RELATIONSHIPS WITH PARENTS, MOTIVATION FACTORS, AND RESILIENCE IN LATINX COLLEGE STUDENTS

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Abstract

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This study used both parental factors and students' individual motivational factors to understand college students' academic achievement and resilience. Students bring various strengths with them to college that may be especially important as they experience challenges, including individual motivational strategies and joint collaboration with parents in pursuing educational goals (parental shared agency). Based on cultural backgrounds and values, we hypothesized differences between parental shared agencies for White and Latinx students. Consistent with previous literature, we expected parental shared agencies and motivational factors to independently predict high levels of academic buoyancy and academic achievement, respectively. Unique to this study, we proposed an interaction between shared agency and motivation in predicting academic outcomes.

College students at a rural postsecondary institution in California were surveyed (N = 98). Participants completed an online questionnaire that contained the Academic Buoyancy Scale (Martin & Marsh, 2008), the Shared Agency Scale (Chang, 2009), and the Optimization in Primary and Secondary Control Scales in the Domain of Education

(Heckhausen, 1998). Results show no significant differences between Latinx and White students in parental shared agencies. Similarly, no significant results were found in the hierarchical regression models predicting academic buoyancy nor academic achievement. Further research with a larger sample size is needed to gain additional insights into the constructs at hand. Further exploration of these factors may also lead us to understand the achievement gap using a strengths-based perspective, allowing us to consider suitable interventions.

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Relationships with Parents, Motivational Factors, and Resilience in Latinx College Students

Obtaining a college education is positively correlated with a secure economic status, positive health outcomes, and greater psychological well-being (Reynolds & Ross, 1998). On average, those who earn a bachelor's degree make around $932 weekly more than those without a bachelor's degree (Torpey, 2019). In addition, the attainment of a college education strongly predicts improvement in individuals' quality of life (e.g., social mobility) (Reynolds & Ross, 1998). Social mobility, or the American Dream, is often the incentive that attracts many people to the United States (U.S.) (Arnett Jensen, 2016, pp. 43-60). Education level may improve not only individual financial well-being but the country's economic outlook as well: having an educated and diverse population is in the best interest of the whole nation. In a lifetime, those who have bachelor's degrees contribute $381,000 more in taxes than those without bachelor's degrees (Edelson, 2016).

Obtaining a higher education is an avenue towards achieving the American Dream, yet this opportunity is often surrounded by obstacles and barriers that impede the success of certain populations. Unfortunately, access to resources are unevenly distributed in the U.S. (Kuhfeld, 2018; Yosso, 2005). Although it might seem that opportunities like higher education are easily accessible and attainable to all, the reality is that many students face adversities that make them less likely to earn a college degree. First-generation college students, low-income students, and minoritized students (e.g.,

Black, Latinx, and Native American students) face challenges that contribute to lower enrollment and graduation rates from college (Garcia Coll et al., 1996; Hopson et al., 2014; Kuhfeld, 2018; Wilcox, 2015).

Historically, college enrollment within the Latinx[1] population has been the lowest in the U.S. compared to Blacks, Whites, and Asian Americans but this changed in 2010 when the Latinx population surpassed the college enrollment of the Black population (National Center for Education Statistics, 2019a). Despite the increase in Latinx college students, there is still a large disparity. When comparing students' enrollment and graduation rates, Latinx students have lower rates than White students (Ortiz, 2018). Krogstad (2016) found that although there are more Latinx students going to college, a large percentage of them start in community college which presents additional barriers to transferring to a university and obtaining a degree. Both community colleges and universities report difficulties retaining Latinx students at their institutions (Maruyama, 2003). As a result, only 13% of the Latinx population in the U.S. have a bachelor's degree or higher (National Center of Education Statistics, 2019b). The National Center of Education Statistics (NCES, 2019d) found that Latinx students only made up 5% of the student body at doctoral granting research universities. This is alarming given the recent demographic shifts of the Latinx population in the U.S. In states like California, one of the biggest states in the U.S., the Latinx population makes up more than half of the population (Jordan & Iriondo, 2019). By 2045, the Latinx population will become a

majority-minority in the country. For this reason, it is important that we pay close attention to the Latinx population's enrollment, retention, and graduation rates in college.

The current study addresses one small component of the educational achievement gap. The achievement gap is a widespread finding that although there are more Latinx students going to college, a much smaller percentage of them are obtaining postsecondary degrees especially compared to White and Asian American students (NCES, 2019b; Welingsky, 2004). Reducing the achievement gap is a priority for educators, researchers, and policyholders alike (Kauhfeld et al., 2018). One of the goals of the current study is to gain a broader understanding of the achievement gap that many universities are experiencing and to find ways to best address this gap. Much of the literature on this topic focuses on deficiencies. This study would like to acknowledge the strengths of Latinx college students. By drawing on the strengths of Latinx college students, higher education institutions can use an asset-based approach to increase retention and graduation rates among Latinx students. There is great potential for capitalizing on both individual and parental-level assets that many Latinx college students have to address the achievement gap.

A Strengths-Based Perspective

The challenges that Latinx students face in postsecondary education can be great and complex. Some challenges directly relate to discrimination, bias, and a lack of resources (Yosso, 2005). Learned helplessness (Maier & Seligman, 2016) is a term that is

used to describe the amotivation that follows after repeated setbacks in one's life and may contribute to higher rates of dropout in students. Yet, even after accounting for all the possible obstacles that minoritized students might encounter, many students overcome obstacles and achieve postsecondary degrees. In the U.S. alone, an increase from 77,700 to 235,000 bachelor degrees were granted to Latinx students from the years 2000-2001 to 2015-2016 (NCES, 2019c).

Yosso (2005) explores the challenges that marginalized students experience through the lens of Critical Race Theory (CRT). CRT expresses the idea that race is a socially constructed concept that is used by the dominant culture to distribute power and wealth to individuals of similar backgrounds (De La Garza & Ono, 2016). The current study primarily focuses on Latinx students but makes a comparison to White students (dominant culture). The current study uses Yosso's (2005) cultural wealth model to frame different types of wealth capital that Latinx college students use to pursue postsecondary educational goals. Yosso (2005) specifies seven types of wealth capital: cultural, social, familial, navigational, aspirational, linguistic, and resistant.

The current study concentrated on three forms of college student wealth and their relationship to academic achievement. Familial wealth, as defined by Yosso (2005), includes utilizing family and community members who share similar commitments as resources to navigate through college. The specific type of familial wealth investigated in the current study is shared agency with parents for educational goals. Three types of

wealth (navigational wealth, aspirational wealth, and resistant wealth) are components of additional constructs explored in this study (i.e., motivational strategies and academic buoyancy) that may contribute to the success of Latinx students in higher education (Yosso, 2005). Navigational capital (Yosso, 2005) refers to the skills gained by maneuvering through unfamiliar social institutions. Similarly, aspirational wealth (Yosso, 2005) focuses on the perseverance and hope of students, especially those who may be unfamiliar with the U.S. educational system or those who come from lower socioeconomic statuses. Last, resistant wealth (Yosso, 2005) includes the skills acquired through resistance to challenges due to inequality. No one type of wealth acts in isolation. For example, it is likely that family wealth contributes to aspirational and resistant wealth, among others.

Familial wealth

Parents play an important role in children's upbringing and this continues into college. In a study of college students, Wolf et al. (2009) found that parents still have good involvement with their adult children even after they go to college and that communication between them is still important. Due to the incentives of obtaining higher education, many parents encourage high academic performance in school from a young age and endorse college as a goal when raising their children. In fact, this may be even more true for low socioeconomic status students who rely on education as a means of social mobility (Domina, 2005). Luo and Holden (2014) view education as an investment

and use CRT to explain the achievement gap within the Latinx population; they found that obtaining an education not only helps the individual but the family as well. In order for low-income students to enroll in college, many families make sacrifices, economically and socially (Fuller & Garcia Coll, 2010). Parents, especially those from a more collectivist culture, may use their sacrifices to further encourage their children to go to college and earn an advanced degree.

Parents and family overall are highly valued in the Latinx community (Williams et al., 2017). Familism, or the use of "family oriented cultural values and practices," is prevalent among Latinx populations and is associated with positive well-being, adjustment, and success in various domains like academics (Constante et al., 2018, p. 231). As a result of familism coupled with strong family ties, Latinx children may be especially open to and be influenced by their family's messages promoting higher education. A strong sense of duty or obligation to family to pursue higher education and social mobility is a form of cultural wealth (Williams et al., 2017; Yosso, 2005). In addition to familism playing an important role in many Latinx students' educational aspirations, other facets of parenting such as shared agency provide alternative forms of familial wealth.

Parental shared agency

Parents' connectedness and involvement with children has strong, robust associations with children's educational success and can lead to shared ideas about the

importance of education, help with setting goals, and encouragement while pursuing goals (Mcclain, 2010; Park & Holloway, 2018; Rautamies, 2019; Turner et al., 2009). Parental shared agency is the involvement or connectedness of parents and their children in shared educational goals, such as attaining a college degree (Chang et al., 2006). Chang et al. (2009) defines two types of parental agencies with adult children: shared agency and non-shared agency. Parental shared agency includes parental accommodation, parental collaborators, and parental support. When looking at these agency types we must keep in mind that parents usually have either similar or separate educational goals from that of their adult child. Parental accommodation refers to parents who support their children mentally and emotionally but let go of their own goals to grant children individuality in choosing and pursuing goals. Collaborative parents work with the child in discussion and negotiation to make decisions together. Last, parental support describes parents who encourage their children but have no goals for their child other than their well-being. This could be due to a lack of knowledge of the U.S. educational system. Parental support and accommodation differ in that parents who accommodate will let go of their own goals whereas supportive parents have no such expectations for goals. On the other hand, parental non-shared agency includes parental uninvolvement and parental directing. Parental uninvolvement is the lack of involvement in a child's educational decisions. The other extreme is parental directing where the parent takes full control of the child's educational decisions and the child does not have any input.

Parental agencies have various associations with adult children's academic achievement and motivation, depending on whether the agency with parents is shared or non-shared, and which types are being reported (Chang et al., 2009). A similar variable to shared agency with parents, parental involvement, has been linked to positive academic outcomes in college students (Wolf et al., 2009). Shared agency with parents is linked to positive adjustment in college, while non-shared agency (especially uninvolved) is typically associated with negative college outcomes (Chang et al., 2006). In a study of college students, shared agency between parents and their adult children was positively correlated with higher academic achievement and the use of positive motivational orientations, such as mastery-approach goals and performance-approach goals (Kriegbaum et al., 2016). This research strongly suggests that shared agency with parents is important in the academic development and success of college students.

There is a paucity of research examining possible differences related to race and ethnicity in shared agency with parents, especially among Latinx college students. For example, Villarreal et al. (in preparation) found that parental support is the most common type of shared agency among the Latinx population. Given that many Latinx college students are the first in their families to attend college, parents may have difficulties engaging in specific education or career goal planning with their children when they lack knowledge themselves. Due to the influence that parents have over their child's education, it may be important that parents not only support their children but also are informed of the various educational options and paths students can take. Mcclain (2010)

highlights a case study in which a lack of knowledge of various educational paths led to parental confusion as to what was best for the child. The fact that the parents in this case study did not speak the dominant culture's language led to difficulties in choosing the best school for their child's future.

Aspirational wealth, resistant wealth, and navigational wealth

The successful pursuit and attainment of goals may originate with parents and culture, but it is also driven by one's motivational strategies and resilience. As children mature, they gain more control over their environments and their actions, also known as a sense of agency.

Motivation

The motivational theory of life-span development (Heckhausen et al., 2010) posits that people purposefully and intentionally engage in motivational control strategies that help them achieve specific goals. Heckhausen et al. (2010) proposed motivational control strategies based on two dimensions of control: primary and secondary control, and selective and compensatory control. The primary and secondary control distinction is based on Rothbaum et al.'s (1982) original control conceptualizations. Primary control processes involve changing one's environment to further our needs or wishes; secondary control processes are the changes that an individual makes to oneself in order to adjust to the environment (Rothbaum et al., 1982). The motivational theory of life-span development (Heckhausen et al., 2010) points out that throughout the lifespan, primary

control strategies start off in childhood and deteriorate with advanced age, whereas secondary control strategies increase in childhood and continue to increase into old age. Since they are used early in life, primary control strategies are likely influenced by parents and teachers. As our prefrontal cortex develops with age, we can then use secondary control strategies effortlessly, if needed.

Adding another dimension, Heckhausen et al. (2010) differentiated between selective and compensatory types of primary and secondary control. Selective primary control includes "the investment of behavioral resources (i.e., time, effort, skills) into pursuing a goal" (p. 38). If high academic achievement (GPA) is the goal, selective primary control strategies include showing up to class, taking notes, and participating in coursework. Compensatory primary control strategies are enacted when individual efforts are not enough and external resources are needed to attain the goal. This could include speaking to the instructor and seeing where one can improve in class. These processes are often the extra work that students do for a better grade. Primary control strategies, both selective and compensatory, are the first set of control strategies used to attain goals.

Selective secondary control (Heckhausen et al., 2010) includes strategies for increasing motivational resources to attain the goal such as increasing the sense of importance of the goal, one's commitment to the goal, or emotional strategies such as imagining attaining the goal and the positive emotions associated with the accomplishment. These strategies are often enacted when additional motivation is needed

to attain the goal, perhaps because of a setback or additional challenge. If referring to goals for academic achievement, these strategies might include imagining oneself walking across the graduation stage and thinking of feelings of pride and happiness. Compensatory secondary control strategies refer to the reevaluation of the goal and adjustment due to unexpected setbacks, although it is typically considered a form of disengagement from goals.

Goal engagement behaviors (Heckhausen et al., 2010) consist of selective primary control, compensatory primary control, and selective secondary control. When used together, these strategies are associated with greater academic achievement and motivation (Heckhausen et al., 2010). Of interest to the current study are selective secondary control strategies as these strategies have been used in previous interventions to increase academic achievement.

Hamm et al. (2019) examined how college students used selective secondary control strategies in the transition to higher education. When taking a psychology class, participants in the experimental condition were asked to adopt the equivalent of selective secondary control strategies during their coursework while the control group was not given any supplemental strategies. The authors found that these strategies helped students who had low academic performance in high school more than those who had higher academic performance in high school (Hamm et al., 2019). The results of this study suggest that selective secondary control strategies benefit students who are academically

unprepared (Hamm et al., 2019). In the U.S., Latinx students typically experience additional barriers in education (e.g., lack of resources; Yosso, 2005). Thus, Latinx students may be a population that benefits from using selective secondary control strategies to flourish in higher education.

Academic Buoyancy

In the field of positive psychology, researchers search for optimistic and enduring characteristics that contribute to the success and well-being of individuals. Resilience is one such characteristic defined as a positive adjustment to adverse circumstances (Ginsburg & Jabblow, 2015). It is often perceived as a desirable quality that can be nurtured in our development as individuals. In academia, resilience is the perseverance through known scholastic and other adversities (Cassidy, 2015). Martin and Marsh (2006) focused on students overcoming day-to-day setbacks and termed this type of resilience "academic buoyancy." The authors found that academic buoyancy predicted several academic outcomes, including academic achievement, enjoyment of school, class participation, and self-esteem (Martin & Marsh, 2006). For the purpose of this study, academic buoyancy will be used as a specific type of resilience that students engage in, but it must be noted that these concepts are interrelated and overlap.

Resilience may be especially crucial for individuals who are from disadvantaged backgrounds or who experience limited resources. Identifying as part of an underrepresented group in academics, such as Latinx, and/or being a first-generation

college student can often come with added stressors and hurdles that may negatively influence academic performance (Holley & Gardner, 2012). For the Latinx population, some challenges include financial instability, increased familial stressors, and discriminatory stressors dependent on phenotypic features and the environment the student engages in (Park et al., 2018; Yosso, 2005). Research suggests that students from minoritized groups are more likely to be discriminated against from an early age (Umaña-Taylor & Updegraff, 2007). Teacher bias in classrooms can contribute to low expectations and negative perceptions of education for many minoritized children (Tenenbaum & Ruck, 2007). For some, challenges accumulate and become so overwhelming that students may drop out of school (Quintana et al., 1991). Although there are risk factors for underrepresented groups, there is also much room for growth through resilience for this population. Despite significant obstacles, individuals high in academic resilience persevere and use protective factors to help them succeed in their goals (Cassidy, 2015).

Connections between constructs: Shared agency with parents, motivation, and academic buoyancy

The relationships between the different forms of wealth identified in the current study, specifically between shared agency and academic resilience and between selective secondary control and academic buoyancy, have not been established. Ginsburg and Jabblow (2015) acknowledged that children can learn to be resilient from their parents. It

is clear that parents are often the leaders in defining the perception of stress in a family and identifying appropriate coping strategies. The idea that resilience can be cultivated has shined a light on parents and the importance of parental involvement when encountering setbacks. Motivational control strategies can also be taught at a young age and nurtured by parents and teachers in an educational setting. Control strategies can help students engage in habits that allow for perseverance in goal attainment.

In the motivational theory of lifespan development (Heckhausen et al., 2010), selective secondary control strategies are enacted when an individual is exposed to challenges in their goal pursuit. Similarly, academic buoyancy can only occur after encountering challenges. In addition, both academic buoyancy and selective secondary control strategies rely on metacognition and both have a positive effect on academic achievement (Hamm et al. 2015; Putwain et al. 2015). Thus, academic buoyancy and the use of selective secondary control strategies may be essential in minoritized students' success in higher education. Learning how students obtain and utilize these skills can allow for a better understanding of this process and lead to developing effective interventions. By further understanding the connection between these constructs and how they relate to academic achievement, we hope to better understand and address the academic achievement gap that is prominent for the Latinx population.

Current Study

The literature suggests shared agency with parents, control strategies, and academic buoyancy may play a role in promoting academic achievement, particularly among first-generation and/or minoritized students such as Latinx students. Compared to White students, Latinx college students typically experience added stressors in their academic career (Jarama et al., 1996; Cerezo & Chang, 2013). In academia, many students can be discouraged by barriers, however, finding motivation and being resilient can be protective factors against challenges and obstacles. By using these protective factors, individuals may achieve their educational goals and become buoyant. To the extent that control strategies are used by buoyant students, universities can implement control strategies into college-level interventions to increase retention and graduation rates among all students, but especially among Latinx and other minoritized students.

The current study explored relationships between new but theoretically related strengths-based constructs. More specifically, cultural wealth factors like shared agency with parents and control strategies will be entered into two separate regression models to predict college student academic buoyancy and academic achievement, respectively. Control variables (age, gender, financial aid status, parental education, ethnicity, and high school GPA) will be added into each model to account for external factors that may influence the initial model. It is hypothesized that control strategies and shared agency

with parents will serve as protective factors that encourage college students' academic buoyancy and academic achievement.

Hypothesis 1. There will be ethnic differences in the type of shared parental agency that Latinx students have with their parents compared to parental agency reported by White students.

Hypothesis 1(a). Latinx students will report having more of the accommodation type of parental agency than White students.

Hypothesis 1(b). White students will report having more of the collaboration type of parental agency than Latinx students.

Hypothesis 1(c). Latinx students will report having a more supportive type of parental agency than White students.

Hypothesis 2. Shared agency with parents and selective secondary control strategies will positively and independently predict college students' academic buoyancy above and beyond control variables.

Hypothesis 2(a). There will be a statistically significant difference in college students' academic buoyancy based on their shared agency scores.

Hypothesis 2(b). There will be a statistically significant difference in college students' academic buoyancy based on their selective secondary control strategy scores.

Hypothesis 2 (c). There will be a statistically significant interaction between shared agency scores and selective secondary control strategies predicting academic buoyancy. Although both shared agency and selective control strategies will positively predict academic buoyancy, this relationship will be strongest among college students with high levels of shared agency and selective secondary control strategies.

Hypothesis 3. Similarly, shared agency with parents and selective secondary control strategies will positively and independently predict college students' academic achievement above and beyond control variables.

Hypothesis 3(a). There will be a statistically significant difference in college students' academic achievement based on their shared agency scores.

Hypothesis 3(b). There will be a statistically significant difference in college students' academic achievement based on their selective secondary control strategy scores.

Hypothesis 3(c). There will be a statistically significant interaction between shared agency scores and selective secondary control strategies predicting academic achievement. Although both shared agency and selective control strategies will positively predict academic achievement, this relationship will be strongest among college students with high levels of shared agency and selective secondary control strategies.

Methods

Participants

This study recruited 98 college students from one four-year public university. It must be noted that the university at hand is a Hispanic Serving Institution (HSI) and recruits many students who are Latinx identifying and first generation college students. Prior to recruitment a power analysis for a multiple regression of three variables suggested moderate power for 90 participants. Students who participated were recruited using a convenience sample. Students signed up for an online study on SONA, an extra credit forum. The SONA participant pool is used by psychology instructors, but students of different majors taking psychology courses are eligible to sign up to complete the study for extra credit in an eligible course. Additionally, the study was also offered to students outside of SONA who did not receive extra credit for participating in the study. Only two participants did not take the survey through SONA. For both options, study announcements were made through various psychology courses. These announcements were approved by the professors of these courses. The announcements were either read in classrooms or sent to students by the instructor.

Participants were eligible for the study if they were a college student of at least 18 years of age. The average age of participants was 22.64 years (SD = 5.91 years) with a range of 18 to 53 years; 50% of participants stated their age to be between 18-21 years old, 20% were 22-25 years of age, and under 10% were over the age of 26 or did not

report an age at all. Due to higher enrollment of females in college, we were not surprised to see 82% females in our sample, 12% males, and 2% non-binary/non-conforming. In terms of ethnicity and race, 48% of students identified as White/European American, 37.8% as Hispanic/Latinx, 9.2% identified as having two or more ethnicities, and below 2% identified as Black/African American and Asian American, respectively.

More than 70% of participants were either juniors or seniors in a four-year university with less than 40% reporting being transfer students. In terms of employment, 65% of participants reported holding a job during the semester. More than 70% reported receiving some sort of financial aid. For the highest level of parental education, most students (27.6%) reported "some college or technical school." Specifically, 15% of participants reported that their mother/female caregiver completed elementary school or junior high school. Father/male caregivers' education was mostly skewed to the left with 16% completing some elementary education or junior high school and 4% completing professional or graduate school.

Procedures and Design

This quantitative study was conducted as a cross-sectional survey. Both predictor and outcome variables were collected at the same time. The study was online and powered by Qualtrics. Electronic consent was collected before taking the survey. The consent form contained a brief explanation of the study, stating that participation in the study is voluntary, and outlined the participant's right to stop the survey at any time without

penalty. Once consent was obtained, participants completed a survey which took approximately 15-20 minutes to complete. Student responses were anonymous and confidential. The study was approved by the institution's Institutional Review Board (IRB 19-103).

Measures

Demographic variables

The following demographic variables were collected and served as control variables in hypothesis testing: highest level of parental education, financial aid status, age, ethnicity/race, gender, and self-reported high school GPA. Highest parental education was created from averaging mother's and father's highest education level from 1 = *elementary or junior high school* to 7 = *professional or graduate degree*. Financial aid was defined by whether the participant received aid at the university or not (0 = *did not receive aid*; 1 = *did receive aid*). Gender response options were: man, woman, or gender non-binary/non-conforming. However, due to the low number of gender non-binary/non-conforming students in the sample (2 participants), we removed this group of students from statistical analyses. Thus, as a control variable, gender was dichotomized as 0 = *male* and 1 = *female*. Ethnicity was assessed as Native American, Black, White, Asian, Latinx, two or more ethnicities, or not specified. Due to our interest in comparing White and Latinx college students in all hypotheses, ethnicity was dichotomized into 0 = *White* and 1 = *Latinx.* Other ethnic groups were left out of statistical analysis.

Academic Achievement

For the sake of simplification, and considering that most institutions use grade point average (GPA) as a measure of academic achievement, this study used self-reported GPA as a measurement of academic achievement. This includes a scale from 0.0 (all F's) to 4.0 (all A's).

Academic Buoyancy

Academic buoyancy is the ability to recover from day-to-day setbacks in academia (Martin & Marsh, 2008). The measure used for academic buoyancy is the Academic Buoyancy Scale (ABS; Martin & Marsh, 2008; see Appendix A for full scale). This scale measures the immediate setbacks that students focus on while going to school. It includes four items measured using a Likert-type scale from 1 = *strongly disagree* to 7 = *strongly agree*. A sample question is: "I am good at dealing with setbacks -e.g., bad marks, negative feedback on my work". Greater scores on the ABS correspond with greater levels of buoyancy. In the initial study, the ABS had a high internal consistency of Cronbach's α = .80 and test–retest reliability of r = .67 (Martin & Marsh, 2008). When this measure was incorporated into the current study, we found acceptable internal consistency of Cronbach's α = .86.

Shared Parental Agency

Shared parental agency is the type of agency that a parent and their child co-engages in. The scale used to measure agency with parents from a college student's perspective is the Shared Agency and Non-Shared Agency with Parents in Education Scale (SNSA; Chang, 2008; see Appendix B for full scale). The scale has 16-items in two subscales: shared and non-shared agency with parents. Perceptions of shared agency include three subscales: parental accommodation, support, and collaboration. Non-shared agency is composed of two subscales: parental directing and parental uninvolvement. This scale includes items on a 4-point Likert scale that range from 1 (*strongly disagree)* to 4 (*strongly agree)* and uses items such as "My mother/father is very supportive of how I manage my school activities" for shared agency, and items like "My mother/father makes me do what s/he thinks is best for my education" for non-shared agency. Higher scores on subscales indicate greater levels of shared or non-shared agency, respectively. In the literature, subscales of shared agency (parental support, parental collaboration, parental accommodation) are combined as one variable to create a composite score. This scale is positively correlated with academic performance in college students and has a Cronbach's α of .72, suggesting good reliability (Chang et al., 2009). Reliability in the current study for shared agency was good with a Cronbach's α of .88.

Selective secondary control strategies

Control strategies were assessed with the Optimization of Primary and Secondary Control Scale in the Education Domain (OPS; Heckhausen et al., 2010; see Appendix C for full scale). The OPS scale assesses the primary and secondary control strategies that students engage in when managing their coursework and educational goals. Specifically, the 4-item selective secondary control strategies subscale will be used. It includes statements such as "I often tell myself that I will be successful in reaching my educational goals". The OPS scale uses a Likert-type rating scale from 1 (*strongly disagree)* to 5 (*strongly agree).* Authors who have used this subscale reported acceptable reliability (e.g., Cronbach α = .62; Hamm et al., 2013). In the current study, Cronbach's α was .58 which was close to the Cronbach's α reported in the study by Hamm et al. (2013). However, overall, this constitutes a low internal reliability score which should be interpreted with caution.

Results

Preliminary Analysis

Initially the data was checked for missingness, skewness, kurtosis, multicollinearity, normality, and outliers. Age was skewed to the left, yet this was expected as our sample size was college students who are typically between the ages of 18-22. Data were assessed for missingness and two extreme cases (meaning three or more standard deviations from the mean) were deleted. Descriptive statistics for key study variables (i.e., academic buoyancy, parental agency, and control strategies) are summarized in Table 1. Last, a statistical power analysis was done prior to preliminary analysis (Cohen, 1997). With d = .30 and the expected power of .80, a necessary sample size consisted of approximately 157 participants. A sample size of 90 participants sufficed for moderate power. Although our original sample size was 98 participants, after including only Latinx and White students the analytic sample consisted of 84 participants. The analytic sample size for this study was not enough to detect the proposed effect size and, therefore, the results should be interpreted with caution.

Table 1

Bivariate Correlations of Key Study Variables (N=82)

Variable	n	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Academic Buoyancy	82	21.37	7.00	--									
2. Selective Secondary Control Strategies	82	16.04	2.49	.35	--								
3. Shared Parental Agency	82	26.52	6.50	.16	.21	--							
4. Academic Achievement/ GPA	82	3.30	.51	.06	.04 *	.05 *	--						
5. Age	82	22.91	5.91	-.002 **	.03 *	-.37	.07	--					
6. Gender	82	1.89	.4	-.16	-.01 *	-.03 *	.23	-.16	--				
7. Financial Aid Status	82	1.27	.44	.06	-.07	-.03 *	.21	.04 *	-.005 **	--			
8. Parental Education	82	4.00	1.99	.03 *	-.24	.04 *	.21	.16	-.13	.32	--		
9. Ethnicity	82	1.00	.00	.12	.33	.1	-.27	-.09	.02 *	-.41	-.44	--	
10. High School GPA	82	3.38	.64	.11	.10	.07	.32	-.11	.12	.13	.03 *	-.15	--

*p<.05. **p<.01. ***p<.001

Hypothesis Testing

Ethnicity and gender were dichotomized (0 = *White* and 1 = *Latinx*; 0 = *male* and 1 = *female*). Shared agency and selective secondary control variables were centered and an interaction term was created using the centered variables. Last, for both hierarchical regression models the control variables imputed were high school GPA, ethnicity, parental education, financial aid status, gender, and age.

Hypothesis 1: Ethnic differences in shared agency

For the first hypothesis, an ANOVA was used to test differences between Latinx and White students in shared agency with parents. There were no significant differences between Latinx and White students when it came to total shared parental agency scores, $F(1,82) = 0.29$, $p = 0.59$, $n^2 = 0.01$. Both White ($M = 26.13$, $SD = 6.45$) and Latinx ($M = 27.05$; $SD = 6.47$) students had similar overall levels of shared agency with parents for academic goals. Furthermore, when assessing the specific types of shared parental agency using an ANOVA, no significant differences were noted between White and Latinx students in each subscale. Hypothesis 1a was not supported: parental accommodation did not differ between White ($M = 8.81$, $SD = 2.03$) and Latinx ($M = 9.16$, $SD = 1.68$) students, $F(1,82) = 0.46$; $p = 0.50$; $n^2 = 0.01$. Similarly, hypothesis 1b was not supported: parental collaboration did not differ between White ($M = 6.72$, $SD = 2.12$) and Latinx ($M = 7.24$, $SD = 2.23$) students, $F(1,82) = 1.19$; $p = 2.80$; $n^2 = 0.01$. Last, hypothesis 1c was

not supported: parental support did not differ between White (M = 10.60, SD = 3.59) and Latinx (M = 10.65, SD = 3.45) students, F(1,82) = 0.01; p = 0.97; n^2 = 0.01.

Hypothesis 2: Shared agency and control strategies predicting academic buoyancy

A hierarchical multiple regression analysis assessed the predictive power of parental shared agency and control strategies on academic buoyancy. The predictor variables were shared parental agency and control strategies with resilience as the criterion variable. Control variables were entered into the model first. Next, shared parental agency and selective secondary control strategies were added to the model in the second step. The third step addressed the interaction between shared agency with parents and selective secondary control. As shown in Table 2, the model predicting academic buoyancy was not statistically significant at any step and as such, hypotheses 2a, 2b, and 2c were not supported.

Table 2

Hierarchical Regression Analysis of Predictors of Academic Buoyancy (N = 79)

Predictor Variables	Step 1	Step 2	Step 3
Age	-.11	-.13	-.13
Gender [a]	-.22†	-.21†	-.23†
Financial Aid Status [b]	-.04	-.07	-.07

Predictor Variables	Step 1	Step 2	Step 3
Parental Education	.01	.02	.01
Ethnicity [c]	.13	.05	.04
High School GPA	.13	.09	.08
Parental Shared Agency	--	-.01	-.01
Selective Secondary Control Strategies	--	.26*	.26*
Parental Shared Agency X Selective Secondary Control Strategies	--	--	.06
R^2	.08	.13	.14
F	1.01	1.36	1.21
R^2 change	--	.06	.01

Note. Standardized betas reported. [a]Gender was dichotomized as 0 = male and 1 = female. [b] Financial Aid variable was dichotomized 0 = no and 1 = yes. [c] Race/ethnicity variable was dichotomized as 0 = White students and 1 = Latinx students. $^{\dagger}p < .10$; $*p < 0.05$.

Hypothesis 3: Shared agency and control strategies predicting academic achievement

Similar to hypothesis 2, a hierarchical multiple regression analysis assessed hypothesis 3 with parental shared agency and control strategies predicting academic achievement. The predictor variables were shared parental agency and selective secondary control strategies with academic achievement as the criterion variable. In step 1, the control variables were entered into the regression model. In step 2, shared agency with parents and selective secondary control strategies were added to the model. In step 3, the interaction between shared agency with parents and selective secondary control was imputed into the model. The final model resulted in $r^2 = 0.24$, $F(9,68) = 2.42$, $p = 0.02$, confirming this model was statistically significant (see Table 3). In the final model, high school GPA ($\beta = 0.26$; $p < .05$) and gender ($\beta = 0.23$; $p < .05$) significantly predicted academic achievement. Students with higher high school GPAs had higher college GPAs and women achieved a higher college GPA than men. Ethnicity ($\beta = 0.24$; $p < .10$) and shared agency with parents ($\beta = 0.21$; $p < .10$) were marginally significant predictors of academic achievement. Compared to Latinx students, White students were more likely to report higher college GPAs, although this finding was not statistically significant. Hypothesis 3a was partially supported: Students who reported higher levels of shared agency with parents were more likely to have higher college GPAs, although this finding only approached statistical significance. Hypothesis 3b was not supported: selective secondary control strategies did not predict college GPA. Hypothesis 3c was not

supported: there was no interaction between parental agency and selective secondary control strategies in predicting college GPA.

Table 3

Hierarchical Regression Analysis of Predictors of Current College GPA (N = 79)

Predictor Variables	Step 1	Step 2	Step 3
Age	.01	.09	.08
Gender [a]	.20†	.21†	.23*
Financial Aid Status [b]	-.01	-.03	-.03
Parental Education	-.02	-.03	-.01
Ethnicity [c]	-.26†	-.25†	-.24†
High school GPA	.26*	.25*	.26*
Parental Shared Agency	--	.19†	.21†
Selective Secondary Control Strategies	--	-.03	-.03
Parental Shared Agency X Selective Secondary Control Strategies	--	--	-.08

Predictor Variables	Step 1	Step 2	Step 3
R^2	.21	.24	.24
F	3.10*	2.70*	2.42*
R^2 change	--	.03	.01

Note. Standardized betas reported.[a] Gender was dichotomized as 0 = male and 1 = female [b] Financial Aid variable was dichotomized 0 = no and 1 = yes. [c] Race/ethnicity variable was dichotomized as 0 = White students and 1 = Latinx students. $^{\dagger}p < .10$; $*p < 0.05$

Discussion

This study addressed potential contributors to Latinx students' success in postsecondary education. The purpose of the current study was to contribute to the Latinx postsecondary achievement gap literature and to present a strengths-based perspective to understanding Latinx college student outcomes. The study specifically focused on ethnic differences in the role of parental shared agency in college student outcomes through a strengths-based model. We assessed the relationship between parental shared agency and motivational strategies on academic buoyancy and academic achievement, as examples of familial, aspirational, navigational, and resistant wealth.

In hypothesis 1, we addressed familial wealth by investigating shared agency with parents between Latinx and White students. We noted no significant differences between parental shared agency types in Latinx and White students. Although previous studies noted ethnic differences in shared agency with parents, we did not find that parental shared agency types differed according to ethnicity. Perhaps both White and Latinx students at this particular institution might have similar parental agencies due to the fact that 84.6% of students are from out of the region (Humboldt State University IRAR, 2019). Therefore, parental relationships might differ between rural and urban areas (Zhang et al., 2020). Additionally, the majority of students who took the survey were juniors or seniors in college and perhaps had less parental agency than their freshperson and sophomore counterparts.

Hypothesis 2 investigated the relationship between parental shared agency and selective secondary control strategies on academic buoyancy. This hypothesis was not supported: the regression model failed to reach statistical significance. Although the model was not significant, selective secondary control strategies showed promise as a significant predictor of academic buoyancy in the final step of the model. It might be that this study did not have enough participants to detect what might be a significant relationship between selective secondary control strategies and academic buoyancy. Perhaps students' motivation is a stronger predictor of academic buoyancy than shared agency with parents. Additional research is needed.

Hypothesis 3 examined the relationship between parental shared agency and selective secondary control strategies on academic achievement, and this hypothesis was also not supported. Although the final model was statistically significant, the only significant predictors were gender and high school GPA. When controlling for other variables, women were more likely to report a higher college GPA than men. This finding is supported by the literature (e.g., Chee et al., 2005) despite women being considered a minoritized group. Parental shared agency, selective secondary control strategies, and their interaction did not predict college students’ academic achievement. It should be noted that shared agency and ethnicity approached significance as predictors variables and should be investigated further with larger sample sizes, considering the current study lacked statistical power once all variables were entered into the model. The results suggest partial evidence for an achievement gap between Latinx and White students.

Hypothesis 3 findings were not congruent with past research as shared agency and motivation constructs have been shown to predict academic achievement in college students.

This study added to the literature on parental shared agency and selective secondary control strategies as considerations for a strength based model to address academic buoyancy and academic achievement in college students. The study notes some trends in higher education academic achievement, such as White students performing better academically than Latinx students, yet more research is needed to identify strengths and assets that Latinx students bring with them to higher education . Future researchers can optimize data collection for more representative results.

Limitations

It is important to note that data collection occurred during a time of much turmoil in postsecondary educational settings as it occurred during the early months of the COVID-19 pandemic. As the 2020 COVID-19 pandemic unfolded, we noticed how many of the already present gaps in access to resources for BIPOC (Black, Indigenous, and people of color) only intensified during the lockdown. It is likely that students who were under this additional stress and uncertainty may have experienced altered relationships between constructs of interest or perhaps were not able to participate in the study. It is also likely that the self-selecting sample that participated was very motivated and higher achieving than students who did not participate in the study, leading to a truncated sample. Considering that the data was collected after the switch to emergency virtual education due to the COVID-19 pandemic, it is possible that only highly functioning and healthy students remained enrolled and engaged in academics.

We must also consider the research design and sample limitations when interpreting the results. First, since this study was cross sectional, we cannot truly understand the directionality of predictive relationships between parental shared agency, selective secondary control strategies, and academic buoyancy and academic achievement, respectively. We cannot determine how these constructs relate to one another at different time points. Yet, it is likely that there is bidirectionality between the constructs at hand as students pursue their educational goals. It is also important to

acknowledge that this study relied on self-reported data, which is by definition limited. The measures used were subjective, which increases the margin of error compared to objective measures.

Although the sample size was sufficient for the regression analyses as determined by an initial power analysis, the statistical power of each hypothesis model diminished when including only two ethnicities and adding additional covariates into each model. A larger sample size is needed for precise results with all covariates (including dummy codes for all ethnicities), predictor variables, and the interaction term. Additionally, there were some limitations specific to our narrow sample. Originally it was planned to collect data at multiple institutions to capture different college environments (2-year and 4-year; West coast and East coast), however, due to various educational changes due to the COVID-19 pandemic, it became difficult to collect data at other institutions.

Additionally, the student body of the institution depends on out-of-town recruitment particularly from Southern California and the Bay area (Humboldt State University IRAR, 2020). This leads to a student population that intentionally leaves their hometown for an education. Students of this population may have relationships with parents that are less typical than college students who stay closer to their parents during their college career. Last, the sample primarily consisted of students enrolled in upper division psychology courses who completed the survey online for extra credit. This limits our ability to generalize to a broader college student population.

In retrospect, there are two limitations in the measures as well. In the parental agency assessment we only assessed perceptions of shared agency with parents from students' perspective without obtaining the parental perspective. Obtaining only one perspective on a relationship can prevent us from understanding the full story. Furthermore this study assessed students' academic achievement through GPA which can often leave out key aspects of students' success such as leadership positions in clubs/school organizations, strong relationships with faculty that lead to better academic preparedness, and even internships and paid summer programs (York et al., 2015). GPA not only leaves out career-building and life skills but it also does not consider varying definitions of academic achievement as recognized by diverse populations. For many students (e.g., first generation college students), GPA does not define their academic success. Future studies can assess multiple interpretations of academic success. Another future option would be to use the goal engagement subscale, which combines selective primary control, compensatory primary control, and selective secondary control strategies into one score.

Future Directions

Future research can explore different directions related to parental agency, motivational strategies, and students outcomes. Although these topics have not been studied together, their relationship to education is evident. Specifically, these constructs can allow us to understand the Latinx achievement gap and consider intervention programs that can help diminish this gap. Future studies can examine additional control strategies that students use in academic goal pursuit, and their interactions, to better understand pathways to academic buoyancy. Hamm et al. (2019) expanded the theoretical perception of selective secondary control strategies by applying an intervention to the college classroom. Selective secondary control strategies focus on positive motivational habits. Subsequent research can compare and contrast selective secondary control strategies and academic resilience as they pertain to interventions. It may be possible that in addition to interventions that teach motivational strategies, interventions can also bolster academic resilience.

Resilience in this study was very specific to day-to-day aspects of academia. Future studies might also address other conceptualizations of resilience to better map students' strengths and target them in interventions. By following these topics we can better understand academic resilience in its applied setting and its relationship to selective secondary control strategies and academic outcomes.

Regarding our other predictor variable of interest, parental agency, this study did not show significant differences between the types of parental shared agencies and academic achievement, yet, other research on parental involvement shows that parents impact their students (Castro et al., 2015). For this reason, it is important to explore other aspects of parental involvement in college students' academic outcomes. For one, the current study only investigated aspects of shared agency with parents. Future analysis should also examine the role of non-shared agency with parents in predicting college student outcomes as this can allow for a more complete understanding of support, or lack thereof, from parents.

It is especially important to study parental involvement in different populations or groups from diverse backgrounds. Parental involvement is strong during the earlier stages of our development, particularly during elementary, middle, and high school. It would be fascinating to see similar studies in younger populations especially related to academic buoyancy. The relationship between academic resilience and parental influence is one that needs further research.

Conclusion

This study explored the relationship between parental shared agency, control strategies, academic buoyancy, and academic achievement. It contributes to the literature by studying an underrepresented group in the parental shared agency literature: Latinx students. As noted previously, there is an achievement gap within the Latinx population and by using Yosso's (2005) model on cultural wealth, we examined the relationships between academic achievement and different types of wealth.

The Latinx achievement gap is often addressed using a deficit-based approach giving only an explanation of what Latinx students are lacking as a community. Yet, more research is needed on this topic using a strengths-based perspective that addresses the skills and power of the Latinx community. Yosso (2005) accounts for the various forms of wealth that Latinx students bring with them to postsecondary education. The results of this study suggest that parental agency was similar for both Latinx students and their White counterparts. Although not supported in the current study, past research suggests that one way to better support Latinx students may be to involve parents more in education in ways that support students (Quiocho & Daoud, 2006; Flores et al., 2019). Obtaining an education is correlated with a plethora of positive outcomes, therefore, we must provide students with the support they need to succeed and draw on their strengths to attain the possible best outcomes.

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Appendices

Appendix A: Academic Buoyancy Scale (Martin & Marsh, 2008)

The following questions revolve around your academic experience. Please indicate your agreement with the following statements by using the scale below.

1	*2*	*3*	*4*
Strongly Disagree	*Disagree*	*Somewhat Disagree*	*Neither Agree nor Disagree*

5	*6*	*7*
Somewhat Agree	*Agree*	*Strongly Agree*

1. “I'm good at dealing with setbacks (e.g., bad mark, negative feedback on my work).”
2. “I don't let study stress get on top of me.”
3. “I think I'm good at dealing with schoolwork pressures.”
4. “I don't let a bad mark affect my confidence.”

Appendix B: Shared Agency Scale (Chang, 2009)

The next set of questions will ask about both your mother and father. Use the scale below to answer the following questions. Please indicate your agreement with the following statements.

1	*2*	*3*	*4*
Strongly Disagree	*Disagree*	*Agree*	*Strongly Agree*

1. My mother/father tends to follow my lead when it comes to my education.

2. My mother/father just wants me to be happy in college.

3. When my mother/father and I disagree about my college plans, s/he always lets me do what I want in the end.

4. I seek support from my mother/father after making important educational decisions.

5. I turn to my mother/father for comfort when I do not do well on an exam.

6. My mother/father is very supportive of how I manage my school activities.

7. My mother/father cheers me up when I am having a hard time at school.

8. My mother/father will take on my other responsibilities so that I can accomplish my educational goals.

9. If I am busy with school, my mother/father will not tell me about her/his difficulties and needs.

10. My mother/father and I tend to negotiate when we disagree on the direction of my college education.

11. My mother/father gives me many suggestions on how I should manage my daily activities in college.

12. My mother/father makes me do what s/he thinks is best for my education.

13. My mother/father nags at me if I am not doing what s/he thinks I should be doing at school.

14. My mother/father is not responsible for helping me achieve my educational goals.

15. My mother/father does not want to ask me how I am doing in my classes.

16. I don’t need any of my mother/father’s help to accomplish my educational goals.

Appendix C: OPS-Scales in the Domain of Education (Heckhausen, 1998)

The following statements are about what is important to you. There are no right or wrong answers. Please circle a number to indicate your agreement or disagreement with each statement.

1	2	3	4	5
Strongly disagree	*Somewhat disagree*	*Neither agree nor disagree*	*Somewhat agree*	*Strongly agree*

1. (OPT) The education that I get in the next few years will have a lot of influence on the rest of my life.
2. (CPC) If I run into obstacles with my educational plans, I will ask for others for advice.
3. (SSC) I often tell myself that I will be successful in reaching my educational goals.
4. (SPC) I will put time and effort into my education whenever I can.

5. (OPT) When making my educational plans, I think about the long-term consequences for my career.
6. (CSC) When making my educational plans, I think about the long-term consequences for my career.
7. (CSC) If I cannot attain my educational goals, I will let go of them.
8. (SPC) Even if it uses up my spare time, I will invest all my energy in getting a good

   education.
9. (SPC) I will work hard to get a good education.
10. (CPC) If I can't get my educational degree (major or certificate) directly, I will find an alternative path to get to it eventually.
11. (SSC) I will remind myself how important it is for my future to have a good education.
12. (CSC) If I don't reach my educational goals, I will say to myself that many others are in the same situation.
13. (SSC) I often imagine that I will be happy if I earn good grades in school.

14. (CSC)If my educational plans do not work out, I will remind myself that others would be partly to blame.

15. (SPC) If it gets more difficult to get the education that I want, I will try harder.

16. (CSC) If I run into problems with my schoolwork, I keep in mind that it is not all my fault.

17. (CSC) If I cannot attain my desired educational goals, I will settle for the next best option.

18. (CSC) If there are problems with my education, I will remind myself that education is not everything in life.

19. (CPC) If I have difficulties with my school work I will get help from others (for example, friends, tutor).

20. (OPT) When making my educational plans, I base my decisions on my current interest rather than my long-term goals.

21. (SSC) I try hard to keep away from activities that could distract me from my Schoolwork.

22. (CPC) I would go to a lower prestige school, if it meant I could get the kind of education that I wanted in the long run.

23. (CSC) When I have difficulties with my schoolwork, I keep in mind that others are struggling too.