDS. (Taylor, Kemeny, Aspinwall, Schneider, Rodriguez, & Herbert, 1992). Taylor and colleagues also pointed out that the optimists were less likely to engage into fatalism (e.g., preparing for the worst), self-blame (e.g., recognizing that "I bring the risk on myself"), escape-avoidance (e.g., day-dream or using alcohols or drugs to avoid the negative feelings). Another related factor is individual's cognitive appraisal, Schou, Ekeberg, and Ruland (2005) asked female participants to evaluate "to what degree they appraised the diagnosis of breast cancer to be a challenge, threat, and/or harm/loss" (p.720), they found that those who scored higher in optimism view the breast cancer diagnosis less a threat. The optimistic appraisal of threat was then translated into better emotional function and overall quality of life. Similarly, Baldwin, Chambliss, and Towler (2003) examined the optimism's role of buffering the stress on African American college students. They found that people who scored higher on optimism reported significantly lower perceived academic stress comparing to their pessimistic peers. It seems that optimists tend to experience less stress before they even start to cope with them.

Overall, optimism is positively related to better college adjustment, as evidence suggests that it improves people's motivation level and help them cope with challenges more effectively.

Optimism is defined as the generalized expectation of a positive outcome. High optimism is generally related to favorable outcomes, but it can also be problematic when an individual's available resources cannot support the fulfillment of the expectancy (in which case the optimism turns into unrealistic optimism). Optimism is partly a genetic predisposition, but also a psychological state that can be shifted in response to situational requirements. Extensive studies have proved that individuals from higher SES

backgrounds tend to be more optimistic, and optimistic students tend to adjust to college life more smoothly. Because the relationship between optimism and outcome is mediated by motivation and coping strategies. Individuals with "defensive pessimism" may demonstrate better performance than people with "unrealistic optimism" if they were motivated by trying to avoid the catastrophic result and use adaptive coping strategies.

Similarity and differences between Optimism, Self-efficacy, and Hope. Snyder et al. (1991) compared the similarity and difference between hope, optimism, and self-efficacy (**Figure 1**). They pointed out that all three constructs describe the relationships between outcome expectancy (a belief that particular behavior would cause a specific outcome), efficacy expectancy (one's personal confidence in his/her ability to perform certain behaviors that lead to the desired outcome), and goal-directed behavior. Optimism is a generalized expectancy that good things will happen (Scheier & Carver, 1985, as cited in Snyder et al., 1991). According to Scheier and Carver's optimism theory, outcome expectancy is the primary determinant of goal-directed behavior, although efficacy expectancy also influences the outcome expectancy.

Bandura's theory of self-efficacy (Bandura, 1989, as cited in Snyder et al., 1991), contrary to the theory of optimism, argues that efficacy expectancy is the most potent factor eliciting goal-directed behavior, although the bidirectionality of outcome and efficacy expectancies is also recognized.

Snyder et al. (1991) disagree with both theories' reliance on either outcome expectancy or efficacy expectancy. They argued that both types of expectancies are needed to ensure the predictive impact of self-related cognition, as it is the sum of the reciprocal action between the two expectancies that pertain to goal-directed behavior.

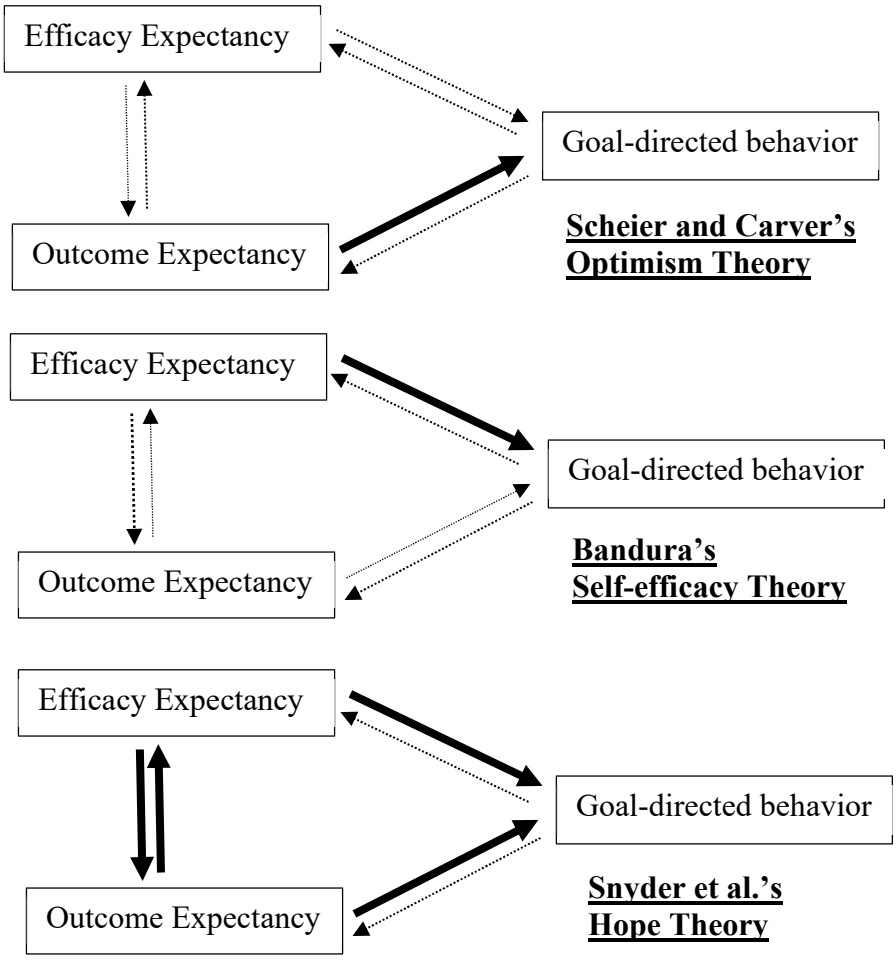

Figure 1: The similarity and difference among Optimism, Self-efficacy, and Hope

Magaletta and Oliver (1999) agreed that Optimism, Self-efficacy, and Hope are related but not identical constructs. All three constructs are related to one's expectation for future outcomes or goals and are all powerful determinants of behavior. They agreed with Snyder et al.'s (1991) argument that self-efficacy appears parallel to the will component (i.e., agency thinking) of hope and optimism would somewhat resemble the way component (i.e., pathways thinking) hope. They added that optimism distinct from hope in that it also includes "expectancies about outcomes obtained through others and

forces outside the self" while hope only related to expectancies that "pertain uniquely to outcomes obtained by the self" (p. 541, Magaletta & Oliver, 1999). Therefore, it is possible for someone to possess high optimism and low hope. Such a person would expect a positive outcome despite he/she has no clue how to make it happen and does not have much motivation to try his/her best. On the contrary, a high-hope, low-optimism individual may have a clear idea about how to solve a problem and be dedicated to doing so, but he/she may still expect unsatisfying results because some unpredicted external factor would interfere with the goal achieving process.

Resilience. Resilience is generally defined as achieving optimal adaptation despite the presence of significant threats (Luthar, Cicchetti, & Becker, 2000; Masten, 2001; Masten & Reed, 2002). This definition contains two major components: (a) the presence of significant threat or adversity, (b) achieving positive adaption, or accomplish developmental tasks despite the presence of adversity. The problem is, in the literature, there is considerable diversity in the operationalization of "adversity" and "adaptation." As Luthar et al. (2000) concluded in a comprehensive literature review of the construct of resilience, that there was "little consensus about the definitions, with substantial variations in operationalization and measurement" for the construct of resilience.

Masten and Reed (2002) identified two approaches to resilience research in literature: variable-focused and person-focused. The variable-focused approach focuses on "the linkages among characteristics of individuals, environments, and experiences to try to ascertain what accounts for good outcomes on indicators of adaptation when risk or adversity is high" (p. 77, Masten, 2001). This approach is often seen in the developmental psychology literature (Korn, 2014). A common research goal of this model is to identify

risk and protective factors in the development of children who live in adverse environments. A large body of literature has been published on this topic, providing a long list of risk and protective factors (at individual, family, community, and society level) for psychological resilience in children and youth (see Luthar et al., 2000; Masten & Reed, 2002 for a review).

Person-focused approaches have a related but different emphasis: to look into the resilient people and understand what differentiates them from other people who encounter similar challenges but end up with less favorable outcomes. One example is Ego-resiliency theory (Block & Kremen, 1996). Ego-resiliency is one's capacity to modify his/her ego control (Block & Kremen, 1996). Block and colleagues proposed that a vital process of adaptation is impulse control. While the inhibition of impulse helps the ego to produce adaptive behavioral outcomes (e.g., complying with teacher's requirement in the classroom to gain praise and/or avoid punishment), overregulation may damage spontaneity, creativity, interpersonal connection, and positive affects (e.g., the stereotypical "nerd" who are commonly perceived as obsessive, quirky, pedantic, and lacking social skills). Therefore, an individual with good "ego-resiliency" should demonstrate excellent ego-control. That means he/she (a) produces adaptive outcomes, (b) maximizes spontaneity, and (c) minimizes inhibitions. They predicted that such individuals would manifest low susceptibility to anxiety, positive affect, and openness to experiences. In contrast, those on the low end of "ego-resiliency" (termed as "ego-brittle") are expected to frequently experience anxiety because of "existential uncertainties and difficulties" (p. 351, Block & Kremen, 1996). In summary, ego-

resiliency is an ability to adapt to environmental requests while maintaining system equilibration.

The current study discusses the resilience in the framework of PsyCap theory, which defines resilience as the "positive psychological capacity to 'bounce back' from adversity, uncertainty, conflict, failure, or even positive change, progress and increased responsibility" (Luthans, 2002, p. 702). It appears that the PsyCap theory's understanding of resilience is close to the ego-resiliency theory.

Existing literature indicated that resilience could be both a trait resilience (e.g., Hutchinson, Stuart, & Pretorius, 2010; Mathiesen & Prior, 2006; Smith & Prior, 1995; Tschann, Kaiser, Chesney, Alkon, & Boyce, 1996) and a state (Tugade & Fredrickson, 2007; Tugade, Fredrickson, & Barrett, 2004). A state-trait resilience inventory has been developed to distinguish and measure "state resilience" and "trait resilience" (Hiew, Mori, Shimizu, & Tominaga, 2000).

Resilience and SES. Although the current research intends to look into resilience in light of ego-resilience theory, no research has been found that specifically examines the relationship between ego-resilience and SES. The literature search, therefore, has to be expanded to studies that define resilience differently to enhance the understanding of resilience-class relations.

One way to look at the resilience-class relation is through the variable-focused lens. A considerable amount of empirical studies has been done in an effort to identify protective factors and risk factors that facilitate or damage an individual's resilience (Masten & Reed, 2002).

Masten and Reed (2002) categorized the number of protective factors for resilience in children and youth into three categories: a) within children; b) within a family; and c) within a community (see table. 2). Although several factors are mostly determined by genes (e.g., intelligence) or general social environment (e.g., emergency social services), many of the protective factors are associated with children's family social-economic status. The research suggested that children from higher SES families tend to have higher self-efficacy (Champion et al., 2005), a positive outlook on life (Heinonen et al., 2006), and a good sense of humor (Masui & Ura, 2016). Their families are more likely to have an organized home environment (Petrill, Pike, Price, & Plomin, 2004), college-educated parents (Diemer et al., 2013), and socioeconomic advantages. Their community is more likely to have an effective school (Perry & McConney, 2010), high "collective efficacy" (Browning & Cagney, 2002), and higher public safety (Meyer, Castro-Schilo, & Aguilar-Gaxiola, 2014). On the other hand, higher SES has been proven to be related to fewer risk factors (for a review, see Luthar et al., 2000). In summary, individual from higher SES has more protective factors and fewer risk factors for resilience in his/her life.

Luthar (1991) pointed out that protective factors and risk factors may vary across different situations. For example, positive life events are usually thought to serve protective functions (Rutter & Quinton, 1984), but they can become risk factors when they are mixed with adverse events in a short period of time. Luthar (1991) proposed that frequent positive events interspersed with adverse events may implant a sense of helplessness in individuals' minds as they experience their environment as powerful and unpredictable. Another example is that while increased freedom from school and home benefit high-class student's academic performance as they have more time to study, it

may damage low-class student's grades as they tend to spend the extra time on non-academic areas. Therefore, researchers have to consider their population characteristics and specific domain of life when they try to predict one's resilience with protective and risk factors.

Although the lower SES is generally related to more disadvantages in the development of resilience, families with lower incomes so have some strengths (Orthner, Jones-Sanpei, & Williamson, 2004). Research has shown that many economically disadvantaged, racial and ethnic minority families demonstrate high family cohesion and family support (Compton, Thompson, & Kaslow, 2005; Leidy, Guerra, & Toro, 2010). Although part of this phenomenon might be due to the collectivist culture of African American and Latino people, the low SES "contextualism" culture also plays a role (Kraus et al., 2012). As a result, many low-income families develop a sense of togetherness (Chadiha, 1992), some parents are able to show affection, warmth, and low hostility, which promote their children's resilience to economic adversity and stress from developmental transitions (Conger & Conger, 2002).

Resilience and College Adjustment. Given that the definition of "resilience" is to achieve an adaptive outcome in an adverse situation, it is not surprising that extensive research has shown that high level of resilience predicts better college adjustment (Galatzer-Levy, Burton, & Bonanno, 2012; Kwag, 2013; Leary & DeRosier, 2012; Hartley, 2011).

Resilience's positive influence on college adjustment may be related to its function of decreasing emotional distress. Liran and Miller (2019) examined the role of PsyCap in college student's academic adjustment. They found that hope and resilience play

particularly important roles in relation to academic performance. They concluded that resilience contributes to people's academic outcomes primarily by helping the individual to achieve or maintain emotional well-being. Other researchers also recognized resilience's role in decreasing emotional distress. For example, Klibert et al. (2014) found that resilience mediates the relationship between socially prescribed perfectionism and emotional distress (depression and anxiety). They explained that this might be because socially prescribed perfectionist tends to demonstrate resilience-depleting attitudes such as self-blame. The authors admitted that resilience only partially mediates the relation. Other mechanisms may also play important roles in the process.

Another factor that potentially bridges resilience and college adjustment might be coping styles. Campbell-Sills, Cohan, and Stein (2006) reported that high resilience is positively related to task-oriented coping, while the individual with low resilience tends to demonstrate emotion-oriented coping. Consistent with this finding, Morales (2014) interviewed 50 at-risk minority college students who came from the lower SES background but demonstrated significant academic resilience (completing at least 30 credit hours with GPA higher than 3.0). He found that these resilient students were able to appraise their strengths and weakness realistically and cope with challenges by utilizing available resources and seek help.

In summary, Resilience is a construct with substantial variation in operationalization and measurement. The present study would adopt the definition of "ego-resilience" for its compatibility with the PsyCap theory. Research has demonstrated that SES is significantly related to resilience. Under a protective/risk factor perspective, it is clear that individual from a higher SES background has more protective factors and fewer risk

factors in their lives. As a result, high SES individuals tend to be more resilient comparing to their low SES counterparts. Previous research has shown that high resilience is related to better college adjustment, possible due to resilience's connection with deceased emotional distress and adaptive coping style.

PsyCap, SES, and College Adjustment. A search of the literature revealed that no previous study had investigated the relationship between PsyCap and SES. However, the previous literature review has established that SES is significantly and positively related to self-efficacy, hope, optimism, and resilience. An individual from a higher SES background demonstrates an advantage in all these factors. Because SES is strongly related to all four components of PsyCap, it is reasonable to conclude that SES is significantly associated with PsyCap. The higher SES individual tends to have a higher level of PsyCap.

A number of studies have looked into the role of PsyCap in the academic domain. Liran and Miller (2019) specifically investigated the relationship between PsyCap and academic adjustment and concluded that PsyCap as a holistic resource plays a "central role in students' academic adjustment" (p. 51). They find that PsyCap explains as much as 74% of the variance in students' academic adjustment. One interesting finding in Liran and Miller's (2019) study is that the four components of PsyCap relate to GPA differently. While hope and resilience significantly associated with GPA, there is no such relationship with self-efficacy and optimism. Authors tried to explain this phenomenon by pointing out that self-efficacy (which is essentially internal belief) and optimism (which is the explanatory style) is primarily subjective and, therefore, not necessarily reflect real factual achievements. They argued that hope (which reflects one's ability to

find ways to achieve goals) and resilience (which reflects the ability to bounce back from adversity) predicts GPA because they implicate "active maximization of opportunities and quality of life" (p. 61).

Other studies confirmed the positive influence of PsyCap on student's academic performance. Students with higher PsyCap tend to achieve a higher GPA (Jafri, 2013; Luthans, Luthans, & Jensen, 2012), demonstrate a higher level of academic engagement (Datu & Valdez, 2016), experience less academic stress (Riolli, Savicki, & Richards, 2012). In addition, the previous literature review showed that each of the four PsyCap components is significantly related to academic adjustment. Therefore, it is reasonable to conclude that PsyCap is significantly related to college academic adjustment. An individual with a higher level of PsyCap is more likely to obtain optimal college academic adjustment.

The Present Study

A large number of studies have looked into the relationship between psychological characteristics and academic difficulties of college students from low SES background (for a review, see Kulik, Kulik, & Shwalb, 1983; Robbins, Lauver, Le, Davis, Langley, & Carlstrom, 2004; Rubin, 2012). It is well documented that low SES is correlated to multiple negative psychological characters and poor academic adjustment.

The current research aims to expand the understanding of the relationship between SES and college academic adjustment by examining the potential meditation role of PsyCap. Each component of PsyCap (i.e., self-efficacy, hope, optimism, and resilience) will be examined to understand their role in the SES-adjustment relation (**Figure 2**).

Applying PsyCap theory in the present study provides an opportunity to examine self-efficacy, hope, optimism, and resilience not only individually, but also collectively as a single construct. It also informs the development of interventions since the PsyCap is a state-like construct and can be improved with short-term interventions. If this study indicates that students' PsyCap is related to college adjustment, a brief intervention can be developed to improve their PsyCap and help their adjustment. Another contribution of this study is to empirically examine the relationship between SES and PsyCap, as no previous studies have investigated this.

For the purpose of this study, quantitative data regarding students' levels of self-efficacy, optimism, hope, and resilience, overall PsyCap, and college academic adjustment level will be gathered and analyzed. Data will be used to determine whether PsyCap and each of its components mediate the relationship between SES and college academic adjustment.

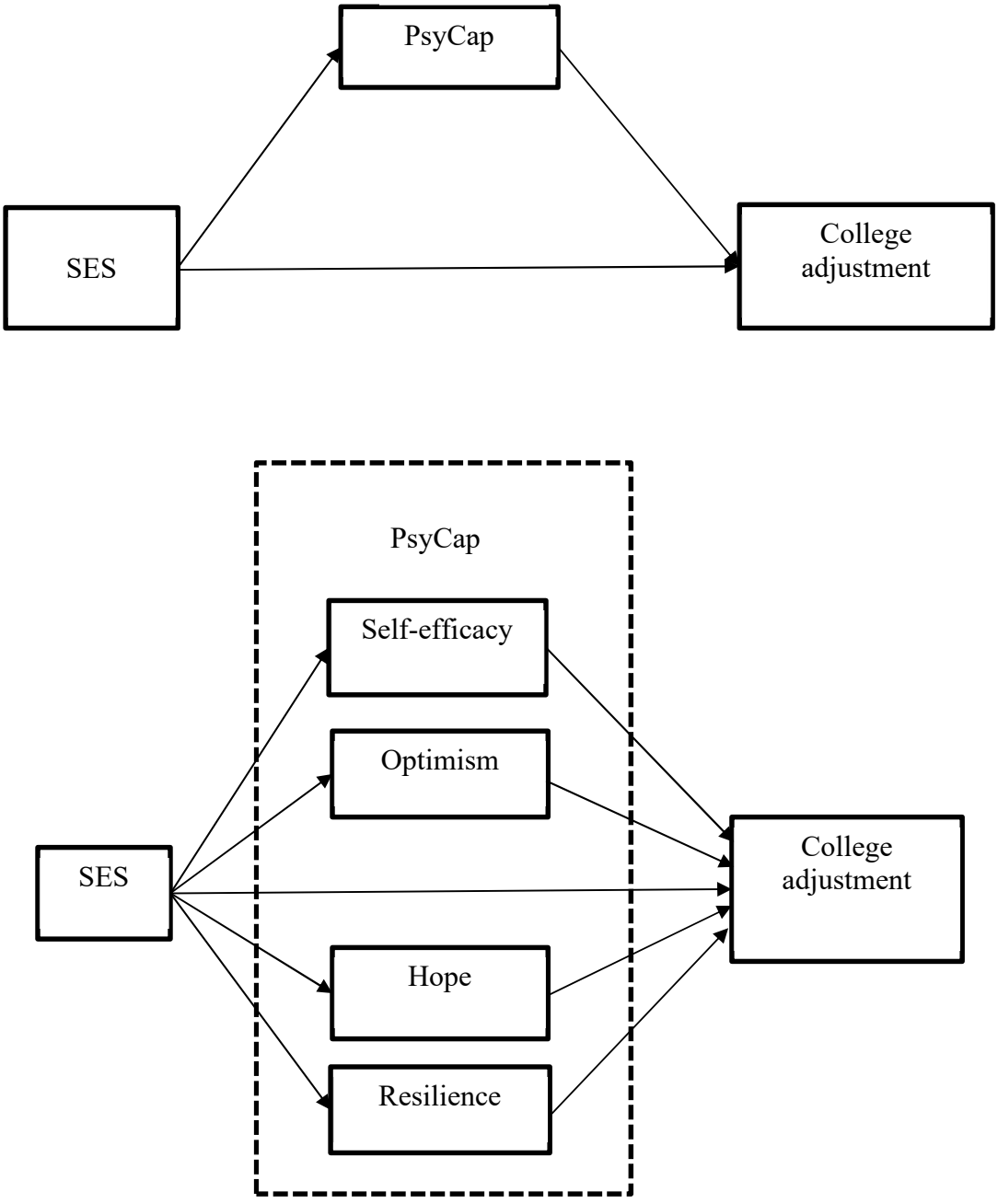

Figure 2: Models proposed for the present study

Research Questions and Hypotheses

Research Question One

Does PsyCap mediate the relationship between SES and college academic adjustment?

Hypothesis 1:

PsyCap, when measured as a composite score, will partially mediate the relationship between SES and college academic adjustment.

Justification for the Hypotheses 1

A search of the literature revealed that the mediating role of academic PsyCap in the relationship between SES and college academic adjustment was not explored. However, given the hypothesized significant relationship between SES and academic PsyCap, and the significant relationship between academic PsyCap and college academic adjustment, it is reasonable to hypothesize that academic PsyCap plays a mediating role in the relationship between SES and college academic adjustment.

Research Question Two

Does each of the components of PsyCap (i.e., self-efficacy, hope, optimism, and resilience) mediate the relationship between SES and college academic adjustment, in the presence of the other three components?

Hypothesis 2:

Self-efficacy will partially mediate the relationship between SES and college academic adjustment, in the presence of the other three mediators of hope, optimism, and resilience.

Hypothesis 3:

Hope will partially mediate the relationship between SES and college academic adjustment, in the presence of the other three mediators of self-efficacy, optimism, and resilience.

Hypothesis 4:

Optimism will partially mediate the relationship between SES and college academic adjustment in the presence of the other three mediators of self-efficacy, optimism, and resilience.

Hypothesis 5:

Resilience will partially mediate the relationship between SES and college academic adjustment, in the presence of the other three mediators of self-efficacy, hope, and optimism.

Justification for the Hypotheses 2, 3, 4, and 5

Previous studies showed that SES was significantly positively related to self-efficacy (e.g., Gecas & Schwalbe, 1983), hope (Otis, 2015), optimism (e.g., Brody, et al., 2002), and resilience (e.g., Masten & Reed, 2002). Existing literature also suggested that college academic adjustment (some of the research generally looked at "college adjustment") is significantly positively related to self-efficacy (e.g., Chemers, Hu, & Garcia, 2001), hope (e.g., Michael & Snyder, 2005), optimism (e.g., Aspinwall & Taylor, 1992), and resilience (e.g., Leary & DeRosier, 2012). It is reasonable to the hypothesis that self-efficacy, hope, optimism, and resilience play mediating roles in the relationship between SES and college academic adjustment.

CHAPTER II

METHOD

Participants

Two hundred sixty-two undergraduate students were recruited from a public university in the southern United States. After removing participants who missed a substantial portion of the questionnaire (20% or more; Tabachnick & Fidell, 2013) or did not report high school GPA, the final sample size for this study was 214.

The ages of participants ranged from 18 to 29 (M = 19.74, SD = 1.69). 25.2% (n = 54) of the participants reported their gender as male, 74.3% (n = 159) identified as female, .5% (n = 1) of participants did not reported their gender. The majority of the participants identified their ethnicity as White/Caucasian (76.2%, n = 163). The remaining participants identified as Black/African American (15.0%, n = 32), Hispanic/Latino (3.7%, n = 8), Asian/ Asian American (1.4%, n = 3), Native Hawaiian/Pacific Islander (.5%, n = 1), American Indian/Alaskan Native (0.9%, n = 2), and Biracial/Multiracial (.9%, n = 2). 1.4% (n = 3) of the participants did not report their ethnicity. 37.4% (n = 80) of the participants were Freshmen, 28.0% (n = 60) were Sophomores, 15.4% (n = 33) were Juniors, 19.2% (n = 41) were Seniors.

The minimum sample size for the current study was determined with power analysis using G*Power 3.1.9.2 (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007). The power analysis used multiple linear regression (Fixed model, R^2

deviation from zero) test. The effect size f^2 was set to .15 to achieve medium effect size (Cohen, 1988), which is relatively conservative and consistent with the effects sizes seen in the literature for the relationships among the study variables (e.g., Bergheim, Nielsen, Mearns, & Eid, 2015; Dilworth-Bart, 2012, etc.). The *alpha* level was set to .05, and the statistical power was set to .80 (Araujo & Froyland, 2007). The result of the power analysis suggested that a minimum of 55 participants is necessary to achieve sufficient statistical power. The current sample size is larger than the minimum number.

Instruments

Demographics. A demographic questionnaire included questions regarding participants' age, race/ethnicity, gender, sexual, high school GPA, and weekly working hours.

Socioeconomic Status (SES). Participants were asked to indicate their parents/guardian's education attainment by choosing one of the following categories: 1 = No formal schooling; 2 = 1st grade or equivalent; 3 = 2nd grade or equivalent; 4 = 3rd grade or equivalent; 5 = 4th grade or equivalent; 6 = 5th grade or equivalent; 7 = 6th grade or equivalent; 8 = 7th grade or equivalent; 9 = 8th grade or equivalent; 10 = 9th grade or equivalent; 11 = 10th grade or equivalent; 12 = 11th grade or equivalent; 13 = 12th grade without a diploma; 14 = High School diploma or General Education Diploma (GED); 15 = Vocational training school after high school; 16 = Some college/associate degree; 17 = Bachelor's degree; 18 = Master's degree or equivalent (1-2 years post-college); 19 = Doctoral or professional degree (MD; DDS; JD, LLB; etc.); 20 = Not Applicable.

Both parents'/guardians' education attainment was collected when applicable. When a participant provides both parents' educational attainment, their average education attainment was used as indicators for his/her SES background. When participant only lists one parent/guardian's education attainment, that person's educational attainment was used as indicators for this participant's SES background.

Academic PsyCap and its components. Academic PsyCap and its four components (self-efficacy, optimism, resilience, and hope) were measured using the 24-item Academic PsyCap scale, which is adapted from the original Psychological Capital Questionnaire (PCQ-24). The adapted items were derived by a panel of experts (including the original researchers of the PCQ; Luthans, Avolio, Avey, & Norman, 2007; Luthans et al., 2012). The scale has six items for each PsyCap component. Sample items from each of the subscales include "I feel confident setting targets/goals for my schoolwork" (self-efficacy), "There are lots of ways around any problem concerning my schoolwork" (hope), "I always look on the bright side of things regarding my schoolwork" (optimism), and "I usually manage difficulties one way or another concerning my schoolwork" (resilience). The reported Cronbach's *alpha* reliability for this instrument ranged from .89 to .93 two studies (i.e., Luthans et al., 2012; Luthans, Luthans, & Avey, 2014). Item 13, 20, and 23 were reverse coded to maintain a consistent positive direction of responses.

To address the limitation of using a composite PsyCap score (i.e., overlooking the difference among individuals' PsyCap structures; Dawkins, Martin, Scott, & Sanderson, 2013), in the present study, both composite PsyCap score and individual scale score for

each PsyCap component (i.e., self-efficacy, optimism, resilience, and hope) were used during data analysis.

Academic Adjustment. Academic adjustment was measured with the Academic Problem subscale of the College Adjustment Scale (CAS; Anton & Reed, 1991). This 12-item subscale measures perceived difficulties students experience in regard to academic performance. Respondents are asked to evaluate whether the statements (e.g., "No matter how much I study, I cannot seem to make good grades") are accurate for them on a 4-point Likert scale ranging from 1 (*False, Not at all true*) to 4 (*Very True*), raw scores are obtained by summing the 12 items with higher scores indicating more difficulty with academic tasks. In order to maintain a consistent positive direction of responses. Item 46 was reverse coded. The generated raw score was converted to a *T*-score using the official scoring sheet. Since the obtained *T*-score reflects respondent's adjustment difficulty, the T-score was converted to Z-score, changed sign, then converted back to *T*-score to reflect the respondent's obtained adjustment level. Anton and Reed (1991) reported the academic subscale has an internal consistency of .87, a discriminant coefficient of .27. Previous studies suggested that CAS is a valid measure for research (e.g., Campbell & Prichard, 2000; Wimmer, 2008).

CAS does not generate a composite college adjustment score. Researchers had used individual CAS subscales to test Tinto's college adjustment theory in their studies (e.g., Enochs & Roland, 2006; McKenzie & Schweitzer, 2001; Wingo, Kalkut, Tuminello, Asconape, & Han, 2013). This suggested that the academic subscale of CAS is compatible with Tinto's integration theory.

Procedures

After obtaining approval from the Institutional Review Board (IRB), participants were recruited from undergraduate classes in a middle-sized public university in the South. Forty-four undergraduate course instructors were contacted to ask for their permission to recruit participants in their class. Ten of them responded and offered permission to recruit participants from their classes. Instructors were asked to post an online survey link on the course page on Moodle (Modular Object-Oriented Dynamic Learning Environment; an online course management system). The survey included two informed consents: the first one provided a brief overview of the study. It also clarified that participation is voluntary and that all survey responses would remain confidential. The second informed consent asked for permission to access participants' academic records (i.e., the Family Educational Rights and Privacy Act [FERPA] informed consent). Once the consent forms were signed, participants were asked to complete a demographic questionnaire and the remaining instruments of the study. No monetary incentives or gift cards were offered. However, some instructors offered extra credit in class for the participant's time and effort.

Data collection started in early February and completed on March 8th. After data collection was completed, participants who provided permission to access their academic records were identified, and the researcher obtained participants' high-school GPA through the university registrar.

CHAPTER III

RESULTS

Data cleaning and missing values

A total of 262 participants took the survey. As suggested by Tabachnick and Fidell (2013), participants who were younger than 18, those who did not report high-school GPA, those who did not report parental education level, those missing 20% or more of either of the academic PsyCap and CAS surveys, and those who did not complete at two or more items on the Academic Performance subscale of CAS were removed from the dataset. Missing data in academic PsyCap were handled using the person-mean-substitution method, as prior research suggests it is a better method than alternatives such as listwise deletion or item-mean substitution (Downey & King, 1998). Missing data in CAS were handled following the instruction of the CAS manual (Anton & Reed, 1991). When the subscale misses 1 or 2 items, the subscale score was generated by multiplying the sum of the answered item by 12/11 (missing one item) or 12/10 (missing two items) and rounded to the nearest whole number. After cleaning the data, the final sample size for this study was 214.

Descriptive statistics and preliminary analyses

The descriptive statistics, reliability of scales, and correlations are shown in **Table 2** and **Table 3**, respectively. Some notable correlations included that SES was significantly related to PsyCap ($r = .15$, $p < .05$) and that PsyCap was positively related to college adjustment ($r = .42$, $p < .01$). No significant relationship between SES and college

adjustment was found. High-school GPA was positively related to PsyCap ($r = .18$, $p < .01$) and positively related to college adjustment ($r = .24$, $p < .01$).

The reliability coefficients of each of the measures were examined. All measurement scales except the optimism subscale ($\alpha = .67$) had coefficients alpha in the acceptable range (i.e., .70 or above). Tavakol & Dennick (2011) suggest acceptable alpha values should range from 0.70 to 0.95. The relatively low alpha value of the optimism subscale might be due to its low number of items and heterogeneous constructs. Participants' academic classification (i.e., freshman, sophomore, junior, and senior) also were collected as a potential covariate. A one-way ANOVA was conducted to assess for between-groups (freshman vs. sophomore vs. junior vs. senior) differences in college adjustment among students from different academic classifications. No significant between-group differences were found for college adjustment ($F[3, 213] = .292$, $p = .831$). Therefore academic classification was not included in the model.

Table 2

Means, Standard Deviations, Range for Sample, and Reliability of scales

Variable	*M*	*SD*	*Range*	α
HSGPA	3.56	.38	2.50 – 4.00	
SES	16.20	1.45	9.00 – 19.00	
Adjustment	47.49	10.18	23.00 – 70.00	.89
PsyCap	102.57	20.70	39.00 – 144.00	.95
Self-efficacy	27.34	6.33	6.00 – 36.00	.93
Hope	26.41	6.44	6.00 – 36.00	.90
Optimism	23.50	5.00	8.00 – 36.00	.67
Resilience	25.31	5.27	9.60 – 36.00	.76

Note. HSGPA = High-school GPA; SES = Socioeconomic Status; PsyCap = Academic Psychological Capital Scale.

Table 3

Correlation Matrix of Variables

Variable	1	2	3	4	5	6	7
1 HSGPA	-						
2 SES	.09	-					
3 Adjustment	-.24**	.03	-				
4 PsyCap	.18**	.15*	.42**	-			
5 Self-efficacy	.13	.17*	.28**	.92**	-		
6 Hope	.16*	.16*	.44**	.94**	.86**	-	
7 Optimism	.17*	.09	.46**	.84**	.66**	.72**	-
8 Resilience	.21**	.09	.33**	.88**	.74**	.74**	.68**

Note. HSGPA = High-school GPA; SES = Socioeconomic Status; PsyCap = Academic Psychological Capital Scale.

* $p < .05$ two-tailed, ** $p < .01$ two-tailed.

Preliminary exploratory analysis was conducted to examine whether data met the assumptions of regression. The Durbin-Watson value was 1.70, close to 2, suggesting that the independence assumption was met. The *VIF* values were less than 5, suggesting that the multicollinearity assumption was met. A Histogram and P-P plot of the standardized regression residual showed that the residual normality assumption was met. Also, an examination suggested the assumptions of homoscedasticity and linearity were met.

The highest Cook's distance value was less than 1. The highest Mahalanobis distance was 24.66, which was higher than the critical value for Mahalanobis distance of 9.21 (derived from Chi-square table, $df = 2$, $\alpha = .001$). A closer inspection revealed that there was one multivariate outlier. As a result, the primary analysis was conducted both with and without the outlier included. The results suggested that the outlier did not significantly change the result; therefore, the outlier was retained in the final dataset.

Hypotheses testing

Hypothesis 1. Hypotheses 1 was tested with a simple mediation model using the SPSS macro PROCESS (Hayes, 2019). In line with prior research, the predictor variable SES was measured using parental education level (see Diemer et al., 2013, for a review). When both parents' educational attainment was provided, an average score was calculated. When participants only listed one parent/guardian's education attainment, that person's educational attainment was used as a SES indicator. A higher score indicates a higher-SES backgrounds. High-school GPA was included as a control variable as an indicator of their academic ability before entering college (Cohn, Cohn, Balch, & Bradley Jr, 2004). The preliminary analysis indicated that high school GPA was significantly related to college adjustment ($r = .67$, $p < .01$). High school GPA was obtained through the university (for those who signed the FERPA form giving permission).

The SPSS macro PROCESS (Hayes, 2019) was used to test the direct effect and indirect effects using 5,000 bootstrap samples with 95% confidence intervals. The results suggested that when high school GPA was included as a covariate, SES was not a significant predictor of PsyCap ($B = 1.87$, $SE = .96$, $p = .052$). Also, when college adjustment was included in the model, SES did not significantly predict college adjustment ($B = -.32$, $SE = .44$, $p = .471$). However, PsyCap was a significant positive predictor of college adjustment ($B = .19$, $SE = .03$, $p < .001$). This result indicates a direct effect of PsyCap on college adjustment, but PsyCap did not mediate the relationship between SES and college adjustment. Therefore, hypothesis 1 was not supported. PsyCap did not mediate the relationship between SES and college adjustment (see **Table 4** & **Figure 3**).

Table 4

Mediation Effects of Academic Psychological Capital (PsyCap) on the relationship between Socioeconomic Status (SES) and College Academic Adjustment

					95% CI	
Regression paths	*B*	*SE*	*t*	*p*	Lower	Upper
Mediation *a* path	1.87	0.96	1.95	0.05	-.02	3.77
Mediation *b* path	0.19	0.03	6.17	<.001	0.13	0.25
Total effect, *c* path	0.04	0.47	0.09	0.93	-0.88	0.97
Direct effect, *c*' path	-0.32	0.44	-0.72	0.47	-1.18	0.55
Indirect effect bootstrapped (mediation)	0.36	0.22	/	/	-0.05	0.84

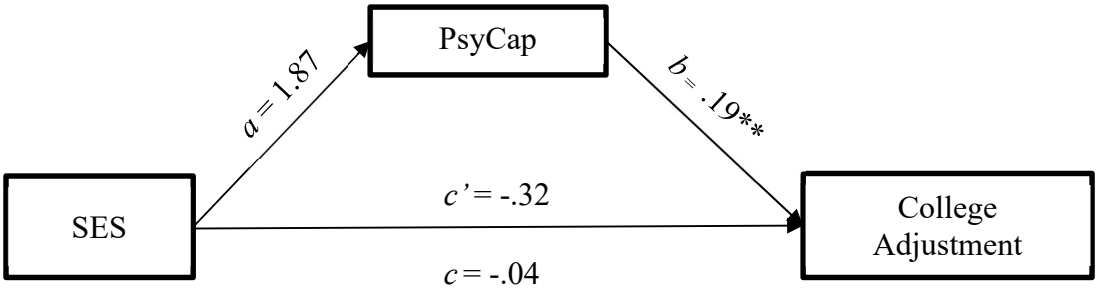

Figure 3: Simple mediation model showing the direct (c') and indirect (ab) path by which SES influences College Academic Adjustment

Note. SES = Socioeconomic Status; PsyCap = Academic Psychological Capital Scale.

* $p < .05$ two-tailed, ** $p < .01$ two-tailed.

Hypotheses 2, 3, 4, and 5 in a parallel multiple mediation model. Hypotheses 2, 3, 4, and 5 were first tested with a parallel multiple mediation model. Comparing to separate simple mediation models, multiple mediator models help decrease the risk of type-I error, as well as illustrate the power of each mediator on the presence of other mediators in the model. They also decrease the risk of parameter bias due to omitted variables (Preacher & Hayes, 2008). The SPSS macro PROCESS (Hayes, 2019) was used to determine whether each of the components of PsyCap (i.e., self-efficacy, hope, optimism, and resilience) mediated the hypothesized relationship between SES and college adjustment, in the presence of the other three components of PsyCap.

The predictor variable (SES), the outcome variable (college adjustment), and the covariate (high school GPA) were the same as in the simple mediation model. The mediator from the simple mediation model (i.e., PsyCap) was replaced in the current model by its four components (self-efficacy, hope, optimism, and resilience). The SPSS macro PROCESS (Hayes, 2019) was used to test the direct effect and indirect effect, with 5,000 bootstrap samples and 95% confidence intervals. The result suggested that when high school GPA was included as a covariate, SES was a significant, positive predictor of self-efficacy (B = .70, SE = .30, p = .018) and hope (B = .64, SE = .30, p = .033). However, SES was not a significant predictor of optimism (B = .25, SE = .23, p = .286) and resilience (B = .28, SE = .25, p = .262) . When including all variables in the model, results suggest that SES was not a significant predictor of college adjustment (B = -.21, SE = .41, p = .608) and resilience (B = -.09, SE = .18, p = .619). However, self-efficacy was a significant, negative predictor of college adjustment (B = -.67, SE = .19, p = .001). Hope was a significant, positive predictor of college adjustment (B = .90, SE = .20, p =

.000), as was optimism (*B* = .67, *SE* = .18, p = .000). Therefore, hypotheses 2 and 3 (i.e., self-efficacy/hope would partially mediate the relationship between SES and college academic adjustment, in the presence of the other three mediators) were supported by the data, while hypotheses 4 and 5 (i.e., resilience/optimism will partially mediate the relationship between SES and college academic adjustment, in the presence of the other three mediators) were not supported.

Whether SES showed an indirect effect on college adjustment through self-efficacy and hope, after controlling for high school GPA, was examined using the PROCESS macro on SPSS (Hayes, 2019). The results indicated that the indirect effect of SES on college adjustment through self-efficacy was significant (*B* = -.47, *BootSE* = .27, *95% BootCI* [-1.09, -0.03]), as was the indirect effect of SES on college adjustment through hope (*B* = .58, *BootSE* = .31, *95% BootCI* [.01, 1.24]; see **Table 5** & **Figure 4**).

Table 5

Mediation effects of self-efficacy, hope, optimism, and resilience on the relationship between Socioeconomic Status (SES) and college academic adjustment in a parallel multiple mediation model

						95% CI	
Mediator	Regression Paths	*B*	*SE*	*t*	*p*	Lower	Upper
Self-efficacy	Mediation a_1 path	0.70*	0.30	2.38	0.02	0.12	1.28
	Mediation b_1 path	-0.67**	0.19	-3.43	< 0.001	-1.05	-0.28
	Indirect effect bootstrapped	-0.47	0.28	/	/	-1.09	-0.03
Hope	Mediation a_2 path	0.64*	0.30	2.14	0.03	0.05	1.23
	Mediation b_2 path	0.90**	0.20	4.51	< 0.001	0.51	1.30
	Indirect effect bootstrapped	0.58	0.31	/	/	0.01	1.24
Optimism	Mediation a_3 path	0.25	0.23	1.07	0.29	-0.21	0.71
	Mediation b_3 path	0.67**	0.18	3.76	< 0.001	0.32	1.02
	Indirect effect bootstrapped	0.17	0.18	/	/	-0.15	0.59
Resilience	Mediation a_4 path	0.28	0.25	1.13	0.26	-0.21	0.76
	Mediation b_4 path	-0.09	0.18	-0.50	0.62	-0.46	0.27
	Indirect effect bootstrapped	-0.03	0.07	/	/	-0.20	0.10
	Total effect, *c* path	0.04	0.47	0.09	0.93	-0.89	0.97
	Direct effect, *c*'path	-0.21	0.41	-0.51	0.61	-1.03	0.60
	Total Indirect bootstrapped	0.26	0.26	/	/	-0.23	0.77

* $p < .05$ two-tailed, ** $p < .01$ two-tailed.

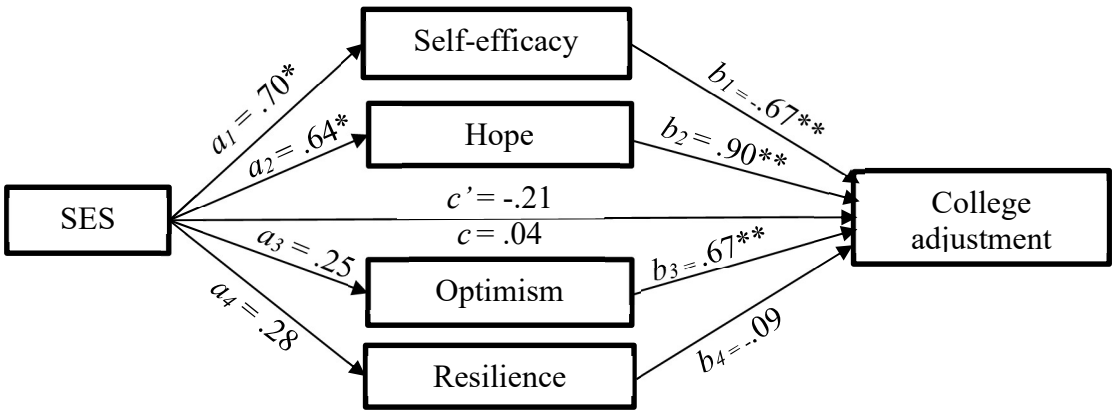

Figure 4: Parallel mediation model showing the direct (c') and indirect (a_jb_j) paths by which SES influences college academic adjustment

Note. SES = Socioeconomic Status. * $p < .05$ two-tailed, ** $p < .01$ two-tailed.

As demonstrated in the preliminary exploratory analysis, the *VIF* values of all mediators were less than 5, which usually suggests that the freedom-from-multicollinearity assumption was met (although the four mediators were significantly positively related to each other with correlation coefficients ranging from .66 to .86). However, researchers have demonstrated that multicollinearity may be a problem even when the VIF values are lower than 5 (Vatcheva, Lee, McCormick, & Rahbar, 2016).

This seems to be the case in the present study. The result in the parallel multiple mediation model indicated that self-efficacy had a negative impact on college adjustment (B = -.67), which means those who have higher self-efficacy experience more adjustment difficulty. This result contradicts the result of correlation analysis, which suggested that self-efficacy was positively related to the outcome variable college adjustment (r = .42). The negative relationship between self-efficacy and college adjustment in the parallel multiple mediation model was indicative of a possible suppression effect that might be caused by multicollinearity between mediators (Beckstead, 2012; Friedman & Wall,

2005). Slinker and Glantz (1985) point out that high correlations among predictor variables imply redundant information about the outcome variable. They suggested deleting one or multiple predictor variables to solve this problem. Since the current study only has four mediators which are all highly correlated, hypotheses 2, 3, 4, and 5 were tested using separate simple mediation models.

Hypotheses 2, 3, 4, and 5 in separate simple mediation models. Hypotheses 2, 3, 4, and 5 were tested with separate simple mediation models to avoid multicollinearity issues. For hypothesis 2, the result suggested that when high school GPA was included as a covariate, SES was a significant, positive predictor of self-efficacy (B = .70, SE = .30, p = .02). SES was not a significant predictor of college adjustment (B = -.25, SE = .46, p = .59), but self-efficacy was a significant, positive predictor of college adjustment (B = .42, SE = .11, p <.001). SES had a significant, positive indirect effect on college adjustment (B = .29, *BootSE* = .17, *95% BootCI* [.02 to .69]). Therefore, hypothesis 2 was partly supported: self-efficacy partially mediated the relationship between SES and college academic adjustment, without the presence of the other three mediators (hope, optimism, and resilience).

For hypothesis 3, the results suggested that when high school GPA was included as a covariate, SES was a significant, positive predictor of hope (B = .64, SE = .30, p = .033). SES was not a significant predictor of college adjustment (B = -.38, SE = .43, p = .382), but hope was a significant, positive predictor of college adjustment (B = .66, SE = .10, p <.001). SES had a significant, positive indirect effect on college adjustment (B = .42, *BootSE* = .23, *95% BootCI* [.02 to .90). Therefore, hypothesis 3 was partly supported: hope partially mediated the relationship between SES and college academic adjustment,

without the presence of the other three mediators of self-efficacy, optimism, and resilience.

For hypothesis 4, the result suggested that when high school GPA was included as a covariate, SES was not a significant predictor of optimism (B = .25, SE = .23, p = .29). SES was not a significant predictor of college adjustment (B = -.18, SE = .43, p = .68), but optimism was a significant, positive predictor of college adjustment (B = .88, SE = .12, p <.001). SES did not show a significant indirect effect on college adjustment (B = .22, *BootSE* = .23, *95% BootCI* [-.21 to .70]). Therefore, hypothesis 4 was not supported.

For hypothesis 5, the result indicated that when high school GPA was included as a covariate, SES was not a significant predictor of resilience (B = .28, SE = .25, p = .26). Also, SES was not a significant predictor of college adjustment (B = -.11, SE = .45, p = .80), but resilience was a significant, positive predictor of college adjustment (B = .58, SE = .12, p <.001). Finally, SES did not have an significant indirect effect on college adjustment (B = .16, *BootSE* = .16, *95% BootCI* [-.16 to .50]); therefore, hypothesis 5 was not supported (see **Table 6** & **Figure 5**).

Table 6

Mediation effects of self-efficacy, hope, optimism, and resilience on the relationship between Socioeconomic Status (SES) and college academic adjustment in separate simple mediation models

Mediator	Regression Paths	*B*	*SE*	*t*	*p*	*95% CI*	
						Lower	Upper
Self-efficacy	a_1 path	0.70*	0.30	2.38	0.02	0.12	1.28
	b_1 path	0.42**	0.11	3.91	< 0.001	0.21	0.63
	Total effect, c_1 path	0.04	0.47	0.09	0.93	−0.89	0.97
	Direct effect, c_1'path	−0.25	0.46	−0.54	0.59	−1.16	0.66
	Indirect effect bootstrapped	0.29	0.17	/	/	0.02	0.69
Hope	a_2 path	0.64*	0.30	2.14	0.03	0.05	1.23
	b_2 path	0.66**	0.10	6.68	< 0.001	0.46	0.85
	Total effect, c_2 path	0.04	0.47	0.09	0.93	-0.89	0.97
	Direct effect, c_2'path	-0.38	0.43	-0.88	0.38	-1.23	0.48
	Indirect effect bootstrapped	0.42	0.23	/	/	0.02	0.90
Optimism	a_3 path	0.25	0.23	1.06	0.29	-0.21	0.71
	b_3 path	0.88**	0.12	7.02	< 0.001	0.63	1.12
	Total effect, c_3 path	0.04	0.47	0.09	0.93	-0.89	0.97
	Direct effect, c_3'path	-0.18	0.43	-0.42	0.68	-1.02	0.66
	Indirect effect bootstrapped	0.22	0.23	/	/	-0.21	0.70
Resilience	a_4 path	0.28	0.25	1.13	0.26	-0.21	0.76
	b_4 path	0.58**	0.13	4.47	< 0.001	0.32	0.82
	Total effect, c_4 path	0.04	0.47	0.09	0.93	-0.89	0.97
	Direct effect, c_4'path	-0.11	0.45	-0.25	0.80	-1.01	0.78
	Indirect effect bootstrapped	0.16	0.16	/	/	-0.16	0.50

* $p < .05$ two-tailed, ** $p < .01$ two-tailed.

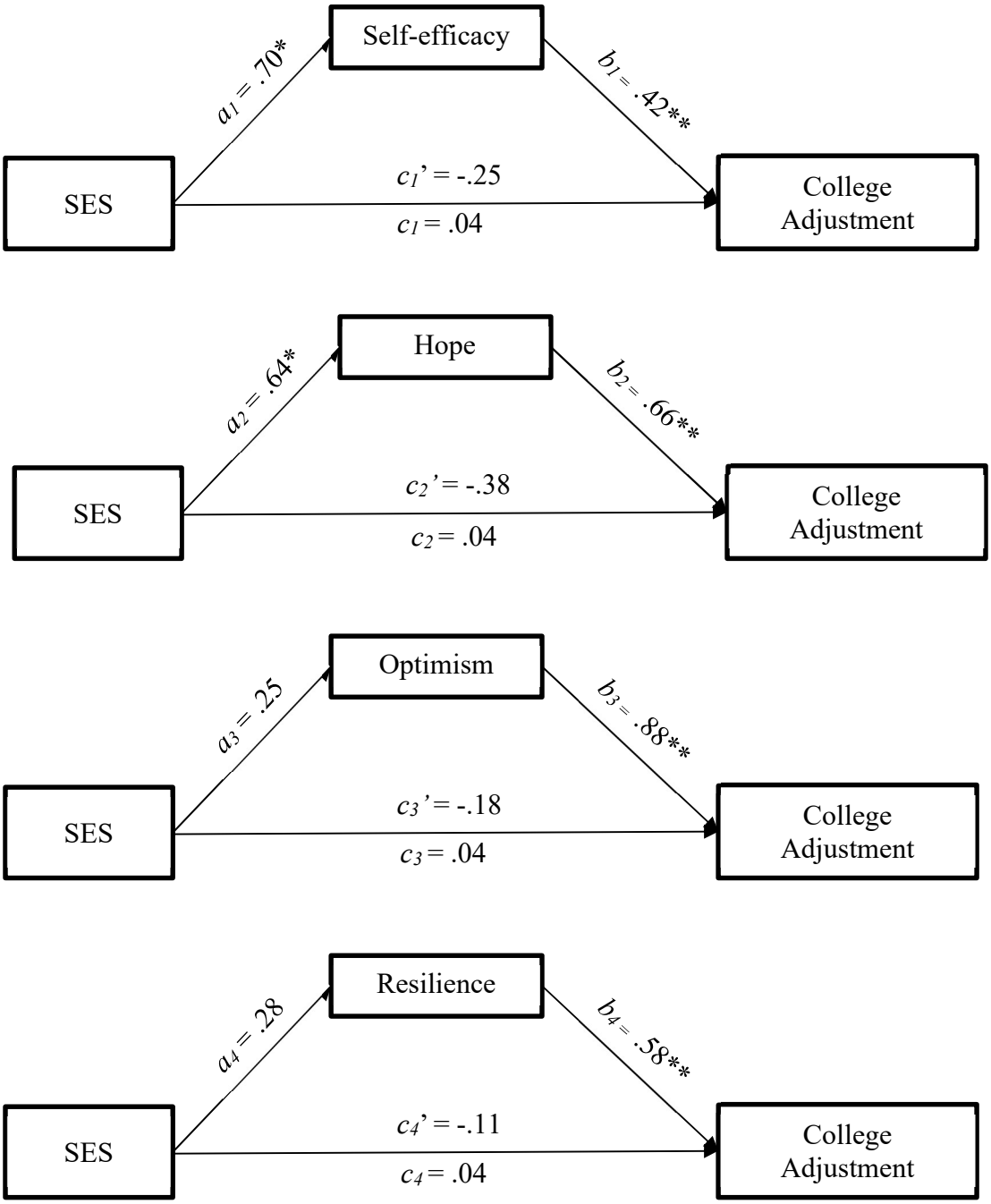

Figure 5: Simple mediation models showing the direct (c') and indirect (a_jb_j) paths by which SES influences college academic adjustment

Note. SES = Socioeconomic Status. * $p < .05$ two-tailed, ** $p < .01$ two-tailed.

CHAPTER IV

DISCUSSION

The current study was the first attempt to exam the potential mediation role of PsyCap within the relationship of SES and college academic adjustment (this dissertation uses PsyCap and academic PsyCap interchangeably). The final sample size for this study was 214, with 74.3% (n = 159) of the participants identified as female, and 76.2% (n = 163) identified as White/Caucasian. The results of correlation analysis revealed that SES was related to PsyCap, self-efficacy, and hope, but was not associated with college academic adjustment, optimism, and resilience. Meanwhile, college academic adjustment, PsyCap, self-efficacy, optimism, and resilience were all shown to be strongly related to each other. Based on findings in the literature, it was expected that PsyCap would mediate the SES-adjustment relationship. It was also expected that each PsyCap component (i.e., self-efficacy, hope, optimism, and resilience) would mediate the SES-adjustment relationship. The results of the current study did not support the mediation model of SES, PsyCap, and college adjustment. It also suggested that optimism and resilience did not mediate the SES-adjustment relationship. Meanwhile, the results supported the hypothesis that self-efficacy and hope mediated the SES-adjustment relationship. Although three out of five proposed mediation models were not supported, it was noteworthy that whether there was a mediation relationship was solely dependent on whether SES predicts the mediator. In all five proposed models, PsyCap and each of its

components were significant predictors of college academic adjustment, which is consistent with the literature and suggests PsyCap plays a pivotal role in students' academic adjustment (see Jafri, 2013; Luthans, etc., 2012).

Additionally, the analyses suggested that SES was a significant predictor of neither PsyCap nor college adjustment. In the literature, there was no previous study that directly investigated the relation between SES and PsyCap, but the positive relationship between SES and all PsyCap components were well documented (e.g., Brody, Murry, Kim, & Brown, 2002; Compton, Thompson, & Kaslow, 2005; Hellman, 1996; Otis, 2015). It was also surprising that SES did not predict college adjustment in the current study, as extensive research has shown that students from lower SES backgrounds tend to experience significantly more difficulty in the college transition (e.g., Inkelas et al., 2007; Terenzini et al.,1994). The fact that SES was not related to these variables suggests that there might be some measurement issues. The current study used parental education level as the single indicator for SES, which was line with recommendations in the literature (Diemer et al., 2013). However, such an approach has significant limitations as it does not include material wealth and occupational prestige, which are also core components of the construct of SES (Manstead, 2018). In addition, the sample size in this study is relatively small ($N = 214$), which may also reduce the influence of SES.

The current study suggested that PsyCap was a strong predictor of college adjustment. This is consistent with the result of Liran and Miller (2019), who emphasized PsyCap's key role in the process of academic adjustment. However, while Liran and Miller (2019) reported that the PsyCap explains 74% of academic adjustment variance, the present study found PsyCap only accounts for 15% of academic adjustment variance.

In testing hypotheses 2, 3, 4, and 5, the current study encountered multicollinearity issues, possibly caused by the high inter-correlations among mediators. Slinker and Glantz (1985) suggested that highly corelated mediators means redundant information in the analysies, in order to decrease the redundant information, it might be beneficial to delete one or multiple predictors to about the outcome variable. Since there were only four mediators and they were all highly correlated, the current study tested hypotheses 2, 3, 4, and 5 in separate simple mediation models instead of the proposed parallel multiple mediation model.

Hypothesis 2 was partially supported by the results. Self-efficacy fully mediated the relationship between SES and college academic adjustment. A positive relationship between SES and self-efficacy was consistent with findings from the literature (Kerpelman et al., 2008; Pajares, 1996). Previous studies demonstrated that individuals from higher SES backgrounds have more opportunities to have mastery experiences (Bandura, 1994; Gecas & Schwalbe, 1983), which is vital for self-efficacy development. Self-efficacy also positively predicted academic adjustment, which was consistent with previous findings (e.g., Peterson, 1993; Reid, 2013). The current study controlled participants' high school GPA, as prior performance may influence future performance-based expectations in the classroom (Elias & Loomis, 2002). The result demonstrated that after controlling for high school GPA, self-efficacy by itself was still significantly related to college adjustment.

Similar to hypothesis 2, hypothesis 3 also was partially supported by the results. Hope fully mediated the relationship between SES and college academic adjustment. Little research has explored the relationship between SES and hope. To the best of the

researcher's knowledge, the current study was the first empirical study that provides evidence that higher SES is related to higher levels of hope.

Also, the relationship between hope and college adjustment has been rarely explored in the literature, although some studies indicated that higher levels of hope are generally related to better adjustment to adversity (e.g., Cramer & Dyrkacz, 1998; Michael & Snyder, 2005). The current study provided direct evidence that higher hope contributes to better academic adjustment in college. Literature has offered several explanations for the positive relationship between hope and adjustment: hope helps people to redefine themselves and establish new roles in an effort to push forward with their life. Students with high levels of hope tend to conceptualize goals more clearly based on reality, have better control over their attention, are able to generate multiple ways to attain goals, and tend to have higher levels of motivation (Snyder et al., 2002).

Hypothesis 4 was not supported. Although optimism was proven to be a strong predictor of college adjustment, SES did not predict optimism. Such a result was surprising given there was extensive evidence that higher SES was related to higher optimism scores (e.g.Chen & Matthews, 2001; Heinonen et al., 2006). However, the present study did not find this SES-optimism connection. In addition, there might be some measurement issues for optimism in that optimism was measured using a 6-item subscale of the academic PsyCap Scale. A well-established formal scale might be a better option for optimism evaluation. It is worth noting that the optimism subscale in this study had relatively low internal consistency (α = .67). This might be related to the definition issue of the optimism construct. The PsyCap theory takes the Optimism-Pessimism as one bipolar dimension (Luthans et al., 2004). However, some researchers raised the

argument that the Optimism and Pessimism should be two related but differentiated constructs (Herzberg, Glaesmer, & Hoyer, 2006; Marshall, Wortman, Kusulas, Hervig, & Vickers, 1992). It seems that the result of the current study supports the bi-dimensional view. Correlational analyses also revealed that there were two clusters among the six items, Item 2 and Item 5, which were the only two negatively worded items (i.e., pessimistic statements), were significantly correlated to each other and were not related to the other four items. Meanwhile, positively worded items 1, 3, 4, and 6 were significantly correlated to each other. The fact that there were two separate item groups in the subscale seems to indicate that pessimism (reverse score items with negative statements) and optimism (positive items with positive statements) are different constructs instead of two ends of the same spectrum. The subscale's heterogeneous construct may contribute to its low internal consistency.

Although SES was not a significant predictor of optimism, the present findings did suggest higher optimism predicted better college adjustment, which is consistent with prior findings (e.g., Aspinwall & Taylor, 1992).

Like hypothesis 4, SES did not predict the hypothesized mediator (resilience, in this case), but higher levels of resilience did predict better college adjustment. However, previous studies have indicated that higher SES is generally related to a higher level of resilience (for a review, see Luthar et al., 2000). One reason the present diverged from prior literature is due to the measurement issue of SES in the current study, which has been discussed previously (namely, missing the material wealth and occupational prestige components of SES). Another reason might be that SES appears to have a mixed influence on an individual's resilience. On the one hand, individuals from higher SES

backgrounds tend to have more protective factors (e.g., authoritative parenting, postsecondary education of parents; Mastern & Reed, 2002) and fewer risk factors (e.g., parental drug abuse, family financial stress; Luthar et al., 2000) which may help them to be more resilient. On the other hand, many economically disadvantaged ethnic minority families promote their children's resilience through high family cohesion and family support (Compton et al., 2005; Leidy et al., 2010). The contextualism culture in low SES communities may increase people's resilience to economic adversity and stress from developmental transitions (Conger & Conger, 2002; Kraus et al., 2012).

Consistent with findings from previous studies (e.g., Kwag, 2013; Leary & DeRosier, 2012), the present study found that a high level of resilience predicts better college adjustment. Previous research found that resilient individuals tend to regulate emotional distress more effectively (Klibert et al., 2014; Liran & Miller, 2019). They are also more likely to appraise their strengths and weaknesses realistically (Morales, 2014) and use task-oriented coping (Campbell-Sills, 2006). These findings indicated that resilience-building might help students better adjust to college.

Practical implications

The current study suggested that PsyCap plays an important role in the process of college academic adjustment. Being a state-like construct, an individual's PsyCap is changeable (Luthans et al., 2004). A number of studies have empirically demonstrated that short-term interventions, such as psychological capital intervention (PCI), can effectively improve students and employees' PsyCap (Luthans et al., 2006; Luthan et al., 2010; Schulz, Schulz, & Yeagley, 2014), which leads to higher satisfaction, better job/academic performance, and increased organizational commitment. In addition,

researchers found that the achieved PsyCap improvement remained stable over one month, suggesting the interventions have a lasting effect (Russo & Stoykova, 2015; Zhang, Li, Ma, Hu, & Jiang, 2014).

While most of the PsyCap studies were conducted in the work domain, the present study demonstrated that higher PsyCap also predicts better academic adjustment. Therefore, colleges might consider incorporating PsyCap-oriented training into their freshmen orientation programs. By improving students' PsyCap, the college may help their students achieve better academic adjustment in college. The research suggested that even a brief session (1-3 hours; Luthans et al., 2006) could produce lasting benefits, such as improved school commitment, academic motivation, and academic resilience (Luthans et al., 2012). Counseling centers may consider offering PsyCap-focused workshops or groups throughout the year, which could be a useful resource for students with adjustment difficulties. It might be beneficial for counseling and psychotherapy training programs to include the PsyCap theory in their courses. When working with a client, an evaluation of PsyCap not only helps reveal specific targets of intervention but also suggests the client's strengths and resources.

The current study revealed the mediation role of self-efficacy and hope in the relationship between SES and college adjustment, students from low SES backgrounds tend to have lower self-efficacy and hope, and are less likely to achieve optimal adjustment in college. Prior studies have shown interventions that focus on developing self-efficacy and hope can improve the academic achievement of low-SES background students (Stephens et al., 2014). Given the present results, it may be that while all students can benefit from PsyCap-oriented training, those from low-SES backgrounds

may particularly benefit from a program that focuses on developing self-efficacy and hope.

Limitations

The current study has several limitations. First, the participants were all recruited from a southern public university and mostly identify as white, which limits the generalizability of the findings. In addition, the final sample size was relatively small (N = 214) and homogenous (87.4% of participants [n =187] reported that their parents/guardians had postsecondary education), which cause further concern with the generalizability of results and this may have limited statistical power as well. In addition, the present study only used self-report measures. The validity of participants' responses largely relies on participants' effort to pay attention, their ability to understand the item, and their willingness to give truthful answers.

In addition, in the current study, parental educational attainment was used as a single indicator of SES, which was considered as a recommended practice by some researchers (Diemer et al., 2013). This approach overlooked other SES components, such as material wealth, occupational prestige, and social connections. Measuring SES using multiple components may paint a more comprehensive picture of an individual's social status. In addition, the present study only evaluates levels of education while other factors such as what type of university was the degree earned (e.g., bachelor's degrees from a community college or from Harvard University), areas of study (e.g., Ph.D. in Literature or Doctor of Medicine), and geographical area may also have a significant influence on one's SES.

This study used the academic PsyCap survey to evaluate academic PsyCap. This is a relatively new measure that had not been used in many studies although the academic PsyCap survey and PCQ share significant similarity (e.g., one item in the original PCQ is "I feel confident analyzing a long-term problem to find a solution.", in the Academic PsyCap survey it is "I feel confident analyzing a long-term problem to find a solution concerning my school work."). Additionally, the researcher used subscales of the academic PsyCap survey to decide the weights of each PsyCap component, which means there were only 6 items for each component. The validity and reliability of each subscale might be limited by the brevity of the instrument.

The current study used the academic performance subscale of CAS to evaluate college academic adjustment. The CAS was widely used in college adjustment studies (e.g., Enochs & Roland, 2006; McKenzie & Schweitzer, 2001) and was empirically proved to be a valid outcome measure for research or clinic feedback purpose (Campbell & Prichard, 2000; Wilson, 1995). However, the CAS was developed in the early 1990s. The college environment, as well as the U.S. society, has changed dramatically since then, which might pose a threat to CAS's validity. For example, marijuana and other mind-altering drug use have increased significantly among college students since the early 1990s (Mohler-Kuo, Lee, & Wechsler, 2003; McCabe, West, & Wechsler, 2007). In addition, the higher-education cost in the U.S. has increased substantially (Altbach, Reisberg, & Rumbley, 2019), which means college students today had to deal with more financial stress than students in early 1990s. Another factor is that the CAS did not evaluate the influence of the internet and social media, which plays an important role in contemporary college students' life. These factors might influence the validity of CAS.

Suggestions for Future Research

One of the major challenges the current study encountered is the measurement of SES. While measuring SES remains to be challenging, it is such an important construct that should not be overlooked in psychological studies. Besides the single indicator approach the current study had taken, future researchers may consider using one of the composite SES measures that were developed in recent years (e.g., Mazziotta & Pareto, 2016; Miles, Weden, Lavery, Escarce, Cagney, & Shih, 2016; Singh, Sharma, & Nagesh, 2017). However, it is recommended to do so with caution as there was limited information about the psychometric features of these measures, and some of them were developed outside of U.S. (Singh, Sharma, & Nagesh, 2017). Some researchers have explored using non-conventional SES indicators such as the types of models of cars and their ages (Lansley, 2016), or free school meal eligibility (Taylor, 2018). These approaches should be taken with caution as they may only apply to a certain population, and their reliability and validity remain unclear.

If researchers are interested in the subjective social rank and its psychological impact, they might consider Subjective Social Status (SSS) instead of SES as their variable. The research found that SSS is closely related to SES, but they are separate constructs (Adler, Epel, Castellazzo, & Ickovics, 2000; Cohen, Alper, Doyle, Adler, Treanor, & Turner, 2008). Adler et al. (2000) found that people's subjective belief of their social status (i.e., SSS) was more consistently and strongly associated with overall health than other SES indicators (i.e., income, occupation, education). This might be because SSS could capture the subtle difference that SES measures typically missed (e.g., bachelor's degrees from an Ivy League university and a local college would be coded as

same educational status, but they would have a different subjective and objective influence on people; Operario, Adler, & Williams, 2004). A widely used SSS measure (MacArthur Scale of Subjective Social Status; Adler, Stewart, & Psychosocial Research Group, 2016) is available for free.

Should future researchers be interested in exploring different roles of each PsyCap component, it might be beneficial to consider using independent scales for self-efficacy, hope, optimism, and resilience instead of relying on subscales of the PsyCap survey. This might help decrease the risk of multicollinearity issue which the current study encountered. It is worth noting that, since PsyCap is a state-like construct, the selected scales for PsyCap components should also measure state-like constructs (i.e., relatively malleable and open to development; Luthans et al., 2007) rather than the trait-like individual difference (i.e., relatively stable and difficult to change, such as personality factors and strengths; Luthans et al., 2007).

Finally, this study was one of the first investigations to empirically examine the SES-PsyCap, SES-hope, and hope-adjustment relationships. It shed new light on the usefulness of the construct PsyCap in the academic domain. The study provided empirical evidence that academic PsyCap influence academic adjustment. It appears that while all students might benefit from PsyCap-focused training, low-SES students may especially benefit from programs that improve self-efficacy and hope. Future researchers may conduct carefully designed experimental studies to establish a causal relationship between academic PsyCap and college adjustment.

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APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE

DEMOGRAPHIC QUESTIONNAIRE

1. What is your age?

2. Gender: (__) Male (__) Female (__) Transgender (__) Non-binary

3. Please indicate your academic classification

(__) Freshman (__) Sophomore (__) Junior (__) Senior

(__) Graduate Student (__) Other_____

4. Mark the race/ethnicity with which you most closely identify.

(__) American Indian/Alaskan Native (__) Black/African American

(__) Native Hawaiian/Pacific Islander (__) Asian/Asian American

(__) Hispanic/Latino (__) White/Caucasian

(__) Biracial/Multiracial (__) Other

5. What was your high school GPA? _____

6. Approximately how many hours per week do you work on or off campus?

(__) 0 (__) 1-10 (__) 11-20 (__) 21-30 (__) More than 30

7. What is the highest level of education obtained by your parents?

(Answer one for each parent)

	Father or male guardian	Mother or female guardian
No formal schooling	(__)	(__)
1st grade or equivalent	(__)	(__)
2nd grade or equivalent	(__)	(__)
3rd grade or equivalent	(__)	(__)
4th grade or equivalent	(__)	(__)
5th grade or equivalent	(__)	(__)
6th grade or equivalent	(__)	(__)
7th grade or equivalent	(__)	(__)
8th grade or equivalent	(__)	(__)
9th grade or equivalent	(__)	(__)
10th grade or equivalent	(__)	(__)
11th grade or equivalent	(__)	(__)
12th grade without a diploma	(__)	(__)

high school diploma or GED	(__)	(__)
vocational training school after high school	(__)	(__)
some college/associate degree	(__)	(__)
bachelor's degree	(__)	(__)
master's degree or equivalent (1-2 years post-college)	(__)	(__)
doctoral or professional degree (Medical, Attorney of Law)	(__)	(__)
N/A	(__)	(__)

8. Are you the first person in your family who attended college?

(__) yes (__) no

9. What was your high school GPA (on four-point scale)?

(__) 1.00-1.25 (__) 1.26-1.50 (__) 1.51-1.75 (__) 1.76-2.00

(__) 2.01-2.25 (__) 2.26-2.50 (__) 2.51-2.75 (__) 2.76-3.00

(__) 3.01-3.25 (__) 3.26-3.50 (__) 3.51-3.75 (__) 3.76-4.00

10. How do you identify your socioeconomic status?

(__) working class (__) middle class (__) upper class

APPENDIX B

ACADEMIC PSYCHOLOGICAL CAPITAL SURVEY

ACADEMIC PSYCHOLOGICAL CAPITAL SURVEY

Below are a series of statements that describe how you may think about yourself RIGHT NOW. We are asking you to consider each question relative to your overall life and school work aspects. Use the scale below to indicate your level of agreement or disagreement with each statement.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly Agree
1	2	3	4	5	6

	Overall Life	School Work
I feel confident analyzing a long-term problem to find a solution concerning my…….		
I feel confident in representing my ideas concerning my……		
I feel confident contributing to discussions about strategies on my…….		
I feel confident setting targets/goals on my…..		
I feel confident contacting people to discuss problems concerning my……		
I feel confident sharing information with a group of students about my…….		
If I should find myself in a jam about my ……, I could think of many ways to get out of the jam.		
At the present time, I am energetically pursuing my ……goals.		
There are lots of ways around any problem concerning my……..		
Right now, I see myself as being pretty successful concerning my……..		

I can think of many ways to reach my current goals regarding……..		
At this time, I am meeting the goals that I have set for myself concerning……..		
When I have a setback with……, I have trouble recovering from it, moving on.		
I usually manage difficulties one way or another concerning my……..		
I can be "on my own" so to speak, if I have to regarding my……..		
I usually take stressful things in stride with regard to my……		
I can get through difficult times at school because I've experienced difficulty before concerning my……..		
I feel I can handle many things at a time with my…….		
When things are uncertain for me with regards to……, I usually expect the best.		
If something can go wrong for me with my ……, it will.		
I always look on the bright side of things regarding my……..		
I'm optimistic about what will happen to me in the future as it pertains to my…….		
With regards to my……, things never work out the way I want them to.		
I approach my……as if "every cloud has a silver lining."		

Sources: (Luthans, Luthans, Jensen, 2012)

APPENDIX C

COLLEGE ADJUSTMENT SCALE (CAS)

COLLEGE ADJUSTMENT SCALE (CAS)

Read each item carefully and decide whether or not it is an accurate statement about you. For each item, choose the answer that best represents your opinion.

1	2	3	4
False or Not at All True	Slightly True	Mainly True	Very True

1. I have poor study skills.
2. I feel tense much of the time.
3. A lot of people irritate me.
4. I haven't felt much like eating lately.
5. I need more information about career options.
6. I have nothing to live for.
7. I party too much.
8. I feel good about myself.
9. I avoid talking to my parents.
10. I have difficulty concentrating while studying.
11. When I get upset. I have trouble catching my breath.
12. The people around me care about very different things than I do.
13. The smallest tasks seem to tire me out.
14. I can’t seem to find a major that fits me.
15. No one would miss me if I were to die.
16. I spend too much money on drugs or alcohol.
17. I feel that my life is going about as well as most others my age.
18. My family doesn’t understand me.
19. I never find the time to study.
20. I seem to be worried constantly about something.
21. I have close and satisfying relationships.
22. Lately, I feel sad or blue most of the time.
23. I need to know myself better in order to choose a career.
24. I’ve thought about how I would take my life.
25. I’ve missed classes or work because I partied the night before.
26. I trust my judgment.

27. My home life is unpredictable.
28. I seldom feel prepared for my exams.
29. I have a lot of aches and pains.
30. I seem to disagree with others more than I agree with them.
31. I've lost interest in the things I've always enjoyed.
32. I'm worried because I can't find a career that interests me.
33. I think things would be better if I weren't alive.
34. I've done things while drinking that Tm ashamed of or embarrassed about.
35. I believe that I'm a successful person for my stage in life.
36. My family tries to run my life.
37. I organize my time poorly.
38. Lately, I've had trouble concentrating.
39. I always get hurt When I let others get close to me.
40. Most mornings I wake up calm and rested.
41. I'm dissatisfied with my lack of plans for the future.
42. My mind has been filled with thoughts of suicide.
43. I've gotten into trouble as a result of my drinking.
44. I'm afraid to ask for what I need.
45. It bothers me that my family is not closer.
46. I'm satisfied with my academic performance.
47. Lately, it doesn't take much to get me upset.
48. People around me don't understand what I'm really like.
49. Things have gone from bad to worse.
50. Tm worried about finding a major.
51. I've planned how to take my life.
52. I use drugs or alcohol as a way to cope with my problems.
53. I feel that Tm sexually attractive.
54. My parents won't let me grow up.
55. As much as I try. I'm always behind in my schoolwork.
56. Often I get so nervous I feel my heart pounding.
57. My temper often gets me into arguments.

58. Lately, it's a chore for me just to get through the day.
59. I don't know how to go about selecting a career.
60. I can no longer cope with life.
61. My use of drugs or alcohol has hurt my grades.
62. I don't have any particular strengths or talents.
63. I feel smothered by my parents.
64. I think about dropping some classes.
65. I worry about things that don't bother most other people.
66. I need others more than they seem to need me.
67. Sad thoughts keep me awake at night.
68. Although I know it's time for me to decide. I'm not yet ready to choose a major or career.
69. I think that it would be better to kill myself than to go on living.
70. Other people believe that I have a problem with drugs or alcohol.
71. I don't feel as capable as most other people.
72. My family life is pleasant and satisfying.
73. Other students seem to study more than I do.
74. I think I'm showing the signs of a lot of stress.
75. I don't get along with those in authority.
76. I don't get the same pleasure that I used to from my activities.
77. I Teel Tm being forced into a career I don't want.
78. I know exactly how I would end my life.
79. People have taken advantage of me while I was drunk or high.
80. I'm too sensitive to criticism from others.
81. I can't seem to let go of my family.
82. I seem to forget what I know when I take a test.
83. Lately, my worries have made it hard for me to get to sleep.
84. I'm tired of the way people treat me.
85. I believe that no matter what I do things will not Improve.
86. I'm anxious because I'm running out of time for choosing a career.
87. I'm tired of living.

88. I've felt guilty over my drinking or use of drugs.
89. I have a very positive opinion of myself.
90. I don't like to be at home because we always argue.
91. I'm inconsistent in my class work.
92. I often feel afraid but don't know why.
93. I've made mistakes in choosing my friends
94. I can't seem to get rid of my feelings of sadness.
95. My friends have a better Idea about their future than I have about mine.
96. I've attempted suicide in the past.
97. I've had arguments with my friends about my drinking or use of drugs.
98. People say I lack self-confidence.
99. I think about problems at home even when I'm at work or school.
100. No matter how much I study, I can't seem to make good grades.
101. I'm bothered by thoughts that I can't seem to get rid of.
102. I don't trust most of the people around me.
103. Recently I've lost some of my interest in sex.
104. I don't know what to do with my life.
105. I think about death a lot.
106. I've been in some pretty dangerous situations because of my drinking or use of drugs.
107. Frequently I feel dissatisfied with the kind of person I am.
108. I am afraid of my parents.

Source: (Anton & Reed, 1991)

APPENDIX D

HUMAN SUBJECTS CONSENT FORM

HUMAN SUBJECTS CONSENT FORM

The following is a brief summary of the project in which you are asked to participate. Please read this information before signing the statement below. You must be of legal age or must be co-signed by a parent or guardian to participate in this study.

TITLE OF PROJECT: Psychological capital, Socioeconomic Status, and College Adjustment

PURPOSE OF STUDY/PROJECT: The purpose of this study is to examine the role of psychological capital in the relationship between socioeconomic status and college adjustment of students.

SUBJECTS: Undergraduate college students at Louisiana Tech University.

PROCEDURE: Participation in this study will involve completing a survey about your current experiences in college that will require approximately 25-35 minutes. At the beginning of the survey, you will be asked to complete two informed consents: one for study participation and one for accessing your academic records (e.g., high school GPA) through the university. If you give us permission to access your academic records, you will be asked to provide identifying information (your name and CWID number) which will be securely stored in a password protected file and assigned an unique code number. The code number will be used to access the academic records, and data obtained in this study to ensure the anonymity of participants. The data file that includes identifying information will only be accessed by lead researchers and will be destroyed upon completion of the study.

BENEFITS/COMPENSATION: Although this study does not have direct benefits to the research participant, the knowledge developed may help other students. Some instructors may offer extra credit for participation. If extra credit is offered, an alternative extra credit that requires a similar investment of time and energy will also be offered to those students who do not choose to volunteer as research subjects.

RISKS, DISCOMFORTS, ALTERNATIVE TREATMENTS: There are no foreseeable risks other than possible discomfort in answering personal questions. If

you feel any discomfort in answering questions, you may withdraw the survey at any time without any consequences. If you feel any discomfort or distress, you may call Louisiana Tech University Counseling Center at (318) 257-2488 to schedule an appointment or talk with a mental health professional.

The participant understands that Louisiana Tech is not able to offer financial compensation nor to absorb the costs of medical treatment should you be injured as a result of participating in this research.

The following disclosure applies to all participants using online survey tools: This server may collect information and your IP address indirectly and automatically via “cookies”.

I,_____ attest by clicking "CONTINUE" that I have read and understood the following description of the study, "Psychological capital, Socioeconomic Status, and College Adjustment”, and its purposes and methods. I understand that my participation in this research is strictly voluntary and my participation or refusal to participate in this study will not affect my relationship with Louisiana Tech University or my grades in any way. Further, I understand that I may withdraw at any time or refuse to answer any questions without penalty. Upon completion of the study, I understand that the results will be freely available to me upon request. I understand that the results of the material will be confidential, accessible only to the principal investigators, myself, or a legally appointed representative. I have not been requested to waive nor do I waive any of my rights related to participating in this study.

CONTACT INFORMATION: The principal experimenters listed below may be reached to answer questions about the research, subjects' rights, or related matters.

Yixun Zhu, yzh020@latech.edu

Dr. J. Brandon Waits, bwaits@latech.edu, (318) 257-3001

Members of the Human Use Committee of Louisiana Tech University may also be contacted if a problem cannot be discussed with the experimenters: Dr. Richard Kordal, Director, Office of Intellectual Property & Commercialization Ph: (318) 257-2484, Email: rkordal@latech.edu

APPENDIX E

CONSENT TO REVIEW ACADEMIC RECORDS

CONSENT TO REVIEW ACADEMIC RECORDS

The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. In accordance with this Act, written consent must be obtained for release of any student records, including GPA and registration records. By providing your identifying information below, you are giving consent to the researchers, Dr. J. Brandon Waits and doctoral student Yixun Zhu, to review your educational records via the registrar's office. This information is to be used only for the purposes of this study and will be destroyed upon completion of said study. Participation is optional in this part of the study. If you chose not to give consent; we will not access your academic records through Louisiana Tech University.

Thank you for your participation in this research.

First Name: _____

Last Name:_____

Louisiana Tech Student CWID: _____

APPENDIX F

IRB APPROVAL MEMORANDUM

IRB APPROVAL MEMORANDUM

TO: Mr. Yixun Zhu and Dr. Brandon Waits
FROM: Dr. Richard Kordal, Director of Intellectual Property & Commercialization (OIPC) rkordal@latech.edu
SUBJECT: HUMAN USE COMMITTEE REVIEW
DATE: January 27, 2020

In order to facilitate your project, an EXPEDITED REVIEW has been done for your proposed study entitled:

HUC 20-065

"Psychological Capital, Socioeconomic Status, and College Adjustment"

The proposed study's revised procedures were found to provide reasonable and adequate safeguards against possible risks involving human subjects. The information to be collected may be personal in nature or implication. Therefore, diligent care needs to be taken to protect the privacy of the participants and to assure that the data are kept confidential. Informed consent is a critical part of the research process. The subjects must be informed that their participation is voluntary. It is important that consent materials be presented in a language understandable to every participant. If you have participants in your study whose first language is not English, be sure that informed consent materials are adequately explained or translated. Since your reviewed project appears to do no damage to the participants, the Human Use Committee grants approval of the involvement of human subjects as outlined.

Projects should be renewed annually. ***This approval was finalized on January 27, 2020 and this project will need to receive a continuation review by the IRB if the project continues beyond January 27, 2021.*** **ANY CHANGES** to your protocol procedures, including minor changes, should be reported immediately to the IRB for approval before implementation. Projects involving NIH funds require annual education training to be documented. For more information regarding this, contact the Office of Sponsored Projects.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study. If changes occur in recruiting of subjects, informed consent process or in your research protocol, or if unanticipated problems should arise it is the Researchers responsibility to notify the Office of Sponsored Projects or IRB in writing. The project should be discontinued until modifications can be reviewed and approved.