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Low Income And First Generation Students' Engagement Of Authority Figures

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by

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ABSTRACT

Background: Numerous studies acknowledged the potential struggles that first generation (FG) and low-income students (LI) face as they attempt to navigate the college degree pipeline. One struggle these students may face is an aversion to engaging authority figures. Unlike their peers, both FG and LI students can come from families with little to no college literacy, and this lack of support, coupled with not seeking out assistance from authority figures on campus, could lead to potential problems. This lack of engagement with authority figures may be related to childhood socialization such as Cultivation of Intellectual Independence (CII). Individuals with high CII have been taught to think and act independently. The purpose of this study is to explore whether either FG or LI's CII assist them in engaging authority figures. Method: This study took data from Wave 1 and 2 of the 2005 National Longitudinal Study of Freshman. NLS sample of 3,924 students was used to measure FG and LI students during their first year of college. In order to accomplish this goal, an OLS regression analysis was run to regress each of the five wave 2 (spring of their first year) engagement questions on the variables: FG, LI, CII scale, Race, Sex, U.S. Born, HS teachers interest, Living on campus, working for pay, and trouble with family. Results: While CII was a significant factor in the engagement of authority figures, as predicted, FG and LI status did not match our predictions. LI students in this analysis were more likely to engage authority figures, instead of less likely, as was predicted, and FG status was not a significant predictor. Conclusion: This study aims to further our understanding of both FG and LI students' engagement of authority figures.

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CHAPTER ONE: INTRODUCTION

In today's world, earning a college degree is associated with numerous benefits associated with health and financial stability. Research has linked a college education to a higher chance of upward social mobility, better health, and a lower chance of needing public assistance (Ma, Pender, & Welch, 2016). Individuals with four-year degrees have a lower unemployment rate and higher average incomes compared to those with only a high school diploma (Federal Student Aid, 2015). With a college education playing such an important role in peoples' lives, it is essential to understand the predictors of succeeding in college and ultimately obtaining a college degree.

Obtaining a degree is not an easy task as there are numerous overt and covert obstacles to succeeding in college. The more disadvantages an individual enters college with, the more obstacles they will need to overcome. This includes, low income (LI) students, or students who come from a family that make less than 200% of the poverty line (Jiang, Ekono, & Skinner, 2016), and first-generation students (FG), or students whose parents never obtained a bachelor's degree (Chen & Carroll, 2005; Deil-Amen & Rosenbaum, 2003; Engle & Tinto, 2008; Ishitani, 2006; Ishitani, 2016; Jack, 2014; Jack, 2016). Compared to non-FG students, FG students are less likely to take a math class at a level higher than Algebra 2, are less likely to take the SAT/ACT, and are more likely to score lower on college entrance exams like the SAT/ACT (ACT, 2015; Chen & Carroll, 2005). According to an ACT report (2015), only 10% of FG students (compared to 28% for the entire sample) who took the ACT reached the college readiness benchmark in all four areas (English, Reading, Math, and Science).

According to the National Center for Education Statistics report by Chen & Carrol (2005), once FG students enter college, FG students are more than twice as likely to require at least one

remedial course and are more likely to report both withdrawing from and repeating classes than students whose parents have at least a bachelor's degree. FG students also earn fewer credits on average, have lower grade point averages, and are less likely to end up earning a bachelor's degree than their peers (Chen & Carroll, 2005; Engle & Tinto, 2008; Ishitani, 2016). Additionally, research on students from LI families reports similar statistics (Engle & Tinto, 2008; Ishitani, 2006; Ishitani, 2016). While there is an insufficient amount of literature that compares the effect of being FG to the effect of coming from an LI family, some previous research has lumped them both together due to the fact that students who reported being from an LI family tended to also come from an FG family (Chen & Carroll, 2005).

While some might assume that the disparities these groups exhibit are linked to a lack of ability, previous research suggests that there are underlying mechanisms in place affecting both FG and LI students' ability to integrate into their new environment (Bourdieu & Passeron, 1990). One way that this is evident is through FG and LI students' avoidance of engaging authority figures (Arnold, Fleming, DeAnda, Castleman, & Wartman, 2009; Castleman, Arnold, & Wartman, 2012; Collier & Morgan, 2008; Deil-Amen & Rosenbaum, 2003; Jack, 2014; Jack, 2016; Stephens, Hamedani, & Destin, 2014). While faculty members expect students to come to them with questions and to take advantage of office hours, these students report believing that reaching out to a professor is anxiety producing and therefore they do so hesitantly and self-consciously (Collier & Morgan, 2008; Jack, 2016). Research suggests that this can be attributed to the class-based lessons students learn at home (Calarco, 2014). One such lesson is whether or not students are encouraged to act and think independently or what is called cultivating intellectual independence. Research suggests that students who have been exposed to a cultivation of

intellectual independence (CII) “will be better prepared for the intellectual challenges of university life” (Massey, Charles, Lundy, & Fischer, 2003, p. 59).

The section above highlights how students from both LI and FG families may have difficulty navigating the college degree pipeline compared to middle class (MC), upper income or non-FG students. More research is needed to explore the mechanisms in place that are affecting these students’ success. One such mechanism that needs further exploration is the resistance of both LI and FG students’ to engaging faculty members. While research suggests that this resistance is there, little research is available explaining what causes it. This paper will be among the first to examine the way both FG and LI students’ experience college differently than their peers by an analyzing a possible relationship between FG and LI students’ cultivation of intellectual independence during high school and engaging professors during their first year of college. The findings of this study will further our understanding of both FG and LI students’ engagement of authority figures.

CHAPTER TWO: LITERATURE REVIEW

First Generation Low Income Students' Transition into College

First generation (FG) students, or students whose parents never obtained a bachelor's degree, and LI students, or students who come from a family that make less than 200% of the poverty line (Jiang et al., 2016), do not navigate college in the same way as their peers. From the beginning of their educational journey, the transition process to college can be challenging for FG and LI students. Even before they start their first semester, both FG and LI students may run into problems. FG and LI students who have been accepted into college are more likely to deal with struggles in matriculating than their peers, with some never showing up for their first day of class (Arnold et al., 2009; Castleman et al., 2012; Castleman, Page, & Schooley, 2014). Of the FG and LI students who successfully enter college, many have a difficult time transitioning into their new environment (Deil-Amen & Rosenbaum, 2003; Dika & D'Amico, 2016; Jack, 2014; Stebleton & Soria, 2012; Talebi, Matheson, & Anisman, 2013). Studies suggest that these students can have difficulty filling out forms, applying for financial aid, registering for the right classes (Deil-Amen & Rosenbaum, 2003), connecting with peers (Jack, 2014; Jack 2016), and reaching out for help (Deil-Amen & Rosenbaum, 2003; Jack, 2014; Jack, 2016; Talebi et al., 2013). This failure to integrate can have lasting consequences (Tinto, 1993).

According to Tinto (1993), most students' initially experience difficulty in adjusting to their new college environment. This could be the first time these students are away from home and are asked to leave behind childhood friends and family. Once in college, students are expected to live independently and figure out who they are as a person. However, this transition period should only last a brief period and result in only minimal consequences (Tinto, 1993).

Nonetheless, this is not always the case for FG and LI students. Unsuccessful integration, research shows, can be detrimental to future success at that institution (Tinto, 1993). According to Tinto (1993), failure to integrate into both the academic and social environments at the student's chosen school can affect that student's success. For instance, academic and social experiences such as participation in sports/ social groups, peer tutoring, peer relationships with social support, research programs, and faculty mentoring have been linked to retention, gaining access to valuable information/ resources and favorable adjustment (Dika & D'Amico, 2016; Falconer & Hays, 2006; Foltz, Foltz, & Kirschmann, 2015; Friedlander, Reid, Shupak, & Cribbie 2007; Jack, 2014; Jack, 2016; Lohfink & Paulsen, 2005; Stephens et al., 2014;Williams, Thakore, & McGee, 2016). However, research suggests that both FG and LI students are less likely to seek out resources (Stephens et al., 2014), to connect with peers (Jack, 2014; Jack, 2016; Ostrove & Long, 2007) and are less likely to seek out assistance than their peers (Deil-Amen & Rosenbaum, 2003; Jack, 2014; Jack, 2016; Talebi et al., 2013). Therefore, it is essential to examine the ways in which both FG and LI students struggle in integrating into their college environment so that successful interventions can be created and implemented that will either change the ways in which these students approach college or change the ways in which colleges approach these students.

Previous research suggests that this failure to integrate into the college experience can partially be attributed to external factors that disproportionately affect the lives of both FG and LI students. For instance, these students are more likely to live and work off campus and are more likely to have external obligations (Blustein et al., 2013; Deil-Amen & Rosenbaum, 2003; Engle & Tinto, 2008; Stebleton & Soria, 2012). This in part is due to both FG and LI students being more likely to postpone their education until they are older and being less likely to have parents

who can offer them financial support, resulting in them needing to work to supplement their income (Engle & Tinto, 2008). These external obligations can affect their availability to participate in both academic and social experiences. For example, Stebleton & Soria (2012) found that FG students are significantly more likely to report both work and family responsibilities that competed for their attention. This lack of participation in both academic and social life on campus can have negative consequences related to retention, gaining access to valuable information/ resources and positive adjustment (Dika & D'Amico, 2016; Falconer & Hays, 2006; Foltz et al., 2015; Friedlander et al., 2007; Jack, 2014; Jack, 2016; Lohfink & Paulsen, 2005; Stephens et al., 2014; Williams et al., 2016). However, a lack of availability to participate on campus is only part of the problem.

Research also suggests that the failure to integrate may be partially attributed to FG and LI students' sense of belonging and class background is significantly related to a sense of belonging on campus (Ostrove & Long, 2007). Universities can be dissimilar to both FG and LI students' home communities which can result in a type of culture shock when they enter their new environments (Jack, 2014; Jack, 2016). FG and LI students have reported feeling that their campus is not for them, that the people are strange, and that they do not feel like they belong (Jack, 2014). Some students might come from high schools with a different racial and financial make- up (Jack, 2014). As Jack (2014) notes, some of the students he interviewed came from high schools with a high minority population to primarily White institutions. Furthermore, these students noted how they had to adjust to things such as turning down social activities that they could not afford, their new classmates' work ethic, and learning new ways to deal with confrontation (Jack, 2014) all of which can affect their sense of belonging. When students

experience this lack of belonging their ability to integrate is negatively affected (Jack, 2014; Ostrove & Long, 2007). For instance, this lack of belonging can result in some students isolating themselves from the campus, their classmates, and professors (Jack, 2014; Jack, 2016). However, this lack of belonging, once again, is only part of the issue. Research suggests that there are also underlying mechanisms at play such as cultural capital.

Theory of Cultural Capital

The educational inequalities that FG and LI students experience are grounded in cultural capital. While numerous studies exploring educational inequality use the concept of cultural capital, its definition has not always been clear or consistent throughout Bourdieu's work. This has led to disagreements among theorists as to precisely what cultural capital encompasses. However, according to Lamont and Lareau (1988), who analyzed the different works by Bourdieu, cultural capital is a type of symbolic capital that includes the "right" type of attitudes, preferences, behaviors, language codes and goods (Lamont & Lareau, 1988). According to these theorists, cultural capital is obtained throughout a person's lifetime through socialization (Lamont & Lareau, 1988). When this cultural capital is legitimized as the "right" type of capital, or the capital associated with the dominant class, it can be exchanged for resources or opportunities (Bourdieu, 1989; Lamont & Lareau, 1988).

According to Bourdieu & Passeron (1990), one arena where this exchange is prominent is in institutions of education. Schools value the capital of the dominant class and therefore give preference to the students who possess it (Bourdieu & Passeron, 1990). While a lot of this capital is taught in schools, LI students are not able to call on them as comfortably as students who were

born in the dominant class and therefore raised with its capital (Lamont & Lareau, 1988). Bourdieu and Passeron (1990, p. 5) explain that "all pedagogic action is objectively symbolic violence, in so far as it is the imposition of a cultural arbitrary by an arbitrary power." This pedagogic action can lead to LI children falling behind because they do not possess the correct cultural capital to succeed in that institution (Lamont & Lareau, 1988). As Lamont and Lareau (1988, p. 155) explain "because differences in academic achievement are normally explained by differences in ability rather than by cultural resources transmitted by the family, social transmission of privileges is itself legitimized, for academic standards are not seen as handicapping lower class children."

If education institutions reflect the capital of the dominant class, then both LI and FG students are going to face difficulties in integrating into a university that has rules unfamiliar to them and uncomfortable for them. One example of this is engaging authority figures.

Engaging Authority Figures in a School Setting

Engaging authority figures is expected in a college environment and is vital for numerous reasons (Collier & Morgan, 2008; Jack, 2016). From the start of their college careers, students will need to be able to overcome the numerous bureaucratic hurdles that are associated with college (Deil-Amen & Rosenbaum, 2003). These hurdles include things such as correctly filling out paperwork, navigating the various degree options and requirements, registering for classes with outside obligations in mind, and applying for financial aid (Deil-Amen & Rosenbaum, 2003). Research indicates, however, that FG and LI students tend to resist engaging authority figures at college, including professors and advisors (Arnold et al., 2009; Castleman et al., 2012;

Collier & Morgan, 2008; Deil-Amen & Rosenbaum, 2003; Jack, 2014; Jack, 2016; Stephens et al., 2014).

Unlike their peers, when either FG or LI students are confused about the correct procedures for any of these bureaucratic tasks, they may not be able to turn to people in their home communities for answers (Arnold et al., 2009; Blustein et al., 2013; Castleman et al., 2014; Deil-Amen & Rosenbaum, 2003; Jack, 2014; Jack, 2016; Roderick, Nagaoka, Coca, & Moeller, 2008). FG and LI students often come from families with little to no college literacy and some students report that their parents are unable to assist them in understanding this new territory due to a lack of experience (Arnold et al., 2009; Blustein et al., 2013; Castleman et al., 2014; Deil-Amen & Rosenbaum, 2003; Jack, 2014; Jack, 2016; Roderick et al., 2008). This lack of support coupled with not seeking out assistance from authority figures on campus could lead to potential problems such as making mistakes when selecting classes, missed financial aid opportunities and elongated time in earning a degree (Deil-Amen & Rosenbaum, 2003).

Once these students begin their classes, this avoidance of seeking assistance can have further consequences. Collier and Morgan (2008) found that FG students often had difficulties understanding their professors' expectations. Even though these students had the academic skills to understand the course material that they were presented with, these researchers found that FG students, at times, lacked the ability to understand what the professor's expectations were (Collier & Morgan, 2008). This resulted in students performing at a lower rate than they were capable. As they state: "in a comparison between two students with an equivalent understanding of the course material, the one who has a better understanding of the faculty members' expectations will perform better" (Collier & Morgan, 2008, p. 5). Unfortunately, FG students reportedly lacked this

clarity, especially when compared to their non-FG peers. In the end, both FG and LI students' performance in their classes could be misinterpreted by their teachers as a lack of ability instead of a lack of the cultural resources required to perform at a competing level with their peers (Lamont & Lareau, 1988).

Furthermore, the consequences of a lack of communication with authority can reach far beyond the classroom. Professors act as gatekeepers to resources, such as letters of recommendation, research experiences, professional networks and knowledge about college and the workforce (Jack, 2016; Williams et al., 2016). As noted above, participation in both academic and social experiences have been linked not only to retention but also to access to critical information and resources (Dika & D'Amico, 2016; Falconer & Hays, 2006; Foltz et al., 2015; Friedlander et al., 2007; Jack, 2014; Jack, 2016; Lohfink & Paulsen, 2005; Stephens et al., 2014; Williams et al., 2016). Therefore, this lack of communication can extend past their college experiences and into their potential career opportunities. As Byars-Winston (2014, p. 346) explain, "most career development theories acknowledge that people do not end up in careers by chance, but rather that the work that they do is a result of interacting individual, social, and environmental factors." Opportunities such as internships and research experiences can help individuals define or reach their career goals.

While this type of engagement is vital for future success, both FG and LI students lack the right type of informal academic knowledge, or cultural capital, to understand the necessity of reaching out to faculty for these additional resources. For instance, a study by Jack (2016, p. 8) looking at minority students from an elite university found that some students from LI backgrounds "lacked the skill set or desire to engage faculty, even as they perceive their peers

reaping the benefits of forging relationships." While faculty members expect students to come to them with questions and to take advantage of office hours (Collier & Morgan, 2008; Jack, 2016), FG and LI students avoided going to talk with professors. These students report believing that reaching out to a professor is anxiety producing and therefore they do so hesitantly and self-consciously (Collier & Morgan, 2008; Jack, 2016). FG and LI Students want to avoid "rocking the boat" and instead accept what they are given, some even claiming they never spoke to anyone at all their first year (Collier & Morgan, 2008; Jack, 2016). To further complicate things, some students reported even looking down on other students who engage professors openly; equating these actions to sucking-up (Jack, 2016).

In contrast, their MC peers enter college with greater comfort in reaching out to authority figures and acting as their own advocates (Jack, 2016). While FG and LI students struggle to see themselves as equals to the adults or even similarly aged teaching assistants in their classes (Jack, 2016), MC students treat adults as their equals and report feeling entitled to assistance from professors (Jack, 2014). These students report positive interactions with professors, with many reaching out to authority figures because they know they can potentially gain access to essential resources, information, and opportunities (Jack, 2016). In the end, while disadvantaged students are reporting a strained relationship with authority, MC students see authority figures as partners in their education (Jack, 2016). Therefore, it becomes clear that if engaging authority figures is an expected behavior on a college campus, students who possess this type of cultural capital can exchange it for resources and opportunities. However, if engagement of authority is the cultural capital that is being exchanged for resources and opportunities, what are the mechanisms in place that lead to some students obtaining this skill, while others do not?

Some research suggests that these class-based attitudes towards authority figures, in part, can be attributed to their previous school experiences (Jack, 2016). Students who are from FG or LI backgrounds can come from under-resourced public schools with sometimes little to offer in the way of college preparation (Deil-Amen & Rosenbaum, 2003; Jack, 2016; Roderick et al., 2008). Some schools are not adequately equipped to help prepare students for college, leaving them to enroll in a university that is culturally and socially unlike their home communities (Jack, 2014; Jack, 2016). LI students report strained teacher-student interactions in high school where teachers only reached out to students when they were in trouble or deserved extra praise (Deil-Amen & Rosenbaum, 2003; Golann, 2015; Jack, 2016). Some schools pushed order and discipline on their students, creating worker-learners who "monitor themselves, hold back their opinions, and defer to authority" (Golann, 2015, p. 104). In contrast, MC students are more likely to come from better quality schools, with more resources, higher teaching quality, less school violence, and schools that are culturally similar to their college experience (Jack, 2016; Wolniak & Engberg, 2010). Unlike FG or LI students, MC students know that faculty at these schools both expect and encourage communicating with their teachers (Jack, 2016).

Jack (2016) goes further to explain that attending a private secondary school can assist LI students in gaining the skills necessary for integrating into a university. However, this overlooks the differences between MC non-FG student and FG and/or LI students that still exist when they come from the same types of schools. Jack (2016, p. 13), notes that even though LI students who attended a private school "come to see authority figures as facilitators of their advancement … MC respondents see them as partners." This suggests, that while there are improvements made to LI students' ability to integrate, they are still falling behind MC students. This aligns with

Bourdieu's theory of cultural capital. Even when the correct type of cultural capital is taught in schools, LI students are not able to call upon this capital as comfortably as students who were born in the dominant class and therefore raised with it (Lamont & Lareau, 1988). Therefore, while schools may play a part in teaching this type of cultural capital, it is important to explore the class-based lessons that are taught at home.

Calarco (2014) found while observing elementary schools that MC parents felt entitled to assistance from their child's teacher. Whether these parents wanted extra support or accommodations, these parents intervened with the mostly correct assumption that they would get results (Calarco, 2014). MC parents can see themselves as equal to or above their child's teacher because of their elevated educational and occupational status (Calarco, 2014). Therefore, parents feel comfortable not only intervening but also questioning the teacher's judgment, (Calarco, 2014). These beliefs are then passed on to their children (Calarco, 2014). MC parents in this study reportedly believed in the importance of teaching entitlement to their children, and did so by teaching them that they deserve support, they benefited from support, and teachers are obligated to offer support (Calarco, 2014).

In contrast, LI parents are hesitant to go and reach out to their children's teachers to ask for extra support (Calarco, 2014). These parents, as non-professionals with less educational and occupational status than their child's teacher, viewed themselves as ill-equipped to understand their child's schooling (Calarco, 2014). They, therefore, preferred to defer to the teachers to decide what is best for their children (Calarco, 2014). Additionally, they assumed that it would be seen as disrespectful to ask for any additional support (Calarco, 2014). They teach their children a "no-excuse mentality," where they accept what is given to them and believe assistance will

negatively affect their children's ability to work hard (Calarco, 2014). These children are taught to think of other's needs above their own and to work hard for the things they want, equating help-seeking with laziness, selfishness, and disrespect (Calarco, 2014). As a result, MC students were receiving more assistance than LI students, because MC students knew how to ask for it (Calarco, 2014). These differences between LI and MC students' navigation through the norms of the classroom is the result of a lack of the "right" type of cultural capital. Moreover, the resulting differences in achievement between LI and MC students ended up getting passed off as a lack of ability rather than a lack of the right type of cultural capital.

Educational institutions reward MC qualities such as entitlement and proactive problem solving (Calarco, 2014; Jack, 2014). For example, the MC children in Calarco's (2014) study who were confused on an assignment asked for help and then received it while the LI students who needed assistance sat quietly and lost points. Additionally, while the MC students in Jack's (2014 & 2016) studies felt comfortable engaging professors to gain access to extra assistance and resources, LI students recalled family lessons emphasizing the importance of work hard, not "sucking-up," and keeping your head down. In both cases, MC students are rewarded for the cultural capital that they have obtained from their family lessons, while LI students struggle to gain any similar benefits (Calarco, 2014; Jack, 2014; Jack, 2016).

One specific family lesson that may affect engaging authority figures is a cultivation of intellectual Independence (CII). CII provides students with the ability to think and act independently instead of deferring to authority, or as Massey and colleagues, explains, CII is "the extent that students have been encouraged by their parents to think and act for themselves." (Massey et al., 2003, p. 59). Individuals who were not given family lessons that promoted

intellectual independence may have been taught to give in on arguments in order to prevent the other party's ire, taught that it is inappropriate to argue with an adult, discouraged from thinking independently, and told that they would understand better when they grow up (Massey et al., 2003). This cultivation should result in being "better prepared for the intellectual challenges of university life" (Massey et al., 2003, p. 59). With previous literature on engaging authority figures acknowledging the effect factors such as a lack of entitlement (Calarco, 2014; Jack, 2014) or wanting to avoid "rocking the boat" (Jack, 2016) can have, it would seem that CII might be a mediating factor in FG students or LI students' engagement of authority figures. So, if engagement with authority is the cultural capital used to acquire resources and opportunities, then is CII the family lesson that assists in the production of this capital?

To date, there is little literature on CII and no literature that links it to engagement of authority figures. However one study did find a link between CII and both self-esteem and self-efficacy among college students (Massey et al., 2003), two variables that have both been linked to school success (Grier-Reed & Ganuza, 2012; Massey et al., 2003; Peteet, Brown, Lige, & Lanaway, 2014).

Therefore, this study will fill this important gap in the literature and will examine the following research questions.

1. Is there a difference between FG students, LI students, and their peers in cultivating intellectual independence while in High school?
2. Are FG students, LI students, or students who have lower rates of CII less likely to engage professors during their first year of college when compared to their peers?

CHAPTER THREE: METHODOLOGY

Sample

This analysis used data obtained from the National Longitudinal Survey of Freshmen (NLSF) which includes variables that pertain to engaging authority in a university setting and cultivation of intellectual independence. Students selected for this survey were surveyed six times over five years starting in 1999. First, these students were given a face-to-face interview during the fall of their first year of college. Afterward, phone interviews were given during the spring of their first year of college, spring of their sophomore year, spring of their junior year, spring of their senior year, and then once more during the spring the following year for a post-graduation follow up. The data set contains survey information on 3,924 students identified as U.S. Citizens. All students were gathered from 28 institutions that have been categorized as selective or elite. Additionally, in order to gain an equal distribution of students in each racial category (White, Black, Asian, & Latinx), researchers oversampled at Historically Black Colleges and Universities (HBCU's).

Measures

Dependent Variable

Engaging professors. The dependent variables in this analysis is engagement with professors. In order to measure this interaction, students were asked five separate questions that explore the different situations wherein a student can and should interact with a professor (Collier & Morgan, 2008; Jack, 2016; Williams et al., 2016). First, the respondents were prompted with "On a scale of zero to 10, where 0 indicates you never engage in a behavior and

10 indicates you always do, please tell me the frequency with which you:" 1. Ask professors questions in class, which, as seen in Table 1, has a mean of 4.10 and a standard deviation of 2.530, 2. Raise your hand during a lecture when you don't understand something (M= 2.95, SD= 2.751), 3. Approach professors after class to ask a question (M= 4.26, SD= 2.652), 4. Meet with your professors in their offices to ask about material you don't understand (M= 3.58, SD= 3.095), and 5. Meet with professors in their offices to talk about other matters (M= 1.61, SD= 2.185).

Table 1: Descriptive from Wave 1

Variable	Mean	SD	N
Engagement of Professors	16.4933	9.49641	3728
Ask Questions in Class	4.10	2.530	3728
Ask Questions in Class When Confused	2.95	2.751	3728
Approach after Class	4.26	2.652	3728
Go to Office- Question	3.58	3.095	3728
Go to Office- Other	1.61	2.185	3728
Non-LI	.8236	.38123	3758
Non-FG	.8978	.30294	3875
CII	21.6584	5.90623	3302
Female	.5810	.49345	3924
U.S. Born	.8438	.36308	3912
Race	-	-	3924
White	25.4%	-	998
Black	26.8%	-	1051
Latinx	23.3%	-	916
Asian	24.4%	-	959
Living Arrangements	.9772	.14929	3728
Hours Working	.0735	.26102	3727
Problems w/Family	1.32	2.339	3726
HS-Teachers Interest	3.40	.820	3919

These five questions were then combined to create a scale aiming to measure engagement. This new variable has a range of 0-50 with 0 indicates never engaging in any engagement and 50 indicates that the respondent always participates in all 5 activities. This Scale has a mean of 16.4933 and a Standard Deviation of 9.49641.

Independent variable

Family Income. Respondents were asked to estimate their family's annual income during their senior year of high school. Specifically, they were prompted with "Please Look At This Card And Tell Me Your Estimate Of The Annual Income Of The Household In Which You Spent Your Senior Year Of High School? In Thinking About Household Income, You Should Include The Wages And Salaries Of All Household Members, Plus Any Self-Employment Income They May Have Had, Along With Interest, Dividends, Alimony Payments, Social Security, Pensions, And Public Assistance. You Can Just Tell Me The Letter." They were then given the options: A. Under $3,000 (coded 1; 0.5%), B. $3,000 - $3,999 (coded 2; 0.3%), C. $4,000 - $4,999 (coded 3; 0.2%), D. $5,000 - $5,999 (coded 4; 0.2%) E. $6,000 - $6,999, (coded 5; 0.3%), F. $7,000 - $7,999 (coded 6; 0.2%), G. $8,000 - $8,999 (coded 7; 0.2%), H. $9,000 - $14,999(coded 8; 2%), I. $15,000 - $19,999 (coded 9; 2.2%), J. $20,000 - $24,999 (coded 10; 3.9%), K. $25,000 - $34,999 (coded 11; 7%), L. $35,000 - $49,999 (coded 12; 11.6%), M. $50,000 - $74,999 (coded 13; 17.6%), N. $75,000 OR MORE (coded 14; 49.6%). Respondents were coded 98 if they did not know (3.1%) and 97 if they refused to answer (1.2%). However, according to Pew research (Fry & Kochhar, 2016), in order to be considered MC, a family of 3 needs to make at least $41,000 a year. Therefore, this variable was then recoded so that $34,999 or less was recoded as 0

and all other responses were recoded as 1. As shown in Table 1, this variable has a mean of .8236 and a standard deviation of .38123.

First-Generation. While there are multiple ways in which studies choose to define first-generation college students, this study has chosen to define it as neither parents having college experience. This, therefore, allows us to reach students without access to college information back home and as a result will need to rely more heavily on the university to fill in the gaps. In order to accomplish this, dummy variables were created for both mother's and father's educational level and then they were combined into one variable that measures parental education.

Father's Highest Degree. This variable was measured by asking respondents "What Is the Highest Level of Schooling Achieved by Your Father or the Man Most Responsible for Raising You?" The responses were coded so that Grade School was coded as 1 (2.5%), Some High School was coded as 2 (1.8%), High School Graduate was coded as 3 (11.4%), Some College was coded as 4 (10.1%), College Graduate was coded as 5 (24.0%), Some Post-Graduate was coded as 6 (2.8%), and Graduate or Professional Degree was coded as 7 (42.6%). Additionally, respondents that had no father or man responsible for raising them were coded as 95 (3.7%), "Don't know" was coded as 98 (0.9%), and refused to respond was coded as 97 (0.2%). This variable was recoded with the use of a dummy variable so that Grade School, Some High School, High School Graduate, and respondents with no father or man responsible for raising them are now coded as 0 and some College, College Graduate, Some Post-Graduate, and Graduate or Professional Degree is now coded as 1. All other responses were excluded from this analysis.

Mother's Highest Degree. In regards to maternal education, respondents were asked "What Is the Highest Level of Schooling Achieved by Your Mother or the Woman Most

Responsible for Raising You?" The responses were coded so that Grade School was coded as 1 (2.4%), Some High School is coded as 2 (1.7%), High School Graduate was coded as 3 (14%), Some College was coded as 4 (17.2%), College Graduate was coded as 5 (30.6%), Some Post-Graduate was coded as 6 (4.1%), and Graduate or Professional Degree was coded as 7 (29.4%). Additionally, respondents that had no mother or woman responsible for raising them were coded as 95 (0.2%), "Don't know" was coded as 98 (0.3%), and refused to respond was coded as 97 (0.1%). This variable was recoded with the use of a dummy variable so that Grade School, Some High School, High School Graduate, and respondents with no mother or woman responsible for raising them are now coded as 0 and Some College, College Graduate, Some Post-Graduate, and Graduate or Professional Degree is now coded as 1.

Mother and Father's Education Combined. These two questions were then combined into an FG variable in order to see whether or not the respondent was a first generational student or not. Therefore neither parents having any college experience were coded as 0, one parent with a degree is coded as 1 and all other responses are coded as 2. This variable was then recoded to make it dichotomous. Now, students who are both FG coded as 0 and all other respondents are coded as 1. As shown in Table 1, this variable has a mean of .8978 and a standard deviation of .30294.

Cultivation of Intellectual Independence. Cultivation of Intellectual Independence has been described as "the extent that students have been encouraged by their parents to think and act for themselves" (Massey et al., 2003, p. 59). In order to measure this concept, respondents were first asked a series of questions about both their mother and their father. They were first prompted with "Please Tell Me How Much You Agree or Disagree with the Following Statement about

How Your Mother (Father) Or the Woman (Man) Most Responsible for You Treated You Last Year." The respondents were then given the following statements: (1) She/ He Thought You Shouldn't Argue with Adults (Mother M= 2.30, SD= 1.172; Father M=2.00, SD=.973) (2) She/ He Thought You Should Give in on Arguments rather Than Make People Angry (Mother M= 3.08; SD= 1.060; Father M=2.97, SD=.95). (3) She/ He Pushed Me To Think Independently (Mother M= 1.51; SD= .927; Father M=1.45, SD=.727). (4) She/ He Thought She Was Always Right And That I Shouldn't Question Her/ Him (Mother M= 2.63; SD= 1.182; Father M=2.75, SD=1.069). (5) When She/ He Wanted Me To Do Something, She/ He Always Explained Why (Mother M= 2.38; SD= 1.060; Father M=2.39, SD=.909). (6) Whenever I Argued With Her/ Him, She/ He Said, "You'll Understand When You Grow Up" (Mother M= 2.95; SD= 1.142; Father M=2.73, SD=1.081). The possible responses range from Strongly Agree with a coded 1 or strongly disagree with a coded 4 and Neither Agree Nor Disagree was coded 5. First questions 1, 2, 4 and 6 were recoded so that strongly agree is coded as 0, agree = 1, disagree = 2, and strongly disagree =3. Next, the coding for questions 3 and 5 was switched so that Strongly Disagree was valued at 0, disagree was coded as 1, agree was coded as 2, and strongly agree was coded as 3. Then, a CII scale was created combining all 12 questions, so that respondents with a score of 0 were extremely low on cultivation of intellectual independence and a score of 48 is extremely high in cultivation of intellectual independence. As shown in Table 1, this variable has a mean of 21.6584 and a standard deviation of 5.90623.

Control Variables

To control for sex differences, this study included the sex variable where respondents

were asked to choose between male and female. Females were recoded as 1 (58.1%) and males were recoded as 0 (41.9%). For the variable U.S. Born, respondents who answered yes they were U.S. Born were recoded as 1 (84.1%) and respondents who were not born in the U.S. were recoded as 0 (15.6%). The variable for race was also recoded. This data set included almost equal amounts of Black (26.8%), White (25.4%), Latinx (23.3%), and Asian (24.4%) students. Race was recoded so that Black, Asian, and Latinx had their own dummy variable, where respondents were coded as 1 if they identified themselves as a part of that group, and all other responses were coded as 0. White respondents were left as the comparison group.

Additional control variables were added in accordance with previous literature. First, previous literature suggests that FG and LI students are more likely to live off campus and have outside obligations (Blustein et al., 2013; Deil-Amen & Rosenbaum, 2003; Engle & Tinto, 2008; Stebleton & Soria, 2012) all of which can affect their availability to participate in both academic and social experiences. Therefore this study is attempting to control for these external obstacles. First, to control for living off campus, the respondents were asked where they presently live. They were then given the options: an on-campus dormitory, an off-campus dormitory, an on-campus apartment, an off-campus apartment, a fraternity/sorority house, with your parents, with another relative or other. This variable was then recoded so that on-campus dormitory, off-campus dormitory, on-campus apartment, and a fraternity/sorority house were coded as 1 (92.8%), and off-campus apartment, with your parents, with another relative, and other were recoded as 0 (2.2%). All other responses were excluded from this analysis and, as shown in Table 1, this variable had a mean of .9772 and a standard deviation of .14929.

Next, college student “outside obligations” can be defined in numerous ways. However,

previous literature (Blustein et al., 2013; Deil-Amen & Rosenbaum, 2003; Engle & Tinto, 2008) have defined it as family and work obligations. To measure work obligations, this study combined two separate questions: hours per week working for pay and hours during the weekend working for pay. First respondents were prompted with: "Now, please think about how you spent your time during the last full week of classes, from Monday through Friday. As I read a list of activities, please estimate the total number of hours, if any, that you spent doing each of these activities. Please keep in mind that there are 120 hours in these 5 days: Working for pay?" Next respondents were prompted with: "Now, please think about the most recent weekend between two weeks when classes were being held and you were on campus. In the 48 hours beginning on Saturday morning and continuing through Sunday night, about how many hours did you spend that weekend: Working for pay?" Previous research suggests that students who work 20 hours a week or more are the most at risk (Engle & Tinto, 2008). Therefore, this question was recoded into a dichotomous variable where students who work 20 hours a week or more were coded as 1 and respondents who work less than 20 hours a week were coded as 0. As shown in Table 1, this new variable has a mean of .0735 and a standard deviation of .26102. Next, respondents were asked if they were having problems with their family. First respondents were prompted with "On A Scale Of Zero To 10, Where Zero Indicates Total Disagreement And 10 Indicates Total Agreement, How Much Do You Agree Or Disagree With Each Of The Following Statements About College: I Am Having Problems At Home With A Family Member." As shown in Table 1, this variable had a mean of 1.32 and a standard deviation of 2.339. Finally, research suggests that the quality of a students' high school teachers can affect students engaging authority while in college (Golann, 2015; Jack, 2014; Jack, 2016). NLSF asks students the questions "How Would

You Rate the Interest Teachers Show in Their Students?" The possible responses are poor (coded 1, 1.3%), fair (coded 2, 9.8%), good (coded 3, 40.1%), and excellent (coded 4, 47.9%). This variable has a mean of 3.40 and a standard deviation of .820. All other responses were excluded from the model.

Analytic Strategy

This analysis examines the possible relationship between LI and FG students, engagement with authority figures, and CII. More specifically: Is there a difference between FG students, LI students, and their peers in cultivating intellectual independence while in High school? And, Are FG students, LI students, or students who have lower rates of CII less likely to engage professors during their first year of college when compared to their peers?

In order to answer these research questions, first Chi-Square analyses and T-tests were used. With the use of both Chi-square analysis and t-test, this study was able to describe better both the FG and the LI students that are present in this sample. First Chi-squared tests were used to examine the relationship between FG status and sex, U.S. born, race, living arrangements and hours of work per week. Chi-square tests were also used to examine the relationship between income level and sex, U.S. born, race, living arrangements, and hours of work per week. Next, T-tests were used to examine the relationships between either FG status or income level and the variables: problems with family, high school teachers' interest, the cultivation of intellectual independence scale, asking questions in class, asking questions in class when confused, approaching professor after class, going to professor's office with a question, going to professor's office for another reason, and the engagement scale. T-tests are most appropriate when the

dependent variable is measured at the interval-ratio level and the independent variable has two groups—in this case, FG and LI are the independent variables.

Finally, to test if FG students, LI students or students who had lower rates of cultivating intellectual independent are less likely to approach professors for assistance, an ordinary least squares (OLS) regression was used to regress the engagement with professors scale on the variables: FG, LI, Cultivation of Intellectual Independence scale, sex, U.S. born, race, living on campus, working for pay, problems with family, and high school teachers interest.

CHAPTER FOUR: FINDINGS

Who are the LI and FG Students?

Results indicate that the respondents' sex is not significantly related to whether a student was FG or not. However, the LI students in this data set are significantly more likely to be female students (61.99% F vs. 38.31% M; $p < .05$). Next, being born in the United States is significant for both FG and LI students. As shown in Table 2, both FG and LI students had 77.61% of students reporting being born in the U.S. and 22.39% born elsewhere ($p < .005$). This gap expands when looking at non-FG students (85.14% U.S. Born vs. 14.86% not) and non-LI students (85.95% U.S. Born vs. 14.05% not). This suggests that students that are FG or LI are more likely to be born abroad than their classmates.

In regards to race, this study had an almost equal amount of responses between each racial category with white respondents comprising 25.4% of the sample, black respondents at 26.8% of the sample, Latinx respondents at 23.3% of the sample, and Asian respondents making up 24.4% of the sample. However, as exhibited in Table 2, when these respondents are broken up by FG status or non-FG status, this even split changes. While non-FG students still maintain a similar split between racial categories (W=27.34%, B=26.07%, L=21.65%, & A=24.95%), FG students do not. Now, white respondents who have been identified as FG now only make up 10.86% of the sample, and both Black 28.54%, Latinx respondents increased to 39.14% and Asian respondents decreased to 21.46% of the sample.

Table 2: Chi-Squared Analysis: FG Status and Income Level

	FG		Non-FG		Total	LI		Non-LI		Total
Variable	N	%	N	%		N	%	N	%	
Sex										
Female	228	57.58%	2023	58.15%	2251	409	61.69%	1769	57.16%	2178
Male	168	42.42%	1456	41.85%	1624	254	38.31%	1326	42.84%	1580
Total	396		3479			663		3095		
Chi-Spare					2.929					4.604
Sig.					p=.231					p=.032
U.S. Born										
Yes	305	77.61%	2956	85.14%	3261	513	77.61%	2654	85.95%	3167
No	88	22.39%	516	14.86%	604	148	22.39%	434	14.05%	582
Total	393		3472			661		3088		
Chi-Spare					15.697					28.849
Sig.					p=.000					p=.000
Race										
White	43	10.86%	951	27.34%	994	62	9.35%	896	28.95%	958
Black	113	28.54%	907	26.07%	1020	267	40.27%	738	23.84%	1005
Latinx	155	39.14%	753	21.65%	908	208	31.37%	667	21.55%	875
Asian	85	21.46%	868	24.95%	953	126	19%	794	25.65%	920
Total	396		3479			663		3095		
Chi-Spare					229.012					169.851
Sig.					p=.000					p=.000
Living Arrangements										
On-Campus	372	97.38%	3225	97.76%	3597	617	97.17%	2876	97.76%	3493
Off-Campus	10	2.62%	74	2.24%	84	18	2.83%	66	2.24%	84
Total	382		3299			635		2942		
Chi-Spare					.729					.796
Sig.					p=.695					p=.372
Hours of Work										
<20 Hours	336	87.96%	3075	93.23%	3411	548	86.44%	2765	92.98%	3313
≥20 Hours	46	12.04%	223	6.76%	269	86	13.56%	177	6.02%	263
Total	382		3298			634		2942		
Chi-Spare					38.091					43.617
Sig.					p=.000					p=.000

Additionally, when looking at LI vs. non-LI respondents, non-LI respondents still maintained a similar split as before (W=28.95%, B=23.84%, L=21.55%, & A=25.65%). However, LI responses have an even more exaggerated split between racial categories than FG split. Now, between LI students, White students make up 9.35% of the sample, Black students make up 40.27% of the sample, Latinx students make up 31.37% of the sample and Asian students make up 19% of the sample. LI and FG students are significantly more likely to identify as either Black or Latinx ($p < .005$; $p < .005$).

Next, the respondents' living arrangements are not significantly related to either FG or LI status. This result is not surprising, due to many schools holding policies that require students to live campus for their first year. However, as seen in Table 2, working 20 hours a week or more did have significant results for both FG ($p < .005$) and LI students ($p < .005$). Of students who identified as non-FG, 93.23% work less than 20 hours a week while only 6.02% reported working 20 hours a week or more. Of Students who identified as FG, 87.96% reported working less than 20 hours a week while 12.04% worked 20 hours a week or more. This suggests that FG students are more likely to work at least 20 hours a week, an amount that researchers advise against (Engle & Tinto, 2008).

After, t-tests were used to examine the variables measured at the interval-ratio level. First, this analysis tested respondents reporting having problems at home with a family member, which has a range of 0-10 where zero indicates respondents no problems, and 10 indicates many problems. As exhibited in Table 3, this variable is not significantly related to whether the student was FG or non-FG; however, it is related to students' income level ($T=5.343$; $p < .005$).

Table 3: T-Tests: FG Status and Income Level

Variable	FG	Non-FG	N	LI	Non-LI	N
Problems with Family						
Mean	1.66	1.49		1.79	1.24	
Percent	37.05%	62.95%	1031	17.76%	82.24%	3576
T			1.034			5.343
Sig.			p= .301			p<.001
HS Teacher Interest						
Mean	3.21	3.35		3.33	3.41	
Percent	36.75%	63.26%	1075	17.67%	82.33%	3753
T			-2.715			-2.255
Sig.			p=.007			p=.024
CII						
Mean	18.9896	20.5630		20.2310	21.81175	
Percent	38.58%	61.42%	749	12.44%	87.56%	3167
T			-3.664			-5.008
Sig.			p<.001			p<.001
Ask Questions in Class						
Mean	3.86	4.09		4.17	4.08	
Percent	37.05%	62.95%	1031	17.75%	82.25%	3577
T			-1.435			.862
Sig.			p=.151			p=.389
Ask Questions in Class When Confused						
Mean	2.91	3.00		3.33	2.85	
Percent	37.05%	62.95%	1031	17.75%	82.25%	3577
T			-.510			4.012
Sig.			p=.610			p<.001
Approach after Class						
Mean	4.41	4.39		4.67	4.16	
Percent	37.05%	62.95%	1031	17.75%	82.25%	3577
T			.092			4.359
Sig.			p=.927			p<.001
Go to Office- Question						
Mean	3.79	3.91		3.85	3.49	
Percent	37.05%	62.95%	1031	17.75%	82.25%	3577
T			-.471			3.102
Sig.			p=.637			p=.002
Go to Office- Other						
Mean	1.80	1.79		1.87	1.56	
Percent	37.05%	62.95%	1031	17.75%	82.25%	3577
T			.070			3.258
Sig.			P=.944			p=.001
Engagement Scale						
Mean	16.7644	16.4407		17.8929	16.1387	
Percent	10.38%	89.62%	3681	17.75%	82.25%	3577
T			.631			4.283
Sig.			p=.528			p<.001

However, these means were not drastically different, with LI students being slightly more likely to indicate a problem with a family member (LI= 1.79; non-LI=1.24). Next, respondents rated the amount of interest their high school teachers exhibited for their students with a range of 1 (poor) to 4 (excellent). This variable is significantly related to both FG status ($T=-2.715$; $p< .05$) and LI status ($T=-2.255$; $p< .05$). Both LI students and FG students had only slightly lower means than their classmates. The CII scale, with a range of 0 (low cultivation of intellectual independence) to 48 (extremely high CII), is significantly related to both FG status ($T=-3.664$; $p< .005$) and LI status ($T=-5.008$; $p< .005$) with both FG and LI students having a lower CII mean than their classmates.

Engaging Authority Figures

Next, to gain a better understanding of the way these variables relate to engagement of authority figures, a regression with six different models was used. The first model tested the relationship between non-LI students and engagement. Next, model 2 included the variable for students FG status and Model 3 added in the CII scale. Then, Model 4 included the variables for female, U.S. Born, Black, Latinx, Asian, and living arrangements. Model 5 added the variables for hours of working for pay and problems with family. Finally, Model 6 added in the variable for HS Teachers interest.

As shown in Table 4, Model 1 shows a significant relationship between non-LI status and engagement ($F=4.877$, $p< .05$). Surprisingly, non-LI status shows a negative relationship ($B= -1.137$; $p< .05$) to the engagement scale. Therefore, in this sample, students whom families made more than $35,000 a year were less likely to report engaging with professors. Non-LI students

scored 1.137 points lower on the engaging authority figures scale compared to LI students.

Table 4 OLS Regression Results of Engagement of Authority Scale

	Model 1			Model 2			Model 3		
Variable	B	SEB	β	B	SEB	β	B	SEB	β
Non-LI	-1.137	.515	-.040*	-1.328	.532	-.047*	-1.396	.532	-.050**
Non-FG				.870	.609	.027	.694	.612	.022
CII							.071	.029	.045*
Female									
U.S. Born									
Black									
Latinx									
Asian									
Living Arrangements									
Hours working									
Problems w/Family									
HS-Teachers Interest									
N	2988			2988			2988		
F	4.877*			3.462*			4.306*		
R^2	.002			.002			.004		
Adjusted R^2	.001			.002			.003		
R^2 Change	.002			.001			.002		

p< .1[a] p< .05* p<. 005**

Model 2 is once again significant with F=3.462, p< .05 as shown in Table 4. Non-LI remains significant in this model (B= -1.328; p< .05), however non-FG is not significant. Model 3, as shown in Table 4, was significant (F=5.984, p< .05). In this model, non-LI remains significant (B= -1.396; p< .005) and FG is still not significant. The CII variable that was added to this model was significant (B= .071; p< .05) suggesting that, as predicted, individuals who scored higher on the CII scale are more likely to engage with authority figures. For every one unit increase in the CII scale, there is a .07 increase in the engaging authority figures scale.

Table 5: OLS Regression Results of Engagement of Authority Scale

	Model 4			Model 5			Model 6		
Variable	B	SEB	β	B	SEB	β	B	SEB	β
Non-LI	-.732	.530	-.026	-.697	.531	-.025	-.678	.530	-.024
Non-FG	.584	.607	.018	.611	.607	.019	.514	.607	.016
CII	.100	.030	.064**	.112	.030	.072**	.105	.030	.067**
Female	1.079	.338	.058**	1.023	.338	.055**	.987	.338	.053**
U.S. Born	-1.347	.478	-.053**	-1.340	.479	-.053**	-1.361	.478	-.054**
Black	4.083	.491	.182**	4.126	.491	.184**	4.161	.491	.185**
Latinx	1.054	.481	.048*	1.076	.482	.049*	1.100	.481	.050*
Asian	-.151	.478	-.007	-.144	.478	-.007	-.150	.477	-.007
Living Arrangements	.596	1.085	.010	.602	1.093	.010	.694	1.092	.012
Hours Working				-.395	.688	-.011	-.337	.688	-.009
Problems w/Family				.177	.075	.043*	.184	.075	.045*
HS-Teachers Interest							.527	.209	.046
N		2988			2988			2988	
F		13.956**			11.958**			11.512**	
R^2		.040			.042			.044	
Adjusted R^2		.038			.039			.041	
R^2 Change		.036			.002			.002	

p< .1[a] p<.05* p<.005**

Model 4, as shown in Table 5, was once again significant (F=13.956; p< .005). Starting with this model, non-LI loses significance. Additionally, non-FG, being of Asian descent, and the students living arrangements were all non-significant. The Variable for the CII scale remained significant (B=.100; p< .005). The variable for female students was significant (B=1.079; p< .005). Female students are predicted to score 1 point higher on the engaging authority figures scale compared to male students controlling for all other factors; suggesting that female students were more likely to engage authority figures. The U.S. Born variable is significant (B= -1.347; p< .005) suggesting that students born in the U.S. had lower rates of engaging authority figures. Both

being Black (B= 4.083; p< .005) and Latinx (B= 1.054; p< .05) were both significantly related to higher engagement of authority figures with both Black and Latinx students being more likely to engage authority figures.

Next, Model 5, as shown in Table 5, is significant (F=11.958; p< .005). Once again, non-LI, FG status, being Asian or living arrangements are not significant. Additionally, the first new variable added to this model, hours of paid work, is not significant. The second new variable for this model, Problems with Family, is significant (B=.177; p< .05) suggesting that students that report problems with their family are more likely to engage authority figures. For every one unit increase in family problems, there is a .177 increase in the engagement of authority scale. The variables for CII (B=.072; p< .005), Female (B=1.023; p< .005), U.S. Born (B= -1.340; p< .005), Black (B=4.126; p< .005), and Latinx (B=1.076; p< .05) remain significant in this model. Finally, Model 6, as shown in Table 5, is significant (F=11.512; p< .005). Once again, non-LI, non-FG, being Asian, living arraignment, and hours of work are not significant. Additionally, the new variable added to this model, High School Teacher exhibiting interest in students, was not significant. The variables for CII (B=.105; p< .005), Female (B=.987; p< .005), U.S. Born (B= -1.361; p< .005), Black (B=4.161; p< .005), and Latinx (B=1.100; p< .05) and problems with family (B=.184; p< .05) remain significant in this model.

CHAPTER FIVE: DISCUSSION AND CONCLUSION

Once again, this analysis is attempting to fill in the gaps in the literature surrounding FG and LI students' engagement of authority figures by looking at a possible relation between LI and FG students, engagement of authority figures, and CII. More specifically: Is there a difference between FG students, LI students, and their peers in cultivating intellectual independence while in High school? And Are FG students, LI students, or students who have lower rates of CII less likely to engage professors during their first year of college when compared to their peers? This analysis contained many surprising results.

In regards to the first question, "Is there a difference between FG students, LI students, and their peers in cultivating intellectual independence while in High school," the results of a bivariate analysis seems to suggest that FG and LI students have a slight disparity in CII. This means that LI and FG students are more likely to respond affirmatively to: Mother/ Father Thought You Shouldn't Argue With Adults, Mother / Father Thought You Should Give In On Arguments Rather Than Make People Angry, Mother/Father Thought She/he Was Always Right And That I Shouldn't Question Her/ Him, Whenever I Argued With Her/ Him, and She/ He Said, "You'll Understand When You Grow Up."

Next, this analysis asked "Are FG students, LI students, or students who have lower rates of CII less likely to engage professors during their first year of college when compared to their peers?" This questions garnered some interesting results. Bivariate analysis shows that FG status was not correlated to engagement of professors, and, while LI status is, not only is there not a drastic mean difference but the mean difference that is there seems to suggest that LI students are more likely to engage authority figures than their peers. These results contradicts the previous

literature, that suggests that FG and LI students resist engaging authority figures (Arnold et al., 2009; Castleman et al., 2012; Collier & Morgan, 2008; Deil-Amen & Rosenbaum, 2003; Jack, 2014; Jack, 2016; Stephens et al., 2014).

Once these variables were plugged into an OLS regression, more surprising results appeared. Once again, being non-FG was not related to engagement of authority figures. Non-LI status once again showed that it was negatively related to engagement suggesting that non-LI students were less likely to engage authority figures than their LI Classmates and this effect completely disappeared when the variables for female, U.S. Born, Black, Latinx, Asian, and living arrangements were added to the model. This once again goes against literature that suggest FG and LI students are uncomfortable engaging with authority figures (Arnold et al., 2009; Castleman et al., 2012; Collier & Morgan, 2008; Deil-Amen & Rosenbaum, 2003; Jack, 2014; Jack, 2016; Stephens et al., 2014). The CII scale, as predicted, was a significant predictor of engagement of authority figures. Therefore students with higher scores on the CII scale were more likely to score higher on the engagement scale.

A few of the other variables provided additional surprising results. First, the variable for female students was significantly positively related to engagement. This suggests that female students are more likely to engage with their professors than their male counterparts. This, seems to contradict previous literature that suggests male students tend to take over classroom conversations (Columbia University, n.d.). However, this analysis is mainly looking at students speaking up when they are confused which could mean male students are still dominating the classroom. Next, the variable for being born in the U.S. had a significant negative relationship to engagement. This suggests that student born outside of the U.S. are more likely to engage with

their professors.

The variables associated with race provided additional surprising results. While being Asian was not significant when compared to Whites, Black and Latinx students where more likely to engage authority figures than their white classmates. ~~This suggests that both Black and Latinx students are more likely to engage with professors than their white classmates.~~ This once again seems to go against previous research that suggests minority students are less likely to reach out to professors or other authority figures for help (Falconer & Hays, 2006; Murray & Mosidi, 1993; Owens, Lacey, Rawls, & Holbert-Quince, 2010). This may be due to the sampling method utilized by this data set. As noted in Table 1, this data set had almost equal quantities of participants from each racial group. This, however, is not representative of actual racial dispersions among college students (Musu-Gillette et al., 2016). In order to achieve the same dispersion seen in this data set the researchers who collected this data oversampled at HBCU's. Previous literature suggests that minority students are more likely to reach out to authority figures when they are given access to minority faculty members or faculty members that they can identify with (Falconer & Hays, 2006; Murray & Mosidi, 1993; Owens et al., 2010; Williams et al., 2016). Minority students attending HBCU's are going to have better access to advisors and professors that with whom they can identify.

These results could explain the non-LI variable losing significance. As shown in Table 2, a Chi-Squared analysis revealed a more pronounced split between LI and non-LI students. While non-LI students maintained an almost even split between racial groups, LI students are significantly more likely to identify as either Black or Latinx. Not only does this shed some light on non-LI losing its significance, but also offers a possible explanation for why non-LI is

positively related to engagement even though this goes against previous literature (Arnold et al., 2009; Castleman et al., 2012; Collier & Morgan, 2008; Deil-Amen & Rosenbaum, 2003; Jack, 2014; Jack, 2016; Stephens et al., 2014).

The variables associated with living arrangements and working 20 hours a week or more are not significant in any of the models. Even though the literature states that both of these variables are factors in engagement (Blustein et al., 2013; Deil-Amen & Rosenbaum, 2003; Engle & Tinto, 2008; Stebleton & Soria, 2012), it is not surprising that they were non-significant in this analysis. First, in regards to living arrangements, the data from this study were retrieved from students during their freshmen year of college, and many universities require first-year students to live on campus during their first year (Grove, 2017). This is further backed up in the frequency analysis shown in Table 1, where the vast majority of the sample reported living on campus. Along the same lines, only a small number of the respondents reported working 20 hours a week or more. This may be due to respondents coming from elite schools.

The final two variables added to the analysis provided additional surprising results. Respondents reporting problems with their family had a significant positive relationship to engagement with authority figures. This suggests that students who are reporting problems with their family are more likely to engage with authority figures. This seems to go against literature that blames family obligations as reasoning for students not engaging authority figures (Blustein et al., 2013; Deil-Amen & Rosenbaum, 2003). Finally, respondents view on if their high school teachers showed interest in their students was not related to engagement. This once again contradicts previous research that has shown attention paid to students in high school can affect engagement with professors once in college (Jack, 2016).

While this analysis provided us with a number of interesting results it also had a number of limitations. First, this is a cross-sectional study, and therefore we are unable to look into if these behaviors hold over time. While the data set that was used does follow the students through their educational career and therefore is a longitudinal data set, it does not ask the same questions in every wave. However, even though longitudinal results are ideal, the cross-sectional results that are provided are still significant. Additionally, this data set only drew respondents from elite institutions and oversampled at HBCU's. Therefore, further research needs to be done to make these results more generalizable to students who attend non-elite institutions. Furthermore HBCU's attract a particular type of student (Freeman & Gail, 2002) and provide students with an atypical atmosphere when compared to predominately white institutions; for example, providing students with access to minority faculty member they can identify with (Falconer & Hays, 2006; Murray & Mosidi, 1993; Owens et al., 2010; Williams et al., 2016). This may have led to some of the surprising results this study obtained in regards to race. Finally, these results rely upon students self-reporting their behaviors instead of research observing their behaviors. This could potentially lead to errors in recall (Bradburn, Rips, & Shevell; 1987).

Even with these limitations, these findings still provide us with a better understanding of the ways in which inequalities are reproduced in educational institutions and items that need to address. Engagement with authority figures is an essential aspect of college and post-graduate success. Not only can engaging authority figures assist students with their coursework, but it can also assist in overcoming the numerous bureaucratic hurdles associated with educational institutions (Deil-Amen & Rosenbaum, 2003) and success in students post-graduate life (Jack, 2016; Williams et al., 2016). These results offer additional pieces of the puzzles regarding the

engagement. When the factors affecting students' engagement are better understood than educational institutions will be able to develop interventions that address this issue. For example, what makes this analysis different from previous research? Why do these findings contradict what others have found? Further research is needed to understand these questions better. Moreover, if the reasoning behind these disparities is, as hypothesized above, due to institutional characteristics, what can we learn from this? What are the specific policies at these elite universities that are accomplishing this? Once more information is obtained, programs can be created to either promote students engagement or to assist in restructuring academia in a way where student engagement is not so heavily depended upon.

As state by Tinto (2012, p. 4) "… retention should not be the ultimate goal of institutional action, though it may be a desirable outcome of institutional efforts. Instead, institutions and students would be better served if a concern for the education of students, their social and intellectual growth, were the guiding principle of institutional action. When that goal is achieved, enhanced student retention will naturally follow." When educational institutions can better serve their students, they will see higher success rates. Understanding the specific mechanisms and behaviors that affect disadvantaged students, such as avoidance of engagement of authority figures, will assist educational institutions in developing programs and policies that will help them to serve disadvantaged populations better.

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