

# The Relationship of Academic Self-efficacy, Goal Orientation, and Personal Goal Setting among High School Students

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**Abstract:** *Social-cognitive career theory (SCCT, Lent, Brown, & Hackett, 1994) indicates that the constructs of self-efficacy, outcome expectations, and goal setting represent personal agency in the career domain, mediate experiences and personal traits, and drive career-related behaviors. The purpose of this study is to examine the relationship among high school students' academic self-efficacy, goal orientation (performance and mastery goals), and their personal goal setting such as career aspirations and university choices. A total of 63 high school students participated in the quantitative study and four college mentors who worked with these students participated in the one-hour length interviews. Quantitative results showed that self-efficacy and goal orientation are significantly related and both of them are associated with students' personal goal setting. Qualitative results showed that parents and siblings influence students' self-efficacy as well as their goal setting. Limitations and implications are discussed as well.*

**Keywords:** *Academic self-efficacy, Goal orientation, Personal goal setting, High school students*

## 1. Introduction

Research about career goal-setting has increased over the past two decades (Hackett & Betz, 1995; Creed et al., 2011; 2013), largely due to the development of social-cognitive career theory (SCCT, Lent, Brown, & Hackett, 1994). SCCT indicates that the constructs of self-efficacy, outcome expectations, and goal setting represent personal agency in the career domain, mediate past experiences and personal traits, and drive career-related behaviors. Lent et al., (1996) described these three elements—self-efficacy, outcome expectations, and goal setting—as the building blocks of career development. People applied this theoretical approach to understand the processes of formulating vocational and career interests, choices, and goals (Lent et al., 1996). Since career aspirations are important for individuals' life paths, investigating career goal setting from the perspectives of self-efficacy and goal orientation could be beneficial for extending our understanding of how high school students set career goals and self-regulate to reach them.

Several research reports confirm the important role of self-efficacy on personal career goal-setting. (Bandura, 1997; Betz & Hackett, 1986; Hackett & Betz, 1995; Lent, Brown, & Hackett, 1994). Betz and Hackett (1986) indicate that students with higher academic self-efficacy will seriously consider wider career options, gain greater interests, and put more effort into preparing for their careers during their time in school. According to Holland (1997), perceived self-efficacy predicts career choice and persistence of occupational pursuit when controlling for personality. Despite the variety of personal ability levels, previous academic achievement, and vocational interests, self-efficacy predicts career goal-setting and the level of mastery of educational requirements (Brown, Lent, & Larkin, 1989; Lent, Lopez, & Bieschke, 1993). However, none of this research investigates the relationship between academic self-efficacy and personal goal setting of career and college choices. Thus, the purpose of this research is to examine the relationship among high school students' academic self-efficacy, goal orientation (performance and mastery goals), and their personal goal setting for college as well as career. In the following sections, literature reviews of each construct, and their relationship will be illustrated.

### 1.1. Self-efficacy

Consistent with SCCT (Lent, Brown, & Hackett, 1994; Lent et al., 1996; Lent, Lopez, & Bieschke,

1993), I consider self-efficacy and goal orientation as antecedents to career aspiration and college major preferences. Self-efficacy refers to an individual's beliefs about their capacity to complete a task successfully (Bandura, 1997; Lent, Brown, & Hackett, 2000). It is the belief in one's ability to produce the effects or outcomes one wants (Bandura, 1997). Self-efficacy generally relates to individuals' convictions in their own competence to attain desired goals in particular domains (Bandura, 1997; Galla & Wood, 2012). Self-efficacy is a set of self-beliefs specific to different areas of functioning; and it is considered a domain-specific concept as no person can feel competent at all tasks (Bandura, 1997; Maddux, 1995; Valentine, DuBois, & Cooper, 2004). Domain- or task-specific self-efficacy has been shown to be a better predictor of actual behavior than general feelings of efficacy (Bandura, 1997; Multon, Brown & Lent, 1991; Valentine et al., 2004; cited in Carroll et al., 2009). In this research context, self-efficacy focuses on academics (defined below) since the researcher in this study assumes that most high-school students will choose their future major and career based on the current situation, which is the high-school academic situation. Due to time limitations, the current study could only apply one short questionnaire which investigates students' general academic self-efficacy, goal orientation, and personal goal-settings.

The construct of self-efficacy influences individuals' personal (cognitive, biological, and affective) functions and behaviors in a specific environment (Bandura, 1997; Amtmann et al., 2012). Additionally, personal beliefs of individuals' own abilities to succeed will also influence the amount of effort expended, the extent of stress experienced, the actions people choose to pursue, the degree of persistence when they encounter difficulties, their resilience to adversity, the level of depression and stress they experienced, and the level of accomplishments they realize before actions (Bandura, 1997; Bandura et al., 2001; Amtmann et al., 2012).

There are several types of self-efficacy are studied by researchers, but the type most frequently discussed in the educational literature is academic self-efficacy. Specifically, academic self-efficacy refers to "personal judgment of one's capabilities to organize and execute courses of action to attain designated types of educational performances" (Zimmerman, 1995, p.203). It measures children's perceived capability to judge their own learning, master academic subjects, and fulfill personal, parental, and teacher's academic expectations (Carroll et al., 2001). According to previous studies, academic self-efficacy has a direct positive relationship with academic achievement (e.g., Bandura et al., 2001; Chemers, Hu, & Garcia, 2001). Also, since previous studies (Armum & Chellappan, 2015) showed that female students' emotional self-efficacy is significantly different from male students, this study tries to identify the differences between genders. However, only a few studies illustrate the influence of academic self-efficacy on students' decision making in the important areas of college choice and career aspiration (Bandura et al., 2001; Lent, Lopez, & Bieschke, 1991). Thus, this study will explore the relationship between academic self-efficacy and personal goal setting among high school students.

### ***1.2. Goal Orientation and Goal Setting***

Considerable research about goal orientation has been conducted (e.g., Daniels et al., 2008; Payne et al., 2007). Particularly, specific goal orientation preference directly affects goal setting and goal-striving behaviors (e.g., Payne et al., 2007; Utman, 1997). Meanwhile, goal orientation has been characterized as an antecedent to task specific efficacy (e.g., academic self-efficacy, and career self-efficacy) and expectations of success (Payne et al., 2007; Valentini & Rudisill, 2006). Importantly, Creed et al. (2011, 2013) reported that goal orientation could be a precursor to career aspirations in high school students since it was related to several career variables, such as career exploration and career decision-making among university students.

Much research categorizes goal orientation as either mastery or performance (VandeWalle, 1999; Pintrich, 2000). In a mastery goal orientation, individuals are willing to improve their personal competence and enjoy this enhancement of ability. Meanwhile, people with a performance goal orientation demonstrate their ability and achievements with others and experience more stress. Research shows that students who have a mastery goal orientation are more engaged in study and feel enjoyment and satisfaction (Ames & Archer, 1988; Roebken, 2007). Conversely, even when students with a performance orientation have higher academic achievements than students with a mastery orientation, they don't define these achievements as successful but suffer a higher level of stress and anxiety in school (Daniels et al., 2008). Additionally, while mastery students experience a higher level of enjoyment and low boredom, performance students report lower enjoyment and high boredom (Daniels et al.). While a mastery goal orientation encourages individuals to set and work towards goals that are personally valued and challenging, a performance goal orientation will lead individuals to set

higher goals, especially where success is likely, as this can elicit positive feedback from others (Sawitri & Creed, 2015). Furthermore, several pieces of research (Payne et al., 2007; Daniels et al., 2008; Roebken, 2007) indicate that students will make different choices about their future based on goal orientation, however, my literature review revealed no research illustrating the relationship between goal orientation and future goal setting among high school students. Thus, the current study will examine how academic self-efficacy influences students' career and college choices.

Studies found that both perceived self-efficacy and goal orientation play important roles in personal goal setting (Zimmerman, Bandura, & Martinez-Pons, 1992). In the present study, goal setting refers to a process in which students think about goals for their future life—such as enrolling in college or getting involved in a particular career field—and motivate themselves to achieve these goals. Research shows that parents, self-efficacy, and personal value will influence individuals' goal setting (Zimmerman, Bandura, & Martinez-Pons, 1992). However, there is no research providing a conceptual framework for the interactions among academic self-efficacy, goal orientation, and decision making regarding future college and careers among high school students.

In the career area, however, studies in both individualist (i.e., Western) and collectivist (e.g., Indonesia, the Philippines) contexts show that mastery goal orientation is positively associated with career-related variables (Creed, Fallon, & Hood, 2009; Lee et al., 2003). Specifically, studies in individualist contexts reveal positive or null associations between a performance approach and career outcomes of exploration, aspirations, and self-efficacy (e.g., Creed, Fallon, & Hood, 2009). In collectivist countries, both mastery and performance goal orientation predict positive outcomes in the academic domain, such as better grades and performance on exams (Lee et al., 2003). However, the relationship between goal orientation and career choices among high school students have not been documented. Therefore, the current study aims at investigating the relationship between self-efficacy, goal orientation and career aspiration and college aspiration (defined as a desire to apply to a certain college) among high school students.

### ***1.3. The Adolescent Developmental Context***

Adolescence is a special and critical period of human development in the context of both school and home (Paulson, 1994; Steinberg and Silk, 2002). Specifically, adolescents begin to develop their self-concept (Harter, 1983) and are eager to build up the connections among family, peers, and external society (Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). In other words, the events that happen during the period of adolescence might affect people's future life choices. Several theories and models have been discussed regarding the relationship between self-efficacy and goal setting (see above). Some studies mention high school students' career aspirations (Hackett & Betz, 1995; Garcia et al., 2012; Creed et al., 2013; Durik, Vida, & Eccles, 2006). Specifically, Hackett and Betz (1995) indicated that self-efficacy predicted students' college major and career choices. Students who have higher levels of self-efficacy in career decision-making and academic performance are more inclined to choose challenging careers and college majors. As proposed by self-efficacy theory (Bandura, 1997), self-efficacy could be a significant predictor of individuals' level of career decision. However, some research indicates that career aspirations among high school students have no relationship with intrinsic value but instead positively correlate with utility value (Durik, Vida, & Eccles). In this case, intrinsic value refers to valuing a task since it is involving and enjoyable while utility value means the practical significance of a task and eager to fulfill it (Durik, Vida, & Eccles; Deci & Ryan, 1985). In other words, when considering future career options, these adolescents were less likely choose jobs that they might enjoy doing but more likely to choose some practical jobs with higher salaries. This research tries to identify the relationship between academic self-efficacy, goal orientation, and career goal setting.

Meanwhile, the current study aims at identifying which elements might influence career and college goal settings other than these self-concepts among first-generation college students in particular. The general definition for "first-generation college student" is "a student with neither parent having any education beyond high school" (Ishitani, 2006). In this study, the student participants are defined as first-generation college students with "neither parent having received a college degree." Based on the National Center for Education Statistics, 30% of currently enrolled college students are low income, first-generation students (Choy, 2000), and nearly 90% of these students could not finish college due to several reasons. Specifically, their parents are not able to guide them or provide enough resources during the process of college application as well as offering academic preparation suggestions. Even though first-generation students have more difficulties while pursuing postsecondary experiences, the rates of aspiration of attending college among these first-generation are equal to their higher income peers whose parents have a college degree (Dennis, Phinney, & Chuateco, 2005).

As mentioned above, self-efficacy, goal orientation, and goal setting have been studied by several researchers separately (see above). However, the relationship among high school students' self-efficacy, goal orientation, and goal setting (career decision-making, and major preference) has not been systematically examined, particularly in first-generation college students. Therefore, this study is guided by the following research questions. The research questions guiding the quantitative study are:

a) What is the relationship between academic self-efficacy, goal orientation, and high school students' college and career goal setting?

b) What factors influence high school students' college and career goal setting?

And the research question guiding the qualitative study is:

c) How do experienced college mentors perceive the relationship among academic self-efficacy, goal orientation, and high school students' college and career goal setting?

### ***1.3.1. Hypotheses for Quantitative Study:***

a) Students with higher academic self-efficacy and with mastery goals prefer to choose the top universities and challenging careers (both based on the U.S. News and World Report rankings) based on their interests.

b) Students with higher academic self-efficacy and with performance goals prefer to choose top universities but well-paid careers (both based on the U.S. News and World Report rankings).

c) Students with lower academic self-efficacy and with mastery goals prefer to choose community colleges and lower tier universities but challenging careers (both based on the U.S. News and World Report rankings).

d) Students with lower academic self-efficacy and with performance goals prefer to choose community colleges and lower tier universities and well-paid careers (both based on the U.S. News and World Report rankings).

## **2. Methods**

In order to better understand the relationship among academic self-efficacy, goal orientation, and high school students' personal goal setting from different perspectives, this research used a sequential mixed methods design, engaging two different groups of participants. First, quantitative data on self-efficacy, goal orientation, and goal setting were gathered from students' self-report surveys. After an exploratory analysis of the basic descriptive results of these surveys for trends, qualitative data were gathered by conducting four hour-length interviews with four expert practitioners (college students work as mentors) who work closely with high school students as they set their college and career goals in the Learning Assistance Program (LAP, pseudonym for the program).

### ***2.1. Design***

In this explanatory convergent mixed methods design (Creswell, 2016), quantitative data and qualitative data were collected and analyzed separately, but interpreted as integrated. It was necessary to use a mixed methods approach since the quantitative survey data from high school students could not alone explain the reasons for students' career aspirations and college choices. The qualitative data helped to enrich the understanding of the processes of personal goal setting through mentors' perspectives on their weekly routine conversations with LAP students.

#### ***2.1.1. Sites and Participants***

LAP serves as the college preparatory program of a mid-Atlantic university. With over 1,600 students who have graduated from the program, LAP provides access to educational resources for middle and high school students who would be the first in their families to attend a college or university. Currently, more than 600 enrolled students are actively pursuing higher education due to funding from corporate alliances, individual donors, and partnerships with seven local public school systems in the mid-Atlantic area. LAP seeks to empower students to achieve their goal of attaining higher education. This program provides year-round academic enrichment, personal and social development, civic engagement, and leadership training opportunities. With help from the LAP mentors, students gain assistance with academics, career, and personal and social achievements. Most LAP students come from immigrant families, most of whom struggle financially or in terms of adapting to a new culture.

The program aims to offer them the assistance they need to succeed academically in high school and find their way to into colleges or careers in the future.

Junior and senior high school students who are involved in the LAP were the target population of the quantitative sample for this study. All participants are first-generation college-bound high school students, and have basic knowledge about college and career choices through previous LAP college-prep events. Due to this experience, the researcher assumes that they have already thought about their college and career choices at least somewhat prior to participating in this study. A total of 75 students participated and 63 of them completed all items on the questionnaire. The remaining incomplete 12 questionnaires were dismissed. Demographic information for participants is displayed in the Table 1 and Table 2 below.

Beyond the quantitative survey, the researcher conducted interviews with these first-generation students' mentors, who are current college students, know their mentees pretty well through routine conversation, and have worked with LAP students from one to three years. A total of four college student mentors who work for LAP as student success coaches (see Table 2 below) were recruited for the qualitative sample. Two of the mentors are senior students majoring in psychology and communication respectively and the other two are pursuing master's degrees in counseling at the university where the program is housed. They all have been assigned as student success coaches and have had several chances to talk to the students assigned to them individually. Also, these mentors' position responsibilities are helping students to regulate their academic behaviors, guiding them to pursue their goals, and assisting students to cope with personal relationships in both school and family settings. Thus, all coaches who participated in this study knew their students' academic situations, personal concerns, and expectations about the future quite well.

## 2.2. Data Sources

### 2.2.1. Demographic information

Participants were administered a survey asking for personal information about gender, age, grade, race and the name of their school. The purpose of collecting demographic information is to draw a descriptive picture of this sample population and ensure that differences among participants were not due to any demographic factors.

*Table 1: Students' Demographic Background Information.*

<i>Category</i>	<i>Background Information</i>
<i>Grade level</i>	11-12
<i>Age</i>	15-18
<i>Gender</i>	45 F; 18 M
<i>School</i>	4 High Schools in the Mid-Atlantic area
<i>Race</i>	90% Latino, 3% Asian, 7% Caucasian

*Table 2 : Mentors' Demographic Background Information.*

	<b>Mentor C</b>	<b>Mentor M</b>	<b>Mentor W</b>	<b>Mentor Y</b>
<b>Grade level</b>	Junior	Senior	Senior	Master
<b>Age</b>	21	22	22	28
<b>Major</b>	Communication	Global Affair	Justice Science	Counseling
<b>Gender</b>	Female	Female	Male	Male
<b>Race</b>	Latino	African American	Latino	Asian

### 2.2.2. Academic self-efficacy

All participants were asked to complete the subscale of The Children's Multidimensional Self-Efficacy Scales (Zimmerman, Bandura, & Martinez-Pons, 1992). This self-rating scale was created for high school students to assess their academic self-efficacy across multiple subjects and their self-efficacy of self-regulatory learning strategies. An example item is "How well can you organize your school work?" The survey uses a 6-point Likert-type scale ranging from 6 (very well) to 1 (not well at all). The internal consistency reliability in the past has been  $\alpha = .87$  (Zimmerman, Bandura, & Martinez-Pons, 1992). In this study the reliability was  $\alpha = .83$ . Students finished this questionnaire in 5-10 minutes. There were a total 11 items in the self-efficacy scale.

### 2.2.3. Goal orientation

Students reported their goal orientation with the Goal Orientation Scale (VandeWalle, 1997). It was scored using a 7-point Likert-type scale, ranging from 7 (strongly agree) to 1 (strongly disagree). Items

like "I am willing to select a challenging work assignment that I can learn a lot from" and "I often look for opportunities to develop new skills and knowledge." are included in the scale. The internal reliability in the past was  $\alpha = 0.87$  (VandeWalle, 1997). In this study the reliability was  $\alpha = .86$ . There were a total of 5 items in the goal orientation scale.

#### **2.2.4. College and career choices**

In order to understand high school students' choices of college and career, they were asked to report at least 3 colleges that they are going to apply for and to answer the open-ended question, "Which careers you will choose in the future?"

#### **2.2.5. Mentor interviews**

The researcher conducted interviews with four first-generation students' mentors, who are current college students, know their mentees pretty well through routine conversation activities, and have worked with similar students from one to three years. A semi-structured interview protocol was applied. Most questions are related to mentors' perception of their students' self-efficacy, goal orientation, and college application as well as career choices. Example questions are: Generally, how well do you think your students can understand their class materials in a school setting? Could you give me some specific examples of specific students (without using their names)? If it varies from student to student, why do you think it does? Interviews lasted between 45 and 85 minutes.

### **2.3. Procedures**

After permission was obtained from the LAP office and the university's Institutional Review Board, the researcher invited all target first-generation college high school students (juniors and seniors enrolled in the program) and their parents to participate in this study. Before they came to the parent meeting, each target student and their parent who agreed to participate needed to sign an assent/consent form and read through the survey instructions. The participants were asked to complete a questionnaire about self-efficacy, goal orientation, and goal setting in 5-10 minutes. The researcher numbered every collected questionnaire and checked if it was completed appropriately.

For the qualitative portion of the study, a total of eight Student Success Coaches (Mentors) in the LAP were invited to participate. Four of them agreed to finish the one-hour interview with the researcher and signed the consent form. A semi-structured interview protocol was used.

### **2.4. Data Analysis**

For quantitative analysis, basic descriptive statistics, t-tests, and an ANOVA of the survey data were run using SPSS version 23. These analyses were used to explore whether there was a difference in self-efficacy and goal orientation by gender, grade level, or school.

For qualitative analysis, the mentor interviews were coded first with open coding, where several themes were identified. Then axial coding was used to separate themes into categories. The last step was to integrate themes by selecting codes based on purpose. For example, every time mentors mentioned how students choose their careers, the researcher color-coded the sections as Goal Setting and put his/her words into a Career Aspiration category (see below for categories). That is to say, after open coding, the researcher categorized the themes based on the research topic and organized the detailed interviews into different categories according to the keywords mentors used.

## **3. Results**

In the results, the quantitative and qualitative results will be displayed separately, but later, in the discussion, the results will be integrated.

### **3.1. Quantitative Results**

Descriptive statistics of the means and standard deviation of the constructs are presented in Table 2. All participants are aged from 15-18 with a mean age of 16.5 (standard deviation = .59) and 45 (71.4%) of them are female students. Self-efficacy was assessed with a 11-items instruments (Zimmerman, Bandura, & Martinez-Pons, 1992; see Appendix I). The internal reliability, Cronbach alpha, was proved to be highly reliable. The coefficient is .87 based on the previous study (Zimmerman, Bandura, &

Martinez-Pons, 1992). Goal orientation was assessed with a 5-items subscale of the goal orientation instrument (VandeWalle, 1997; see Appendix I). A 7-point Likert-type response scale, ranging from 7 (strongly agree) to 1 (strongly disagree), was used for each item. There is no significant difference between current study and previous studies' results in terms of the mean values of self-efficacy and goal orientation. A previous study (Armum & Chellappan, 2015) showed that female students' emotional self-efficacy is significantly different from male students. However, in the current study, results showed that there is no difference between girls and boys about academic self-efficacy.

Table 3: Descriptive Measures of Students' Demographic Information.

	Min	Max	Mean	S.D.
Grade	11	12	1.44	.50
Age	15	18	16.46	.59
Gender	1 (Male)	2 (Female)	1.29	.46
Race	1 (Latino)	3 (Caucasian)	1.63	.43
Self-Efficacy	32	65	50.19	6.48
Goal Orientation	17	25	22.84	2.16

### 3.1.1. Factor Analysis

The current study used SPSS version 23 to conduct an exploratory factor analysis of the fit of the data to the hypothesized one-factor model. For the academic self-efficacy subscale, 9 out of 11 items fell into one factor and the other two items (How well can you take class notes of class instruction? and How well do you think you can get a high GPA through your high school?) were cross-loaded on to both factors. According to the result of this exploratory factor analysis, this self-efficacy subscale was limited to 9 items instead of 11. In terms of the goal orientation scale of mastery goal, all 5 items loaded on the same factor which is consistent with the previous study (VandeWalle, 1997).

Table 4: Correlation Among Gender, Age, Self-Efficacy, and Goal Orientation.

	Gender	Age	Self-Efficacy
Gender	1		
Age	.163	1	
Self-Efficacy	-.013	-.183	1
Goal Orientation	.096	-.271*	.270*

Note: \*  $p < 0.05$ .

Based on the correlation results (Table 4), the positive relationship between self-efficacy and goal orientation is significant ( $r = .27$ ,  $p < .05$ ). The relationship between goal orientation and age is significantly negative ( $r = -.27$ ,  $p < .05$ ). Different from Armum and Chellappan's (2015) study, there is no difference between gender and self-efficacy, or goal orientation among these high school students.

### 3.2. Qualitative Results

Qualitative analysis revealed five different themes, some etic (self-efficacy, goal orientation, and goal setting), and some emic (concerns and family influence). These identified themes were sorted into the identified subcategories presented in Table 4.

Table 5: Synopses of Identified Themes.

Themes	Subcategories	Examples (Mentors' Perspective)
Self-Efficacy	GPA	Students want to bring up their grades by working harder or staying after school with teachers.
	High School	Most students mentors work with are confident they will graduate from their high school.
	Top University	Only a few students are going to apply for top universities.
Goal Orientation	Mastery Goals	A student really likes Biology and she always read related books after finishing her homework.
	Performance Goals	Most students just want to pass the classes and graduate from high schools.
Goal Setting	College Application	Students prefer to apply for in-state colleges.
	Major Choices	Many students will choose STEM areas.
	Career Aspiration	Boys prefer to be an engineer, a doctor, or a lawyer. Girls prefer to work in fields of social science, the arts, and medicine.
Concerns	Finance	Students could not afford their college tuitions.
	Resource	Students do not know where to start their college application processes.
Family Influence	Parents' Expectation	Some students have conflicts between parents' expectations and their own interests.
	Order of Birth	The oldest child will behave better than younger siblings while younger sibling have better grades than older kids

In the sections below, I will discuss each of these themes in detail.

### **3.2.1. Self-Efficacy**

Based on the interviews, mentors believe that students have high self-efficacy for graduating from their current high school. However, mentors noted that only some students thought that they would be able to get a high GPA or get into a top university. Typically, students prefer to apply to in-state universities, especially the university that hosts the program because of the LAP priority policy (LAP students could get access to the host college with a lower GPA compared with students who are not in the program. Also, they might be able to gain a scholarship with a 3.5 relatively low) GPA if they attend all mentoring sessions through this 5-year program), when they consider the tuition of the university. For instance, as Mentor M said, "Most of my students are going to apply to In-State University #1, In-State University #2, and the host university due to the tuition and LAP scholarship. The only reason that they want to go to other states is to stay far away from their families." Mentors say that only a few students are going to apply to top universities out-of-state and hope to get enough scholarship money in this case. Specifically, according to mentor W, "One of my students wants to apply for Harvard and scholarship since she has 4.2 GPA and really excellent resume." One mentor indicated that more girls apply for colleges than boys and girls apply to more colleges than boys in general because, according to her, girls have higher self-efficacy than boys.

### **3.2.2. Goal orientation**

All mentors indicated that the majority of their students were performance goal-oriented while only a small portion of the high school students had mastery goals. For example, Mentor C said that, "The majority of my students prefer to set their goals as graduate from high school, pass the class, or bring up their grades in order to stay in the LAP." She continued: "I knew one student who has strong mastery goals. She likes Biology and always read books related to biology after finishing her homework. And her GPA is good as well." Additionally, Mentor W indicated several times that most of his students want to study STEM (science, technology, engineering, and math) because these students want to earn more money in the future. Even though most of the students are interested in sports, arts, or social science, according to mentors, high school students in LAP are concerned more about financial aspects than their own interests in terms of choosing colleges and careers.

### **3.2.3. Goal setting**

In terms of college major choices and career aspiration, mentors maintain that boys prefer to choose STEM fields while girls prefer to get involved in the humanities or arts. Specifically, three mentors mentioned that most of their students wanted to do something related to the Computer Science, Engineering, and Medical fields. And Mentor C provided more details that, "boys prefer to choose STEM because they want to earn a lot of money while girls tend to choose Communication, Psychology, or Arts based on their interests or previous personal experiences."

### **3.2.4. Concerns**

Generally speaking, as first generation college students, most participants confessed their concerns to mentors. Particularly, mentors spoke several times about students' financial problems and limited resources. For example, mentor M said that, "many students might choose to go to a community college instead of a university even if they get the offer from a nice university because they are not able to pay the huge amount of tuition." Also, in terms of the limited resources these first generation college students have, mentors said that students tend to experience fear and anxiety when they have to start their college application processes since their parents cannot offer any help in this specific situation.

### **3.2.5. Family**

All four mentors emphasized the influences of students' parents and families. Mentor Y said, "One of my students wants to be a soccer player. But his parents force him to be a lawyer and do not allow him to spend too much time on soccer training after school." In other cases, mentors said, many students indicated that they will choose to be a doctor or a lawyer because their parents asked them to do so. Furthermore, the importance of order of birth was mentioned by mentor C: "Generally, the oldest kid will behave better than younger siblings while younger sibling has better grades than older kids. I have twin-students in my site; the older one feels good when he has Bs or Cs while the younger brother commits to have all As."



#### 4. Discussion

According to the quantitative results, the relationship between self-efficacy and goal orientation is significantly positive, consistent with previous studies (Phillips & Gully, 1997; Payne, Youngcourt, & Beaubien, 2007), which declared that there was a positive relationship between mastery goal orientation and self-efficacy. Specifically, students with higher scores in mastery goal orientation were more likely to rank higher on the self-efficacy scale (Phillips & Gully, 1997). In this study, academic self-efficacy is significantly associated with mastery goal orientations, which is consistent with previous studies. The result of current study is consistent with previous findings (Phillips & Gully, 1997; Payne, Youngcourt, & Beaubien, 2007).

In terms of high school students' goal orientation, the results from the self-report Goal Orientation Questionnaire are different from the findings from the interviews of mentors. Based on the quantitative data from students, they reported themselves as having high levels of mastery goal orientation, while mentors considered the majority of students to have performance goals. That is to say, students perceived themselves learning knowledge or complete tasks generally due to the intrinsic values and want to mastery new information or skills, while mentors from the host institution considered these high school students inclined to focus on external rewards or graduating from high school. Below the researcher speculated about the possible reasons for the discrepancy between students' self-report and mentors' evaluations.

First, the mastery goal orientation result was collected from current high school students (15-18 years old), whereas the performance goal orientation one is from enrolled college seniors or masters students who work with those students. Since self-perception is shaped with age (Argyriou, Bakoyannis, & Tantaros, 2016), it is possible that high school students' perception of themselves is continually forming and not fixed yet.

Second, the divergence between quantitative self-report method and qualitative interview method of others might influence the diversity. Specifically, students rated themselves based on their individual understanding about themselves, whereas mentors would reinterpret students' behaviors or conversations based on mentors' experiences or understandings.

Third, in the interview process, mentors only talked about some students that stood out to their minds at that moment. In other words, the qualitative results could only represent the students who were recalled particularly strongly by their mentors which could potentially create a type of selection bias, while the quantitative data might show the majority trend of this sample.

Last, Anderman and Midgley (1997) indicated that students' performance goals have significant differences across school years, and their performance goal orientation increased through elementary school to high school. This claim supports the result of current qualitative findings. Based on the interview results, most 12<sup>th</sup> graders aim at graduating from high schools rather than learning something new in the classes.

According to the results of mentors' interviews, students tend to choose careers according to financial issues and family expectations instead of their own interests. This is consistent with previous research, which found that even though self-efficacy predicted students' college major and career choices (Hackett, 1995), career aspirations among high school students have no relationship with intrinsic value but instead are correlated with practical issues (Durik, Vida, & Eccles, 2006). In this case, we can say students were concerned more about financial issues than interests when they choose future careers according to mentors, especially male students who prefer to choose high paying jobs than insist on their personal interests. However, mentors indicated that female students showed a greater intent to follow their personal interests or experiences when they consider future careers.

One set of potential explanations for the results of this study lies in previous research indicating that social context can influence career choice. For instance, Tziner, Oren and Caduri (2013) found that parents' opinions about careers influence children's professional choices in theoretical and practical levels. In a related study, Roe (1956) pointed out that individuals inclined to choose human-oriented service professions when they grew up from a protective, love, and warm family environments. Meanwhile, people raised by controlling, permissive parents might choose object-oriented professions, such as science or engineering. However, Holland (1997) who created the RIASEC model (Realistic, Investigative, Artistic, Social, Enterprising, Conventional) believed that vocational choice depends on individuals' personality and self-concepts. Furthermore, according to Durik, Vida, and Eccles (2006), there was no relationship between career aspirations among high school students and their intrinsic

interests but their aspirations were related to some practical issues instead.

Thus, the current study's qualitative finding that LAP male students prefer to choose STEM fields could be due to social contextual issues mentioned above such as interactions with parents, their perception of family financial situations, and their self-efficacy of completing their academic path in an area with higher payment rather than their intrinsic interests. In terms of female students' preference, human-service or arts, perhaps they perceive more care and love from their parents and are more likely to pursue their own interests in career fields in the future. This result is consistent with a previous study (Montmarquette, Cannings, & Mahseredjian, 2002) which reported that males are significantly more likely to choose science rather than education. Also, males consider the earnings variable twice as much as females do, which suggests that females prefer to go to nontraditional careers compared with males.

Last, mentor C emphasized the importance of siblings when considering students' self-efficacy and career choices. According to previous research (Montmarquette, Cannings, & Mahseredjian, 2002), students who have more siblings currently attending college, and students whose oldest sibling has already completed a year in college are more likely to choose challenging majors such as science and business. Related to the current study, this mentor indicated that students might feel competitive when they have siblings and then want to choose a more challenging major and get into higher paying careers. Therefore, studying with siblings or tutoring younger siblings might improve students' self-efficacy and goal orientation in different ways.

## 5. Limitations

Since LAP students would all be first-generation college students, and most of their family financial situations are difficult, this research cannot be generalized to all high school students. Moreover, even though most LAP students represent financially strained and immigrant families, the selection process excludes many students who are not qualified for LAP because they do not have higher grades but actually need the help. It is recommended to conduct further research among different groups of high school students in the future.

Additionally, the validity of the qualitative result should be concerning due to the fact that this research identified students' characteristics and concerns only based on what mentors said. Since every mentor has some specific sites (high schools) for the whole semester or year, a mentor could not access to every single student even though they stay in the program for a long time. Therefore, most mentors only got to know those students at his/her sites and might not be familiar with students in other schools. It would be unfair to draw conclusions about this group of students from mentors who did not even have chances to talk with them. In order to gain more reliable data about students in different schools, the following researchers might conduct interviews with mentors at different sites and conduct interviews with the students themselves.

Furthermore, high school students might change their decisions because of numerous reasons in the future. For example, their self-efficacy level might improve due to others' encouragement or if they gain some knowledge about different careers and change their minds. Based on this situation, future researchers could administer a longitudinal study and find out the longer-term decision-making pattern among high school students.

Last, the questionnaire of career aspiration and college choices in this research was not sensitive enough. Since the current research asked students to write up 3-5 careers and colleges that they want to get into in the near future, the researcher had difficulties in transferring these categorical data to continuous data while conducting quantitative analysis. In future research, published career aspiration scales such as O'Brien's (1996) Career Aspirations Scale should be administered instead.

## 6. Implications

The researcher conducted this study in part as a first step to finding out the most appropriate way for students to pursue their future career paths as well as academic choices based on their own personal needs and desires. Obtaining more knowledge about the relationship between academic self-efficacy, goal orientation, and personal goal setting with these students and others would be helpful in terms of figuring out how to guide students to balance their own interests and external requirements. Additionally, in order to improve students' self-efficacy and fulfil their career achievements, parents

should encourage and support their children to pursue their own areas of interest. Importantly, parents' support and encouragement significantly influences their children's self-efficacy (Turner & Lapan, 2002) and has implications for their academic, vocational, and career outcomes (Kenny et al., 2003). Last but not least, teachers and parents tend to focus on students' academic performance, however, noticing students' expectations and fears about future is also extremely important for adults to provide the appropriate assistance and support to these students.

## 7. Conclusions

In conclusion, quantitative results support previous studies that self-efficacy significantly positively relates to goal orientation. Both self-efficacy and mastery goal orientation positively associate with high school students careers goal settings. Additionally, there are no significant differences between males and females in terms of the level of self-efficacy, but according to mentors' speculations, high school students tend to choose different careers based on various reasons, such as family's influence, interest differences, and their self-perception related to the future. This research recommends that parents encourage their children to pursue their careers and choose majors by following their abilities as well as interests. In addition, future research could conduct longitudinal studies to expand the research findings.

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