Crossing Classes: A Test of the Social Class Bicultural Identity Integration Model on Academic Performance for First-Generation College Students

by

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ABSTRACT

While more first-generation college (FGC) students are enrolling in college than ever before, these students still have poorer performance and higher rates of dropout than continuing-generation college (CGC) students. While many theories have predicted the academic performance of FGC students, few have taken into account the cultural transition to the university context. Similar to ethnic biculturals, FGC students must adjust to the middle-class culture of the university, and face challenges negotiating different cultural identities. I propose that FGC students who perceive their working- and middle-class identities as harmonious and compatible should have improved performance, compared to those that perceive their identities as incompatible. In three preliminary studies, I demonstrate that first-generation college students identify as social class bicultural, that integrated social class identities are positively related to well-being, health, and performance, that the effects of integrated identities on health and well-being are mediated by reduced acculturative stress. The current studies explore whether these effects persist across time and whether exposure to middle-class norms before college predict social class bicultural identity integration for FGC students. Results demonstrate that the effects of social class bicultural identity integration on depression and academic performance persist across time and that exposure to college graduates before college predicts social class bicultural identity integration.

In memory of Austin, for whom I try to live a little larger.

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INTRODUCTION

> *"College life is lived in a middle-class space with middle-class rules. People from the working-class must change themselves, or, at least, important parts of themselves, to fit."*
>
> *- Lubrano, 2005*

First-generation college (FGC) students face a variety of challenges when they enter college, including less academic preparation and greater financial burdens. However, part of the difficulty faced by FGC students that has only recently been proposed involves the cultural transition to college (Fryberg & Markus, 2007; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). Specifically, FGC students may experience a cultural mismatch when they reach college, which puts them at an increased risk for underperformance, disengagement, and dropout (Stephens & Townsend, 2013; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Stephens, Townsend, Markus, & Phillips, 2012). One way to conceptualize the transition to college for FGC students is that they, like immigrants, are moving between social class cultures. If this is the case, then FGC students with integrated social class identities—who perceive their home (i.e., working-class) and school (i.e., middle-class) identities as harmonious—should experience improved outcomes relative to FGC students who perceive their identities to be conflicting.

While past research has explored biculturalism using immigrants, people of mixed ethnicity, and international students, FGC students may also be thought of as bicultural as a function of their class identities. Research on ethnic biculturalism demonstrates that immigrants, sojourners, and mixed race individuals who integrate their two cultures, and who see those cultures as compatible, have increased bicultural identity integration. Bicultural identity integration predicts improved outcomes related to acculturation, health, well-being, and, for international students, academic performance (Benet-Martínez, Leu, Lee, & Morris, 2002; Huynh, 2009; Huynh, Nguyen, & Benet-Martínez, 2011; Nguyen & Benet-Martínez, 2007).

In three preliminary studies, I demonstrate that (1) first-generation college students are more likely than continuing-generation college students to identify as social class bicultural and to experience dissonance between home and school, (2) that social class bicultural identity integration is related to increased health, well-being, and performance, and (3) that the effect of social class bicultural identity integration on well-being is mediated by reduced acculturative stress. Building on this work, the present studies examine whether these effects are consistent across time and whether exposure to middle-class contexts before college predicts social class bicultural identity integration.

Social Class as Culture

First-generation college students face difficulties in college in part because they have to contend with adapting to a new culture—the middle-class culture of the university. This creates a conflict for FGC students because they come from low socioeconomic status (SES) cultural contexts. Research investigating social class demonstrates that cultural differences between socioeconomic contexts are reflected in a variety of psychological processes ranging from self-construal to life history strategy.

The conflict between the norms, values, and habits of thought that are predominant in high and low SES contexts creates a cultural clash that explains, in part, why FGC students have adjustment problems, poorer academic performance, and lower retention rates in higher educational settings (Jensen, 2004; Markus & Conner, 2013; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012).

Defining Social Class

Social class can be defined in both objective and subjective ways; one objective indicator of social class is income (personal or household income; Howell & Howell, 2008; Lareau & Conley, 2008; Oakes & Rossi, 2003), which enables access to material goods and services and has been shown to strongly predict outcome variables such as well-being, health, and life expectancy (Kraus, Piff, & Keltner, 2009; Howell & Howell, 2008; Norton & Ariely, 2011). Another objective indicator is educational attainment (individual or parental; Day & Newburger, 2002; Domhoff, 1998; Pascarella & Terenzini, 1991; Snibbe & Markus, 2005). College graduates earn twice as much as high school graduates, which grants access to material and cultural capital that may provide more financial security, enables greater control, and provides access to more influential social networks. Finally, occupation is an important objective indicator of social class; occupations create contexts that can shape individual experiences (Kohn & Schoebach, 1983; Kohn & Schooler, 1983). Past research by Kohn and colleagues demonstrates that careers that require a bachelor's degree or higher tend to expose people to a greater variety of tasks, increased complexity, and more choice at work, compared to careers requiring a high school degree (Kohn & Schoebach, 1983; Kohn & Schooler, 1983).

Income, education, and occupation influence the context that people are exposed to; specifically, low SES contexts are characterized by lower incomes, less geographic mobility, more interaction with family, different parenting styles, and jobs with limited autonomy (e.g., Allan, 1979; Argyle, 1994; Day & Newburger, 2002; Kohn & Schooler, 1983; Kusserow, 2004; Lareau, 2003; Markus, Ryff, Curhan, & Palmersheim, 2004; Nisbett, 2009; Rossi, 2001; Sweeney & Cancian, 2004). Social class contexts are important because they engender certain behavior patterns over time; for example, people with limited material resources must rely on others in times of need (e.g., being able to call on close others if you need childcare; Bourdieu & Wacquant, 1992; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012).

Subjective indicators of social class consist of perceptions of where one stands in the social hierarchy relative to others (e.g., Adler, Epel, Castellazzo, & Ickovics, 2000; Boyce, Brown, & Moore, 2010; Goodman, Adler, Kawachi, Frazier, Huang, & Colditz, 2001; Kraus & Stephens, 2012). Subjective perspectives of rank have been shown to be distinct from objective indicators of social class (Kraus, Tan, & Tannenbaum, 2013; Stephens & Townsend, 2013). Additionally, where one feels relative to others is an important predictor of variables such as health (Adler et al., 2000; Boyce, Brown, & Moore, 2010; Cohen et al., 2008; Goodman et al., 2001).

This dissertation utilizes an objective measure of social class, college generation status (CGS; i.e., whether at least one parent has attained a bachelor's degree), as it likely has the most bearing on how a student experiences college. Specifically, students whose parents have attended college may have additional knowledge, or cultural capital, related to how to get into and succeed in the college context (e.g., applications, financial aid, selecting a major, planning course schedules, securing research assistantships or internships, interacting with faculty, asking for letters of recommendation; Aries & Seider, 2005; Armstrong & Hamilton, 2013; Calarco, 2011; Erickson, McDonald, & Elder, 2009; Horvat, Weininger, & Lareau, 2003; Jack, 2015; Kenny & Stryker, 1996; Kim & Sax, 2009; Lareau, 1987, 2003; London, 1989; McSwain & Davis, 2007; Roksa & Potter, 2011; Rose, 1989; Strayhorn, 2006). College generation status is strongly correlated with objective and subjective indicators of socioeconomic status and income; first-generation college students are more likely to come from low socioeconomic status contexts and to rank themselves lower in the social class hierarchy (Singh-Manoux, Adler, & Marmot, 2003).

Effects of Social Class on Psychological Processes

Social class has a variety of psychological consequences, but many observations reveal that psychological tendencies by social class generally fall into categories of independence and interdependence (Markus & Conner, 2013; Markus & Kitayama, 1991; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Stephens, Townsend, Markus, & Phillips, 2012; Varnum, Grossmann, Kitayama, & Nisbett, 2010). In lower social class cultural contexts, the self is perceived as interconnected with and dependent on others (Stephens, Hamedani, Markus, Bergsieker, & Eloul, 2009; Stephens, Markus & Townsend, 2007). Thus, individuals from working-class contexts tend to have more interdependent self-construals—a relational orientation of self that emphasizes conformity, group harmony, and attention to relationships over personal goals—

compared to individuals from middle-class contexts (Grossmann & Varnum, 2011; Na et al., 2010). In addition, neural evidence suggests that lower SES is associated with stronger activation of the mirror neuron system in response to others' actions, as well as stronger empathic responses, suggesting that those from working-class backgrounds are more attuned to others at a basic level (Varnum, Blais, & Brewer, 2016; Varnum, Blais, Hampton, & Brewer, 2015).

In contrast to individuals from higher socioeconomic status environments, where individuals are encouraged to express their preferences by making choices for themselves (Johnson & Krueger, 2005; Lachman & Weaver, 1998), those in lower social class environments are not frequently exposed to situations that enable personal choice or control (Lachman & Weaver, 1998; Reay, Davies, David, & Ball, 2001). Rather, individuals in low social class contexts must adjust to others' needs, be aware of their position in the social hierarchy, and depend on others for material and social support (Kohn, 1969; Lareau, 2003). As a result, lower social class individuals may be less comfortable making choices; the tendency toward interdependence appears in decision-making, such as a preference for conventional products or products chosen by others (Stephens, Markus, & Fryberg, 2007) and less valuing of choice (Snibbe & Markus, 2005). In other words, low social class individuals express preferences that make them look similar to others, while high social class individuals express preferences that differentiate them from others. These differences are also reflected in the advertisements aimed at working- and middle-class audiences (Snibbe & Markus, 2005; Stephens et al., 2007).

Differences in socioeconomic status extend to more basic processes, such as cognition. Specifically, working-class individuals tend to exhibit more holistic styles of thinking, such as attending more to context and explaining the behaviors of others in terms of situational influences and constraints, compared to middle-class individuals (Grossman & Varnum, 2011; Kraus, Côté, & Keltner, 2010; Kraus, Piff, & Keltner, 2009; Na et al., 2010; Varnum, Na, Murata, & Kitayama, 2012). Recent research by Varnum and colleagues demonstrates that these differences may be rooted in spontaneous, automatic processes (Varnum et al., 2012).

Because working-class contexts are characterized by tendencies to prioritize others' needs and preserve group harmony, people from these contexts need to be more socially responsive (Kraus & Keltner, 2009). Individuals from working-class contexts are more accurate at detecting others' emotional states compared to individuals from middle-class contexts (Kraus et al., 2010). Additionally, low socioeconomic status individuals have increased subjective, physiological, and neural responses to others' distress (Kraus et al., 2010; Stellar, Manzo, Kraus, & Keltner, 2012; Varnum, Blais, Hampton, & Brewer, 2015). Socioeconomic status is also negatively correlated with prosocial behavior, such that low SES individuals are more prosocial than their high SES counterparts (Kraus, Piff, & Keltner, 2011; Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012; Piff, 2014; Piff, Kraus, Côté, Cheng, & Keltner, 2010; Piff, Stancato, Côté, Mendoza-Denton, & Keltner, 2012; Piff, Stancato, & Horberg, 2016). Thus, social class cultural contexts are distinct and shape experiences that, in turn, can impact psychological processes.

Life History Theory

Social class also affects a suite of psychological and behavioral tendencies that may be adaptive responses to living in unpredictable and potentially dangerous environments. Life history theory posits that situational cues of harshness and unpredictability impact cognition and behavior. Specifically, research applying life history theory to human socioeconomic status demonstrates that individuals from low SES childhood contexts are more likely to employ a fast strategy (i.e., faster pace of reproduction and focus on offspring quantity) compared to those from high SES contexts, who are more likely to employ a slow strategy (i.e., slower pace of reproduction and focus on offspring quality; Charnov, 1993; Daan & Tinbergen, 1997; Ellis, McFayden-Ketchum, Dodge, Pettit, & Bates, 1999; Figueredo, Vasquez, Brumbach, & Schneider, 2004; Horn, 1978; Kruger & Nesse, 2006; Low, 2000; Nettle, 2010; Roff, 1992; Wilson & Daly, 1997).

Research applying life history theory to economic decision-making demonstrates that increased unpredictability can lead low SES individuals to place greater value on immediate rewards (Griskevicius, Delton, Robertson & Tybur, 2010; Griskevicius, Tybur, Delton, & Robertson, 2011; Hill, Jenkins, & Farmer, 2008; Hill, Ross, & Low, 1997). This is consistent with past research in economics, where low-income individuals have been characterized as irrational, or lacking in self-control, for their intertemporal choices—choices whose outcomes play out over long periods of time (e.g., marriage, investment, or education; Bertrand, Mullainathan, & Shafir, 2006; Frederick, Loewenstein, & O'Donoghue, 2002; Lewis, 1959). Specifically, low SES adults tend to choose smaller, immediate rewards over larger, distal ones; they discount future outcomes (i.e., value future enjoyment less than present enjoyment) more quickly than do high SES adults (Lawrance, 1991).

Success in college requires that students invest time, energy, and resources to attain a college degree; this may be more difficult for first-generation college students, for whom the future may be unpredictable. For FGC students, the effort, time, and cost of attaining a college degree may clash with students' valuing of the present, depending on the predictability of individual and family finances and circumstances. As such, the life history theory framework may be equally relevant for understanding the challenges faced by FGC students, who come from childhood contexts that were more uncertain. It may be difficult for such students to adapt to a context in which slower strategies are more likely to lead to success. In many ways, even though they attend the same schools as CGC students, FGC students experience a different set of life history relevant environmental cues. For example, FGC students face greater uncertainty in terms of finances, food, and housing while enrolled in college (Goldrick-Rab, 2016). Among college students, regardless of income, 45% are food insecure or at risk of food insecurity (Chaparro, Zaghloul, Holck, & Dobbs, 2009). The same is true of housing insecurity; research indicates that college students are especially at risk for insufficient or uncertain housing (The Joint Center for Housing Studies of Harvard University, 2011).

Challenges posed by uncertainty, housing insecurity, and food insecurity should be greater for FGC students, for whom there is no "safety net" provided by parental material support, as there is for many CGC students (e.g., Armstrong & Hamilton, 2013;

Goldrick-Rab, 2016). Indeed, FGC students are more likely to take out loans and work one or more jobs to attend college, believing that a degree will lead to upward mobility (Carnoy & Levin, 1985; Lazerson, 2010; Rheinschmidt & Mendoza-Denton, 2014). As such, FGC students for whom the future seems more unpredictable may be especially likely to embrace a risky or fast strategy, such as taking out more loans, working more hours at an off-campus job, and taking fewer classes, all of which are related to lower rates of retention. Thus, part of the cultural clash that FGC students experience in college may be related to the fact that different life history strategies are linked to success in this context versus the context in which they grew up.

Social Class and Academic Performance

There has been an increasing emphasis on recruiting more socioeconomically diverse students to attend college; today, nearly fifty percent of incoming freshman at four-year universities are FGC students (U.S. Department of Education, 2014; Saenz, Hurtado, Barrera, Wolf, & Yeung, 2007). However, these students have more difficulty adjusting to college, enroll in fewer classes, and have poorer performance than continuing-generation college (CGC) students (Bowen, Kurzweil, & Tobin, 2005; Housel & Harvey, 2009; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Phinney & Haas, 2003; Sirin, 2005; Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996; Titus, 2006; Walpole, 2007). Additionally, FGC students are less likely to graduate than their CGC counterparts (Astin, 1993; Bowen, Chingos, & McPherson, 2009; Hernandez, 2012; Lohfink & Paulsen, 2005; Tinto, 1993); only 27.4% of FGC students will graduate from college within four years, compared to 42.1% of CGC students, with similar results after six years (FGC 50.2%, CGC 64.2%; DeAngelo, Franke, Hurtado, Pryor, & Tran, 2011). In their first year alone, more than a quarter of FGC students drop out, a rate four times higher than CGC students (Engle & Tinto, 2008).

Why do first-generation college students perform more poorly than their continuing-generation counterparts? Part of the social class discrepancy in college performance is attributable to poorer academic preparation before college; specifically, FGC students have lower high school GPAs (Lee, Sax, Kim, & Hagedom, 2004), are less likely to have taken advanced placement courses (Choy, 2001; Cushman, 2007; Terenzini et al., 1996; Warburton, Bugarin, & Nunez, 2001), and have lower scores on standardized tests, compared to their CGC counterparts (Atherton, 2014; Balemian & Feng, 2013; Warburton et al., 2001). Additionally, many FGC students come from low-performing high schools with limited access to college preparation (Engle & Tinto, 2007; Hudley, Moschetti, Gonzalez, Su-Je, Barry, & Kelly, 2009; Logan, Minca, & Adar, 2012; Massey, 1996; Massey, Charles, Lundy, & Fischer, 2003; Orfield, Schley, Glass, & Reardon, 1994; Ryan, 2010; Sampson, 2012).

As a result, FGC students are more likely to take remedial courses once they reach college—courses that do not count towards a college degree (Engle & Tinto, 2007). This can contribute to the time it takes FGC students to achieve a degree, thereby creating additional pressure in terms of the time and money to degree completion. However, even after controlling for students' demographic backgrounds, enrollment characteristics, and past academic performance, FGC students are still at higher risk of failure and withdrawal from college (Astin, 1993; Berkner & Chavez, 1997; Chen, 2005; Choy, 2000, 2001; Horn & Nunez, 2000; Lohfink & Paulsen, 2005; Nunez & Cuccaro-Alamin, 1998; Tinto, 1993; Warburton et al, 2001). This suggests that the social class achievement gap is as much due to differences *during* college as differences *before* college (Engle & Tinto, 2007; Pascarella & Terenzini, 1991; Tinto, 1993).

Cultural Mismatch

Another reason that FGC students may underperform in the university context is due to the transition from the traditionally interdependent norms of working-class culture to the university culture. American universities tend to embody middle- and upper-class norms of independence (Fryberg & Markus, 2007; Stephens & Townsend, 2013; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Stephens, Townsend, Markus, & Phillips, 2012). This assumption guides beliefs about how students should learn, interact with one another, and perform. Stephens and colleagues (2012) found that university administrators were more likely to endorse independent norms as ways that students would be successful at their schools. These norms included paving one's own path, challenging norms and rules, expressing personal preferences, and working independently. For example, a good student in the college context is willing to approach the teacher, ask questions, and even interrupt to make a point (Calarco, 2014a, 2014b; Jack, 2015; Lareau, 2003; Patrick, Anderman, Ryan, Edelin, & Midgley, 2001; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Stephens, Markus, & Phillips, 2013; Streib, 2011; Willis, 1977).

These independent norms are consistent with middle-class values that many continuing-generation college students are raised with; CGC students endorse more independent reasons for attending college (e.g., become an independent thinker, explore new interests, explore my potential in many domains, expand my understanding of the world). First-generation college students, however, endorse more interdependent reasons for attending college, including helping and bringing honor their family, serving as a role model, giving back to their community, and providing a better life for their children (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). Additionally, these students may be less likely to enact independent ways of being in the classroom, instead showing respect and deference to faculty as authority figures. For example, FGC students ask fewer questions and are less likely to ask for help, so as not to burden a professor (Calarco, 2011; Golann, 2015; Jack, 2015; Kim & Sax, 2009). Research by Stephens and colleagues demonstrates that students who endorse independent reasons for attending college have better performance than those who endorse interdependent reasons, because of the cultural match (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012).

When people who come from one context engage with a person or a context with different understandings of appropriate values and behaviors, it may result in a cultural mismatch (Lubrano, 2004; Markus & Conner, 2013; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Stephens, Townsend, Markus, & Phillips, 2012). For example, FGC students may experience a cultural mismatch with the university context, where they are uncertain about the proper way to act, and may begin questioning whether they can be successful there (Johnson, Richeson, & Finkel, 2011; Ostrove & Long, 2009; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). Specifically, this cultural mismatch may increase feelings of not belonging, which can lead to underperformance, disengagement, and dropout (Fiske & Markus, 2012; Johnson et al., 2011; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012).

Difficulty in the transition to the culture of college for FGC students may increase belonging uncertainty, a strong predictor of performance and persistence in academic contexts (Covarrubias & Fryberg, 2014; Covarrubias, Romero, & Trivelli, 2014; Steele & Aronson, 1995; Walton & Cohen, 2007). Research shows that when the goals of college are framed as independent (i.e., creating a cultural mismatch), FGC students perform more poorly on a visual-spatial task, and rate it as being more difficult, than FGC students for whom the goals of college were framed as interdependent (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). There were no such differences for CGC students. In a parallel study, priming independent cultural norms resulted in a greater increase in cortisol and more negative emotions among FGC students delivering a speech, compared to CGC students (Stephens, Townsend, Markus, & Phillips, 2012). Once again, framing college as interdependent eliminated the social class gap.

Cultural mismatch is also evident in the way that students feel when they return home from college. Research by Covarrubias and Fryberg (2015) suggests that FGC students may experience family achievement guilt, or conflict over leaving their families in adverse conditions, which can lead to poorer mental health (Covarrubias & Fryberg, 2015; Piorkowski, 1983). Additionally, FGC students may experience home-school value conflict, where the values of the university environment are contrary to the values embraced by one's family (e.g., time spent with family vs. time spent on schoolwork), which is associated with lower academic achievement and well-being (Greenfield &

Quiroz, 2013; Raeff, Greenfield, & Quiroz, 2000; Vasquez-Salgado, Greenfield, & Burgos-Cienfuegos, 2015). These problems may be magnified if students come from unsupportive families, or parents who are initially supportive, but experience feelings of rejection or resentment once students transition to college (Lee & Kramer, 2013; London, 1989, 1992; Rondini, 2016; Sennet & Cobb, 1972).

The present research does not focus on which features of the college culture are most likely to result in first-generation college students experiencing a cultural mismatch. It may be that FGC students experience the mismatch between independence and interdependence. However, as noted earlier, FGC and CGC students differ in life history strategies. Slower strategies are more likely to lead to success in college, yet these are likely less habitual for FGC students, who are more likely to employ faster strategies. Hence, life history strategy may be another source of cultural mismatch experienced by FGC students. Alternately, it may be that the experience of cultural mismatch is informed by several variations between the cultural contexts (e.g., independence/interdependence, life history strategies, aesthetic and leisure preferences).

Cultural Capital

Another way to think about the challenges faced by FGC students is through the lens of cultural capital. In the context of higher education, FGC students lack cultural capital (Lareau, 1987; Lareau & Weininger, 2003; Markus & Conner, 2013). These difficulties begin at home, where parents are unable to provide the required information to help students apply for college (Petty, 2014; Thayer, 2000; Willett, 1989). Hicks (2003) found that FGC students had inaccurate expectations of college, less social preparation, and lower self-esteem, in addition to the challenges posed by poorer academic preparation and greater financial pressure (Collier & Morgan, 2008; Hicks, 2003; McDonough, 2004; McGrath, 2013; Stephens, Brannon, Markus, & Nelson, 2015; Thayer, 2000). In other words, many FGC students don't know the unspoken "rules of the game" for how to navigate and succeed in college (Horvat, Weininger, & Lareau, 2003; Lareau, 1987).

Examples of cultural capital in college contexts include knowledge of available resources on campus, the ability to use unstructured time to complete coursework, and interpersonal skills, such as knowing how to interact with professors (Conley, 2005; Sommerfeld & Bowen, 2013). However, cultural capital can extend beyond academics to interactions with peers. Armstrong and Hamilton (2013) argue that these "class-based-resources" extend to social capital, such as how many people one knows on campus, social expectation of college attendance and graduation, expectations that college will be fun, past experience living away from home or traveling with peers (e.g., summer camps, travel), and emotional and material support from parents (e.g., informal advising, "rescues").

Using Bourdieu's (1977, 1990, 1994) concept of cultural capital as specialized or insider knowledge of a given area, research in sociology demonstrates that cultural capital can significantly increase students' aspirations, persistence, and attainment in education (e.g., DiMaggio, 1982; DiMaggio & Mohr, 1985; Gaskell, 1985; Horvat, 2000; Lareau, 1987, 1993; MacLeod, 1987; McDonough, 1994, 1997; McDonough, Korn, & Yamasaki, 1997; Roscigno & Ainsworth-Darnell, 1999; Valadez, 1996; Walpole, 2003;

Weis, 1990; Zweigenhaft, 1993). Research in psychology demonstrates that uncertainty about how to act in a college setting can reduce FGC students' sense of belonging, thereby impacting performance (Housel & Harvey, 2009; Johnson et al., 2011; Ostrove & Long, 2007; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Walpole, 2003). Another way to view this lack of cultural capital is that FGC students have not yet learned or internalized the middle-class norms, values, and knowledge that can help them adapt and succeed in college.

Biculturalism and Bicultural Identity Integration

First-generation college students come from a cultural context whose values, norms, and behaviors differ from the college context; as such, in addition to struggling with differences related to lower preparation, cultural mismatch, and lack of cultural capital, FGC students must also integrate their working-class (e.g., home) and middle-class (e.g., college) identities. In other words, they must become successful biculturals. Biculturalism is broadly defined as the experience of having been exposed to and internalized two or more cultures (Nguyen & Benet-Martínez, 2007). Research with ethnic biculturals suggests that acculturation strategies (i.e., integration, assimilation, separation, marginalization) are determined by attitudes toward one's host and heritage culture (Berry, 1990; Berry & Sam, 1995). Integration results from identification with both host and heritage culture, and describes the strategy of retaining values and traditions from one's heritage culture, while also gaining competency in the host culture. Assimilation results from high identification with the host culture and low identification with the heritage culture, and involves gaining competency in the host culture but not maintaining engagement with the heritage culture. Separation involves low identification with the host culture and high identification with the heritage culture, and involves maintaining engagement with one's heritage culture, but not the host culture. Finally, marginalization results from low identification with both host and heritage cultures, and no engagement with either (Berry, 1990; Berry & Sam, 1995).

Among these, integration is the most commonly used strategy, followed by separation, assimilation, and marginalization (Berry, Phinney, Sam, & Vedder, 2006). Individuals who integrate have the least acculturative stress (Hong, Morris, Chiu & Benet-Martínez, 2000), because they feel comfortable in, and can easily navigate, both their home and host cultural contexts. However, this framework does not capture the complexity of the bicultural experience, in part because it ignores the subjective experience of combining two identities; for example, someone can integrate or assimilate because it is the most advantageous strategy, but experience guilt about leaving their home culture behind or compromising certain values to fit in with the host culture.

Bicultural Identity Integration

In an effort to establish a more comprehensive view of the experience of being bicultural, Benet-Martínez and colleagues have proposed a theory of bicultural identity integration. The bicultural identity integration framework examines the extent to which bicultural individuals perceive their cultural identities as congruent. Those who perceive their identities as harmonious and compatible have high bicultural identity integration (BII), while those who perceive their identities as incompatible or contradictory have low BII (Haritatos & Benet-Martínez, 2002; Huynh, 2009).

Whereas other theories on biculturalism attend to differences in identification with one's home and host culture, the BII framework importantly focuses on the feelings associated with the relationship between home and host cultures, which may better predict outcomes for biculturals (Benet-Martínez et al., 2002; Huynh, Nguyen, Benet-Martínez, 2011; Nguyen & Benet-Martínez, 2007). Interestingly, both low and high BII biculturals tend to employ Berry's integration strategy; however, they differ in the ease of integrating those identities (Benet-Martínez & Haritatos, 2005; Benet-Martínez, Lee, & Leu, 2006; Benet-Martínez et al., 2002). The development of bicultural identity integration depends on external factors, including the immediate environment, as well as the broader historical context of individuals' home and host cultures, such as the extent to which individuals from a particular background are welcomed in the host culture (Cheng, Lee, Benet-Martínez, & Huynh, 2014; Huynh et al., 2011).

Past research on ethnic biculturals demonstrates that high BII is linked to better adjustment, including higher self-esteem, satisfaction with life, and happiness, and lower depression, anxiety, and loneliness, and these associations hold after controlling for trait neuroticism (Chen, Benet-Martínez, & Bond, 2008). Individuals high in BII tend to have more diverse social networks, with more friends from the host culture, and more connections between friends in their home and host cultures (Mok, Morris, Benet-Martínez, & Karakitapoglu-Aygun, 2007). Among international students, research demonstrates that bicultural identity integration is associated with improved satisfaction with life (Huynh, 2009) and academic outcomes, such that individuals who have integrated identities have better sociocultural adjustment (e.g., academic achievement, career success, social skills; Nguyen & Benet-Martínez, 2013). I propose that first-generation college students should experience similar benefits associated with integration of their working-class (i.e., home) and middle-class (i.e., college) identities.

Social Class Bicultural Identity Integration

If social class is a type of culture, then first-generation college students should experience a cultural disconnect when they enter the middle-or upper-class cultural context of college. Thus, while past research on biculturalism has focused primarily on immigrants, international students, and multiracial individuals, according to this definition, first-generation college students may also be thought of as bicultural. Indeed, research in higher education has described the challenges faced by FGC students as trying to live in two different countries or worlds (Rendon, 1992). Further, the transition to college has been described as entry into an "alien culture" with unfamiliar values, speech, and ways of behaving (Bartholomae, 1985; Chaffe, 1992; Orbe, 2004; Rose, 1989; Terenzini et al., 1994). An understanding of the features and mechanisms of the effect of social class bicultural identity integration enables predictions about the well-being and performance of first-generation college students.

Overview

Although a wide variety of theories exist to predict the academic performance of first-generation college students, few of them incorporate the cultural transition to the university as a predictor. Given that different social class contexts have divergent values, norms, and practices, individuals moving between social class settings (e.g., FGC students) face similar dilemmas to those moving between other types of cultural contexts.

Thus, different ways of relating to working- and middle-class identities should predict outcomes for social class biculturals, as they do for ethnic biculturals. I propose that first-generation college students who perceive their working- and middle-class identities as harmonious and compatible should experience improved health, well-being, and academic performance, compared to those who perceive their identities as incompatible.

CHAPTER 2

OVERVIEW OF PRELIMINARY RESEARCH

In a series of three studies, I first test the foundational assumptions of social class bicultural identity integration – that first-generation college students identify as social class bicultural and that integrated social class identities improve outcomes. Below, I detail these studies in order to provide a rationale for studies 4 and 5.

Study 1: Social Class Biculturalism and Home-School Dissonance

Study 1 sought to investigate a key theoretical foundation of the social class bicultural identity integration model: that first-generation college students identify as social class bicultural and experience dissonance between home and school cultures. I hypothesized that FGC students would be more likely to identify as social class bicultural, identify with working-class culture, and experience dissonance between home and school contexts, compared to CGC students.

Method

Participants (N = 2,116 students; 1,097 male; M age = 19.3, SD = 2.87) were recruited from an introductory psychology course at the beginning of the semester as part of the prescreening battery. First-generation college students were defined as students for whom neither parent had attained a bachelor's degree (n = 750 FGC). The sample was 58% European American, 13.9% Latino, 18.3% Asian/Asian-American, 4.2% African/African-American, 2.2% Middle Eastern/Arab-American, 1% Native American, 2.5% Multiracial/Other, and .1% missing.

Participants completed an adapted version of the 4-item Home-School Dissonance

Scale (Arunkumar, Midgley, & Urdan, 1999), where they indicated their agreement on a 5-point scale (e.g., "I feel like my family understands what the college experience is about," *reverse coded*; $\alpha = .65$; Appendix A). Next, participants answered two items assessing perceptions of social class from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). The items were "The environment I grew up in has different norms and values than the university environment," and "If people from different countries are considered bicultural, do you think of yourself as being 'social class bicultural'?" Participants then indicated their identification with American working- and middle-class cultures from 1 (*Very Weakly*) to 6 (*Very Strongly*). Please see Appendix B for the full text of these items.

Results and Discussion

Social Class Biculturalism. Independent samples *t*-tests revealed significant differences by college generation status (CGS) on social class biculturalism, $t(2100) = 3.42$, $p = .001$, $d = .15$, 95% CI [.097, .357]. First-generation college students were more likely to identify as social class bicultural ($M = 4.36$, $SD = 1.44$) than CGC students ($M = 4.13$, $SD = 1.46$). The interaction of CGS and ethnicity (European American/Non-European American) was not significant, $F(1, 2098) = 2.59$, $p = .11$, and the effect remained significant after controlling for ethnicity, $F(1, 2098) = 8.27$, $p = .004$. The same was true of, "The environment I grew up in has different norms and values than the university environment," $t(2101) = 2.65$, $p = .008$, $d = .12$, 95% CI [.049, .329]; FGC students showed stronger agreement ($M = 4.98$, $SD = 1.54$) compared to CGC students ($M = 4.79$, $SD = 1.57$). The interaction of CGS and ethnicity was not significant, $F(1, 2099) = 2.66$, $p = .11$ and the effect remained significant after controlling for ethnicity,

$F(1, 2099) = 6.44$, $p = .01$.

Working- and Middle-Class Identification. First-generation students also had significantly stronger identification with working-class culture, $t(2097) = 7.83$, $p < .001$, $d = .34$, 95% CI [.316, .528], ($M = 3.84$, $SD = 1.16$) compared to CGC students ($M = 3.42$, $SD = 1.19$). There was no difference in identification with middle-class culture, $t(2095) = .39$, $p = .69$ (FGC $M = 4.1$, $SD = 1.06$ vs. CGC $M = 4.11$, $SD = 1.06$). The interaction of CGS and ethnicity on working-class identification was not significant, $F(1, 2095) = 1.93$, $p = .17$, and the effects remained significant after controlling for ethnicity, $F(1, 2095) = 61.22$, $p < .001$. The interaction of CGS and ethnicity on middle-class identification was not significant, $F(1, 2093) = 2.53$, $p = .12$. The effect of CGS on middle-class identification after controlling for ethnicity was not significant, $F(1, 2093) = .06$, $p = .8$.

A repeated measures ANOVA using working-class and middle-class identification as a within-subjects variable and CGS as a between-subjects variable was used to examine differences in working- and middle-class identification, and whether there was an interaction with CGS. There was a significant main effect of class identification, $F(1, 2094) = 263.61$, $p < .001$, partial $\eta^2 = .11$, and a significant interaction of class identification and CGS, $F(1, 2094) = 54.56$, $p < .001$, partial $\eta^2 = .03$. This indicates that identification with working- and middle-classes significantly differed by CGS (Figure 1). A second repeated measures ANOVA with working-class identification and middle-class identification as a within-subjects variable was used to examine whether there were significant differences in working- and middle-class identification, with ethnicity as a covariate. The main effect of class identification remained significant, $F(1, 2090) = 218.22$, $p < .001$. Additionally, the interaction of class identification and CGS remained significant, $F(1, 2090) = 47.53$, $p < .001$.

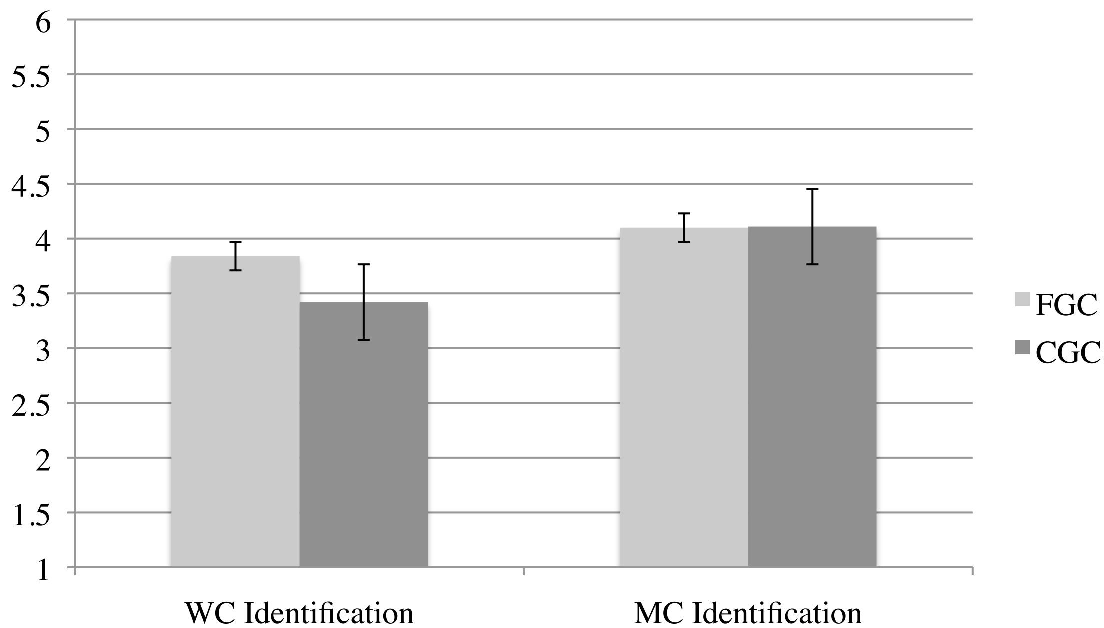

Figure 1. Interaction of Working- and Middle-Class Identification and College Generation Status. Bars represent standard error (*SE*).

Home-School Dissonance. An independent samples t-test revealed differences by CGS on Home-School Dissonance, $t(2101) = 7.98$, $p < .001$, $d = .35$, 95% CI [-.42, -.29]; FGC students had significantly higher levels of dissonance ($M = 3.42$, $SD = .85$) than CGC students ($M = 3.12$, $SD = .97$). The interaction of CGS and ethnicity was not significant, $F(1, 2099) = .25$, $p = .62$, and the effect remained significant after controlling for ethnicity, $F(1, 2099) = 53.27$, $p < .001$.

These findings demonstrate that FGC students think of themselves as bicultural and that they perceive a disconnect between the values and culture of their home and the university. These effects held controlling for ethnicity. First- and continuing-generation students did not differ in their identification with American middle-class culture. This finding, taken together with the fact FGC students do not differ in their identification with working- versus middle-class cultures, is consistent with the notion that FGC students are bicultural.

Study 2: Social Class Bicultural Identity Integration, Life Satisfaction, and Academic Performance

Study 1 established that FGC students identify as social class bicultural and experience dissonance between home and school contexts. In the second study, I sought to examine the effect of social class bicultural identity integration (SES-BII) on academic performance and life satisfaction. Specifically, I adapted the Bicultural Identity Integration Scale (BIIS-2; Huynh, 2009) for social class and explored its relationship with academic performance and life satisfaction for FGC students. I predicted that participants high in SES-BII would have higher academic performance and life satisfaction compared to those with low SES-BII. In other words, FGC students who have integrated social class identities should have improved outcomes relative to those who do not.

Method

Participants included 478 FGC students (237 male; *M* age = 19.69, *SD* = 2.99) recruited from an introductory psychology course at the beginning of the semester as part of a prescreening battery. The sample was 49.2% European American, 22.6% Latino, 16.7% Asian/Asian-American, 5.6% African/African-American, 2.3% Middle

Eastern/Arab-American, 1.3% Native American, and 2.1% Multiracial/Other.

Participants completed the survey online using Qualtrics survey software. Participants completed the 5-item Satisfaction with Life scale (Diener, Emmons, Larsen & Griffin, 1985) on a scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). An example item is, "In most ways my life is close to my ideal" (α = .86). The full text of the scale maybe found in Appendix C. Participants completed an adapted 19-item Social Class Bicultural Identity Integration Scale (BIIS-2; adapted from Huynh, 2009), indicating their agreement on a 5-point scale. An example item is "I find it easy to harmonize *working-class and middle-class* cultures." Please see Appendix D for the full scale. Finally, participants indicated their social class, family income, subjective SES (Adler et al., 2000), and reported their high school (M = 3.47, SD = .49) and college GPAs (see Appendix J for full text of these questions, which are also employed in Studies 3 and 4).

Results and Discussion

Scale Reliability. Exploratory factor analysis was conducted using principal axis factoring extraction with a promax rotation to examine the factor structure of the 19 SES-BII items. A Kaiser-Meyer-Olkin (KMO) value of .85 demonstrates that the sampling was adequate. Bartlett's test of sphericity had an approximate chi-square of 1463.77 (df = 171, p < .001). Two factors had eigenvalues greater than 1.00 and accounted for 46.56% of the cumulative variance explained. However, all 10 negatively worded items except one ("I'm simply a working-class person at a middle-class university") loaded on the first factor, and all the positively worded items loaded on the second factor (see Table 1). This suggests that the negative wording created an artifactual factor (Roszkowski & Soven, 2010; Schmitt & Stults, 1985; Spector, Van Katwyk, Brannick, & Chen, 1997). In other words, the positive and negative wording may have produced two factors where there is only one. Thus, I ran a principal axis factoring analysis testing for one factor.

Table 1

Factorial Structure of the Social Class Bicultural Identity Integration Scale (SES-BII)

Item	1-Factor	2-Factor	
	1	1	2
1. I find it easy to harmonize working-class and middle-class cultures.	.42		.69
2. I rarely feel conflicted about being social class bicultural.	.52		.51
3. I find it easy to balance both working-class and middle-class cultures.	.58		.74
4. I do not feel trapped between the working-class and middle-class cultures.	.81		.59
5. I feel torn between working-class and middle-class cultures. (R)	.77	.78	
6. I feel that my working-class and middle-class cultures are incompatible. (R)	.40	.73	
7. Being bicultural means having two cultural forces pulling on me at the same time. (R)	.77	.37	
8. I feel conflicted between the middle-class and working-class ways of doing things. (R)	.75	.71	
9. I feel like someone moving between two cultures. (R)	.84	.51	
10. I feel caught between the working-class and middle-class cultures. (R)	.34	.68	
11. I feel working-class and middle-class at the same time.	-.26		.65
12. I relate better to a combined working-middle class culture than to working-class or middle-class culture alone.	-.22		.48
13. I cannot ignore the working-class or middle-class side of me.	-.32		.42
14. I feel social class bicultural.	-.36		.47
15. I feel part of a combined culture.			.73
16. I find it difficult to combine working-class and middle-class cultures. (R)	.77	.77	
17. I do not blend my working-class and middle-class cultures. (R)	.64	.65	
118. I am simply a working-class person at a middle-class university. (R)	.33	.37	
19. I keep working-class and middle-class cultures separate. (R)	.64	.50	

Note. Only factor loadings above .20 are shown.

The nineteen items were again subjected to principal axis factoring with a promax rotation. The first factor had an eigenvalue of 6.04, accounting for 31.76% of cumulative variance explained. All items but one ("I feel part of a combined culture") loaded onto the single factor (this factor was retained because scale reliability was sufficient). This suggests that, unlike the BIIS-2 scale, for social class bicultural identity integration, the scale is unitary. The scale was reliable (α = .81).

SES-BII and Satisfaction with Life and GPA. Descriptive statistics and correlations are shown in Table 2. A series of regressions were used to test the relationship between SES-BII, life satisfaction, and self-reported GPA. Additionally, I conducted regressions examining the effect of SES-BII on life satisfaction, simultaneously controlling for social class, family income, subjective SES, and ethnicity, and college GPA, controlling for demographic variables and self-reported high school GPA (Table 3). Results were consistent with my hypotheses; SES-BII significantly predicted life satisfaction and college GPA, and the effects persisted after controlling for demographic and performance variables. Interactions of ethnicity and SES-BII on college GPA (β = .02, p = .97) and Satisfaction with Life (β = -.17, p = .69) were not significant.

Table 2

Descriptive Statistics and Bivariate Correlations

	M	***SD***	**1**	**2**	**3**
SES-BII	3.29	.41	—		
SWL	4.70	1.26	.26**	—	
GPA	3.13	.71	.18**	.12*	—
† p < .10. * p < .05. ** p < .01					

Table 3

Regression Analyses Assessing Effects of SES-BII Including Analysis with Control Variables

	Main analysis						
Variable	***b***	***SE***	**95% CI**	**β**	**t**	***f²***	**Power**
SWL	.80	.14	[.53, 1.08]	.26**	5.76	.08	.99
GPA	.32	.08	[.17, .48]	.18**	0.40	.03	.97
	Analysis with control variables						
SWL	.59	.15	[.29, .89]	.19**	3.87	.15	.99
GPA	.20	.08	[.04, .36]	.12**	2.39	.06	.99

Note: Power analyses conducted using G*Power (Faul et al., 2009), at the .05 level. † $p < .10$. * $p < .05$. ** $p < .01$.

Consistent with past research on bicultural identity integration, Study 2 revealed that SES-BII was related to improved academic performance and higher life satisfaction among FGC students. These effects remained significant when controlling simultaneously for a number of other factors and do not appear to be due to a confounding of social class and ethnicity. Thus, Study 2 provides the first evidence that SES-BII is linked to academic performance and well-being.

Study 3: Acculturative Stress as a Mediator of the Effect of Social Class Bicultural Identity Integration

Study 2 demonstrated that social class bicultural identity integration is related to performance and well-being. In Study 3, I investigated whether the effects of SES-BII on health, well-being, and academic performance were mediated by acculturative stress. Past research demonstrates that increased bicultural identity integration is related to reduced acculturative stress (Benet-Martínez & Haritatos, 2005; Chen, Benet-Martínez, & Bond, 2008; Huynh, 2009). When individuals feel that their identities are harmonious and compatible, it reduces feelings of stress, thereby improving outcomes. Acculturative stress (Sandhu & Asrabadi, 1994) has been shown to mediate the effects of adjustment variables on outcomes related to health and well-being (Kim, 2013; Yakunina, Weigold, Weigold, Hercegovac, & Elsayed, 2013; Zamboanga, Schwartz, Jarvis, & Van Tyne, 2009). The present study examined the relationship between SES-BII, acculturative stress, depression, perceived stress, mental health, physical health, and academic performance. I hypothesized that FGC students high in SES-BII would have lower acculturative stress, thereby improving well-being, health, and academic performance.

Method

Participants included 307 FGC students (115 male; *M* age = 19.65, *SD* = 3.1) from an introductory psychology course in exchange for partial course credit. The sample was 42.6% European American, 24.2% Latino, 18.7% Asian/Asian-American, 2.3% Middle Eastern/Arab-American, 1.3% African/African-American, 1% Native American, and 9% Multiracial/Other.

Participants completed the survey online using Qualtrics survey software. Participants completed the Satisfaction with Life scale (Diener et al., 1985; α = .87). Next, participants completed the Center for Epidemiological Studies Depression scale (CES-D; Radloff, 1977), where they rated the frequency of 20 depressive symptoms (e.g., "I felt lonely") in the past week from 1 (*Rarely or none of the time*) to 4 (*Most or all of the time*; α = .92; Appendix E). General stress was assessed using the 10-item Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). Participants rated the frequency of stressful experiences (e.g., "In the last month, how often have you felt that you were unable to control the important things in your life?") from 0 (*Never*) to 4 (*Always*; $\alpha = .87$). Please see Appendix F for the full text of this scale. Participants then completed the Short Form-12 Health Survey (SF-12; Ware, Kosinski, & Keller, 1996), which contains questions about global, physical, and mental health and was scored using standard scoring procedures (Ware, Kosinski, & Keller, 1994). The full scale may be found in Appendix G. Participants then completed an adapted version of the Acculturative Stress Scale for International Students (ASSIS; Sandhu & Asrabadi, 1994; $\alpha = .95$), indicating their agreement on 35 items from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), such as "Others don't appreciate my values." Please see Appendix H for the full text of the scale. Participants completed the adapted SES-BII scale ($\alpha = .75$). Finally, participants reported their college GPA, gender, ethnicity, parental education, immigration status, family's annual income, and subjective SES (Adler et al., 2000). At the end of the semester, with participants' permission, official high school GPA, PSY 101 course grade, term GPA, and cumulative GPA were collected from the university's Office of Institutional Analysis.

Results and Discussion

Descriptive statistics and correlations are shown in Table 4. I conducted a series of regressions examining the relationship between SES-BII, life satisfaction, mental health, physical health, overall health, acculturative stress, depression, perceived stress, official PSY 101 course grade, official term GPA, and official cumulative GPA. I also conducted regressions examining the effect of SES-BII on health and well-being variables, controlling simultaneously for social class, family income, subjective SES, and ethnicity, and for the effect of SES-BII on performance variables, controlling simultaneously for demographic variables and official high school GPA (Table 5).

Results were consistent with my hypotheses: SES-BII significantly predicted all variables. After controlling for demographic and performance variables, SES-BII remained a significant predictor of all dependent variables. Interactions of SES-BII and ethnicity (European American/Non-European American) were not significant for acculturative stress (β = .55, p = .24), satisfaction with life (β = -.56, p = .25), depression (β = .22, p = .65), perceived stress (β = .13, p = .79), overall health (β = -.47, p = .36), physical health (β = -.15, p = .78), mental health (β = -.31, p = .53), course grade (β = -.09, p = .86), term GPA (β = .002, p = .99), or cumulative GPA (β = -.20, p = .71).

Table 4

Descriptive Statistics and Bivariate Correlations

Variable	***M***	***SD***	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
SES-BII	3.29	.45	—										
SWL	4.80	1.18	.31**	—									
Mental Health	44.60	11.26	.31**	.47**	—								
Physical Health	52.20	7.07	.14*	.19**	-.11†	—							
Overall Health	3.51	.85	.16**	.39**	.38**	.41**	—						
ASSIS	2.17	.64	-.45**	-. 46**	-.44**	-.26**	-.35**	—					
CESD	37.81	11.23	-.34**	-. 54**	-.75**	-.13*	-.41**	.57**	—				
PSS	17.92	7.05	-.35**	-.51**	-.69**	-.15*	-. 44**	.51**	.70**	—			
PSY 101 Grade	4.99	2.72	.16**	.22**	.04	.10	.08	-.11†	-.12*	-.11†	—		
Term GPA	3.08	.82	.19**	.15*	.07	.04	.13*	-.05	-.07	-.11†	.69**	—	
Cum. GPA	3.10	.73	.17**	.14*	.07	.04	.13*	-.06	-.08	-.14*	.68**	.94**	—

† $p < .10$. * $p < .05$. ** $p < .01$.

Table 5

Regression Analyses Assessing Effects of SES-BII Including Analysis with Control Variables

	Main analysis							**Analysis with control variables**						
	b	***SE***	**95% CI**	**β**	**t**	***f²***	**Power**	***b***	***SE***	**95% CI**	**β**	**t**	***f²***	**Power**
SWL	.57	.10	[.37, .77]	.31**	5.63	.10	.99	.53	.10	[.33, .74]	.29**	5.18	.21	.99
Mental Health	5.51	.97	[3.61, 7.41]	.31**	5.71	.11	.99	5.60	.99	[3.64, 7.56]	.32**	5.62	.16	.99
Phys. Health	1.55	.64	[.29, 2.80]	.14*	2.42	.02	.70	1.42	.68	[.09, 2.75]	.13*	2.10	.03	.63
Overall Health	.22	.08	[.07, .37]	.16**	2.88	.03	.86	.26	.08	[.10, .42]	.19**	3.18	.06	.93
ASSIS	-.45	.05	[-.55, -.35]	-.45**	-8.85	.25	.99	-.45	.05	[-.55, -.35]	-.45**	-8.58	.35	.99
CESD	-6.11	.95	[-7.98, -4.23]	-.34**	-6.41	.14	.99	-5.79	.99	[-7.74, -3.84]	-.33**	-5.86	.19	.99
PSS	-3.92	.60	[-5.10, -2.74]	-.35**	-6.53	.14	.99	-4.10	.63	[-5.34, -2.86]	-.37**	-6.50	.19	.99
PSY Grade	.81	.25	[.32, 1.30]	.19**	3.23	.04	.94	.73	.24	[.25, 1.20]	.18**	3.02	.47	.99
Term GPA	.22	.08	[.07, .37]	.17**	2.85	.03	.86	.20	.07	[.05, .34]	.17**	2.70	.37	.99
Cum. GPA	.16	.07	[.03, .30]	.14*	2.41	.02	.70	.17	.07	[.04, .30]	.15*	2.56	.39	.99

Note: Power analyses conducted using G*Power (Faul et al., 2009), at the .05 level. † $p < .10$. * $p < .05$. ** $p < .01$.

After controlling for year in school (first-year/non-first-year), SES-BII remained a significant predictor of satisfaction with life ($\beta = .29$, $p < .001$), mental health ($\beta = .30$, $p < .001$), physical health ($\beta = .15$, $p = .008$), overall health ($\beta = .15$, $p = .01$), acculturative stress ($\beta = -.46$, $p < .001$), depression ($\beta = -.35$, $p < .001$), perceived stress ($\beta = -.34$, $p < .001$), PSY 101 course grade ($\beta = .14$, $p = .01$), term GPA ($\beta = .17$, $p = .004$), and cumulative GPA ($\beta = .15$, $p = .01$). Thus, similar effects were observed for students across year in school. Interactions of SES-BII and year in school were not significant. Specifically, interactions of SES-BII and year in school did not significantly interact to predict satisfaction with life ($\beta = .48$, $p = .29$), mental health ($\beta = .63$, $p = .16$), physical health ($\beta = .68$, $p = .14$), overall health ($\beta = .51$, $p = .27$), acculturative stress ($\beta = -.77$, $p = .12$), depression ($\beta = -.67$, $p = .13$), perceived stress ($\beta = -.35$, $p = .43$), PSY 101 course grade ($\beta = -.01$, $p = .98$), term GPA ($\beta = .58$, $p = .21$), or cumulative GPA ($\beta = .28$, $p = .55$).

Mediation Analysis. In order to examine whether the effects of SES-BII were explained by reduced acculturative stress, a bootstrapping procedure using 5,000 bias corrected and accelerated resamples was tested (Preacher & Hayes, 2004). Figure 2 shows the results, which were significantly mediated by acculturative stress. Additionally, I used the same procedure to test whether the effects of SES-BII on official course grade, term GPA, and cumulative GPA were mediated by reduced acculturative stress. However, the effects of SES-BII on performance were not mediated by acculturative stress.

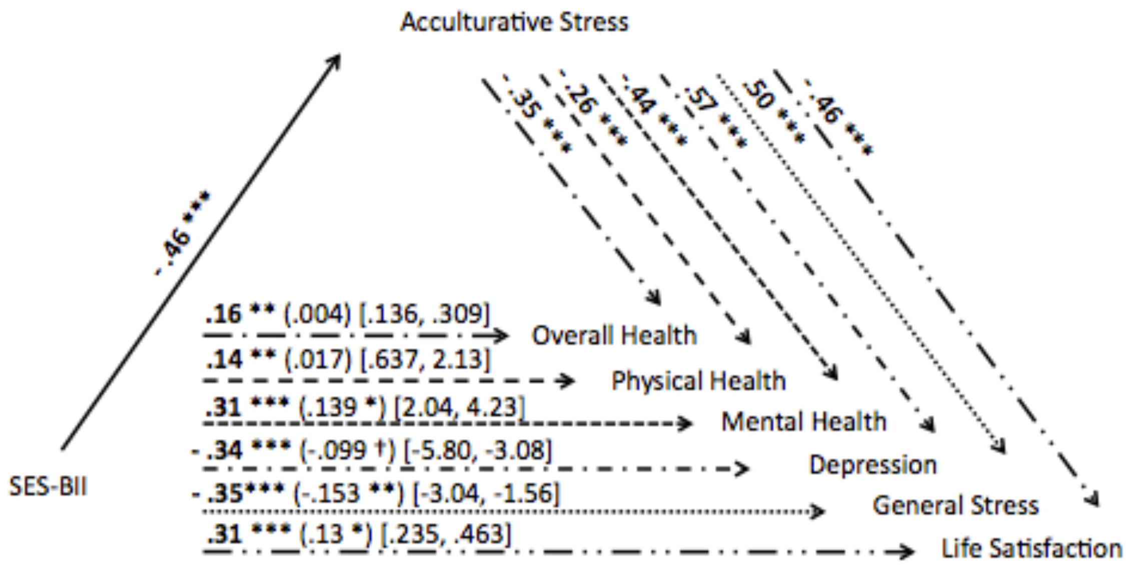

Figure 2. Mediation of the Effect of SES-BII on Mental Health, Physical Health, and Well-Being by Acculturative Stress

Note: Values are standardized betas, values in parentheses are standardized betas controlling for Acculturative Stress, values in square brackets are unstandardized betas representing bias corrected and accelerated 95% confidence intervals for the indirect effect resulting from non-parametric bootstrapping tests with 5000 bootstrapped samples. † $p \leq .1$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Social class bicultural identity integration significantly predicted life satisfaction, mental and physical health, overall health, acculturative stress, depression, perceived stress, official PSY 101 course grade, and term and cumulative GPA. The academic performance findings replicated those observed with self-report (Study 2), with official measures of academic performance taken at a later time point, demonstrating directionality of the effect of SES-BII on performance. The effect of SES-BII on health and well-being was mediated by reduced acculturative stress. However, the effects of SES-BII on academic performance were not mediated by acculturative stress. Thus, while SES-BII is beneficial for performance, the effects do not depend on acculturative stress.

CHAPTER 3

STUDY 4

Study 4: A Test of Directionality of the Effects of Social Class Bicultural Identity Integration on Health and Well-Being

Although Study 3 demonstrated that the effects of SES-BII on life satisfaction, mental and physical health, overall health, depression, and perceived stress were mediated by reduced acculturative stress, the SES-BII and health and well-being measures were taken at the same time point. In order to establish temporal precedence, Study 4 measured SES-BII and all dependent variables at two time points across the semester. I hypothesized that FGC students high in SES-BII would have reduced acculturative stress and increased well-being, health, and academic performance. Furthermore, I hypothesized that the effects of social class bicultural identity integration on health and well-being would be mediated by reduced acculturative stress.

Method

The study was conducted in two parts: one at the beginning of the semester, the other at the end. The first part of the study was administered online via Qualtrics survey software over a 28-day period starting during the third week of the semester (i.e., February). The second part of the study was administered online via Qualtrics survey software over a 29-day period starting during the thirteenth week of the semester (i.e., April). Participants for the study included 247 FGC students (92 male; *M* age = 19.98, *SD* = 3.34), recruited from an introductory psychology course for partial course credit. The sample was 39.5% European American, 22.2% Latino, 18.9% Asian/Asian-American, 4.1% African/African-American, .8% Native American, 1.2% Middle Eastern/Arab-American, and 11.1% Multiracial/Other. Eighty-one participants completed the second part of the study. All participants consented to allow their responses to be linked to academic records for the purpose of this study, which was accomplished through collaboration with the university's Office of Institutional Analysis.

The procedure was identical to Study 3. Participants completed the SES-BII scale (Time 1 α = .7), the Satisfaction with Life scale (Diener et al., 1985; Time 2 α = .89), the Short Form-12 Health Survey (Ware et al., 1996), the Center for Epidemiological Studies Depression Scale (Radloff, 1977; Time 2 α = .92), the Perceived Stress Scale (Cohen et al., 1983; Time 2 α = .76), and the adapted Acculturative Stress Scale for International Students (Sandhu & Asrabadi, 1994; Time 2 α = .96). Finally, participants reported their gender, ethnicity, parental education, immigration status, social class, family's annual income, and subjective SES (Adler et al., 2000). At the end of the semester, participants' official high school GPA, official term GPA, and official cumulative GPA were collected from the university's Office of Institutional Analysis.

Results and Discussion

Attrition Analyses. Logistic regression was conducted to examine the differences in attrition by race, gender, income, SES, subjective SES, satisfaction with life, depression, perceived stress, acculturative stress, physical health, mental health, SES-BII, official high school GPA, and GPA. A test of the full model against a constant-only model was statistically significant, indicating that the predictors distinguished differences between participants who returned for Time 2 of the study and those who dropped out after Time 1 (Chi-square = 34.18, p = .018 with df = 19). Nagelkerke's R^2 of .197 indicates a weak relationship between the predictors and attrition: prediction of attrition overall was 69.1% (86.4% of Time 1, and 38.8% of Time 1 and Time 2). Among the variables, gender (β = .83, SE = .36, p = .02), SES (β = .43, SE = .22, p = .05), subjective SES (β = .34, SE = .13, p = .009), and SES-BII (β = .88, SE = .32, p = .006) made significant contributions to prediction. Specifically, only 45 out of 146 women (30.82%) returned to participate in Time 2; however, 40 out of 92 men (43.92%) participated at Time 2. Participants who were higher on SES, subjective SES, and SES-BII were more likely to return to participate at Time 2.

Descriptive statistics and correlations are shown in Table 6. I conducted a series of regressions examining the relationship between SES-BII (measured at Time 1) and well-being and academic performance variables measured at Time 2 (i.e., the end of the semester), including life satisfaction, mental health, physical health, overall health, acculturative stress, depression, perceived stress, term GPA, and cumulative GPA. Regression analyses were done using MPlus, version 7.2 (Muthén & Muthén, 1998-2014). These analyses utilized full information maximum likelihood (FIML) to handle missing data. As in Study 3, SES-BII at Time 1 significantly predicted acculturative stress (β = -.39, SE = .09, p < .001), term GPA (β = .34, SE = .14, p = .02), and cumulative GPA (β = .28, SE = .11, p = .02) at Time 2. However, SES-BII at Time 1 did not significantly predict satisfaction with life (β = -.003, SE = .11, p = .98), depression (β = -.16, SE = .11, p = .13), stress (β = -.03, SE = .11, p = .80), mental health (β = .10, SE = .11, p = .35), physical health (β = -.15, SE = .11, p = .19), or overall health (β = .03, SE =

.12, p = .80) at Time 2.

I also conducted regressions examining the effect of SES-BII on health and well-being variables, controlling simultaneously for social class, family income, subjective SES, and ethnicity. SES-BII remained a significant predictor of acculturative stress (β = -.41, SE = .09, p < .001) and depression (β = -.22, SE = .11, p = .049) at Time 2. The effects of SES-BII on satisfaction with life (β = .05, SE = .11, p = .65), stress (β = -.06, SE = .11, p = .59), mental health (β = .14, SE = .11, p = .22), physical health (β = -.09, SE = .11, p = .41), and overall health (β = .002, SE = .11, p = .99) remained nonsignificant after controlling for demographic variables. Additionally, I conducted regressions examining the effect of SES-BII on term and cumulative GPA, controlling simultaneously for social class, family income, subjective SES, ethnicity, and official high school GPA. SES-BII remained a marginal predictor of term GPA (β = .34, SE = .18, p = .06), but was no longer a significant predictor of cumulative GPA (β = .22, SE = .14, p = .12).

Table 6

Descriptive Statistics and Bivariate Correlations

Variable	***M***	***SD***	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
SES-BII	3.23	.40	—									
SWL	4.89	1.17	.05	—								
Mental Health	46.06	10.39	.15	.45**	—							
Physical Health	53.90	5.33	-.11	-.002	-.19†	—						
Overall Health	2.45	.87	.02	-.31**	-.26*	-.41**	—					
ASSIS	2.20	.68	-.41**	-.30**	-.46**	-.10	.29**	—				
CESD	37.36	11.33	-.24*	-.46**	-.77**	.01	.30**	.57**	—			
PSS	20.93	6.75	-.08	-.44**	-.64**	.01	.26*	.37**	.64**	—		
Term GPA	2.98	.74	.27*	.23*	.24*	.15	-.07	-.25*	-.35**	-.33**	—	
Cumulative GPA	3.07	.62	.27*	.20†	.14	.20	-.08	-.21†	-.27*	-.24*	.93*	—

† $p < .10$. * $p < .05$. ** $p < .01$.

Interactions of SES-BII and ethnicity (European American/non-European American) on satisfaction with life ($\beta = -.37$, $p = .70$), depression ($\beta = .67$, $p = .47$), perceived stress ($\beta = .12$, $p = .90$), acculturative stress ($\beta = .65$, $p = .46$), physical health ($\beta = -1.45$, $p = .12$), mental health ($\beta = .25$, $p = .79$), overall health ($\beta = .84$, $p = .41$), term GPA ($\beta = .68$, $p = .47$), and cumulative GPA ($\beta = .54$, $p = .57$) were not significant. Thus, similar effects were observed for European American and ethnic minority participants.

After controlling for year in school (i.e., first-year/non-first-year), SES-BII remained a significant predictor of acculturative stress ($\beta = -.45$, $p < .001$), depression ($\beta = -.27$, $p = .02$), term GPA ($\beta = .24$, $p = .03$), and cumulative GPA ($\beta = .25$, $p = .03$). Interactions of SES-BII and year in school were not significant. Specifically, interactions of SES-BII and year in school did not significantly interact to predict satisfaction with life ($\beta = .10$, $p = .42$), mental health ($\beta = .08$, $p = .52$), physical health ($\beta = .20$, $p = .12$), overall health ($\beta = -.17$, $p = .16$), acculturative stress ($\beta = -.19$, $p = .43$), depression ($\beta = -.06$, $p = .58$), perceived stress ($\beta = -.06$, $p = .61$), term GPA ($\beta = -.15$, $p = .18$), or cumulative GPA ($\beta = -.12$, $p = .31$). Thus, similar effects were observed for students across year in school.

Mediation Analysis. In order to examine whether the effect of SES-BII on depression was explained by reduced acculturative stress, mediation was tested using MPlus, version 7.2 (Muthén & Muthén, 1998-2014). Figure 3 shows the results: the effect of SES-BII on depression was significantly mediated by acculturative stress. Additionally, the same procedure was used to test whether the effects of SES-BII on term

GPA and cumulative GPA were mediated by reduced acculturative stress. However, the effects of SES-BII on performance were not mediated by acculturative stress.

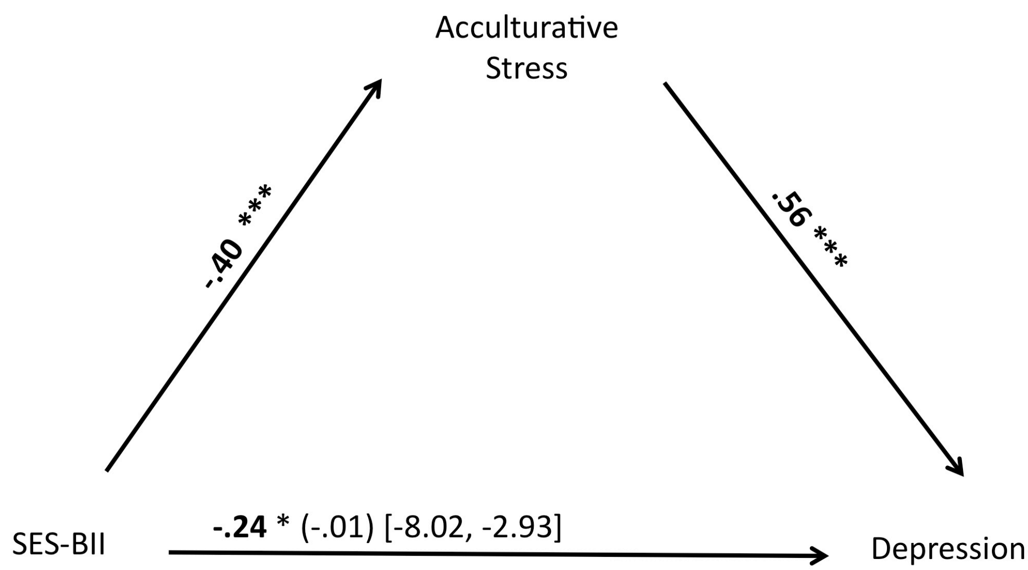

Figure 3. Mediation of the Effect of SES-BII on Depression by Acculturative Stress

Note: Path models illustrate mediation of effect of SES-BII on depression by Acculturative Stress. Values are standardized betas, values in parentheses are standardized betas controlling for Acculturative Stress, values in square brackets are unstandardized coefficients representing 95% confidence intervals for the indirect effect. † $p \leq .1$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

The present study demonstrated that social class bicultural identity integration significantly predicted depression, term GPA, and cumulative GPA at a later timepoint. Furthermore, the effect of SES-BII on depression was mediated by reduced acculturative stress. However, the effects of SES-BII on academic performance variables were not mediated by acculturative stress. Additionally, while the results were not all statistically significant, due to a small sample size (n = 81) in part 2 of the study, the direction of the effects are similar to those observed in my previous studies on social class bicultural identity integration, with the exception of physical health.

CHAPTER 4

STUDY 5

Study 5: Predictors of Social Class Bicultural Identity Integration

A potential predictor of social class bicultural identity integration is exposure to middle-class culture and values before attending college (e.g., through neighborhoods, schools). First-generation college students who have been previously exposed to middle-class culture may be better equipped to deal with the challenges of acculturating to college, because they have a "head start" on the acculturation process.

People from different social class contexts may be given differential opportunities to engage in practices that reflect independence (e.g., through education, workplace norms, mobility, greater opportunities for choice; Day & Newburger, 2002; Kohn, 1969, Pascarella & Terenzini, 1991; Patillo-McCoy, 1999). For example, grade schools in low or high SES neighborhoods promote certain ways of being that enable students to succeed in their future careers (e.g., deference to authority versus celebration of individual achievements; Anyon, 1980; Bowles & Gintis, 1976; Darling-Hammond, 2004, 2010; Heath, 1982; MacLeod, 2009; Oakes, 1982). In this way, exposure to the middle-class through one's home neighborhood or school may also serve as a predictor of social class bicultural identity integration.

First-generation college students who have lived in more affluent neighborhoods or attended magnet or college preparatory schools may be more familiar with middle-class norms and values (i.e., "the privileged poor," Coleman & Hoffer, 1987; Jack, 2014, 2015; Kane, 1992; Khan, 2011; Kramer, 2008; Sampson & Laub, 1993), compared to someone from a predominantly low-income neighborhood or school (i.e., "the doubly disadvantaged," Jack, 2014, 2015; Kozol, 1991; Neckerman, 2007; Paulle, 2013; Ryan, 2010). Exposure to the middle-class through these contexts may prepare students for the change in culture that they will experience when they attend college, thereby leading to higher social class bicultural identity integration. Therefore, FGC students who come from more affluent neighborhoods or schools should have higher social class bicultural identity integration than those who do not, as a function of awareness of the differences in norms and preparation for the cultural shift in college.

As studies 2-4 demonstrate, first-generation college students with integrated social class identities experience better academic performance, compared to students who view their identities as incompatible. However, it is not yet known what predicts social class bicultural identity integration. In this study, I examine several variables that may predict social class bicultural identity integration for first-generation college students. Specifically, I examine exposure to the middle-class before college as a potential predictor of SES-BII, by using participants home zip codes to collect Census data on neighborhood characteristics (e.g., poverty rate, unemployment rate, percentage of people with less than a college degree, median income) and names of high schools to collect data from the National Center for Education Statistics Common Core of Data and Private School Survey (e.g., Title I status, private vs. public school, percent free and reduced lunch [FRL]).

I hypothesized that FGC students from neighborhoods with higher poverty rates, higher unemployment, higher percentages of individuals with less than a bachelor's degree (i.e., the doubly disadvantaged), and lower median income would have lower SES-BII relative to students from neighborhoods with lower poverty rates and unemployment and higher median incomes and percentages of individuals with a bachelor's degree or above (i.e., the privileged poor). Similarly, I hypothesized that FGC students who attended public schools, attended high schools that receive Title I funds, and have higher percentages of FRL students would have lower SES-BII, relative to students who attended non-Title I schools, and have lower percentages of FRL students.

Method

The study was conducted in two parts, one as part of the introductory psychology prescreening battery, the other at the beginning of the semester in exchange for course credit. Participants for the study included 153 FGC students (57 male; *M* age = 20.06, *SD* = 4.18), recruited from an introductory psychology course for partial course credit. The sample was 45.1% European American, 25.5% Latino, 18.4% Asian/Asian-American, 3.3% African/African-American, 1.3% Native American, .7% Middle Eastern/Arab-American, and 5.2% Multiracial/Other.

At the outset of the semester, as part of the prescreening battery for introductory psychology, FGC students were asked "What high school did you graduate from?" and "What zip code did you live in for most of your life before college (if in the US)?" Please see Appendix I for the full text of these prescreening questions. First-generation college students who participated in the prescreening battery were invited to complete a study during the fifth week of the semester in exchange for partial course credit. As part of a larger survey assessing relationships between social class bicultural identity integration, health, well-being, and performance, participants completed the SES-BII scale ($M = 3.25$, $SD = .41$, $\alpha = .67$). Additionally, participants reported their gender, ethnicity, parental education, immigration status, social class, family's annual income, and subjective SES (Adler et al., 2000).

From the surveys, participants' zip codes were used to acquire Census 2014 American Community Survey (ACS) data on neighborhood characteristics (i.e., percentage living below the poverty level, percentage with less than a bachelor's degree, percent unemployed, and median income). Information on participants' high schools was used to acquire data from the National Center for Education Statistics Common Core of Data (CCD) and Private School Survey (PSS; i.e., Title I status and percent free and reduced lunch [FRL]).

Results and Discussion

To investigate the FGC students' home neighborhoods, I compiled the data from the 2014 Census ACS, including percentage of unemployment, percentage living below the poverty line, median income and percentage with a bachelor's degree or higher. Additionally, I calculated income disparities—the difference between participants' self-reported family income and the median income in their neighborhoods. For more information about participants' high schools, I compiled data from the CCD and PSS surveys from the NCES, including Title I status (i.e., percentage of students from low-income families), percentage of students who receive free or reduced lunch (i.e., FRL; a commonly used metric for socioeconomic status in educational settings), whether public school students attended a magnet school, and student-teacher ratios.

In order to assess whether SES-BII was correlated with neighborhood variables, I examined correlations between SES-BII, poverty rate, unemployment rate, percentage of individuals with a bachelor's degree, median income, and income disparity. My hypothesis was partially supported: the percentage of individuals with a bachelor's degree was positively correlated with SES-BII, $r(139) = .23$, $p = .008$. However, there was no significant correlation between poverty rates and SES-BII, $r(139) = -.01$, $p = .91$, unemployment rates and SES-BII, $r(139) = -.03$, $p = .69$, median income and SES-BII, $r(139) = .10$, $p = .12$, or income disparity and SES-BII, $r(132) = .14$, $p = .11$. Thus, FGC students who came from neighborhoods that had a higher proportion of individuals with a bachelor's degree had higher social class bicultural identity integration, but there was no relationship between SES-BII and poverty, unemployment rates, median income, or income disparity.

I also examined whether SES-BII was correlated with the percentage of students receiving free or reduced lunch. However, SES-BII was not significantly correlated with percentage of students receiving free or reduced lunch, $r(117) = .06$, $p = .53$. In addition, I ran linear regression analyses controlling for type of school (i.e., public, private, charter, vocational) and location (i.e., city, suburb, town, rural), both of which are related to proportion of FRL students. After controlling for school type and location, the effect of FRL on SES-BII remained non-significant, $\beta = .06$, $p = .55$.

For the categorical variables (i.e., Title I status, public vs. private schools), I conducted independent samples *t*-tests with SES-BII as the dependent variable. Contrary to my hypothesis, there was no significant difference between Title I and non-Title I schools in SES-BII, $t(104) = 1.02$, $p = .31$. The same was true of the difference between private and public schools: there was no significant difference in SES-BII, $t(122) = -1.27$, $p = .21$. Additionally, I conducted a univariate analysis of variance controlling for school type and location to examine whether there were differences in SES-BII by Title I status. The effect remained non-significant, $F(1, 105) = 1.12$, $p = .29$. Thus, there were no significant differences in SES-BII from participants who attended Title I and non-Title I schools or private and public schools.

Social class bicultural identity integration was significantly correlated with percentage of people with a bachelor's degree or higher, but not significantly related to neighborhood variables including poverty, unemployment rates, median income, and income disparity, or to school variables, including percentage of students receiving free or reduced lunch. Additionally, there were no significant differences in SES-BII by Title I status or school type (i.e., public, private). This suggests that although SES-BII is predicted in part by characteristics of pre-college neighborhoods, there may be other variables that more strongly predict identity integration.

Meta-Analytic Results

In order to compare means of the variables across studies 2-5, I utilized Exploratory Software for Confidence Intervals (ESCI; Cumming, 2012) to calculate the meta-analytic statistics I^2 and Cochran's Q. The means may be found in Table 7, which also indicates which studies were conducted during the fall versus the spring semesters. Results of the meta-analysis may be found in Tables 8 and 9. Physical health, overall health, and perceived stress were considered to have substantial heterogeneity (Higgins, 2002, 2003). However, these results should be interpreted with caution, as only two studies were included for those analyses. For all other variables, *Q* had *p* values above .10, indicating that the means were largely similar across studies and across Fall and Spring semesters. This provides additional confidence in the consistency of these measures across studies and semesters.

Table 7

Comparison of Means and Standard Deviations Across Studies

	Study 2 (Spring)		**Study 3 (Fall)**		**Study 4 (Spring)**		**Study 5 (Spring)**	
Variable	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
SES-BII	3.29	.41	3.29	.45	3.23	.40	3.25	.41
SWL	4.70	1.26	4.80	1.18	4.89	1.17	--	--
Mental Health	--	--	44.60	11.26	46.06	10.39	--	--
Physical Health	--	--	52.20	7.07	53.90	5.33	--	--
Overall Health	--	--	3.51	.85	2.45	.87	--	--
ASSIS	--	--	2.17	.64	2.20	.68	--	--
CESD	--	--	37.81	11.23	37.36	11.33	--	--
PSS	--	--	17.92	7.05	20.93	6.75	--	--
Term GPA	--	--	3.08	.82	2.98	.74	--	--
Cumulative GPA	3.13	.71	3.10	.73	3.07	.62	--	--

Table 8

Estimated Mean Value Across Studies

	N	*k*	95% CI	I^2	*Q*	*p*
SES-BII	1185	4	[3.25, 3.30]	30.21%	4.29	.44
SWL	866	3	[4.68, 4.84]	17.78%	2.43	.30
Mental Health	388	2	[43.85, 46.04]	18.10%	1.22	.27
Physical Health	388	2	[52.09, 53.39]	82.23%	5.63	.02
Overall Health	388	2	[3.21, 3.38]	98.96%	96.05	< .001
ASSIS	388	2	[2.11, 2.24]	0%	0.13	.73
CESD	388	2	[36.59, 38.84]	0%	0.10	.75
PSS	388	2	[17.89, 19.29]	92%	12.51	< .001
Term GPA	388	2	[2.97, 3.14]	10.49%	1.12	.29
Cumulative GPA	866	3	[3.07, 3.16]	0%	0.76	.68

Note: 95% Confidence Intervals represent CI's for means.

Table 9

Estimated Correlation Population Value Across Studies

	$\varrho_{estimate}$	Lower *r*	Upper *r*	X^2	95% CI	*k*
SWL	.26	.05	.31	4.54	[.20, .32]	3
Mental Health	.28	.15	.31	1.78	[.18, .36]	2
Physical Health	.09	-.11	.14	3.92*	[-.01, .19]	2
Overall Health	.13	.02	.16	1.24	[.03, .23]	2
ASSIS	-.44	-.45	-.41	.15	[-.52, -.36]	2
CESD	-.32	-.34	-.24	.74	[-.41, -.23]	2
PSS	-.43	-.51	-.08	14.45***	[-.51, -.35]	2
Cumulative GPA	.19	.18	.27	.6	[.13, .26]	3

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

CHAPTER 5

GENERAL DISCUSSION

First-generation college students continue to have poorer performance and persistence compared to continuing-generation college students. I argue that difficulty acculturating to college accounts in part for these differences. The present research examined the ways that social class bicultural identity integration predicts outcomes related to health, well-being, and performance for first-generation college students. In three preliminary studies, I demonstrated that that first-generation college students are more likely to identify as social class bicultural and that integrated social class identities are linked to increased academic performance, well-being, and physical and mental health for first-generation students. Additionally, the effects of social class bicultural identity integration on health and well-being were due to reduced acculturative stress.

Study 4 examined whether the effects of social class bicultural identity integration persisted across time. Results demonstrated that identity integration significantly predicted depression and term and cumulative GPA at a later timepoint. Additionally, the effect of social class bicultural identity integration on depression was mediated by reduced acculturative stress, which replicated the findings from Study 3. Finally, in Study 5, I utilized archival data (i.e., Census, Public Schools Survey) to examine potential predictors of social class bicultural identity integration before college. The results demonstrated that exposure to adults with bachelor's degrees in one's neighborhood before college predicted bicultural identity integration at college. However, all other variables associated with social class before college were not significantly related to identity integration. It is possible that there are other, stronger predictors of identity integration, such as individual differences in personality that better equip FGC students for the cultural changes of attending college).

Methodological Considerations

The primary aim of this research was to investigate the effects of social class bicultural identity integration on outcomes related to health, well-being, and performance. However, the first-generation college students in these studies were not a homogenous group: participants came from a variety of ethnic backgrounds. Indeed, more than half of the samples in Studies 2-5 were not European American. This begs the question: to what extent are we observing differences in social class bicultural identity integration rather than ethnic identity integration? Research on cultural models suggests that individuals are constantly engaging with multiple cultural contexts related to different facets of identity (e.g., social class, ethnicity, gender, sexual orientation). Being low status in any one of these identities (e.g., low SES, female, stigmatized ethnic minority, LGBTQ) may have similar implications for outcomes (Boykin, Jagers, Ellison, & Albury, 1997; Croizet & Claire, 1998; Cross & Madison, 1997).

However, there are also important differences between these different types of identities. Namely, social class is a *concealable identity*, meaning it can be hidden from others (Crocker, Major, & Steele, 1998; Goffman, 1963; Quinn & Earnshaw, 2013). While some research demonstrates that social class can be detected through visual cues (Kraus & Keltner, 2009), most evidence suggests that FGC students perceive college generation status as concealable (e.g., Orbe, 2004; Stephens, Fryberg, Markus, Johnson,

& Covarrubias, 2012). For example, Steinmetz (2008) found that the FGC participants in a longitudinal study were adept at "passing" by hiding cues that would indicate their social class. Another important caveat is that, unlike race/ethnicity, gender, or sexual orientation, social class is malleable. Implicit in existing research on FGC students, and in the present research, is that attending college itself can transform one's social class identity (Kraus & Stephens, 2012; Miller, Kohn, & Schooler, 1986; Newcomb, 1943).

Other sociocultural identities (e.g., race/ethnicity, gender, sexual orientation) also influence FGC students' experiences in college. Like social class, people may also experience these as stigmatized or stereotyped identities. Having multiple relevant identities (e.g., gender, race, social class, sexual orientation, religion, ability) in a given context is referred to as *intersectionality*. It is especially impactful if people have multiple underrepresented or stigmatized identities, such that individuals may face additional challenges in the form of stereotyping and discrimination (Cole, 2009; Collins, 1998; Stirratt, Meyer, Ouellette, & Gara, 2008; Warner, 2008). The importance of one's identity as a FGC student, versus other competing sociocultural identities, may be an important determinant of the way that FGC students experience the college setting. This may depend on the salience of college generation status, and the salience of other identities, in different situations (e.g., at home versus at school; Hecht & Faulkner, 2000; Orbe, 2004). For example, one study with non-traditional FGC students, who were older (i.e., a non-concealable identity), found that they were more likely to attribute feelings of not belonging to their age, rather than their college generation status (Orbe, 2004). Thus, the impact of social class bicultural identity integration may depend on whether one's social class identity is most salient.

Racial/Ethnic Intersectionality. First-generation college students who are also racial/ethnic minorities may have reduced effects associated with social class bicultural identity integration, because students may attribute challenges primarily to their racial or ethnic identity. Interactions with racial/ethnic identities will likely depend on several factors: first, concealability of race or ethnicity (e.g., multiracial individuals, "passing"), such that FGC students who are members of a visible minority group may be more likely to attribute challenges to the ethnic identity than to college generation status. Second, the interaction may depend on whether the racial or ethnic identity is stigmatized, such that FGC students who have a stigmatized ethnic identity (e.g., African American/Native American/Latino) may be less likely to attribute challenges to college generation status, compared to someone who does not have a stigmatized ethnic identity (e.g., Asian Americans). This may also be true for immigrants or international students: identity as an immigrant or international student may supersede college generation status as an explanatory variable, thereby reducing the effects of social class bicultural identity integration. Similar to race/ethnicity or age, students may attribute difficulties to their nationality or immigration status, rather than social class differences (e.g., Orbe, 2004).

In the present studies, I found limited differences in the effects of social class bicultural identity integration by ethnicity. In all cases, effects remained significant after controlling for ethnicity. Furthermore, there were no interactions with ethnicity. There are two possibilities for this pattern of results: first, because these studies were explicitly assessing social class, as indicated in recruitment materials, consent forms, and the SES-

BII scale itself, it is possible that social class identity was primed or otherwise the most salient social identity. This may have reduced the contribution of bicultural identity integration associated with other social identities to the outcome variables of interest. The second possibility is that the effects associated with social class integration are actually stronger than those associated with ethnicity as they pertain to health, well-being, and academic performance.

Gender Intersectionality. Like race/ethnicity, gender is a visible, possibly stigmatized identity. We may observe interactions of social class bicultural identity integration and gender in two cases: first, in majors where there is a gendered minority (e.g., women in STEM), it may reduce the effect of social class bicultural identity integration if women attribute difficulties to gender, rather than college generation status. However, we may observe an interaction with gender if there are difficulties related to social class. For example, if FGC women encounter gender differences in expectations to help out with family, this may create more conflict between their home and school identities (e.g., Sy, 2006; Sy & Romero, 2008; Tweedell, 1997). This would strengthen the effect of social class bicultural identity integration, as it may reflect an ability to cope with the challenges between those identities. While gender was not a variable of consideration in the present research, the relationship between gender and social class as it pertains to identity integration may be a fruitful topic for future research.

Sexual Orientation Intersectionality. Sexual orientation may also be a stigmatized identity. Specifically, college generation status may interact with sexual orientation if the university environment is unwelcoming on the basis of a FGC students' sexual orientation, such that we should observe weaker effects of social class bicultural identity integration if challenges are attributed to sexual orientation rather than social class. Similarly, students may feel more or less difficulty integrating home and school identities depending on whether their identity is stigmatized in the home context. One can imagine a situation where an LGBTQ first-generation college student experiences greater difficulty with their sexual orientation at home than at school, thereby easing their overall transition to college. Because sexual orientation was not assessed as part of these studies, future research would do well to investigate the salience and importance of identities associated with sexual orientation and how they relate to social class identities.

Another potential limitation of the present work is that social class bicultural identity integration and health and well-being variables were assessed concurrently in Studies 2 and 3. With the exception of depression, these findings did not significantly replicate when assessed longitudinally in Study 4. Part of the reason that the effects of identity integration on health and well-being from Studies 2 and 3 failed to replicate completely is likely due to the high rate of attrition between assessments; only 81 out of 247 participants completed the study. This is a higher than the average rate of attrition for longitudinal studies examining college students (e.g., Erwin & Maurutto, 1998; Settles et al., 2009). Future studies on social class bicultural identity integration should institute procedures to minimize participant attrition, such as incentives for completion or informing students of the value of the work.

It is also possible that the effects that we observed in Studies 2 and 3, where the relationship between variables was assessed concurrently, may have been influenced by state differences such as emotion or feelings of stress. Asking students to think about health and well-being before they were asked about social class bicultural identity integration may also have skewed responses: students who had increased acculturative stress, for example, may have rated themselves lower in social class bicultural identity integration as a result. This issue may be attended to in the future by collecting survey responses across a period of time, such as with ecological momentary assessment, which would have the added benefit of allowing us to probe the relationship of these variables across the semester. This would be especially helpful in determining whether there is a sensitive window that contributes to the higher rates of dropout among first-generation college students, which is most likely to occur in their first semester or first year of college (Engle & Tinto, 2008). Additionally, data for studies 2 and 3 were collected in the first half of the semester; as such, it is feasible that ratings of health and well-being differed from ratings at the end of the semester, as in Study 4. This may have contributed to smaller or nonsignificant effects, such that students felt more satisfied and healthier at the end of the semester than at the beginning.

A further potential limitation is that students do not understand what “working-class” and “middle-class” mean and the identities associated with these classes. Indeed, there is a tendency for Americans to identify with the middle-class regardless of where they stand objectively in the socioeconomic hierarchy or that they are unable to identify the location of their social class (Hout, 2008). This has long been a concern among researchers of social class; for example, Marx and Engels (1848) discussed the awareness of one’s social standing relative to the bourgeoisie as “class consciousness.” This would have bearing on the results of Study 1, where students were asked about their identification with the working-class and the middle-class, or about the multiple mentions of perceived harmony and compatibility between these identities as part of the social class bicultural identity integration scale. Ultimately, I aimed to frame these questions with instructions that provide some guidance about what social class is. For example, the instructions for the questions in Study 1 about social class said, "Research is beginning to examine the ways that social classes (e.g., education, wealth, career) differ in their cultures (e.g., values, practices)." However, the question of what students' understanding of social class is remains. This would be well served by a qualitative analysis of FGC and CGC students responses to questions such as, "What does the term 'social class' mean to you?" and "What social class do you identify with and why? What are some of the markers that you use to identify your social class?"

Theoretical Implications and Extensions

The social class bicultural identity integration framework allows more nuanced predictions about first-generation college students' success in college. This program of research is the first to expand the concept of biculturalism to include social class, and is among the first to apply the nascent research on social class as culture to understand the ways that transitioning between social class cultures influences FGC students' performance. Expanding definitions of what it means to be bicultural provides the opportunity to understand and improve the experiences and performance of FGC students. Furthermore, this framework can be applied to understand the experiences of social class cultural transitions more broadly (e.g., experiences in white-collar workplaces for individuals from working-class backgrounds, downward mobility for people who have previously been members of the more independent middle-class).

This model may also serve to explain some of the previous psychological research on first-generation college students. For example, research by Rheinschmidt and Mendoza-Denton (2014) demonstrates that FGC students who endorse a growth mindset are less concerned about being discriminated against on the basis of their social class (e.g., *RS class*). We may observe that this effect is mediated by social class bicultural identity integration, such that integrated social class identities buffer these students from concerns about rejection. Additionally, research on the detrimental effects of cultural mismatch on academic performance for FGC students may similarly be explained by social class bicultural identity integration. Specifically, the experience of cultural mismatch (e.g., Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012) may reflect difficulty integrating one's social class identities, while having high social class bicultural identity integration may diminish the experience of cultural mismatch, and its effects on performance. Furthermore, recent work demonstrating that low SES college students who perceive the college environment as unwelcoming or "chilly" have lower academic self-efficacy (Browman & Destin, 2016) may also be mediated by social class bicultural identity integration, such that FGC students who perceive the university environment as chilly may have less integrated social class identities, thereby reducing beliefs that they can succeed in college.

There are several theoretical considerations that also deserve further examination. First, in Study 5, the only significant predictor of identity integration was exposure to college graduates. However, there may be person-level predictor variables, such as individual differences in personality, which may better equip FGC students for the cultural challenges of attending college. While Berry (1990) identified integration as one way to cope with maintaining two cultural identities, the concept fails to investigate person-level or environmental factors that explain people's likelihood to integrate. Research by Benet-Martínez and Haritatos (2005) found that bicultural identity integration is at least partially determined by personality variables, including neuroticism and openness to experience. Similarly, openness to experience may partially contribute to FGC students' social class bicultural identity integration. Additionally, FGC students' beliefs in the likelihood of upward mobility with a college degree may also determine social class bicultural identity integration.

Openness to Experience. Personality factors have been shown to relate to bicultural identity integration among ethnic biculturals. Specifically, BII has been shown to positively correlate with openness to experience, which is associated with psychological adjustment (Benet-Martínez & Haritatos, 2005; Chen et al., 2008; Kotov, Gamez, Schmidt, & Watson, 2010; Steel, Schmidt, & Shultz, 2008). Generally, individuals higher in openness tend to be more attentive to inner feelings, have a greater preference for variety, and have increased curiosity, which should positively predict biculturalism. Cornelius-White, Graza, and Hoey (2004) found that openness to experience positively predicts persistence for Latino college students, who are more likely to be FGC students and also come from a traditionally interdependent cultural context. In my own research, I have also found a significant relationship between openness and social class bicultural identity integration for FGC students (Herrmann & Varnum, invited revision). As such, I hypothesize that FGC students' openness to experience will be positively correlated with social class bicultural identity integration.

Belief in Upward Mobility/Growth Mindset. College has long been proposed as a vehicle for upward mobility. Indeed, a college degree is increasingly necessary for careers in the United States. What's more, college graduates earn 84% more compared to high school graduates (Carnevale, Rose, & Cheah, 2011). The belief that a college degree will lead to upward mobility is the primary justification for attending college, especially among FGC students (Carnoy & Levin, 1985; Lazerson, 2010; Rheinschmidt & Mendoza-Denton, 2014; Ridgeway & Fisk, 2012). However, FGC students also have lower educational and career aspirations than CGC students (Goyette & Mullin, 2006; Pascarella et al., 2004). Preliminary work from Browman and Destin (2016) suggests that low SES students who believe that social class can change have greater academic self-efficacy and performance compared to those who believe that it is unchangeable.

A related variable is growth mindset, the belief that one can grow and improve in a given area (Dweck, 2006). First-generation college students who endorse a growth mindset may also be more likely to believe that social class is changeable. Research by Kraus and colleagues (2012) demonstrates that low subjective socioeconomic status individuals (i.e., low perceived rank) are less likely to endorse social class essentialism, or the belief that social class group characteristics are stable, immutable, and biologically determined, than high subjective socioeconomic status individuals. Indeed, endorsement of essentialist beliefs is related to system justification or maintenance of existing social hierarchies (Jost & Banaji, 1994; Jost, Banaji, & Nosek, 2004; Jost, Pelham, Sheldon, & Sullivan, 2003). Furthermore, research on bicultural identity integration has found that ethnic biculturals who hold essentialist beliefs about race have greater difficulty in cultural frame switching behavior and lower identification with the host culture (Chao, Chen, Roisman, & Hong, 2007; No et al., 2008). This suggests that incremental beliefs about categories such as social class may also play a role in determining social class bicultural identity integration.

Mindset is an important predictor of academic outcomes: entity theorists are less likely to link personal effort with achievement outcomes, compared to incremental theorists (Hong, Chiu, Dweck, Lin, & Wan, 1999). However, students who believe that they can improve are less likely to construe difficulty or negative feedback as indicators of personal deficits (Walton & Cohen, 2011). As a result, incremental theorists may be less susceptible to stereotypes, which imply that there are enduring, meaningful differences in ability between groups (Inzlicht, Aronson, Good, & McKay, 2006; Steele, 1997). For example, Rheinschmidt and Mendoza-Denton (2014) found that FGC students who endorsed fixed mindsets had poorer academic performance as a function of having increased concerns about discrimination based on their social class backgrounds, while the effect did not occur for those who endorsed growth mindsets. Thus, FGC students who endorse a growth mindset should perceive the issues that accompany matriculation as challenges that they are able to overcome, rather than indicators of lack of ability. This, in turn, may reduce concerns about stereotypes of FGC students as less intelligent or able than their CGC counterparts (Croizet & Claire, 1999; John-Henderson et al., 2014; Johnson et al., 2011) or concerns about rejection on the basis of social class (Rheinschmidt & Mendoza-Denton, 2014).

Thus, belief in upward mobility or growth mindset may also predict social class bicultural identity integration, such that FGC students' who believe that they will be upwardly mobile are more likely to develop a middle-class, collegiate identity and, therefore, be prepared to cope with the transition to a new culture. To adopt the cultural transition metaphor, people may be more likely to learn a foreign language and culture if they plan to live abroad. In contrast, FGC students who are doubtful that they will be upwardly mobile may not see a reason to develop a second identity in the host culture (i.e., a collegiate or middle-class identity), which would reduce identity integration, or prevent FGC students from developing a middle-class identity in the first place (e.g., a separation strategy).

Another consideration is potential moderators of the effect of social class bicultural identity integration on outcome variables. Namely, the research for this study was conducted at a large, public university that is ethnically and socioeconomically diverse. It may be that a potential moderator of social class bicultural identity integration is the college context itself. Because people in the United States tend to live in social class segregated communities, many students may encounter individuals from different social classes for the first time in college (Langhout, Rosselli, & Feinstein, 2006; Wilson, 1997). Factors in the university context that cue FGC identity or that make FGC students feel stigmatized (e.g., cultural mismatch of norms and values, low proportion of FGC students) should increase the effect of social class bicultural identity integration, especially if students are in academic contexts where their college generation status is more pronounced (e.g., elite universities, higher proportion of CGC students). In other words, for FGC students in college environments that are dissimilar to home environments and have a less diverse student body (i.e., greater cultural distance), we should observe stronger effects of social class bicultural identity integration.

Cultural distance is the degree to which two cultures diverge in values (e.g., Benet-Martínez & Haritatos, 2005; Benet-Martínez et al., 2002; Goclowska & Crisp, 2014). Less distance between two cultures makes it easier to acculturate and improves bicultural identity integration (e.g., it is easier for an American to adapt to life in the United Kingdom versus China). Previous research on ethnic biculturalism has examined the relationship between cultural distance and acculturation, where the extent of the differences between cultures is negatively related to acculturation (e.g., differences in countries' scores on Hofstede's cultural dimensions; Amiot, de la Sablonniere, Terry, & Smith, 2007; Hofstede, 1983; Ward, 2008).

In the case of social class, cultural distance may depend on the prestige of the university, such that FGC students may face greater difficulty integrating home and school identities at an elite, private university because of the differences in norms and values from their home context (Aries & Seider, 2005; Binder & Wood, 2013; Hossler, Schmit, & Vesper, 1999; Karabel & Astin, 1975; Kingston & Lewis, 1990; Mullen, 2010; Ostrove & Long, 2007; Torres, 2009). For example, Johnson and colleagues (2011) found that even middle-class students at an elite university could be made to experience social identity threat regarding their social class by having them compare themselves to an upper-class peer (i.e., increasing cultural distance through social comparison), thereby hindering performance on academic tasks (Johnson et al., 2011).

First-generation college students, in general, tend to attend less selective institutions and favor colleges closer to home (Pascarella et al., 2004). Research demonstrates a strong relationship between social class and where people attend college (Hossler et al., 1999; Karabel & Astin, 1975; Kingston & Lewis, 1990b; Ostrove & Long, 2007), such that the type of student shapes who belongs at a given university by their own representation. Although there have been increased efforts, especially at elite schools, to recruit students from more socioeconomically diverse backgrounds (Saenz et al., 2007), elite universities may serve as their own markers for belongingness; for example, Harvard carries with it expectations about who belongs and can be successful there (Kingston & Lewis, 1990a). Thus, social class bicultural identity integration may be more impactful for FGC students at an elite, private institution than at a community college, regional college, or large, public university, because the distance between those two cultures will be greater.

Another related factor that may interact with social class bicultural identity integration is the proportion of FGC students in the student body at a given university. Indeed, social class culture can become salient when people are in transition, as at the beginning of college, and are exposed to others from different social class contexts (Frable, 1997; Jones, 2003). Research on social identity threat demonstrates that numerical underrepresentation serves as a primary cue that one's social identity may be devalued in that environment (Murphy, Steele, & Gross, 2007; Purdie-Vaughns, Steele, Davies, Ditlmann, & Crosby, 2008; Steele & Aronson, 1995; Steele, Spencer, & Aronson, 2002). Orbe (2004) found that students attending regional campuses of state universities, which had higher proportions of FGC college students, were less likely to experience salience of their college generation status compared to peers at more selective institutions. Thus, the extent to which FGC students feel they are in the minority may influence the effects of identity integration on academic performance, such that the effect of social class bicultural identity integration would be stronger when the student body is predominantly CGC students, because identity as an FGC student will be more frequently cued, or more salient.

Additionally, more attention will need to be paid to potential mediators underlying the effect of social class bicultural identity integration on academic performance. In the present research, the effects of integrated social class identities on health and well-being were mediated by reduced acculturative stress. Specifically, FGC students who were high in social class bicultural identity integration had less stress associated with acculturating to the university and, thus, had increased health and well-being. However, acculturative stress did not mediate the effects of social class biculturalism on academic performance. Hence, there may be another mechanism at play that relates more to academic performance, such as social integration, belonging, academic self-efficacy, or cultural frame switching ability.

Social Integration. Past research demonstrates that first-generation college students have lower social integration at college, meaning that they have fewer social interactions with other students and faculty, and what interactions they do have are poorer quality. While social integration is important for all students, it may be especially necessary for FGC students, who receive less social and informational support from their families and friends (Billson & Terry, 1982; Bryan & Simmons, 2009; Collier & Morgan, 2008; Elkins, Braxton, & James, 2000; Lehman, 2009; Lynch & O'Riordan, 1998; Malecki & Demaray, 2006; Rubin, 2012; York-Anderson & Bowman, 1991). A meta-analysis of 35 studies by Rubin (2012) found that working-class students are less socially integrated than middle-class students in college contexts, which may adversely impact academic performance.

Social integration helps students build connections with peers and faculty, which can contribute to academic outcomes (Nora & Cabrera, 1996). Additionally, socially integrated students are more likely to feel committed to a university, which influences performance and persistence (Nora, 2003, 2004). Research has demonstrated that social integration is positively related to academic performance and persistence for college students (McConnell, 2000; Pascarella & Terenzini, 1991, 2005; Robbins et al., 2004; Rubin, 2012; Sommerfeld & Bowen, 2013; Tinto, 1975). The effects of social class bicultural identity integration on academic performance may be mediated in part by social integration, such that FGC students high in social class bicultural identity integration should report greater social integration, thereby improving performance.

Belonging. The need to belong is a fundamental human motivation that has important outcomes for psychological and physical health (Barden, Garber, Leiman, Ford, & Masters, 1985; Baumeister & Leary, 1995; Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992; Hale, Hannum, & Espelage, 2005; Leary, Tambor, Terdal,

& Downs, 1995; Ostrove & Long, 2007). Additionally, belonging is linked to improved academic performance (Rubin, 2012; Walton & Cohen, 2011) and several interventions have successfully improved performance by increasing underrepresented students' feelings of belonging in academic contexts (e.g., Cook, Purdie-Vaughns, Garcia, & Cohen, 2012; Harackiewicz et al., 2014; Walton & Cohen, 2007).

First-generation college students are at increased risk for belonging uncertainty and underperformance in the college context (Ostrove & Long, 2007; Rubin, 2012; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Walpole, 2003). There is a well-documented and pervasive sense of difference and alienation among FGC students (e.g., Cohen, 1998; Dews & Law, 1995; hooks, 2000; Jensen, 2004; Levine & Nidiffer, 1996; Lubrano, 2003; Nelson, Englar-Carlson, Tierney, & Hau, 2006; Roberts & Rosenwald, 2001; Stewart & Ostrove, 1993; Tokarczyk, 2004; Tokarczyk & Fay, 1993). Indeed, first-generation college students are likely to suffer from "impostor syndrome" (Dews & Law, 1995; Grimes & Morris, 1997; Hurst, 2010; Rondini, 2016; Ryan & Sackrey, 1984; Tokarczyk & Fay, 1993; Zandy, 1990, 1994). However, students high in social class bicultural identity integration may have increased feelings of belonging in the college context, or may be buffered from the effects of identity threat by increased belonging related to social class bicultural identity integration, which may account for improved performance (Johnson, Richeson, & Finkel, 2011; Ostrove & Long, 2007; Rubin, 2012; Walton & Cohen, 2007). Specifically, this may be due to reduced concerns about whether "someone like me" can belong and succeed in college, thereby alleviating social identity threat.

Academic Self-Efficacy. Another important predictor of performance in the college context is academic self-efficacy, or the belief that one is capable of succeeding in the academic context (Chemers, Hu, & Garcia, 2001; Zimmerman, Bandura, & Pons, 1992). Academic self-efficacy is a robust predictor of academic performance and persistence (Kahn & Nauta, 2001; Pascarella, Wolniak, & Pierson, 2003; Rayle, Arredando, & Kuripus, 2005; Richardson, Abraham, & Bond, 2012; Robbins et al., 2004; Zimmerman et al., 1992). Students who have traditionally been marginalized in higher education contexts have been shown to have low academic self-efficacy, which may contribute to lower grades and persistence (Rice, Lopez, Richardson, & Stinson, 2013; Yosso, 2006). Additionally, research by Browman and Destin (2016) demonstrates that when university environments are framed as unwelcoming or inconsiderate (i.e., "chilly") for low SES students, they have significantly lower academic self-efficacy, compared to students for whom the university was framed as welcoming (i.e., "warm"). There were no differences among high SES students (Browman & Destin, 2016). Social class bicultural identity integration may increase academic self-efficacy, or the sense that an individual is capable of succeeding academically, as a function of reducing concerns about fulfilling stereotypes of low-income and FGC students as unintelligent or less able (Hattie, 1993; Zimmerman, Bandura, & Martinez-Pons, 1992).

Cultural Frame Switching. Another potential mechanism underlying the effect of social class bicultural identity integration on academic performance is frame switching. Past research with ethnic biculturals demonstrates that bicultural identity integration is linked to cultural frame switching, such that individuals display culturally congruent behavior after being exposed to external cues associated with one of their cultural backgrounds (Benet-Martínez et al., 2002; Cheng, Lee, & Benet-Martínez, 2006; Mok & Morris, 2009). Similar to ethnic biculturals, FGC students high in social class bicultural identity integration may be better able to frame switch between language, values, and behavior consistent with working- or middle-class cultures, compared to those low in social class bicultural identity integration (Benet-Martínez et al., 2002; Cheng, Lee, Benet-Martínez, 2006; Mok & Morris, 2009). The ease of cultural frame switching should also improve academic performance for FGC students with integrated social class identities, because evaluative tasks (e.g., exams) should be less cognitively taxing for FGC students high in frame switching ability.

In addition to potential predictors, moderators, and mediators, several important questions emerged as part of this program of research. For example, I propose that social class is a concealable identity; however, there are subtle cues to social class that may serve to activate concerns related to belonging and performance for FGC students. One such cue is language. Past research has demonstrated differences in the language that impoverished, working-class, and middle-class children are exposed to at home. A study by Hart and Risley (1995) found that children in middle-class homes were exposed to twice as many words (2,153 words) across an hour-long observation period, compared to children in working-class homes (1,251 words). Compare this to children living in poverty, who were only exposed to 616 words in that same period. This exposure predicts children's language development at 9 and 10 years old, and arguably has broader impacts on educational experiences and performance (Bernstein, 1974). Other features of language, aside from vocabulary, may also cue social class. In an interview with M. Sonja Ardoin about experiences for first-generation college students and graduates, she expressed concerns about her accent: “There are still some things from my working-class background that don’t always align with academia’s middle-class expectations... Types of language — accents still have a stigma. Particularly a Southern accent has [negative] connotations” (Zamudio-Suarez, 2016).

Beyond issues in language more generally, there is also a specific language and vocabulary used in university contexts that first-generation college students must learn in order to succeed in the college context. Research by Banks-Santilli (2014) demonstrates that school-specific vocabulary (e.g., “gen-eds,” “electives,” “academic advisors,” “student advisors,” “credits”) represents a potential minefield for students unfamiliar with the college system and its terminology. These and related empirical questions (i.e., do first- or continuing-generation students talk more?) could be investigated using naturalistic observation. Specifically, a study utilizing the Electronically Activated Recorder (EAR; Mehl, Pennebaker, Crow, Dabbs, & Price, 2001), a device that samples behavioral data acoustically in participants’ daily lives, could help to elucidate differences in language use in college settings by social class.

Interventions. This research may yield programs for psychological interventions, as well as providing a framework for advising support programs for FGC students. Specifically, the results suggest that one important component in reducing the social class achievement gap for FGC students is to inform them about the cultural changes involved in the move to college, and to increase identity integration by stressing ways that their social class identities are harmonious and compatible. For example, it may benefit students to provide a panel of FGC peer role models that can talk about how they developed or maintained social class bicultural identity integration by managing the cultural transition to college, staying connected with their families, and utilizing of the strengths associated with being a first-generation student (e.g., resilience, teamwork) to succeed (see Stephens, Hamedani, & Destin, 2014 for a similar method). Alternately, students could read a letter from a senior student like them providing the same messages; this type of intervention would be easily deliverable in an online format and scalable to large groups of students.

As colleges are under pressure to increasingly recruit diverse students, they must also be aware of the challenges that these students face upon entering the college environment (Saenz et al., 2007). Unfortunately, while recruitment of FGC students has increased, the graduation rates remain stagnant, suggesting that colleges and universities do not understand these challenges or are not providing the necessary resources for FGC students to overcome them to succeed in college. Especially at elite universities, recruiting a few select FGC students may, in fact, magnify this issue by creating an environment of underrepresentation that may hinder performance. Organizations like 1vyG, a student run organization that connects FGC students at Ivy League colleges, is one example of how students can be given a community of similar others for advice and support. Offering programs like these using the language of social class bicultural identity integration may enable FGC students to more easily identify the problems they experience at the beginning of college (e.g., cultural mismatch, belonging uncertainty) and provide them the tools they need to manage those cultural differences and increase feelings of compatibility between home and school identities.

Another issue faced by first-generation college students is the lack of social integration in the university context that enables students to connect with faculty who can help them succeed in college and beyond. However, research programs such as McNair Scholars and TRiO provide funding and pair FGC students with faculty members to involve them in research projects that they might not otherwise participate in, thereby creating a path to advanced graduate education. Once again, applying the framework of social class bicultural identity integration may help the peer and faculty mentors in these programs to understand the problems faced by these students and provide them goals that they can help their mentees work toward (e.g., managing and integrating one's home and school identities), in addition to offering them academic advice and involving them in the research process.

Additionally, this framework provides increased understanding of the factors that predict social class bicultural identity integration before college, which may enable high schools and families to implement some of these strategies. As such, high school counselors and instructors could work with parents and families before students go to college to help them understand what resources are available to them and their children at college that can help them navigate the cultural transition. This work also highlights the fact that in addition to more information about resources, students and families need to be prepared for the cultural transition to college, including the different goals and expectations in the college environment, different relationships with instructors, and how to balance work, family, and academic responsibilities. The language of biculturalism, which is already implicit in these interactions, could help to communicate these challenges and solutions in a clear way to parents and students who may not understand the differences inherent in the college experience.

Finally, beyond cultural differences in expectations about college, there are practical considerations that universities can embrace to make the environment in general more welcoming for first-generation college students, which should therefore increase identity integration. Specifically, because FGC students are at increased risk for food and housing insecurity, scholarship and financial aid offices may develop and supervise programs designed to address unmet need in students' financial aid. Small amounts of money (i.e., "retention grants") that cover unexpected expenses may increase identity integration and make the difference in students' decisions to remain in college. Additionally, both universities and parents should be informed about the differences in cultural expectations about how students will continue to contribute to the family, either in terms of offering time or money. For example, many low SES and first-generation college students are expected to send money home to family while at college (Bowen & McPherson, 2016; Brown, 2008; McLain, 2008). More communication between families and universities about the differences in cultural practices regarding family support may facilitate FGC students' identity integration, which should benefit students from both sides (i.e., understanding by members of one's home and host culture). Policies such as these have the added benefit of sending the message that the university recognizes and is considerate of the needs of students "like you," which may increase the ease with students acculturate in the college context.

Conclusion

While first-generation college students are increasingly represented on college campuses, they continue to have greater difficulty adjusting, poorer performance, and lower rates of persistence compared to their continuing-generation counterparts. Part of the reason for these differences is due to the transition to the more independent cultural context of college for first-generation college students. This work serves as a bridge between existing research on biculturalism and the cultural approach to social class. By proposing a novel approach to understanding the challenges faced by first-generation students entering the more independent cultural context of college, this program of research enables more nuanced predictions about the factors that contribute to performance for first-generation college students.

REFERENCES

Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy, White women. *Health Psychology, 19*, 586-592.

Allan, G. (1979). *A sociology of friendship and kinship*. London: George Allen & Unwin.

Amiot, C. E., de la Sablonnière, R., Terry, D. J., & Smith, J. R. (2007). Integration of social identities in the self: Toward a cognitive-developmental model. *Personality and Social Psychology Review, 11*, 364–388.

Anyon, J. (1980). Social class and the hidden curriculum of work. *Journal of Education, 162*, 67-92

Argyle, M. (1994). *The psychology of social class*. London, England: Routledge.

Aries, E., & Seider, M. (2005). The interactive relationship between class identity and the college experience: The case of lower income students. *Qualitative Sociology, 28*, 419–443. doi:10.1007/s11133-005-8366-1

Armstrong, E. & Hamilton, L. (2013). *Paying for the party: How college maintains inequality*. Cambridge, MA: Harvard University Press.

Arunkumar, R., Midgley, C., & Urdan, T. (1999). Cultural dissonance between home and school: Longitudinal effects on adolescent emotional adjustment. *Journal of Research on Adolescence, 9*, 441-466.

Astin, A.W. (1993). *What matters in college: Four critical years revisited*. San Francisco: Jossey-Bass.

Atherton, M. C. (2014). Academic preparedness of first-generation college students: Different perspectives. *Journal of College Student Development, 55*(8), 824-829.

Baker, R. W., & Siryk, B. (1989). *SACQ Student Adaptation to College Questionnaire manual*. Los Angeles, CA: Western Psychological Services.

Balemian, K., & Feng, J. (2013). *First generation students: College aspirations, preparedness and challenges*. Paper presented at the College Board AP Annual Conference, Las Vegas, NV.

Banks-Santilli, L. (2014). First-generation college students and their pursuit of the American dream. *Journal of Case Studies in Education, 5*(1), 32-64.

Barden, R. C., Garber, J., Leiman, B., Ford, M. E., & Masters, J. C. (1985). Factors governing the effective remediation of negative affect and its cognitive and behavioral consequences. *Journal of Personality and Social Psychology, 49*, 1040–1053.

Bartholomae, D. (1985). Inventing the university. In M. Rose (Ed.), *When a writer can't write* (pp. 134–165). New York: Guilford.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachment as a fundamental human motivation. *Psychological Bulletin, 117,* 497–529.

Benet-Martínez, V., & Haritatos, J. (2005). Bicultural Identity Integration (BII): Components and socio-personality antecedents. *Journal of Personality, 73*, 1015-1049.

Benet-Martínez, V., Lee, F., & Leu, J. (2006). Biculturalism and cognitive complexity: Expertise in cultural representations. *Journal of Cross-Cultural Psychology, 37*, 386–407.

Benet-Martínez, V., Leu, J., Lee, F., & Morris, M. (2002). Negotiating biculturalism: Cultural frame-switching in biculturals with 'oppositional' vs. 'compatible' cultural identities. *Journal of Cross-Cultural Psychology, 33*, 492-516.

Berkner, L. & Chavez, L. (1997). *Access to postsecondary education for 1992 high school graduates*. Washington, DC: National Center for Education Statistics.

Bernstein, B. (1974). *Class codes and control. Theoretical studies towards a sociology of language* (2nd ed.). New York, NY: Schocken Books.

Berry, J. W. (1990). Psychology of acculturation. In N. R. Goldberger & J. B. Veroff (Eds.), *The culture and psychology reader* (pp. 457–488). New York: New York University Press.

Berry, J. W., Phinney, J., Sam, D. L., & Vedder, P. (2006) (Eds.). *Immigrant youth in cultural transition: Acculturation, identity and adaptation across national contexts*. Mahwah, NJ: Erlbaum.

Berry, J. W., & Sam, D. L. (1997). Acculturation and adaptation. In J. W. Berry, M. S. Segall, & C. K. Bagitcibasi (Eds.), *Handbook of cross-cultural psychology: Vol. 3, Social behavior and applications* (2nd ed., pp. 291–326). Needham Heights, MA: Allyn & Bacon.

Bertrand, M., Mullainathan, S., & Shafir, E. (2006). Behavioral economics and marketing in aid of decision making among the poor. *Journal of Public Policy & Marketing, 25,* 8–23.

Billson, J. M., & Terry, M. B. (1982). In search of the silken purse: Factors in attrition among first-generation students. *College and University, 58*(1), 57-75.

Binder, A. J., & Wood, K. (2013). *Becoming right: How campuses shape young conservatives*. Princeton, NJ: Princeton University Press.

Bowen, W. G., Chingos, M. M. & McPherson, M. S. (2009). *Crossing the finish line*. Princeton: Princeton University Press.

Bowen, W. G., Kurzweil, M. A., & Tobin, E. M. (2005). *Equity and excellence in American higher education*. Charlottesville, VA: University of Virginia Press.

Bowen, W. G. & McPherson, M. S. (2016). *Lesson plan: An agenda for change in American higher education*. Princeton: Princeton University Press

Bourdieu, P. (1977). Cultural reproduction and social reproduction. In J. Karabel & A. H. Halsey (Eds.), *Power and ideology in education* (pp. 487–511). New York: Oxford University Press.

Bourdieu, P. (1990). Artistic taste and cultural capital. In J. Alexander & S. Seidman (Eds.), *Culture and society: Contemporary debates* (pp. 205–215). Cambridge: Cambridge University Press.

Bourdieu, P. (1994). Distinction: A social critique of the judgment of taste. In D. B. Grusky (Ed.), *Social stratification: Class, race, and gender in sociological perspective* (pp. 404–429). New York: Westview Press.

Bourdieu, P., & Wacquant, L. J. D. (1992). *An invitation to reflexive sociology*. Chicago: University of Chicago Press.

Bowles, S. & Gintis, H. (1976). *Schooling in capitalist America: Educational reform and the contradictions of economic life*. New York: Basic Books

Boyce, C. J., Brown, G. D. A., & Moore, S. C. (2010). Money and happiness: Rank of income, not income, affects life satisfaction. *Psychological Science*, *21*(4), 471-475.

Boykin, A. W., Jagers, R. J., Ellison, C. M., & Albury, A. (1997). Communalism: Conceptualization and measurement of an Afrocultural social orientation. *Journal of Black Studies, 27*, 409–418.

Brooks-Gunn, J., Duncan, G. J., & Aber, J. L. (1997). *Neighborhood poverty: Vol. 1. Context and consequences for children*. New York: Russell Sage Foundation.

Brooks-Gunn, J., Duncan. G. J., Klebanov, P. K., & Sealand, N. (1993). Do neighborhoods influence child and adolescent development? *American Journal of Sociology, 99,* 353-395.

Browman, A. S. & Destin, M. (2016). The effects of a warm or chilly climate towards socioeconomic diversity on academic motivation and self-concept. *Personality and Social Psychology Bulletin, 42*(2), 172-187. doi:10.1177/0146167215619379

Brown, N. (2008). *Predicting college adjustment: The contribution of generation status and parental attachment*. (Doctoral dissertation). Retrieved from UMI ProQuest (UMI No. 3332978)

Bryan, E., & Simmons, L. A. (2009). Family involvement: Impacts on post-secondary educational success for first-generation Appalachian college students. *Journal of College Student Development, 50*, 391–406. doi:10.1353/csd.0.0081

Calarco, J. M. (2011). "I need help!" Social class and children's help-seeking in elementary school. *American Sociological Review, 76*, 862-882.

Calarco, J. M. (2014a). Coached for the classroom: Parents' cultural transmission and children's reproduction of educational inequalities.' *American Sociological Review 79*(5), 1015–37.

Calarco, J. M. (2014b). The inconsistent curriculum: Cultural tool kits and student interpretations of ambiguous expectations. *Social Psychology Quarterly, 77*(2), 185–209.

Carnevale, A. P., Rose, S. J., & Cheah, B. (2011). *The college payoff: Education, occupations, lifetime earnings*. Washington, DC: The Georgetown University Center on Education and the Workforce.

Carnoy, M., & Levin, H. M. (1985). *Schooling and work in the democratic state*. Stanford, CA: Stanford University Press.

Chaffe, J. (1992). Transforming educational dreams into education reality. In L. S. Zwerling & H. B. London (Eds.), *First-generation students: Confronting the cultural issues* (pp. 81–88). San Francisco, CA: Jossey-Bass.

Chaparro, M. P., Zaghloul, S. S., Holck, P., & Dobbs, J. (2009). Food insecurity prevalence among college students at the University of Hawai'i at Manoa. *Public Health Nutrition, 12*(11), 2097-2103.

Chao, M., Chen, J., Roisman, G., & Hong, Y. (2007). Essentializing race: Implications for bicultural individuals' cognition and physiological reactivity. *Psychological Science, 18*, 341–348.

Charnov, E. L. (1993). *Life history invariants*. Oxford, England: Oxford University Press.

Chemers, M. M., Hu, L., & Garcia, B. F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology,* *93*, 55–64.

Chen, X. (2005). *First-generation students in postsecondary education: A look at their college transcripts*. Washington, DC: National Center for Education Statistics.

Chen, S., Benet-Martínez, V., & Bond, M. H. (2008). Bicultural identity, bilingualism, and psychological adjustment in multicultural societies. *Journal of Personality, 76*, 803-838.

Cheng, C.-Y., Lee, F., Benet-Martínez, V., & Huynh, Q.-L. (2014). Variations in multicultural experience: Influence of Bicultural Identity Integration on socio-cognitive processes and outcomes. In V. Benet-Martínez & Y.-Y. Hong [Eds.], *Oxford handbook of multicultural identity* (pp. 276-299). Oxford: Oxford University Press. doi:10.1093/oxfordhb/9780199796694.013.025

Choy, S. (2000). *Low-Income Students: Who They Are and How They Pay for Their Education*. Washington, DC: National Center for Education Statistics.

Choy, S. P. (2001). Students whose parents did not go to college: Post-secondary access, persistence, and attainment. The condition of education 2001. (NCES 2001-126). *U.S. Department of Education, National Center for Education Statistics*. Washington, DC: U.S. Government Printing Office.

Cohen, R. M. (1998). Class consciousness and its consequences: The impact of an elite education on mature, working-class women. *American Educational Research Journal, 35*, 353–375.

Cohen, S., Alper, C. M., Doyle, W. J., Adler, N., Treanor, J. J., & Turner, R. B. (2008). Objective and subjective socioeconomic status and susceptibility to the common cold. *Health Psychology, 27,* 268–274.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress, *Journal of Health and Social Behavior, 24*, 385-396.

Cole, E. (2009). Intersectionality and research in psychology. *American Psychologist, 64,* 170–180.

Coleman, J. & Hoffer, T. (1987). *Public and private high schools: The impact of communities*. New York: Basic Books.

Collier, P. J., & Morgan, D. L. (2008). "Is that paper really due today?": Differences in first-generation and traditional college students' understandings of faculty expectations. *Higher Education, 55*, 425-446. doi:10.1007/s10734-007-9065-5

Collins, P. H. (1998). It's all in the family: Intersections of gender, race, and nation. *Hypatia, 13*(3), 62–82.

Cook, J. E., Purdie-Vaughns, V., Garcia, J., & Cohen, G. L. (2012). Chronic threat and contingent belonging: Protective benefits of values affirmation on identity development. *Journal of Personality and Social Psychology, 102*, 479–496. doi:10.1037/a0026312

Conley, D. (200S). *College knowledge: What it takes students to succeed and what we can do to get them ready*. San Francisco, GA: Jossey-Bass.

Cornelius-White, J. H. D., Garza, A.C. & Hoey, A. T., (2004). Personality, family satisfaction and demographic factors that help Mexican American students succeed academically. *Journal of Hispanic Higher Education, 3*, 270-283. doi:10.1177/1538192704265600

Covarrubias, R., & Fryberg, S. (2015). The impact of self-relevant representations on school belonging for underrepresented Native American students. *Cultural Diversity and Ethnic Minority Psychology, 21*(1), 10-18.

Covarrubias, R., & Fryberg, S. (2014). Movin' on up (to college): First-generation college students' experiences with family achievement guilt. *Cultural Diversity and Ethnic Minority Psychology, 21*(3), 420-429.

Covarrubias, R., & Romero, A, & Trivelli, M. (2015). Family achievement guilt and mental well-being of college students. *Journal of Child and Family Studies, 24*, 2031-2037.

Crane, J. (1991). The epidemic theory of ghettos and neighborhood effects on dropping out and teenage childbearing. *American Journal of Sociology*, *96*, 1126-1159.

Croizet, J., & Claire, T. (1998). Extending the concept of stereotype threat to social class: The intellectual underperformance of students from low socioeconomic backgrounds. *Personality and Social Psychology Bulletin, 24*, 588–594.

Crocker, J., Major, B., & Steele, C. M. (1998). Social stigma. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., pp. 504–553). New York, NY: McGraw-Hill.

Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin, 122*, 5–37.

Cushman, K. (2007). Facing the culture. First-generation college students talk about identity, class, and what helps them succeed. *Educational Leadership, April*, 44-47.

Cumming G. (2012). *Understanding the New Statistics: Effect sizes, Confidence Intervals, and Meta-Analysis*. New York, NY: Routledge.

Daan, S., & Tinbergen, J. (1997). Adaptation of life histories. In J. R. Krebs & N. B.

Davies (Eds.), *Behavioural ecology: An evolutionary approach* (4th ed., pp. 311–333). Oxford, England: Blackwell.

Darling-Hammond, L. (2004). What happens to a dream deferred? The continuing quest for equal educational opportunity. In J. A. Banks & C. A. McGee Banks [Eds.], *Handbook of research on multicultural education*, pp. 607-630. San Francisco: Jossey-Bass

Darling-Hammond, L. (2010). Structured for failure: Race, resources, and student achievement. In *Doing race: 21 essays for the 21st century*, In H. R. Markus & P. M. L. Moya, pp. 295–318. New York: Norton.

Day, J. C., & Newburger, E. C. (2002). *The big payoff: Educational attainment and synthetic estimates of work-life earnings*. (Current Population Reports, Special Studies, P23-210). Washington, DC: Commerce Dept., Economics and Statistics Administration, Census Bureau. Available: http://www.census.gov/prod/2002pubs/p23-210.pdf

DeAngelo, L., Frank, R., Hurtado, S., Pryor, J. H., & Tran, S. (2011). *Completing college: Assessing graduation rates at four-year institutions*. Los Angeles: Higher Education Research Institute, UCLA.

Dews, C. L. B., & Law, C. L. (Eds.). (1995). *This fine place so far from home: Voices of academics from the working-class*. Philadelphia: Temple University Press.

Diener, E., Emmons, R., Larsen, J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71-75.

DiMaggio, P. (1982). Cultural capital and school success: The impact of status culture participation on the grades of U.S. high school students. *American Sociological Review, 47*, 189–201.

DiMaggio, P., & Mohr, J. (1985). Cultural capital, educational attainment, and marital selection. *American Journal of Sociology, 90*, 1231–1261.

Domhoff, G. W. (1998). *Who Rules America*. Mountain View, CA: Mayfield Publishing.

Dweck, C. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.

Ellis, B. J., McFadyen-Ketchum, S., Dodge, K. A., Pettit, G. A., & Bates, J. E. (1999). Quality of early family relationships and individual differences in the timing of pubertal maturation in girls: A longitudinal test of an evolutionary model. *Journal of Personality and Social Psychology, 77,* 387–401.

Elkins, S. A., Braxton, J. M., & James, G. W. (2000). Tinto's separation stage and its influence on first semester college student persistence. *Research in Higher*

Education, 41, 251–268. doi:10.1023/A: 1007099306216

Engle, J. & Tinto, V. (2008). *Moving beyond access: College success for low-income, first generation students*. Washington, D.C: The Pell Institute for the Study of Opportunity in Higher Education.

Erickson, L. D., McDonald, S., & Elder, Jr., G. H. (2009). Informal mentors and education: Complementary or compensatory resources? *Sociology of Education, 82*, 344-367.

Erwin, L., & Maurutto, P. (1998). Beyond access: Considering gender deficits in science education. *Gender and Education, 10*, 51–69.

Figueredo, A. J., Vásquez, G., Brumbach, B. H., & Schneider, S. M. R. (2004). The heritability of life history strategy: The K-factor, covitality, and personality. *Social Biology, 51,* 121–143.

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82,* 878-902.

Fiske, S. T., & Markus, H. R. (2012). *Facing social class: How societal rank influences interaction*. Russell Sage Foundation.

Frable, D. E. S. (1997). Gender, racial, ethnic, sexual, and class identities. *Annual Review of Psychology, 48*, 139–162.

Frederick, S., Loewenstein, G., & O'Donoghue, G. (2002). Time discounting and time preference: a critical review. *Journal of Economic Literature, 40*, 351-401.

French, B. F., & Oakes, W. (2004). Reliability and validity evidence for the Institutional Integration Scale. *Educational and Psychological Measurement, 64*(1), 88–98. doi: 10.1177/0013164403258458

Fryberg, S. A., & Markus, H. R. (2007). Cultural models of education in American Indian, Asian American, and European American contexts. *Social Psychology of Education, 10*, 213–246.

Gaskell, J. (1985). Course enrollment in the high school: The perspective of working-class females. *Sociology of Education, 58*, 48– 59.

Goclowska, M. A. & Crisp, R. J. (2014). How dual identity processes foster creativity. *Review of General Psychology, 18*(3), 216-236.

Goffman, I. (1963). *Stigma: Notes on the management of a spoiled identity*. New York, NY: Simon & Schuster.

Golann, J. (2015). The paradox of success at a no-excuses school. *Sociology of Education, 88*(2), 103–119.

Goldrick-Rab, S. (2016) *Paying the price: College costs, financial aid, and the betrayal of the American dream*. University of Chicago Press, Chicago, IL.

Goodman, E., Adler, N. E., Kawachi, I., Frazier, A. L., Huang, B., & Colditz, G. A. (2001). Adolescents' perceptions of social status: Development and evaluation of a new indicator. *Pediatrics*, *108*(2), e31.

Goyette, K. A., & Mullin, A. L. (2006). Who studies the arts and sciences? Social background and the choice and consequences of undergraduate field of study. *Journal of Higher Education, 77*, 497–538.

Greenfield, P. M., & Quiroz, B. (2013). Context and culture in the socialization and development of personal achievement values: Comparing Latino immigrant, families, European American families, and elementary school teachers. *Journal of Applied Developmental Psychology, 34*, 108-118. doi:10.1016/j.appdev.2012.11.002

Grimes, M. D. & Morris, J. M. (1997). *Caught in the middle: Contradictions in the lives of sociologists from working-class backgrounds*. Westport, CT: Praeger.

Griskevicius, V. G., Delton, A. W., & Robertson, T. E., & Tybur, J. M. (2011). Environmental contingency in life history strategies: Influences of current and childhood environment on reproductive timing. *Journal of Personality and Social Psychology, 100*, 241-254.

Griskevicius, V. G., Tybur, J. M., Delton, A. W., & Robertson, T. E. (2011). The influence of mortality and socioeconomic status on preferences for risk and delayed rewards: A life history theory approach. *Journal of Personality and Social Psychology, 100*, 1015-1026.

Grossmann, I., & Varnum, M. E. W. (2011). Culture, social class, and cognition. *Social Psychological & Personality Science*, *2*, 81-89.

Hagerty, B. M., Lynch-Sauer, J., Patusky, K., Bouwsema, M., & Collier, P. (1992). Sense of belonging: A vital mental health concept. *Archives of Psychiatric Nursing, 6*, 172–177.

Hale, C. J., Hannum, J. W., & Espelage, D. L. (2005). Social support and physical health: The importance of belonging. *Journal of American College Health, 53*, 276–284.

Harackiewicz, J. M., Canning, E. A., Tibbetts, Y., Giffen, C. J., Blair S. S., Rouse, D. I., & Hyde, J. S. (2014). Closing the social class achievement gap for first-generation college students in undergraduate biology. *Journal of Educational Psychology, 106*(2), 375-389.

Haritatos, J. & Benet-Martínez, V. (2002). Bicultural identities: The interface of cultural, personality, and socio-cognitive processes. *Journal of Research in Personality, 6,* 598-606.

Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore, MD: Brookes.

Hattie, J. A. (1993). Measuring the effects of schooling. *SET, 2*, 1–4.

Heath, S. B. (1982). What no bedtime story means: Narrative skills at home and school. *Language in Society, 11,* 49-76.

Hecht, M. L., & Faulkner, S. (2000). Sometimes Jewish, sometimes not: The closeting of Jewish American identity. *Communication Studies, 51*, 372–287.

Hernandez, D. J. (2012). *Double jeopardy: How third-grade reading skills and poverty influence high school graduation*. Annie E. Casey Foundation.

Herrmann, S. D. & Varnum, M. E. W. (Invited revision). Integrated social class identities improve academic performance, well-being, and workplace satisfaction. *Journal of Cross-Cultural Psychology*.

Hicks, T. (2003). First-generation and non-first-generation pre-college students' expectations and perceptions about attending college. *Journal of College Orientation and Transition, 11*(1), 5-17.

Higgins J. P. T. & Thompson S. G. (2002). Quantifying heterogeneity in a meta-analysis. *Statistics in Medicine, 21*(11), 1539-58.

Higgins, J. P. T., Thompson, S. G., Deeks, J. J., & Altman, D. G. (2003). Measuring inconsistency in meta-analyses. *BMJ, 327*, 557-560.

Hill, E. M., Jenkins, J., & Farmer, L. (2008). Family unpredictability, future discounting, and risk taking. *The Journal of Socio-Economics 37*(8), 1381-1396.

Hill, E. M., Ross, L. T., & Low, B. S. (1997). The role of future unpredictability in human risk-taking. *Human Nature, 8*, 287-325.

Hofstede, G. (1983). Dimensions of national cultures in fifty countries and three regions. In J. B. Deregowski, S. Dziurawiec, R. C. Annis (Eds.), *Expiscations in cross-cultural psychology*. Swets and Zeitlinger: Lisse.

Hong, Y., Chiu, C., Dweck, C. S., Lin, D. M., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality and*

Social Psychology, 77, 588–599. doi:10.1037/0022- 3514.77.3.588

Hong, Y. Y., Morris, M. W., Chiu, C. Y., & Benet-Martínez, V. (2000). Multicultural minds: A dynamic constructivist approach to culture and cognition. *American Psychologist, 55,* 709–720.

hooks, b. (2000). *Where we stand: Class matters*. New York: Routledge.

Horn, H. S. (1978). Optimal tactics of reproduction and life history. In J. R. Krebs & N. B. Davies (Eds.), *Behavioral ecology: An evolutionary approach* (pp. 411–429). Sunderland, MA: Sinauer.

Horn, L., & Nunez, A. (2000). *Mapping the road to college: First-generation students' math track, planning strategies, and context of support* (NCES 2000-153). Washington, DC: National Center for Education Statistics, U.S. Government Printing Office.

Horvat, E. M. (2000). Understanding equity and access in higher education: The potential contribution of Pierre Bourdieu. In J. C. Smart & W. Tierney (Eds.), *The higher education handbook of theory and research* (Vol. 16, pp. 195– 238). Hingham, MA: Kluwer Academic Publishers.

Horvat, E. M., Weininger, E. B., & Lareau, A. (2003). From social ties to social capital: Class differences in the relations between schools and parent networks. *American Educational Research Journal, 40*, 319-351.

Hossler, D., Schmit, J., & Vesper, N. (1999). *Going to college: How social, economic, and educational factors influence the decisions students make*. Baltimore, MD: Johns Hopkins University Press.

Housel, T. H., & Harvey, V. L. (2009). *The invisibility factor: Administrators and faculty reach out to first-generation college students*. Boca Raton, FL: Brown Walker Press.

Hout, M. (2008). How class works: Objective and subjective aspects of class since the 1970s. In A. Lareau & D. Conley, (Eds.), *Social class: How does it work?* (pp. 25–64). New York, NY: Russell Sage Foundation.

Howell, R. T., & Howell, C. J. (2008). The relation of economic status to subjective well-being in developing countries: A meta-analysis. *Psychological Bulletin, 134,* 536–560.

Hudley, C., Moschetti, R., Gonzalez, A., Su-Je, C., Barry, L., & Kelly, M. (2009). College freshmen's perceptions of their high school experiences. *Journal Of Advanced Academics*, 438-471.

Hurst, A. L. (2010). *The burden of academic success: Loyalists, renegades, and double* *agents*. Lanham, MD: Rowman & Littlefield.

Hurtado, S., & Carter, D. F. (1997). Effects of college transition and perceptions of the campus racial climate on Latino college students' sense of belonging. *Sociology of Education, 70*, 324–345.

Huynh, Q. -L. (2009). *Variations in biculturalism: Measurement, validity, mental and physical health/psycho-social correlates, and group differences of identity integration. Unpublished doctoral dissertation*. Unpublished doctoral dissertation. Riverside: University of California.

Huynh, Q. -L., Nguyen, A. M., & Benet-Martínez, V. (2011). Bicultural identity integration. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 827–842). New York: Springer.

Inzlicht, M., Aronson, J., Good, C., & McKay, L. (2006). A particular resiliency to threatening environments. *Journal of Experimental Social Psychology, 42*, 323–336.

Jack, A.A. (2014). Culture shock revisited: The social and cultural contingencies to class marginality. *Sociological Forum, 29*(2), 453-475.

Jack, A. A. (2015). (No) harm in asking: Class, acquired cultural capital, and academic engagement at an elite university. *Sociology of Education, 89*(1), 1-19.

Jencks, C., & Mayer, S. (1990). *The social consequences of growing up in a poor neighborhood*. In L.E. Lynn (Ed.), Inner-city poverty in the United States (pp. 111–186). Washington, DC: National Academy Press.

Jensen, B. (2004). Across the great divide: Crossing classes and clashing cultures. In M. Zweig (Ed.), *What's class got to do with it? American society in the twenty-first century* (pp. 168–183). Ithaca, NY: Cornell University Press.

John-Henderson, N. A., Rheinschmidt, M. L., Mendoza-Denton, R., & Francis, D. D. (2014). Performance and inflammation outcomes are predicted by different facets of SES under stereotype threat. *Social Psychological & Personality Science, 5*, 301–309. doi:10.1177/1948550613494226

Johnson, W., & Krueger, R. F. (2005). Higher perceived life control decreases genetic variance in physical health: Evidence from a national twin study. *Journal of Personality & Social Psychology, 88*, 165–173.

Johnson, S. E., Richeson, J. A., & Finkel, E. J. (2011). Middle-class and marginal? The influence of socioeconomic status on the self-regulatory resources of students at an elite university. *Journal of Personality and Social Psychology, 100*, 838–852. doi:10.1037/a0021956

Joint Center for Poverty Research, Northwestern University/University of Chicago. (2001). *Poverty Research News, 5*(1).

Jones, S. J. (2003). Complex subjectivities: Class, ethnicity, and race in women's narratives of upward mobility. *Journal of Social Issues, 59*, 803–820.

Jost, J. T., & Banaji, M. R. (1994). The role of stereotyping in system-justification and the production of false consciousness. *British Journal of Social Psychology. Special Issue: Stereotypes: Structure, function and process, 33*, 1-27.

Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology*, *25*, 881–919.

Jost, J. T., Pelham, B. W., Sheldon, O., & Sullivan, B. N. (2003). Social inequality and the reduction of ideological dissonance on behalf of the system: Evidence of enhanced system justification among the disadvantaged. *European Journal of Social Psychology, 33*, 13-36.

Kahn, J. H., & Nauta, M. M. (2001). Social-cognitive predictors of first-year college persistence: The importance of proximal assessment. *Research in Higher Education, 42*(6), 633–652.

Kane, P. R. (1992). *Independent schools, independent thinkers*. San Francisco: Jossey-Bass.

Karabel, J., & Astin, A. W. (1975). Social class, academic ability, and college "quality." *Social Forces, 53*, 381–398.

Kenny, M., & Stryker, S. (1996). Social network characteristics and college adjustment among racially and ethnically diverse first-year students. *Journal of College Student Development, 37*(6), 649-658.

Khan, S. (2011). *Privilege: The making of an adolescent elite at St. Paul's School*. Princeton, NJ: Princeton University Press.

Kim, J. (2013). *How maladaptive perfectionism relates to depression among Asian international students: Testing the mediating effects of acculturative stress and perceived social support*. (Doctoral dissertation). Retrieved from UMI ProQuest (UMI No. 3591627).

Kim, Y. K., & Sax, L. J. (2009). Student–faculty interaction in research universities: Differences by student gender, race, social class, and first-generation status. *Research in Higher Education, 50*, 437-459.

Kingston, P. W., & Lewis, L. S. (1990b). Undergraduates at elite institutions: The best, the brightest, and the richest. In P. W. Kingston & L. S. Lewis (Eds.), *The high-status track: Studies of elite schools and stratification* (pp. 105–145). Albany: State University of New York Press.

Kohn, M. L. (1969). *Class and conformity: A study in values*. Homewood, IL: Dorsey Press.

Kohn, M. L., & Schoenbach, C. (1983). Class, stratification, and psychological functioning. In M. L. Kohn & C. Schooler (Eds.), *Work and personality: An inquiry into the impact of social stratification*: (pp. 154-189). Norwood, NJ: Ablex.

Kohn, M. L., & Schooler, C. (1983). *Work and personality: An inquiry into the impact of social stratification*. Norwood, NJ: Ablex.

Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking “big” personality traits to anxiety, depressive, and substance use disorders: A meta-analysis. *Psychological Bulletin, 136*, 768-821.

Kozol, J. (1991). *Savage inequalities: Children in America’s schools*. New York: Harper Perennial.

Kramer, R. (2008). Diversifiers at elite schools. *Du Bois Review: Social Science Research on Race, 5*(2), 287-307.

Kraus, M. W., Côté, S., & Keltner, D. (2010). Social class, contextualism, and empathic accuracy. *Psychological Science, 21*, 1716–1723.

Kraus, M. W., & Keltner, D. (2009). Signs of socioeconomic status: A thin-slicing approach. *Psychological Science, 20*, 99–106. doi:10.1111/j.1467-9280.2008.02251.x

Kraus, M. W., Piff, P. K., & Keltner, D. (2009). Social class, sense of control, and social explanation, *Journal of Personality and Social Psychology, 97*, 992-1004.

Kraus, M. W., Piff, P. K., & Keltner, D. (2011). Social class as culture: The convergence of resources and rank in the social realm. *Current Directions in Psychological Science, 20,* 246–250.

Kraus, M. W., Piff, P. K, Mendoza-Denton, R., Rheinschmidt, M. L., & Keltner, D. (2012). Social class, solipsism, and contextualism: How the rich are different from the poor. *Psychological Review, 119*, 546-572.

Kraus, M. W., & Stephens, N. M. (2012). A road map for an emerging psychology of social class. *Social & Personality Psychology Compass, 6*, 642-656.

Kraus, M. W., & Tan, J. J. X. (2015). Americans overestimate social class mobility.

Journal of Experimental Social Psychology, 58, 101-111.

Kraus, M. W., Tan, J. J. X., & Tannenbaum, M. B. (2013). The social ladder: A rank-based perspective on social class. *Psychological Inquiry: An International Journal for the Advancement of Psychological Theory, 24*(2), 81-96.

Kruger, D. J., & Nesse, R. M. (2006). An evolutionary life-history framework for understanding sex differences in human mortality rates. *Human Nature, 17,* 74–97.

Kusserow, A. S. (2004). *American Individualism: Child Rearing and Social Class in Three Neighborhoods*. New York, NY: Palgrave MacMillan.

Lachman, M. E., & Weaver, S. L. (1998). The sense of control as a moderator of social class differences in health and well-being. *Journal of Personality and Social Psychology, 74,* 763–773.

Langhout, R. D., Rosselli, F., & Feinstein, J. (2007). Assessing classism in academic settings. *The Review of Higher Education, 30*, 145–184. doi:10.1353/rhe.2006.0073

Lareau, A. (1987). Social class differences in family-school relationships: The importance of cultural capital. *Sociology of Education, 60*, 73–85.

Lareau, A. (1993). *Home advantage: Social class and parental intervention in elementary education*. Philadelphia: Palmer Press.

Lareau, A. (2003). *Unequal childhoods: Class, race, and family life*. Berkeley, CA: University of California Press.

Lareau, A., & Conley, D. (2008). *Social class: How does it work?* New York, NY: Russell Sage Foundation.

Lareau, A., & Weininger, E. B. (2003). Cultural capital in educational research: A critical assessment. *Theory and Society, 32*, 567–606.

Lawrance, E. C. (1991). Poverty and the rate of time preference: Evidence from panel data. *Journal of Political Economy, 99*(1), 54-77.

Lazerson, M. (2010). *Higher education and the American dream: Success and its discontents*. Budapest, Hungary: Central European University Press.

Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology, 68*, 518–530.

Lee, E. M., & Kramer, R. (2013). Out with the old, in with the new? Habitus and social mobility at selective colleges. *Sociology of Education, 86*(1), 18-35.

Lee, J. J., Sax, L. J., Kim, K. A., & Hagedom, L. S. (2004). Understanding students' parental education beyond first-generation status. *Community College Review, 32*, 1-20.

Lehman, W. (2009). Becoming middle-class: How working-class university students draw and transgress moral class boundaries. *Sociology, 43*, 631– 647. doi:10.1177/0038038509105412

Levine, A., & Nidiffer, J. (1996). *Beating the odds: How the poor get to college*. San Francisco: Jossey-Bass.

Lewis, O. (1959). *Five families: Mexican case studies in the culture of poverty*. New York, NY: Basic Books.

Logan, J. R., Minca, E., & Adar, S. (2012). The geography of inequality: Why separate means unequal in American public schools. *Sociology of Education, 85*(3), 287-301. doi: 10.1177/0038040711431588

Lohfink, M. M., & Paulsen, M. B. (2005). Comparing the determinants of persistence for first-generation and continuing-generation students. *Journal of College Student Development, 46,* 409−428.

London, H. B. (1989). Breaking away: A study of first-generation college students and their families. *American Journal of Education, 97*(1), 144-170.

London, H. B. (1992). Transformations: Cultural challenges faced by first-generation students. In L. S. Zwerling & H. B. London (Eds.), *First-generation students: Confronting the cultural issues* (pp. 5–12). San Francisco: Jossey-Bass.

Long, J., Lynch, J., Machiran, N., Thomas, S., & Malinow, K. (1982). The effect of status on blood pressure during verbal communication. *Journal of Behavioral Medicine, 5*, 165–171.

Lopez Turley, R. N. (2002). Is relative deprivation beneficial? The effects of richer and poorer neighbors on children's outcomes. *Journal of Community Psychology, 30*(6), 671-686.

Low, B. S. (2000). Sex, wealth, and fertility: Old rules, new environments. In L. Cronk, N. Chagnon, & W. Irons (Eds.), *Adaptation and human behavior: An anthropological perspective* (pp. 323–344). New York, NY: de Gruyter.

Lubrano, A. (2004). *Limbo: Blue-collar roots, white-collar dreams*. New York, NY: Wiley.

Lynch, K., & O'Riordan, C. (1998). Inequality in higher education: A study of class barriers. *British Journal of Sociology of Education, 19,* 445–478. doi:10.1080/0142569980190401

MacLeod, J. (1987). *Ain't no makin' it: The leveled aspirations of a low-income neighborhood*. Boulder, CO: Westview Press.

Malecki, C. K., & Demaray, M. K. (2006). Social support as a buffer in the relationship between socioeconomic status and academic performance. *School Psychology Quarterly, 21*, 375–395. doi: 10.1037/h0084129

Markus, H. R., & Conner, A. (2013). *Clash! 8 cultural conflicts that make us who we are*. New York, NY: Hudson Street Press.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.

Markus, H. R., Ryff, C. D., Curhan, K. B., & Palmersheim, K. A. (2004). In their own words: Well-being at midlife among high school educated and college-educated adults. In O.G. Brim, C.D. Ryff, & R.C. Kessler (Eds.), *How healthy are we? A national study of well-being at midlife* (pp. 273–319). Chicago: University of Chicago Press.

Marx, K., & Engels, F. (1973/1848). Manifesto of the communist party. In K. Marx. (Ed.), *The Revolutions of 1848: Political Writings* (pp. 62–98). Vol. I. Harmondsworth, UK: Penguin.

Massey, D. (1996). The age of extremes: Concentrated affluence and poverty in the twenty-first century. *Demography, 33*(4), 395-412.

Massey, D., Charles, C., Lundy, G., & Fischer, M. (2003). *The source of the river: The social origins of freshman at America's selective colleges and universities*. Princeton, NJ: Princeton University Press.

McConnell, P. J. (2000). ERIC review: What community colleges should do to assist first-generation students. *Community College Review, 28*, 75–87. doi:10.1177/009155210002800305

McDonough, P. M. (1994). Buying and selling higher education. *Journal of Higher Education, 65,* 427–446.

McDonough, P. M. (1997). *Choosing colleges: How social class and schools structure opportunity*. New York: SUNY Press.

McDonough, P. M. (2004). Counseling matters: Knowledge, assistance, and organizational commitment in college preparation. In W. G. Tiemey, Z. B. Corwin, & J. E. Colyar (Eds.), *Preparing for college: Nine elements of effective* *outreach*. Albany, NY: SUNY Press.

McDonough, P., Korn, J., & Yamasaki, E. (1997). Access, equity and the privatization of college counseling. *Review of Higher Education, 20*(3), 297–317.

McLain, K. E. (2008). *Digging deeper: An examination of achievement gaps*. (Doctoral dissertation). Retrieved from UMI ProQuest (UMI No. 3316433).

McGrath, M. (2013). *The challenge of being poor at America's richest colleges*. Forbes. Retrieved March 6, 2016 from http://www.forbes.com

McSwain, C., & Davis, R. (2007). *College access for the working poor: Overcoming burdens to succeed in higher education*. Washington, DC: Institute for Higher Education Policy.

Mehl, M. R., Pennebaker, J. W., Crow, M., Dabbs, J., & Price, J. (2001). The Electronically Activated Recorder (EAR): A device for sampling naturalistic daily activities and conversations. *Behavior Research Methods, Instruments, and Computers, 33*, 517-523.

Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., … Urdan, T. (2000). *Manual for the patterns of adaptive learning scales*. Ann Arbor, MI: University of Michigan.

Miller, K. A., Kohn, M. L., & Schooler, C. (1986). Educational self-direction and personality. *American Sociological Review, 51*, 372–390.

Mok, A., Morris, M. W., Benet-Martínez, V., & Karakitapoglu-Aygun, Z. (2007). Embracing American culture: Structures of social identity and social networks among first-generation biculturals. *Journal of Cross-Cultural Psychology, 38*, 629–635.

Mullen, A. (2010). *Degrees of inequality: Culture, class, and gender in American higher education*. Baltimore: Johns Hopkins University Press.

Murphy, M. C., Steele, C. M., & Gross, J. J. (2007). Signaling threat: How situational cues affect women in math, science, and engineering settings. *Psychological Science, 18*(10), 879. doi:10.1111/j.1467-9280.2007.01995.x

Muthén, L. K., & Muthén, B. O. (2014). *Mplus statistical analysis with latent variables user's guide*. Los Angeles: Muthén and Muthén.

Na, J., Grossmann, I., Varnum, M. E. W., Kitayama, S., Gonzalez, R., & Nisbett, R. E. (2010). Cultural differences are not always reducible to individual differences. *PNAS: Proceedings of the National Academy of Sciences of the United States of America, 107*, 6192–6197. doi:10.1073/pnas.1001911107

Neckerman, K. (2007). *Schools betrayed: Roots of failure in inner-city education*. Chicago: University of Chicago Press.

Nelson, M. L., Englar-Carlson, M., Tierney, S. C., & Hau, J. M. (2006). Class jumping into academia: Multiple identities for counseling academics. *Journal of Counseling Psychology, 53,* 1–14.

Nettle, D. (2009). An evolutionary model of low mood states. *Journal of Theoretical Biology, 257,* 100–103.

Newcomb, T. M. (1943). *Personality and Social Change: Attitude Formation in a Student Community*. New York, NY: Dryden Press.

Nguyen, A. D. (2010). *Expatriate effectiveness and cultural intelligence among multiculturals and monoculturals abroad. Unpublished doctoral dissertation*. Riverside: University of California.

Nguyen, A. D., & Benet-Martínez, V. (2007). Biculturalism unpacked: Components, measurement, individual differences, and outcomes. *Social and Personality Psychology Compass, 1*, 101–114.

Nguyen, A. D., & Benet-Martínez, V. (2010). Multicultural identity: What it is and why it matters. In R. J. Crisp (Ed.), *The Psychology of Social and Cultural Diversity* (pp. 87–114). New York: Wiley-Blackwell.

Nguyen, A-M. D. & Benet-Martínez, V. (2013). Biculturalism and adjustment: A meta-analysis. *Journal of Cross-Cultural Psychology, 44*(1), 122-159.

Nisbett, R. E. (2009). *Intelligence and how to get it: Why Schools and Cultures Count*. New York, NY: W. W. Norton & Company.

No, S. Hong, Y., Liao, H-Y., Lee , K., & Wood, D. , & Chao, M. M. (2008). Lay theory of race affects and moderates Asian Americans' responses toward American culture. *Journal of Personality and Social Psychology, 95,* 991-1004.

Nora, A. (2003). Access to higher education for Hispanic students real or illusory? In J. Castellanos & L. Jones (Eds.), *The majority in the minority*. Sterling, VA: Stylus.

Nora, A. (2004). The role of habitus and cultural capital choosing a college, transitioning from high school to higher education, and persisting in college among minority and nonminority students. *Journal of Hispanic Higher Education, 3*(2), 180-208. doi:10.1177/1538192704263189

Nora, A., & Cabrera, A. F. (1996). The role of perceptions of prejudice and discrimination on the adjustment of minority students to college. *Journal of Higher Education, 67*(2), 120–148.

Norton, M. I., & Ariely, D. (2011). Building a better America—One wealth quintile at a time. *Perspectives on Psychological Science, 6*, 9–12.

Nunez, A. & Cuccaro-Alamin, S. (1998). *First-generation students: Undergraduates whose parents never enrolled in postsecondary education*. Washington, DC: National Center for Education Statistics.

Oakes, J. (1982). Classroom social relationships: Exploring the Bowles and Gintis hypothesis. *Sociology of Education, 55*, 197-212

Oakes, J. M., & Rossi, P. H. (2003). The measurement of SES in health research: Current practice and steps toward a new approach. *Social Science and Medicine, 56*, 769–784.

Orbe, M. P. (2004). Negotiating multiple identities within multiple frames: An analysis of first-generation college students. *Communication Education, 53*(2), 131-149.

Orfield, G., Schley, S., Glass, D., & Reardon, S. (1994). The growth of segregation in American schools: Changing patterns of separation and poverty since 1968. *Equity & Excellence in Education, 27*(1), 5-8.

Ostrove, J. M., & Long, S. M. (2007). Social class and belonging: Implications for college adjustment. *Review of Higher Education, 30*, 363–389. doi:10.1353/rhe.2007.0028

Oyserman, D., Fryberg, S. A., & Yoder, N. (2007). Identity-based motivation and health. *Journal of Personality and Social Psychology, 93*(6), 1011–1027. doi:10.1037/0022-3514.93.6.1011

Padilla, A. M. (2006). Bicultural social development. *Hispanic Journal of Behavioral Sciences, 28,* 467-497.

Parducci, A., Perrett, D. S., & Marsh, H. W. (1969). Assimilation and contrast as range-frequency effects of anchors. *Journal of Experimental Psychology, 81*, 281–288.

Pascarella, E., Pierson, C., Wolniak, G., & Terenzini, P. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *Journal of Higher Education, 75*(3), 249-284.

Pascarella, E. T., & Terenzini, P. T. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *The Journal of Higher Education, 51*(1), 60–75.

Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco: Jossey-Bass.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students Vol. 2: A third* *decade of research*. San Francisco, CA: Jossey-Bass.

Pascarella, E., Wolniak, G. C., & Pierson, C. T. (2003). Experiences and outcomes of first-generation students in community colleges. *Journal of College Student Development, 44*, 420-429.

Patillo-McCoy, M. (1999). *Black picket fences: Privilege and peril among the black middle-class*. Chicago, IL: The University of Chicago Press.

Patrick, H., Anderman, L., Ryan, A., Edelin, K., & Midgley, C. (2001). Teachers' communication of goal orientations in four fifth-grade classrooms. *Elementary School Journal, 102*(1), 35–58.

Paulle, B. (2013). *Toxic schools: High-poverty education in New York and Amsterdam*. Chicago: University of Chicago Press.

Petty, T. (2014). Motivating first-generation students to academic success and college completion. *College Student Journal, 48*(2), 257-264.

Phinney, J., & Devich-Navarro, M. (1997). Variations in bicultural identification among African American and Mexican American adolescents. *Journal of Research on Adolescence, 7*, 3-32.

Phinney, J. S., & Haas, K. (2003). The process of coping among ethnic minority first-generation college freshmen: A narrative approach. *The Journal of Social Psychology, 143*, 707–726. doi:10.1080/ 00224540309600426

Piff, P. K. (2014). Wealth and the inflated self: Class, entitlement, and narcissism. *Personality and Social Psychology Bulletin, 40*, 34–43. doi:10.1177/0146167213501699

Piff, P. K., Kraus, M. W., Côté, S., Cheng, B. H., & Keltner, D. (2010). Having less, giving more: The influence of social class on prosocial behavior. *Journal of Personality and Social Psychology, 99,* 771–784.

Piff, P. K., Stancato, D. M., Côté, S., Mendoza-Denton, R., & Keltner, D. (2012). Higher social class predicts increased unethical behavior. *Proceedings of the National Academy of Sciences, 109*, 4086-4091.

Piff, P. K., Stancato, D. M., & Horberg, E. J. (2016). Wealth and wrongdoing: Social class differences in ethical reasoning and behavior. In J. -W. Van Prooijen & P.A.M. van Lange (Eds.), *Cheating, Corruption, and Concealment: The Roots of Dishonest Behavior*. Cambridge, UK: Cambridge University Press.

Piorkowski, G. (1983). Survivor guilt in the university setting. *Personnel & Guidance Journal, 61*, 620–622. doi:10.1111/j.2164-4918.1983.tb00010.x

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods. Instruments & Computers, 36*, 717-731.

Purdie-Vaughns, V., Steele, C. M., Davies, P. G., Ditlmann, R., & Crosby, J. R. (2008). Social identity contingencies: How diversity cues signal threat or safety for African Americans in mainstream institutions. *Journal of Personality and Social Psychology, 94*, 615–630. doi:10.1037/0022-3514.94.4.615

Quinn, D. M. & Earnshaw, V. A. (2013). Concealable stigmatized identities and psychological well-being. *Social & Personality Psychological Compass, 7*(1), 40-51.

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385-401.

Raeff, C., Greenfield, P. M., & Quiroz, B. (2000). Developing interpersonal relationships in the cultural contexts of individualism and collectivism. In S. Harkness, C. Raeff, & C. R. Super (Eds.), *Variability in the social construction of the child: New directions in child development* (pp. 59-74). San Francisco, CA: Jossey-Bass.

Rask, K. (2010). Attrition in stem fields at a liberal arts college: The importance of grades and pre-collegiate preferences. *Economics of Education Review*, *29*(6), 892–900.

Rayle, A. D., Arredondo, P., & Robinson-Kurpius, S. E. (2005). Educational self-efficacy of college women: Implications for theory, research and practice. *Journal of Counseling and Development, 83*, 361-366. doi:10.1002/j.1556-6678.2005.tb00356.x

Reay, D., Davies, J., David, M., & Ball, S. (2001). Choices of degree or degrees of choice? Class, 'race' and the higher education choice process. *Sociology, 35*, 855–874.

Rendon, L. I. (1992). From the barrio to the academy: Revelations of a Mexican American "scholarship girl." In L. S. Zwerling & H. B. London (Eds.), *First-generation students: Confronting the cultural issues* (pp. 55–64). San Francisco: Jossey-Bass.

Rheinschmidt, M. L. & Mendoza-Denton, R. (2014). Social class and academic achievement in college: The interplay of rejection sensitivity and entity beliefs. *Journal of Personality and Social Psychology, 107*(1), 101-121.

Rice, K. G., Lopez, F. G., Richardson, C. M., & Stinson, J. M. (2013). Perfectionism moderates stereotype threat effects on STEM majors' academic performance. *Journal of Counseling Psychology, 60*(2), 287-293.

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin, 138*(2), 353-387.

Ridgeway, C. L., & Fisk, S. R. (2012). Class rules, status dynamics, and "gateway" interactions. In S. T. Fiske & H. R. Markus (Eds.), *Facing social class: How societal rank influences interaction* (pp. 131–151). New York, NY: Russell Sage Foundation.

Roberts, J. S., & Rosenwald, G. C. (2001). Ever upward and no turning back: Social mobility and identity formation among first-generation college students. In D. P. McAdams, R. Josselson, & A. Lieblich (Eds.), *Turns in the road: Narrative studies of lives in transition* (pp. 91–119). Washington, DC: APA.

Robbins, S. B., Le, H., Davis, D., Lauver, K., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin, 130*, 261– 288.

Roccas, S., & Brewer, M. B. (2002). Social identity complexity. *Personality and Social Psychology Review, 6,* 88–107.

Roff, D. A. (1992). *The evolution of life histories: Theory and analysis*. New York, NY: Chapman & Hall.

Roksa, J., & Potter, D. (2011). Parenting and academic achievement: Intergenerational transmission of educational advantage. *Sociology of Education, 84*(4), 299-321.

Rondini, A. C. (2016). Healing the hidden injuries of class? Redemption narratives, aspirational proxies, and parents of low-income, first-generation college students. *Sociological Forum, 31*(1), 96-116.

Roscigno, V. J., & Ainsworth-Darnell, J. W. (1999). Race, cultural capital, and educational resources: Persistent inequalities and achievement returns. *Sociology of Education, 12*(3), 158-178.

Rose, M. (1989). *Lives on the boundary: The struggles and achievements of America's underprepared*. New York: The Free Press.

Rosenbaum, J. E. (1995). Changing the geography of opportunity by expanding residential choice: Lessons from the Gautreaux Program. *Housing Policy Debate, 6*, 231–269.

Rossi, A. S. (2001). Domains and dimensions of social responsibility: A sociodemographic profile. In A. S. Rossi (Ed.), *Caring and doing for others: Social responsibility in the domains of family, work, and community* (pp. 97–134). Chicago: University of Chicago Press.

Roszkowski, M. & Soven, M. (2010). Shifting gears: Consequences of including two negatively worded items in the middle of a positively worded questionnaire. *Assessment & Evaluation in Higher Education, 35*(1), 117-134.

Rubin, M. (2012). Social class differences in social integration among students in higher education: A meta-analysis and recommendations for future research. *Journal of Diversity in Higher Education, 5*, 22–38. doi:10.1037/a0026162

Ryan, J. (2010). *Five miles away, a world apart: One city, two schools, and the story of educational opportunity in modern America*. New York: Oxford University Press.

Ryan, J. & Sackrey, C. (1984). *Strangers in paradise: Academics from the working-class*. Boston: South End Press.

Saenz, V. B., Hurtado, S., Barrera, D., Wolf, D., & Yeung, F. (2007). *First in my family: A profile of first-generation college students at four-year institutions since 1971*. Los Angeles, CA: Higher Education Research Institute.

Sampson, R. (2012). *Great American city: Chicago and the enduring neighborhood effect*. Chicago: University of Chicago Press.

Sampson, R. & Laub, J. H. (1993). *Crime in the making: Pathways and turning Points through life*. Cambridge, MA: Harvard University Press.

Sandhu, D. S. & Asrabadi, B. R. (1994). Development of an acculturative stress scale for international students: Preliminary findings. *Psychological Reports, 75*, 435–448.

Schmitt, N. & Stults, D. M. (1985). Factors defined by negatively keyed items: The result of careless respondents? *Applied Psychological Measurement, 9*(4), 367-373.

Schwartz, S. J., Benet-Martínez, V., Knight, G. P., Unger, J. B., Zamboanga, B. L., Des Rosiers, S. E., Stephens, D. P., Huang, S., & Szapocznik, J. (2014). Effects of language of assessment on the measurement of acculturation: Measurement equivalence and cultural frame switching. *Psychological Assessment, 26*(1), 100-114.

Sennett, R., & Cobb, J. (1972). *The hidden injuries of class*. New York: Random House.

Settles, I. H., Jellison, W. A., & Pratt-Hyatt, J. S. (2009). Identification with multiple social groups: The moderating role of identity change over time among women scientists. *Journal of Research in Personality, 43*, 856–867.

Singh-Manoux, A., Adler, N. E., & Marmot, M. G. (2003). Subjective social status: Its determinants and its association with measures of ill-health in the Whitehall II study. *Social Science & Medicine, 56,* 1321–1333.

Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research, 75*(3), 417-453.

Snibbe, A. C., & Markus, H. R. (2005). You can't always get what you want: Educational attainment, agency, and choice. *Journal of Personality and Social Psychology, 88,* 703-720.

Sommerfeld, A. K., & Bowen, P. (2013). Fostering social and cultural capital in urban youth: A programmatic approach to promoting college success. *Journal of Education, 193*(1), 47-55.

Spector, P. E., Van Katwyk, P. T., Brannick, M. T., & Chen, P. Y. (1997). When two factors don't reflect two constructors: How item characteristics can produce artifactual factors. *Journal of Management, 23*(5), 659-677.

Stanford Financial Aid: The Parent Contribution. (2016, January 26). Retrieved from http://financialaid.stanford.edu/undergrad/how/parent.html

Steel, P., Schmidt, J., & Shultz, J. (2008). Refining the relationship between personality and subjective well-being. *Psychological Bulletin, 134,* 138-161.

Steele, C. M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist, 52*, 613–629.

Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69*, 797–811.

Steele, C. M., Spencer, S. J., & Aronson, J. (2002). Contending with group image: The psychology of stereotype and social identity threat. *Advances in Experimental Social Psychology, 34*, 379–440. doi:10.1016/S0065-2601(02)80009-0

Steinmetz, C. L. (2008). Negotiating class boundaries: A phenomenological study of the effects of poverty on the identity development of college students. *Dissertation Abstracts International, A69*(04), 3312115.

Stellar, J., Manzo, V., Kraus, M. W., & Keltner, D. (2012). Class and compassion: Socioeconomic factors predict responses to suffering, *Emotion, 12*, 449-459.

Stephens, N. M., Brannon, T. N., Markus, H. R., & Nelson, J. E. (2015). Feeling at home in college: Fortifying school-relevant selves to reduce social class disparities in higher education. *Social Issues and Policy Review, 9*(1), 1-24. doi: 10.1111/sipr.12008

Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012). Unseen disadvantage: How American universities' focus on independence undermines the academic performance of first-generation college students.

Journal of Personality and Social Psychology, 102(6), 1178-1197.

Stephens, N.M., Hamedani, M. H., & Destin, M. (2014). Closing the social-class achievement gap: A difference-education intervention improves first-generation students' academic performance and all students' college transition. *Psychological Science, 25*(4), 943-953. doi: 10.1177/0956797613518349

Stephens, N. M., Hamedani, M. G., Markus, H. R., Bergsieker, H. B., & Eloul, L. (2009). Why did they "choose" to stay? Perspectives of the Hurricane Katrina observers and survivors. *Psychological Science, 20*, 878-886.

Stephens, N. M., Markus, H. R., Fryberg, S. A. (2012). Social class disparities in health and education: reducing inequality through a sociocultural self model of behavior. *Psychological Review, 119*, 723-744.

Stephens, N. M., Markus, H. R., & Townsend, S. M. (2007). Choice as an act of meaning: The case of social class. *Journal of Personality and Social Psychology, 93*(5), 814-830.

Stephens, N. M., & Townsend, S. S. M. (2013). Rank is not enough: Why we need a sociocultural perspective to understand social class. *Psychological Inquiry, 24*, 126-130.

Stephens, N. M., & Townsend, S. S. M. (2015). How can financial incentives improve the success of disadvantaged college students? Insights from the social sciences. In B. Castleman, S. Schwartz, & S. Baum (Eds.), *Decision making for student success: Behavioral insights to improve college access and persistence*. New York, NY: Routledge.

Stephens, N. M., Townsend, S. S. M., Hamedani, M. G., Destin, M., & Manzo, V. (2015). A difference-education intervention equips first-generation college students to thrive in the face of stressful college situations. *Psychological Science, 26*(10), 1556-1566. doi: 10.1177/0956797615593501

Stephens, N. M., Townsend, S. S. M., Markus, H. R., & Phillips, L. T. (2012). A cultural mismatch: Independent cultural norms produce greater increases in cortisol and more negative emotions among first-generation college students. *Journal of Experimental Social Psychology, 48*(6), 1389-1393.

Stewart, A. J. & Ostrove, J. M. (1993). Social class, social change, and gender. *Psychology of Women Quarterly, 17*, 475–497.

Stirratt, M. J., Meyer, I. H., Ouellette, S. C., & Gara, M. A. (2008). Measuring identity multiplicity and intersectionality: Hierarchical classes analysis (HICLAS) of sexual, racial, and gender identities. *Self and Identity, 7*, 89–111.

Strayhorn, T. L. (2006). Factors influencing the academic achievement of first-generation college students. *NASPA Journal, 43*, 82-111.

Streib, J. (2011). Class reproduction by four year olds. *Qualitative Sociology, 34*(2), 337–52.

Sweeney, M. M. & Cancian, M. (2004). The changing importance of White women's economic prospects for assortative mating. *Journal of Marriage and Family, 66*, 1015–1028.

Sy, S.R. (2006). Family and work influences on the transition to college among Latina adolescents. *Hispanic Journal of Behavioral Sciences, 28,* 368-386.

Sy, S.R., & Romero, J. (2008). Family responsibilities among Latina college students from immigrant families. *Journal of Hispanic Higher Education, 7,* 212-227.

Terenzini, P. T., Rendon, L. I., Upcraft, M. L., Millar, S. B., Allison, K. W., Gregg, P. L., & Jalomo, R. (1994). The transition to college: Diverse students, diverse stories. *Research in Higher Education, 35*(1), 57–73.

Terenzini, P. T., Springer, L., Yaeger, P. M., Pascarella, E. T., & Nora, A. (1996). First-generation college students: Characteristics, experiences, and cognitive development. *Research in Higher Education, 37*, 1–22.

Thayer, P. B. (2000). Retention of students from first generation and low income backgrounds. *Opportunity Outlook*, *May*, 2-8. ERIC ED446633

The Joint Center for Housing Studies (2011). *America's rental housing: Meeting challenges, building on opportunities*. Cambridge, MA: President and Fellows of Harvard College.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*, 89–125.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: University of Chicago Press.

Titus, M. A. (2006). No college student left behind: The influence of financial aspects of a state's higher education policy on college completion. *Review of Higher Education, 29,* 293−317.

Tokarczyk, M. M. (2004). Promises to keep: Working-class students and higher education. In M. Zweig (Ed.), *What's class got to do with it? American society in the twenty-first century* (pp. 161–167). Ithaca, NY: Cornell University Press.

Tokarczyk, M. M., & Fay, E. A. (Eds.). (1993). *Working-class women in the academy: Laborers in the knowledge factory*. Amherst: University of Massachusetts Press.

Torres, K. (2009). “Culture shock”: Black students account for their distinctiveness at an elite college. *Ethnic and Racial Studies, 32*(5), 883–905.

Trimble, J. E. (2003). Introduction: Social change and acculturation. In K. M. Chun, P. B. Organista, & G. Mar (Eds.), *Acculturation: Advances in theory, measurement, and applied research* (pp. 3-13). Washington, DC: American Psychological Association .

Tweedell, C. B. (1997). The female college experience: Psychological and sociological influences on persistence. *Dissertation Abstracts International, 57*(12), 148A. (UMI No. 9716694)

U.S. Department of Education. (2014, October). *National Center for Education Statistics [NCES]. Web tables: Profile of undergraduate students 2007-2008*. Retrieved March 7, 2016 from http://nces.ed.gov/pubs2015/2015167.pdf

Valadez, J. (1996). Educational access and social mobility in a rural community college. *The Review of Higher Education, 19*, 391– 409.

Varnum, M. E. W. (2013). What are lay theories of social class? *PLoS ONE, 8*(7), e70589.

Varnum, M. E. W., Blais, C., & Brewer, G. A. (2016). Social class affects Mu-suppression during action observation. *Social Neuroscience*, *11*(4), 449-454.

Varnum, M. E. W., Blais, C., Hampton, R. S., & Brewer, G. A. (2015). Social class affects neural empathic responses. *Culture and Brain, 3,* 122-130.

Varnum, M. E. W., Grossmann, I., Kitayama, S., & Nisbett, R. E. (2010). The origin of cultural differences in cognition: Evidence for the social orientation hypothesis. *Current Directions in Psychological Science, 19,* 9-13.

Varnum, M. E. W., Na, J., Murata, A., & Kitayama, S. (2012). Social class differences in N400 indicate differences in spontaneous trait inference. *Journal of Experimental Psychology: General, 141*, 518-526.

Vasquez-Salgado, Y., Greenfield, P. M., & Burgos-Cienfuegos, R. (2015). Exploring home-school value conflicts: Implications for academic achievement and well being among Latino first-generation college students. *Journal of Adolescent Research, 30*, 271-305. doi:10.1177/0743558414561297

Walpole, M. (2003). Socioeconomic status and college: How SES affects college experiences and outcomes. *The Review of Higher Education, 27*(1), 45-73.

Walpole, M. (2007). *Economically and educationally challenged students in higher education* (ASHE Higher Education Report, Vol. 33, No. 3). San Francisco, CA:

John Wiley.

Walton, G. M., & Cohen, G. L. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology, 92*, 82–96.

Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science, 331*, 1447–1451. doi:10.1126/science.1198364

Warburton, E., Bugarin, R., & Nunez, A. (2001). *Bridging the gap: Academic preparation and postsecondary success of first-generation students* (NCES 2001–153). Washington, DC: National Center for Education Statistics, U.S. Government Printing Office.

Ward, C. (2008). Thinking outside the Berry boxes: New perspectives on identity, acculturation and intercultural relations. *International Journal of Intercultural Relations, 32,* 105–114.

Ware, J. E., Kosinski, M., Keller, S. D. (1994). *SF-36 physical and mental health summary scales: A users' manual*. Boston: The Health Institute.

Ware, J. E., Kosinski, M. & Keller, S. D. (1996). A 12-item short-form health survey: Construction of scales and preliminary tests of reliability and validity. *Medical Care, 34*(3), 220-233.

Warner, L. R. (2008). A best practices guide to intersectional approaches in psychological research. *Sex Roles, 59*, 454–463.

Weis, L. (1990). *Working-class without work: High school students in a de-industrializing economy*. New York: Routledge Press.

Willett, L. H. (1995). *2 minute motivation: How to inspire superior performance*. Naperville, IL: Sourcebooks, Inc.

Willis, P. (1977). *Learning to labor: How working-class kids get working-class jobs*. New York: Columbia University Press.

Wilson, W. J. (1997). *When work disappears: The world of the new urban poor*. New York: Vintage Books.

Wilson, W. J. (2009). *More than just race: Being black and poor in the inner city*. New York, NY: Norton.

Wilson, M., & Daly, M. (1997). Life expectancy, economic inequality, homicide, and reproductive timing in Chicago neighborhoods. *British Medical Journal, 314,* 1271–1274.

Yakunina, E. S., Weigold, I. K., Weigold, A., Hercegovac, S., & Elsayed, N. (2013). International students' personal and multicultural strengths: Reducing acculturative stress and promoting adjustment. *Journal of Counseling and Development, 91*(2), 216-223.

York-Anderson, D. C., & Bowman, S. L. (1991). Assessing the college knowledge of first-generation and second-generation college students. *Journal of College Student Development, 32*, 116–122.

Yosso, T.J. (2006). *Critical race counterstories along the Chicana/Chicano educational pipeline*. New York: Routledge

Zamboanga, B. L., Schwartz, S. J., Hernandez J. L., Van Tyne, K. (2009). Acculturation and substance abuse among Hispanic early adolescents: Investigating the mediating roles of acculturative stress and self-esteem. *Journal of Primary Prevention, 30*, 315-333.

Zamudio-Suarez, F. (2016, December). *'I fit in neither place.'* Retrieved from http://www.chronicle.com/article/I-Fit-in-Neither-Place-/238629

Zandy, J. (1990). *Calling home: Working-class women's writings*. New Brunswick, NJ: Rutgers University Press.

Zandy, J. (1994). *Liberating memory: Our work and our working-class consciousness*. New Brunswick, NJ: Rutgers University Press.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal, 29*, 663–676. doi:10.3102/00028312029003663

Zweigenhaft, R. (1993). Prep school and public school graduates of Harvard: A longitudinal study of the accumulation of social and cultural capital. *Journal of Higher Education, 64*, 211– 225.

APPENDIX A

HOME-SCHOOL DISSONANCE SCALE

Read the questions below and choose the response that best represents how you feel, from 1 (Not at all true) to 5 (Very true).

1. I feel like my family understands what the college experience is about.
2. I feel like the values of my family are compatible with the values at Arizona State University.
3. The culture of Arizona State University is different from the culture at home.
4. I have a hard time integrating my family culture and life with my culture and life at Arizona State University.

APPENDIX B

PERCEPTIONS OF SOCIAL CLASS ITEMS

Research is beginning to examine the ways that social classes (e.g., education, wealth, career) differ in their cultures (e.g., values, practices). Please answer the following questions from 1 (Strongly Disagree) to 7 (Strongly Agree).

1. The environment that I grew up in has different norms and values than the university environment.
2. If people from different countries are considered bicultural, do you think of yourself as being "social class bicultural"?

Please answer the following questions from 1 (very weakly identified) to 6 (very strongly identified).

1. How much do you identify with American working-class culture?
2. How much do you identify with American middle-class culture?

APPENDIX C

SATISFACTION WITH LIFE SCALE

Thinking specifically about your life today, do you agree with the following? . Choose the answer that seems best for you. There are no right or wrong answers. If you choose the leftmost point (1), you are saying “Strongly Disagree." If you choose the rightmost point (7), you are saying "Strongly Agree."

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with life.
4. So far I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

APPENDIX D

SOCIAL CLASS BICULTURAL IDENTITY INTEGRATION SCALE

Read each statement and think about how much you agree or disagree with the statement. Choose the answer that seems best for you. There are no right or wrong answers. If you choose the leftmost point (1), you are saying “Strongly Disagree." If you choose the rightmost point (5), you are saying "Strongly Agree."

1. I find it easy to harmonize working-class and middle-class cultures.
2. I rarely feel conflicted about being social class bicultural.
3. I find it easy to balance both working-class and middle-class cultures.
4. I do not feel trapped between the working-class and middle-class cultures.
5. I feel torn between working-class and middle-class cultures. (R)
6. I feel that my working-class and middle-class cultures are incompatible. (R)
7. Being bicultural means having two cultural forces pulling on me at the same time. (R)
8. I feel conflicted between the middle-class and working-class ways of doing things. (R)
9. I feel like someone moving between two cultures. (R)
10. I feel caught between the working-class and middle-class cultures. (R)
11. I feel working-class and middle-class at the same time.
12. I relate better to a combined working-middle class culture than to working-class or middle-class culture alone.
13. I cannot ignore the working-class or middle-class side of me.
14. I feel social class bicultural.
15. I feel part of a combined culture.
16. I find it difficult to combine working-class and middle-class cultures. (R)
17. I do not blend my working-class and middle-class cultures. (R)
18. I am simply a working-class person at a middle-class job. (R)
19. I keep working-class and middle-class cultures separate. (R)

APPENDIX E

CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION SCALE

Below is a list of some ways you may have felt or behaved. Please indicate how often you have felt this way during the last week by checking the appropriate space: rarely or none of the time (less than 1 day), some or a little of the time (1-2 days), occasionally or a moderate amount of time (3-4 days), most or all of the time (5-7 days). Please only provide one answer to each question.

1. I was bothered by things that usually don't bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt I was just as good as other people.
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.
13. I talked less than usual.
14. I felt lonely.
15. People were unfriendly.
16. I enjoyed life.
17. I had crying spells.
18. I felt sad.
19. I felt that people disliked me.
20. I could not get going.

APPENDIX F

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts **during the last month**. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way, from 0 (Never) to 4 (Very Often)

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and "stressed"?
4. In the last month, how often have you felt confident about your ability to handle your personal problems?
5. In the last month, how often have you felt that things were going your way?
6. In the last month, how often have you found that you could not cope with all the tings that you had to do?
7. In the last month, how often have you been able to control irritations in your life?
8. In the last month, how often have you felt that you were on top of things?
9. In the last month, how often have you been angered because of things that were outside of your control?
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

APPENDIX G

SHORT-FORM 12 HEALTH SURVEY

This survey asks for your views about your health. This information will help you keep track of how you feel and how well you are able to do your usual activities. Answer every question by selecting the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is:
    - o Excellent
    - o Very Good
    - o Good
    - o Fair
    - o Poor
2. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?
    a. Moderate activities, such as *walking to class or doing light exercise*
        - o Yes, limited a lot
        - o Yes, limited a little
        - o No, not limited at all

    b. Climbing several flights of stairs
        - o Yes, limited a lot
        - o Yes, limited a little
        - o No, not limited at all
3. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?
    a. Accomplished less than you would like
        - o Yes
        - o No

    b. Were limited in the kind of work or other activities
        - o Yes
        - o No
4. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?
    a. Accomplished less than you would like
        - o Yes
        - o No

    b. Did work or other activities less carefully than usual
        - o Yes
        - o No
5. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?
    - o Not at all
    - o A little bit
    - o Moderately
    - o Quite a bit
    - o Extremely

6. These questions are about how you feel and how things have been with you <u>during the past 4 weeks</u>. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the <u>past 4 weeks</u>...
    a. Have you felt calm and peaceful?
        - All of the time
        - Most of the time
        - A good bit of the time
        - Some of the time
        - A little of the time
        - None of the time
    b. Did you have a lot of energy?
        - All of the time
        - Most of the time
        - A good bit of the time
        - Some of the time
        - A little of the time
        - None of the time
    c. Did you feel downhearted and blue?
        - All of the time
        - Most of the time
        - A good bit of the time
        - Some of the time
        - A little of the time
        - None of the time
7. During the <u>past 4 weeks</u>, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?
        - All of the time
        - Most of the time
        - Some of the time
        - A little of the time
        - None of the time

8. During the past 12 months, how many times have you been to ASU Health Services or a physician?

- Not at all
- One time
- Two to five times
- More than six times

9. During the past 12 months, how many days of school have you missed because of illness?

- None
- One
- Two to five
- More than six

APPENDIX H

ADAPTED INTERNATIONAL STUDENTS ACCULTURATIVE STRESS SCALE

Read each statement and think about how much difficulty you have experienced since you started at ASU. Choose the number that seems best for you. There are no right or wrong answers. If you put a '1' you are saying that you strongly disagree; if you put a '5', you are saying that you strongly agree.

1. I feel homesick.
2. 1 feel uncomfortable adjusting to new foods.
3. 1 am treated differently in social situations.
4. People at this university mock people who come from backgrounds like mine.
5. I feel sad living in unfamiliar surroundings.
6. I feel too intimidated to participate in social activities on campus.
7. Others are biased against me because of my socioeconomic background.
8. I feel guilty for leaving my family and friends behind.
9. Many opportunities at this university are denied to me.
10. I feel angry that people from my socioeconomic background are considered inferior here.
11. Multiple pressures have been placed upon me since coming to this university.
12. I feel that I receive unequal treatment.
13. People show hatred toward me nonverbally.
14. It hurts when people don't understand my values.
15. I am denied what I deserve.
16. I feel low because of my socioeconomic background.
17. Others don't appreciate my values.
18. I miss the people from my community where I grew up.
19. I feel uncomfortable adjusting to new values that are common on campus.
20. I feel that people from my socioeconomic background are discriminated against.
21. People show hatred toward me through actions.
22. I feel that my status on campus is low due to my socioeconomic background.
23. I am treated differently because of my socioeconomic background.
24. I feel insecure here.
25. I don't feel a sense of belonging here.
26. I feel some people don't associate with me because of my socioeconomic background.
27. People show hatred toward me verbally.
28. I feel guilty that I am living a different lifestyle here than I did at home.
29. I feel sad leaving my relatives behind.
30. Others make fun of me because I am from a working-class family.
31. I don't like to talk to others about my life when I was growing up.
32. I've found it easy to adjust to university life. (R)
33. I feel like I really fit in here. (R)
34. I feel comfortable being myself here. (R)
35. I feel like people from working-class backgrounds have an equal chance to succeed here. (R)

APPENDIX I

CENSUS PRESCREENING QUESTIONS

1. What high school did graduate from?
2. How many advanced placement or dual-credit courses (e.g., for college credit) did you take in high school?
3. What was your high school GPA (0.0-4.0)?
4. What is your college GPA (0.0-4.0)?
5. What zip code did you live in for most of your life before college (if in the US)?

APPENDIX J

DEMOGRAPHIC QUESTIONS

1. How many adults do you know who have received a bachelor's degree (B.A., B.S., B.F.A) from a four-year university? (Drop down box: 1-40)
2. What was your high school GPA (0.0-4.0)?
3. What is your college GPA (0.0-4.0)?
4. Are you the first in your family to go to college? _____ Yes _____ No
5. What is your age?
6. What is your gender?
    - o Male
    - o Female
7. What is your race/ethnicity? (Check all that apply).
    - o African/African American/Black
    - o American Indian/Alaska Native
    - o Asian/Asian American/Pacific Islander
    - o Caucasian/European American
    - o Latino/Hispanic/Chicano
    - o Middle Eastern/Arab/Arab American
    - o Other __________________
8. How many hours per week do you typically work at a job?
    - o I work part-time (1-35 hours per week)
    - o I work full-time (35+ hours per week)
    - o I do not have a job, but I am looking for one.
    - o I do not have a job and am not looking for one
9. What is the highest level of education attained by your mother?
    - o Less than High School
    - o High School Diploma (or GED)
    - o Some college or a 2-year college degree (A.A.)
    - o 4-year college degree (B.A., B.S.)
    - o Master's degree (M.A., M.S.)
    - o Graduate or professional degree (J.D., M.D., Ph.D.)
10. What is the highest level of education attained by your father?
    - o Less than High School
    - o High School Diploma (or GED)
    - o Some college or a 2-year college degree (A.A.)
    - o 4-year college degree (B.A., B.S.)
    - o Master's degree (M.A., M.S.)
    - o Graduate or professional degree (J.D., M.D., Ph.D.)
11. Please estimate your family's annual household income.
12. What was your family's yearly household income when you last lived with your parents/guardians? (If you still live with your family, please refer to income in the past year).
    - o Less than $11,000
    - o $11,000 to $24,999
    - o $25,000 to $49,999
    - o $50,000 to $74,999
    - o $75,000 to $99,999

- o $100,000 to $149,999
- o $150,000 to $199,999
- o $200,000 to $249,000
- o $250,000 or above

13. How would you describe your socioeconomic class, in terms of household income?
    - o Working-class
    - o Lower Middle-class
    - o Middle-class
    - o Upper Middle-class
    - o Upper class
14. Think of this ladder as representing where people stand in the US. At the **top** of the ladder are the people who are the best off - those who have the most money, the most education and the most respected jobs. At the **bottom** are the people who are the worst off - who have the least money, least education, and the least respected jobs or no job.

    The higher up you are on this ladder, the closer you are to the people at the very top: the lower you are, the closer you are to the people at the very bottom. **Where would you place yourself on this ladder?** Please place a large "**X**" on the ladder where you think you stand at this time in your life, relative to other people in the US.