Socioeconomic cultures: How education shapes the self

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Abstract

Education has become the tipping point that separates those who thrive from those who struggle just to survive. In this chapter we synthesize many of the powerful and previously unexamined psychological consequences of educational attainment, suggesting that education has its influence on behavior through shaping one's experience of self. Although most people experience themselves as having both an independent and an interdependent self, people inhabiting college-educated contexts tend to prioritize their independent selves. Navigating cultural contexts with more resources and relatively greater power and status, they see themselves as separate from others, as expressing and promoting their own interests, choices and goals, and as influencing and controlling social interactions. Those inhabiting high school-educated contexts and thus with fewer resources and less power and status tend to emphasize their interdependent selves. For the high school-educated, the self is understood as connected with others, as responsive to the social situation and to the goals, emotions and needs of others, and as adjusting and deferring to others in interaction. From music preferences, to friendship, to responses to natural disasters, these different selves organize how people think, feel and behave in their world. However, these differences are not inherent or fixed. They are the highly malleable result of differences in cultural influences—i.e., differences in the interactions, institutions and ideas that characterize high school-educated and college-educated contexts. For example, in comparison to those with a college education, those without a college education (68% of Americans) move less, interact more with family and friends, prioritize loyalty to these friends, work jobs with less choice and control, teach their children to fit in, observe hierarchy and follow tradition, and have fewer choices among few and less attractive options. Addressing inequality in domains such as health, education, and political engagement will require policies and practices that bridge these socioculturally shaped differences in self.

"Education . . . beyond all other divides of human origin, is a great equalizer of conditions of men—the balance wheel of the social machinery."

-Horace Mann

Education is on the rise. Since the 1950s, the number of people accessing education, the total number of years spent on education, and even the average years of tertiary education have increased across the globe (Barro & Lee, 2013). In the U.S., this trend has been particularly visible in higher education at the college level with the proportion of U.S. citizens achieving a bachelor's degree rising from 6% in 1950 to 32% in 2015 (U.S. Census Bureau, 2015a). With education more accessible than ever before, it is important to understand its consequences on individuals.

Horace Mann, quoted above, believed that education was the means by which a society could promote equality. A U.S. congressional representative in the eighteenth century, Mann championed increasing equal access to education as a means to enable social mobility (Brick, 2005). Indeed, in the U.S., there are many positive consequences of education. As Figure 1 shows, higher levels of education allow for higher status occupations, such as managerial, professional, and teaching positions. These jobs, in turn, offer higher incomes (see Figure 2)— earning a four-year college degree nearly doubles a person's expected annual wages compared to earning a high school degree (Bureau of Labor Statistics, 2013). Thus, education is an important lever in improving the socioeconomic conditions of a person's world (Day & Newburger, 2002; Pascarella & Terenzini, 1995; Stephens, Markus, & Townsend, 2007; Geyer & Peter, 2000; Kraus & Stephens, 2012).

However, the historical importance attached to education lies not only in societal economic outcomes, but also in *psychological* outcomes. Horace Mann's appreciation for education, for example, went beyond the purely academic. He wrote "[e]ducation derives arguments for its support from a comprehensive range of considerations . . . Health, freedom, wisdom, virtue, time, eternity plead its behalf" (Mann & Pecant, 1842, pg. 48). He thus believed

education could improve society by shaping the best citizens; this model of learning sees education as a path to self-perfection, personal virtue, and moral character (Li, 2005). This perspective suggests that education is capable of shaping more than just cognitive skills, abilities, and intelligence, but that it also shapes how people experience self and how they understand the world around them. Indeed, it is important to understand the mechanisms underlying the effects of education, as with increasing education people are also more likely to experience better health, greater well-being, and increased levels of happiness (e.g., Michalos, 2008; Cutler & Lleras-Muney, 2006).

In the current chapter, we take a sociocultural perspective on education and explore how it can shape one's experience and construal of self[1]. The experience of self includes all the thoughts and beliefs people have about themselves (Leary & Tangney, 2011). For example, when people consider the question "Who am I?" they can draw answers from physical traits (e.g., I am tall), social relationships and roles (e.g., I am a brother, I am a teammate, etc.), preferences (e.g., I like movies), goals (e.g., I want to travel), activities (e.g., I collect stamps), psychological traits (e.g., I am outgoing) or skills and abilities (e.g., I am good at math; Kanagawa, Cross, & Markus, 2001). Here, we focus on self as the intermediary between a person's external world and his or her internal thoughts, feelings, and actions.

In other words, we take the perspective that how people understand themselves is pivotal to how they understand and act in the world around them. In this way, the self acts as a schema or interpretive framework through which people can evaluate, organize, and ultimately make sense of their experiences (Stephens, Markus, & Phillips, 2014; Stephens, Fryberg, & Markus, 2012; Stephens, Markus, & Fryberg, 2012; Stephens, Brannon, Markus, & Nelson, 2015). We will specifically show that people inhabiting college-educated contexts tend to prioritize *independent* selves that are separate and distinct from others. In contrast, those inhabiting less-

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[1] We focus specifically on education in this chapter, although many researchers use education in conjunction with income and occupation to broadly describe a person's socioeconomic status (SES). Because education is strongly tied to income and occupation, any discussion of education effects will include, to some extent, a discussion of income and occupation. Nevertheless, here we strive to consider influences on views of self, understandings of the world, and societal outcomes that are unique to education (Kraus & Stephens, 2012).

educated (e.g., high-school or fewer years of education) contexts tend to emphasize *interdependent* selves that are inherently connected to others. We propose that these divergent views of self are constructed in the social, cultural, and economic realities created by education.

Focusing largely on U.S. contexts, we first explore how educational attainment shapes the external realities of a person's world, before we focus in on individual outcomes and consider how education shapes internal psychological tendencies. Then, using the unique case of first-generation college students—those who are the first in their families to go to college—we examine the consequences of a mismatch between one's interdependent self and the independent values that predominate college settings. In navigating the effects of having (or not having) a college education, we address the biggest educational divide in the U.S. (i.e., 57% of Americans have at most a high school degree and 32% of Americans have at least a bachelor's degree; U.S. Census Bureau, 2015b). Lastly, based on the research we outline throughout the chapter, we provide recommendations for how policy-makers, educators, and researchers can intervene on these processes to make education more equitable for all groups.

Level of Educational Attainment Shapes Sociocultural Contexts

We explore how education influences sociocultural contexts by analyzing how educational attainment shapes *culture cycles* (see Figure 3). A culture cycle perspective considers how daily *interactions* (e.g., with family, coworkers), formal *institutions* (e.g., government, media, education), and abstract *ideas* (e.g., what is right, what is good) give meaning to self and shape how people think, feel, and act (Markus & Conner, 2014; Markus & Kitayama, 2010). Interactions, institutions, and ideas within the culture cycle shape each other, as well as individuals and their psychological tendencies; individuals, in turn, shape the world around them in a process of *mutual constitution* (Markus & Kitayama, 2010; Shweder, 1990). We will delve deeper into psychological tendencies (e.g., cognition, emotion, and behavior) later in this chapter. First we consider how educational attainment shapes economic and social realities by analyzing the interactions, institutions, and ideas that characterize high school or less-educated (HSE) worlds and college-educated (CE) worlds.

Interactions

At the interaction level of the culture cycle (Figure 3b), everyday exchanges with others in homes, schools, and workplaces, powerfully influence how people think about the world.

Personal social networks provide one source of daily interactions that are useful to consider in the context of education. Educational attainment is tightly linked to occupation, income, and geographic mobility, and as such plays an important role in affording and constraining social networks. With higher levels of education, people are more likely to leave their homes for college, relocate for career purposes, and travel for work and leisure (Urry, 2012). As a result, they are likely to make a large number of dispersed connections that are relatively "weak" in that they do not require high commitments of time, intimacy, and support (Granovetter, 1973; Williams, 2012). People navigating CE worlds report larger networks than their HSE counterparts as well as fewer connections between the people in their networks (Carey & Markus, in prep). In these loosely-connected networks, people navigate their relationships with relative freedom, beginning and ending relationships based largely on personal choice (Yuki & Schug, 2012).

Social networks in HSE contexts are more likely to be constrained by the geographic immobility that is tied to limited economic and social capital. Staying in close proximity to family and the places they grew up, people with less education have networks that are often smaller, less diverse, and more strongly interconnected than those of their CE counterparts (Lamont, 2000; Granovetter, 1973; Campbell, Marsden, & Hurlbert, 1986). These connections are more likely to be strengthened by time, intimacy, and mutual support (Granovetter, 1973). These environments are characterized by risks, unpredictability, and constraints, which encourage and require that people rely on and support each other (Lachman & Weaver, 1998; Reay, Davies, David, & Ball, 2001; Lamont, 2000). Compared to CE individuals, HSE groups are more likely to report receiving and providing practical and financial support to close others (Carey and Markus, in prep). Constrained by mutual need, relationships are less likely to afford freedom and personal choice, and are more likely to be stable and enduring products of the environment (Yuki & Schug, 2012; Adams, 2005).

Families are another powerful source of interactions since parents act as socialization agents, teaching their children how to think about and act in the world. Those with higher levels of education (and correspondingly greater incomes and higher status occupations) are likely to approach their children as delicate and unique "flowers" in need of careful cultivation (Kusserow, 2004, pg. 171). They encourage their children to explore creative hobbies, develop

their preferences, choose for themselves, and influence others (Kusserow, 2004). CE parents expect that their children will achieve academic success and ultimately attend college. As such they are likely to prepare their children by talking with them about school, engaging in reading outside of the classroom, and conveying praise and positive feelings related to achievement (Davis-Kean, 2005). The relative security of these middle and upper middle-class contexts leads parents to believe that their children will enter a safe and welcoming world (Kusserow, 2004). In these contexts, being a successful member of society involves expressing one's unique talent, influencing the world, and achieving academic excellence. Parents with lower levels of education and less income, however, approach their children like they are building a fortress (Kusserow, 2004, pg. 79). They prepare their children for a more unpredictable world by encouraging tough, resilient selves that recognize social hierarchy and are attentive to the people and constraints in their environment (Kusserow, 2004; Lamont, 2000; Markus & Conner, 2014). Using direct commands and strict punishment, many HSE parents enforce adherence and adjustment to rules rather than expression of individual goals and desires (Lareau, 2003; Kusserow, 2004; Stephens et al., 2014; Davis-Kean, 2005). In these contexts, being a successful member of society involves following rules, adjusting to others, and resilience in the face of adversity.

Institutions

The institutional level of the culture cycle encompasses the norms, rules, policies and practices of formal institutions (see Figure 3c). Two prominent institutions that hold a powerful influence in a person's life are educational institutions and occupational institutions. As the current chapter largely focuses on how institutions of higher education can shape selves and worldviews that diverge from those of people in HSE contexts, it is essential to understand how the experience of college can reinforce particular ways of being. When university administrators in the U.S. were asked about the most important expectations at their institutions, they overwhelmingly chose expectations that highlighted independence, such as learning to express oneself, learning to be a leader, and learning to solve problems on one's own (Stephens, Fryberg, Markus, Johnson & Covarrubias, 2012). When asked to choose which statements best described the cultural norms of their university, administrators again emphasized independence, focusing on personal autonomy and internal characteristics. Students were expected to be independently

motivated (92% of administrators) rather than motivated by other's expectations (8%), to pave their own pathways (86%) rather than follow in the footsteps of accomplished others (14%), and to challenge norms and rules (71%) rather than consider them (29%).

Even in primary and secondary educational institutions—which are often compulsory and thus more widely accessed—curricular practices in schools that primarily serve middle-class communities diverge from those that primarily serve working-class communities. Schools serving CE contexts stress the development and expression of children's unique selves. Teachers expect these students to enter higher education and prepare them to do so by asking questions that allow students to express their personal thoughts and develop their personal voices (Kusserow, 2004; Lareau, 2003; Stephens et al., 2014). In comparison, schools serving HSE contexts have mechanical or rote practices, and emphasize learning to follow rules (Anyon, 1980; Kusserow, 2004; Stephens et al., 2014). These practices limit individual freedom and prepare students for jobs that require routine, supervision, and fewer opportunities for control and choice (Kohn & Schooler, 1973).

When educational experiences have largely concluded, occupational institutions take prominent roles in daily life. As discussed, occupation is tightly linked to educational attainment. Figure 1 shows that the majority of blue collar and service jobs are made up of HSE individuals. The structure of these working-class jobs typically require adjusting to and cooperating with others, strict adherence to rules, and deference to demands through discipline and close monitoring by superiors (Stephens et al., 2014; Berg, Wrzesniewski, & Dutton, 2010; Leana & Meuris, 2015, Lareau & Conley, 2008). Emphasizing routine and often involving monotonous practices, these jobs offer few opportunities to explore new skills or exert personal control (Ross & Van Willigen, 1997). Obtaining a bachelor's degree and more advanced degrees allows for more diverse and higher status occupations—the majority of managerial, professional, education, STEM, and social science jobs are occupied by people with these degrees. These jobs typically require creativity, expressing personal ideas and thoughts, personal development, and the learning of new skills (Stephens et al., 2014; Berg et al., 2010; Ross & Van Willigen, 1997; Kohn & Schooler, 1978). Although these jobs can be demanding, they are more likely to offer personal freedom and control in how people pursue and achieve goals.

Briefly, we will touch on two other institutions that are not often mentioned in discussions of educational attainment but are nevertheless worth consideration. The first is the military, whose enlistment is 79% HSE individuals (Department of Defense, 2014). Service in the military requires that members work well with others, obey orders, and meticulously follow rules and procedures (Fiedler, Oltmanns, & Turkheimer, 2004; Hollingshead, 1946). The second institution is that of religion. While most people in the U.S. report being religious, education shapes the how people engage with religious institutions. Compared to those in CE contexts, HSE practitioners report higher rates of religious activities that reduce autonomy by emphasizing routine and strict adherence to convention (Pew Research Center, 2014). For example, they are more likely to attend religious services once a week, pray daily, participate in prayer groups, use religion as a source of right and wrong, read scriptures, and interpret scriptures literally. For those with lower levels of education, participation in military and religious institutions may increase cooperation and conformity in daily life, encouraging HSE individuals to develop elaborated interdependent selves.

Ideas

The most abstract layer of the culture cycle is made up of the often invisible ideas about what is good and normative that inform our institutions, interactions, and psychological processes (see Figure 3d). Morality provides a convenient tool for analyzing the important ideas that characterize a culture cycle, as moral values capture what is considered "good" or "right". Morality can also reflect the divide between focusing on the individual and focusing on others and social relationships. For example, Haidt, Graham and colleagues (2011) identify several basic moral foundations, and draw a distinction between *individualizing morals* and *binding morals*. Individualizing morals are rooted in individual rights and reinforce the autonomous independent self. They include concerns about harm, freedom, fairness and equality. Binding morals are rooted in social roles and reinforce the relational interdependent self. They include concerns about in-group loyalty, respect for authority, and respect for what is socially deemed as holy and sacred.

Carey and Markus (in prep) found that CE Americans and HSE Americans equally endorse individualizing morals. Pervading across education, equality, freedom and pursuing

individual happiness outline the moral ideal for American respondents (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985; Triandis, 1995; Fiske, Kitayama, Markus & Nisbett, 1998). HSE Americans, however, also endorsed binding morals, rating them as more important than their CE counterparts (Carey & Markus, in prep). In particular, loyalty to close others, or providing firm and constant support to close others even at personal cost, was a prevalent idea in HSE worlds. For those with less education, ideas around personhood include social ties and obligations. This sentiment is captured in Lamont's (2000) ethnography on working-class men, in which blue collar workers saw moral dimensions in working hard, being responsible, and providing for their family.

The Interdependent Self in High School-Educated Contexts and the Independent Self in College-Educated Contexts

Our culture cycle analysis suggests that education shapes social and economic realities, from personal networks, to parental socialization, to classroom methods, to occupational practices. In the current section, we demonstrate that these realities shape different understandings of self, which in turn organize and regulate different patterns of thoughts, feelings, and behaviors (Markus & Kitayama, 1991; Markus & Kitayama, 2010; Stephens, Markus, & Fryberg, 2012). CE contexts promote independent selves, in which the self is experienced as separate and distinct from others and is primarily a collection of personal traits and attributes. Expressing and promoting personal interests, choices and goals, and influencing social interactions is normative and ideal for the CE independent self. Consequent psychological processes are grounded in the needs, desires, and goals of the individual. In contrast, HSE contexts foster interdependent selves, in which the self is connected to others and more likely to be defined by relationships, social roles and memberships, and other's judgments. Being responsive to the goals, emotions, and needs of others, and adjusting and deferring to others in interaction is normative and ideal for the high school-educated interdependent self. As such, psychological processes are less likely to be tied to individuals' needs and goals and more likely to reflect social situations and external constraints. Next, we will review how education shapes cognitive, emotional, and motivational processes.

Cognition and the Meaning of Choice

Independent and interdependent selves shape the way people attend to and reason about the world. Independent selves tend to foster *analytic* cognitive styles in which attention is focused on the individual and on focal objects independent from their contexts (Nisbett & Miyamoto, 2005). This cognitive tendency reflects an understanding of the self as independent and free from constraint. Interdependent selves tend to foster *holistic* cognitive styles in which attention is shared between both focal objects in the foreground and contextual information in the background (Nisbett & Miyamoto, 2005). This cognitive tendency reflects the understanding of individuals as fundamentally rooted and connected to others (Nisbett , Peng, Choi, & Norenzayan, 2001).

Demonstrating that education shapes how people attend to their world, Grossmann and Varnum (2010) asked participants to identify changes between two highly similar scenes. Those with higher levels of education more often noticed changes to the central objects of the scenes. In contrast, those with lower levels of education noticed changes to images in the background such as buildings and clouds (Grossmann & Varnum, 2010). In another study, participants completed a categorization task in which they saw three words—e.g., "dog," "seagull," and "sky"—and choose the two that were most closely related (Miyamoto & Ji, 2011). Participants with higher levels of education demonstrated analytic cognition and grouped dog and seagull together—they focused on the words as individual objects with shared features. Participants who had fewer years of education demonstrated holistic cognition and grouped seagull and sky together—they focused on the relationship between an object and its background. In an extensive exploration of cognitive styles, Na, Grossman, Varnum, Kityama, Gonzalez, and Nisbett (2010) found the CE individuals were more analytic and HSE individuals were more holistic on several measures of cognition.

How people attend to and reason about the stimuli they encounter in the world has implications for how they understand social outcomes. When wielding a holistic cognitive style, people are likely to explain behavior and outcomes as dependent on contextual factors—a pattern of psychological processing that emphasizes connections between objects and their backgrounds (Nisbett et al., 2001). These inferences about the causes of behavior can be so fast, that they are virtually automatic (Varnum, Na, Murata, & Kitayama, 2011). When Kraus, Piff, and Keltner (2009) asked participants to explain the cause of social outcomes like obesity, they found that

with higher levels of education, participants saw these outcomes as the responsibility of individuals. At lower levels of education, however, participants saw the outcomes as the consequence of situational forces outside of the individual's control.

Consistent with analytic thinking styles that emphasize central objects that are independent from their context, obtaining a college education also leads people to feel they have a greater sense of control—that their personal choices and actions alone can shape their future (McFarland, Wagner, & Marklin, 2016). Indeed, choice takes on divergent meanings for people with different educational backgrounds and experiences. With greater education, choice often serves to express personal needs, goals, and desires and to affirm the self. Demonstrating this, Snibbe and Markus (2005) had CE and HSE participants rank how much they liked a list of CDs, but afterwards they only offered them a choice between the two CDs they liked the least. Classically, this paradigm leads to *spreading alternatives*, in which people like objects they choose more than objects they reject (Brehm, 1956). However, such an outcome depends on people seeing their choices as reflective of their internal traits and self-expressive. Indeed, when evaluating the CDs a second time, CE participants, but not HSE participants, increased their ratings for the CDs they chose. In other words, they came to like the CD simply because they chose it, confirming that college education leads people to see choices as personal and to see their choices as good. A second study showed that CE participants also came to like a pen less simply because they did not choose it (Snibbe & Markus, 2005).

The HSE participants in Snibbe and Markus (2005) did not like a product more if they chose it and did not like it less if they did not choose it. Rather than expressing and reflecting the self, choice for those with less education often reflects social situations and their connections to others (Hoshino-Browne, Zanna, Spencer, Zanna, Kitayama, & Lackenbauer, 2005). Choice is more likely to serve relational goals—responding to the needs of others, conforming to social norms, or strengthening relationships and social connections. For example, when Stephens, Fryberg, and Markus (2011) offered participants a gift, HSE participants preferred accepting the gift that was chosen by the experimenter more than CE participants who wanted to choose for themselves. Similarly, education influences whether choice ideally allows one to be unique and different from others or to be similar and connected to others. For some of these respondents, the choices of a supposed previous respondent were visible to them. While students with CE parents

were reluctant to make the same choice as a previous person, those with HSE parents were *more* likely to choose the images they believed other participants had already chosen (Stephens, et al., 2007). Similarly, Na, McDonough, Chan, and Park (2016) explored consumer choices and found that college students with HSE parents, but not students with CE parents, were more likely to change their preferences to match the opinions of others. Whereas the meaning of choice in CE contexts reflects individual goals and preferences, choice in HSE contexts is contingent on influences other than one's own preferences and can support social connections.

Emotion and "Tuning in"

Independent and interdependent selves also support and organize different emotional processes and experiences (Markus & Kitayama, 2001; Kitayama, Markus, & Kurokawa, 2000). When the independent self is active, emotional processes are likely to reflect individual states and internal attributes and reactions. However, when the interdependent self is active, emotional processes are more likely to be influenced by social information and the feelings of others (e.g., Masuda et al., 2008). Although there is a relative dearth of research on the effects of educational attainment on emotions, there is some evidence that empathy and social information play different roles in how people feel depending on their education. For example, a study by Kraus, Côté, and Keltner (2010) explored empathy by having participants look at faces, watch eye muscle movements, and interact with strangers. Regardless of the medium, HSE participants were more accurately able to identify the emotions of another person than CE participants. Not only are they better at identifying another's emotional experience, they are also more likely to *experience* emotional states as a response to the emotions of others. After watching a video about children suffering from cancer, participants with less education experienced greater heart rate deceleration, indicating increased social engagement and compassion than did participants with higher levels of education (Stellar, Manzo, Kraus, & Keltner, 2012).

Furthermore, for HSE groups, emotional processes are more closely tied to social information and other people, as illustrated by studies on "tuning in". In interpersonal interactions, people with less education are more likely to attend to and engage with their social partners (e.g., laugh with, nod) than those with more education, who instead fidget, doodle and self-groom during conversations (Kraus et al., 2009). Findings in neuroimaging have captured this increased level of attention at the neurological level. In response to the emotional

expressions of other people, adolescents with HSE parents, compared to those with CE parents, showed greater activation in parts of the brain associated with mentalizing (i.e., thinking about the thoughts and feelings of others) and emotional processing (Muscatell et al., 2012). Another study highlights the role of mirror neuron systems, which are theorized to activate when observing the actions of others. With less parental education, participants showed more activation of the mirror neuron system while watching videos of other people (Varnum, Blais, & Brewer, 2016). For HSE individuals, attending to how others are feeling can be an adaptive as it allows one to learn from others and strengthen social relations (Chen, Langer, Raphaelson, & Matthews, 2004; Piff, Stancato, Martinez, Kraus, & Keltner, 2012). Together these studies show that "tuning in" during emotional interactions are reflected in both observable behaviors and neural pathways of HSE groups.

Motivational Processes

How people understand themselves and the world around them is key in shaping what motivates them. In independent contexts, internal sources of motivation are often believed to be the most effective. For example, in American contexts, intrinsic motivation, or motivation stemming from a person's personal enjoyment or interest, is largely more valued than extrinsic motivation stemming from the world external to the individual (Ryan & Deci, 2000). However, motivation from others and the environment outside the individual is a relatively more prevalent source of action in interdependent contexts (Fu & Markus, 2014; Iyengar & Lepper, 1991). For example, Asian American students were equally motivated to solve difficult anagrams when thinking about themselves and thinking about their mothers (Fu & Markus, 2014). European American students, in contrast, were significantly less motivated when thinking about their mothers.

Most colleges and universities are largely independent institutions that reinforce the independent selves of middle-class, CE groups and as we discussed in the culture cycles analysis, these institutions embody mainstream American beliefs about motivation. In these settings, motives for attending college often focus on qualities within the individual, such as exploring new personal interests, becoming an independent thinker, or realizing one's potential (Stephens, Fryberg, et al., 2012). For students from HSE backgrounds, however, interdependent motives are likely to take precedence over independent ones. For example, they report attending college in

order to help their families after finishing their studies, to give back to their community, and to provide better lives for their own children (Stephens, Fryberg, et al., 2012). Independent motives around individual growth and personal interests are less important than outcomes that help achieve relational goals.

Understanding what motivates a person is important because it is tightly linked to behavior. For example, Stephens, Fryberg, and colleagues (2012) invited first-generation college students—the first in their families to attend college—to evaluate their university's welcoming materials for freshman. Half of these participants viewed materials with a focus on independence—the letter from the president, brochure, and flyers portrayed the university as a place to explore one's personal interests. The other half viewed a welcome package with a focus on interdependence—these materials presented the university as a place where students can collaborate with others and become part of a community. Students with HSE parents who read that university was a place to become part of a community performed significantly better on spatial and verbal tasks than those who read university was a place to explore personal interests (CE participants performed equally well; Stephens, Fryberg, et al., 2012). Interventions that impart on first-generation students the positive ways in which interdependence can influence their academic experience succeeded in improving their academic scores and further support the role of interdependence in motivational processes (Stephens, Hamedani, & Destin, 2014).

Motivational processes can also be relevant in understanding the things people *do not* do. As we will discuss later, the first-generation college students who read welcome letters that focused on independence experienced sharp increases in cortisol levels, indicating that they were experienced more stress than continuing generation students (Stephens, Townsend, Markus, & Phillips, 2012). Similarly, for students coming from CE contexts, interdependence can conflict with the expression of personal needs and desires. For example, American college students primed with interdependent behaviors like "adjust" and "accommodate" performed worse on physical (i.e., squeezing a handgrip) and mental tasks (i.e., solving anagrams) compared to when they were exposed to independent behaviors like "influence" and "control" (Hamedani, Markus, & Fu, 2013). For these independent students, interdependence was *de*motivating.

Overall these findings show that the educational attainment, through shaping sociocultural and socioeconomic realities, influence how people experience themselves and

understand their world. We argue that views of self, in turn, organize psychological processes, or how people attend to, make sense of, and react to their environment. College-educated individuals are likely to have processes that are shaped by a self that is fundamentally autonomous, distinct, and unique. Those with a high school degree or fewer years of education are likely to have processes that are shaped by a self that is fundamentally connected to others, resilient, and adjusting to situational forces. These cycles are important to understand, in part, because they are self-perpetuating. In the next section, we explore how culturally shaped selves can either facilitate or hinder the realization of higher education.

Educational Attainment Influences Educational Attainment

The literature on disparities in educational attainment overwhelmingly finds that low SES households produce fewer college-educated students than high SES households (Walpole, 2003). In the U.S., the discrepancy between high-income and low-income groups in enrollment and completion of college remains the same today as it was in 1975. Recent data shows 81% of high-income high-school students enrolled in college while only 51% of low-income students enrolled (DeSilver, 2014). While educational discrepancies have traditionally been viewed through the lens of income and SES, examining the culture cycle of HSE and CE households can shed new light as to why these disparities persist.

In many Western countries parental educational attainment is strongly and positively linked to child educational attainment (OECD, 2010; Davis-Kean, 2005, Hertz et al., 2007); the more years of education parents have, the more their children have.[2] For example, in the U.S., students from CE households are two to six times more likely to get a college education than students from HSE households (OECD, 2014). Why does such a strong positive correlation exist between parent and child educational attainment? Researchers point to cultural capital, or the transmission of ideas, knowledge, and behaviors that communicate and instantiate one's status and wealth (Bourdieu, 1986). CE parents can transmit cultural capital through enrichment activities (i.e., sports, art, theater, and museums; Haveman & Wolfe, 1995), which both prepares youth for collegiate tasks, like reading outside of class, and engenders belonging (i.e., feeling one will be a good fit for college settings).

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[2] In this and subsequent studies, household educational attainment or parent educational attainment refers to the caregiver who has completed the highest level of education.

We suggest that cultural capital also serves the important function of passing along independent selves that make students a better fit for independent college settings. For example, cultural experiences prevalent in CE households enable students to elaborate on their preferences and tastes (e.g., I like art), make choices based on these personal attributes (e.g., I prefer art over music), and express these preferences outwardly (e.g., I often go to museums), thereby creating independent members of society. Alternatively, children of HSE households less often have these experiences, and are consequently disadvantaged because of the mismatch between their interdependent selves and their independent college spaces. In the next section, we elaborate on the consequences of such cultural mismatches by examining outcomes of first-generation college students versus those of continuing-generation college students[3].

First-generation College Students

While it is less likely for students from high-school educated households than those from college-educated households to enter college, an estimated 38% (attending four-year institutions) to 50% (attending two-year institutions) of U.S. college students had parents with a high school diploma or less in 2007-2008 (U.S. Department of Education, 2010). However, because of the cultural mismatches between their independent higher-education settings and their interdependent family backgrounds, these students often have very different academic, social, and psychological outcomes compared to their peers from college-educated backgrounds.

Research finds that continuing-generation students receive better grades and graduate at higher rates than first-generation students (Chen, 2005; Martinez, Sher, Krull, & Wood, 2009; DeFreitas & Rinn, 2013). In fact, whereas only 24% of first-generation students completed a BA, up to 68% of continuing-generation students completed a BA (Chen, 2005). In addition, first-generation students were more likely to have periods of non-enrollment, consequently prolonging their time to completion (Martinez et al., 2009). Finally, those from HSE backgrounds have worse academic (e.g., keeping up with academic work, doing well on exams), social (e.g., involved in social activities, making new friends at college), and adjustment (e.g., feelings of belonging) outcomes, and are more cognitively depleted after academic performance than those from CE backgrounds (Johnson, Richeson, & Finkel, 2011; Ostrove & Long, 2007).

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[3] In this chapter, we refer to first-generation college students as those whose caregivers have not received college or university level tertiary education. This term does not denote immigrant background or status.

Why do these differences in academic outcomes persist? Once again, we suggest first-generation college students' cultural mismatch with the independent values of college settings can directly and indirectly influence academic outcomes. For first-generation students who have been prepared for unpredictable worlds with scarce resources, college is a place to do: one needs to accomplish tasks, learn materials, and take tests. However, for continuing-generation students who have been prepared for a safe and welcoming worlds in which they can control their experiences and their paths in life, college is a place to be. One needs to engage in *concerted cultivation* and develop one's individual preferences, ideas, and intuitions (Lareau, 2003). Indeed, as we noted earlier, first-generation college students often report attending college for interdependent reasons (e.g., helping my family after college, giving back to my community), while continuing-generation students often do so for independent reasons (e.g., expanding my knowledge of the world, becoming an independent thinker). Interdependent motivations, in turn, predict lower grades while independent motivation predicts higher grades (Stephens, Fryberg, et al., 2012).

These differences in motivation to attend college are also instantiated in one's approach to learning in college. Some research shows that first-generation students do not hold the traditional approach to "deep learning" that is rewarded in college settings. Instead, those from HSE backgrounds showed lower intrinsic interest in the material and less use of strategies that maximize meaning (e.g., analyzing and synthesizing information, integration of information outside the classroom; Ribera, 2012), possibly because of their use of holistic rather than analytic cognitive styles. In Western cultural contexts, these independent practices characterize success in higher education. However, first-generation students, who have little prior knowledge of independent college settings, engage in these practices less. Thus, we propose that the college educational systems themselves may perpetuate differences through evaluations that are often based on the values of middle-class college-educated contexts.

Finally, first-generation students lack specific knowledge about independent higher educational processes and norms—a form of cultural capital that can optimize one's academic performance. For example, first-generation students may not know where and how to get academic help, or when it is appropriate to do so. One study finds that first-generation college students report fewer interactions with faculty inside and outside of the classroom, and lower

satisfaction with faculty interactions (Kim & Sax, 2009). These interactions foster academic success, enhance students' sense of belonging, and serve as a pipeline for entering post-baccalaureate education. Because first-generation college students may not know how, when, and why to engage with faculty, they do not receive these benefits. In addition, first-generation students are less likely to select into arts, sciences, and engineering majors (33% first-generation versus 50.5% continuing-generation), and instead choose majors in vocational fields, like law, medicine, business, and architecture (Goyette & Mullen, 2006; Engle & Tinto, 2008; Eismann, 2016; Cross & Vick, 2001). Because majors in arts and sciences historically provide high cultural power and are thought to prepare leaders in various fields, first-generation college students may be less prepared to hold leadership positions (Goyette & Mullen, 2006; Bourdieu, 1986). In addition, because of the increased competition and saturation in the vocational sectors that they are more likely to study, first-generation students may be disadvantaged in the workplace (Wright, 2014).

As we discussed previously, first-generation students may experience negative physiological and psychological outcomes, such as elevated cortisol levels—a physiological indicator of stress—when reminded of the independent values of the university compared to their continuing-generation peers (Stephens, Townsend, et al., 2012). In contrast, for first-generation students, being reminded of the interdependent values of the university buffers these effects and reduces their stress levels to those comparable with continuing-generation students. Similarly, first-generation students who participated in an "assessing excellence" task performed worse than those in a "success for everyone" task (Jury, Smeding, Darnon, 2015). Taken together, these studies demonstrate that use of independent messages, like individual success and excellence, leads to worse outcomes for first-generation students. Instead, interdependent messages, like group success, are more relevant for these groups and using these messages as motivation can close the achievement gap.

In summary, first-generation college students experience a cultural mismatch between their independent college settings and their interdependent family backgrounds, which lead to a number of negative academic, social, and psychological outcomes that make it difficult for them to succeed in college. While this chapter focuses on college education, it is important to note that disparities in educational achievement between students from high-school educated

households and those from college-educated households start in kindergarten, grow through elementary and middle school, and peak in high school and college, and manifest across a number of academic domains (Sirin, 2005; Stephens, Hamedani, & Destin, 2014).

Interventions and Practical Recommendations

Throughout this chapter we have championed the importance of self. We propose that self and understandings of self can shape cognitive, emotional, and motivational processes, which can have consequences on health, relationship, and academic outcomes. The interventions we reviewed, in particular, sought to attenuate gaps in educational and academic outcomes between those with independent selves and those with interdependent selves. We hope educators and policy-makers will implement these interventions to effect large-scale change in the experiences of students today. To summarize, one line of research shows that interdependent messages are useful to motivate, increase belonging, and enhance the performance of interdependent first-generation and racial minority groups (Stephens, Markus, & Fryberg, 2012; Fu & Markus, 2014; Stephens, Hamedani, Markus, Bergsieker, & Eloul, 2009; Cross & Vick, 2001). In addition, seeing one's own identity modeled and represented in positions of success increases belonging and fosters positive academic and psychological outcomes in HSE and first-generation groups (Covarrubias, Gallimore, Okagaki, In Press). Finally, receiving social support and thinking of close others may buffer the effects of belonging uncertainty and close the achievement gap between groups (Cross & Vick, 2001; Covarrubias, Herrmann, & Fryberg, 2016).

At the classroom level, educators can subsidize independent behaviors so that students from all backgrounds develop their independent self at early ages. For example, "warm calling" students, or giving students advanced notice that they will be asked to respond to a question in class, gently encourages independent behaviors like speaking out. In addition, scientists, educators, and policy-makers should consider leveraging interdependent cultural values in education at all levels to facilitate positive outcomes for all groups. We recommend using families, friends, and communities to motivate students to do well on test and quizzes. Another way to do this is to change assignments from "free writing" (e.g., expressions of self and agency) to writing about close others (e.g., expressions of connection with others).

At the institutional level, we recommend providing students with cultural capital in the form of art, music, literature, sports, and world cultures to enhance students' independent selves; participating in these events together will also enhance students' interdependent selves. In addition, institutions should hire educators, staff, and administrators from all backgrounds to increase numeric representation of underrepresented identities, and enhance belonging in educational settings. Thus, increasing numeric representation, highlighting family and community, and affirming one's interdependent identity are all paths to creating more equitable and successful classrooms.

Future Directions

The literature on socioeconomic status, educational attainment, and first-generation students has done a remarkable job at highlighting the ideas, institutions, and interactions that perpetuate current intergenerational trends in educational attainment. However, there are still many unanswered questions. One prominent question is how does educational attainment function for different racial, ethnic, and gender groups? One study finds that for European Americans, parental educational attainment is an even stronger predictor of child educational outcomes than for African Americans, for whom parental educational attainment and income both influence child educational outcomes (Davis-Kean, 2005). In contrast, compared to Hispanic groups, Asian students are more likely to be proficient in math and science at 8th grade, have parental expectations of earning at least a college degree, and enroll in a post-secondary education at a 4-year institution (Kaufman, Chavez, & Lauen, 1998). Thus, educational outcomes differ by racial group—and these identities may interact in surprising ways.

Another important consideration is how national contexts shape the educational outcomes we have described. Many of the studies we have reviewed are based on U.S. contexts that are not globally representative in that they are Western, highly educated, industrialized, relatively wealthy, and democratic (Henrich, Heine, & Norenzayan, 2010). In fact, even low SES and HSE groups in U.S. contexts are advantaged compared to those in many other parts of the world. The important ideas that define the U.S. (e.g., freedom, equality, individualism, etc.) do not necessarily reflect the important ideas that define other national contexts. Careful consideration should be given to the ways in which education—and the ideas underlying this institution—is realized in other national contexts.

Concluding Remarks

In this chapter our goal was to outline research and theory on education, how it can shape sociocultural and socioeconomic realities, and how it can impart particular understandings of self and the world. We find it important to note that every individual is constituted by a number of overlapping identities (e.g., race, gender, class), roles (e.g., mother, caretaker, brother, supervisor) and domains (e.g., home, school, work). As such, it is likely that people are exposed to both independent and interdependent values and ideas as they navigate these multiple and various contexts. These findings are also situated in the larger social context of Western cultural contexts, which often foster and support greater independence than other cultural contexts. Taking this into consideration, we caution that these outcomes are unlikely to characterize everyone—or anyone in particular. Instead, they describe systems and processes that are constantly changing and subject to immense variation.

While educational attainment is tied to desirable opportunities in life, not everyone has an equal chance at education. We have demonstrated that educational attainment shapes and is shaped by psychology tendencies—or how people understand themselves and the world around them—in ways that guide emotion, cognition, and behavior. Research shows that college-educated contexts produce and are produced by *independent* views of self and the world. These values may be misaligned with the *interdependent* selves and values students from high-school educated backgrounds are well-versed in. Although we have given a cursory explanation of how these process might unfold, more work needs to examine the boundary conditions of these findings, and unpack how education and class might work in other cultural contexts.

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Figures
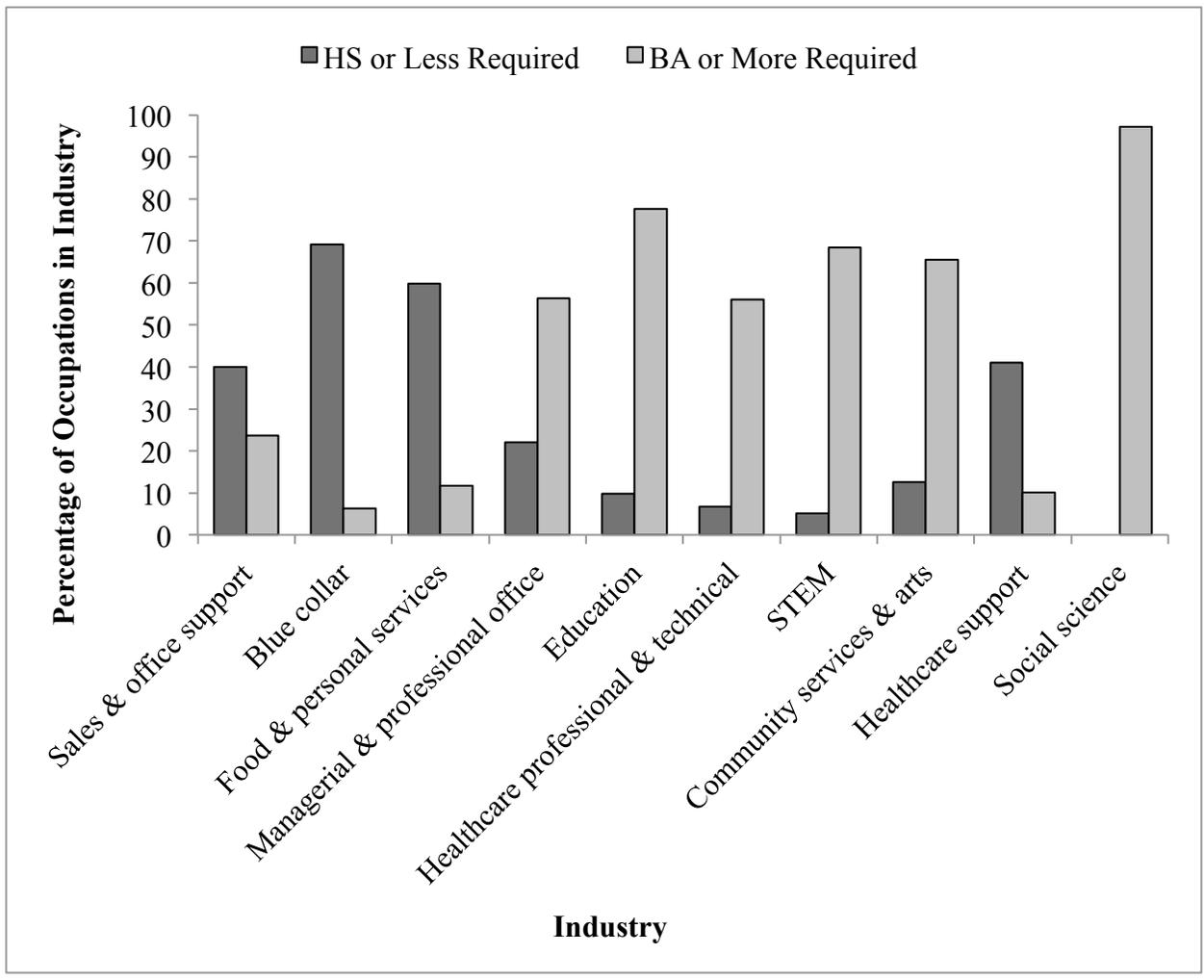
Figure 1. Percentage of occupations requiring specific levels of educational attainment by industry type (Carnevale, Smith, & Strohl, 2013). Legend depicts required educational attainment: HS or less = high school degree or less education, BA = bachelor's degree or more education.

Figure 2. Median salary for occupations given the typical level of education that most workers need to enter the occupation (Bureau of Labor Statistics, 2016). Legend depicts typical educational attainment: < HS = less than a high school degree, HS = high school degree, BA = bachelor's degree.

The Culture Cycle

(a) Individuals
thoughts, feelings, beliefs, actions

CE Contexts:
- Self is construed as independent from others
- Analytic cognition
- Choice is personal
- Motivation stems from within

HSE Contexts:
- Self is construed as interdependent with others
- Holistic Cognition
- Choice is relational
- Emotional "tuning in"
- Motivation reflects others

(b) Interactions
everyday exchanges with people and products

CE Contexts:
- Social networks are loosely connected
- Parenting socializes "unique flowers"

HSE Contexts:
- Social networks are strongly connected
- Parenting socializes "tough fortresses"

(c) Institutions
norms, rules, policies and practices of formal institutions

CE Contexts:
- Universities emphasize independence
- Educational curriculum emphasizes self—expression
- Jobs require creativity

HSE Contexts:
- Educational curriculum emphasizes following rules
- Jobs require cooperation and deference

(d) Ideas
what is good, what is right

CE Contexts:
- Equality and personal freedom are moral ideals

HSE Contexts:
- In addition to equality and freedom, loyalty and respect for authority are moral ideas
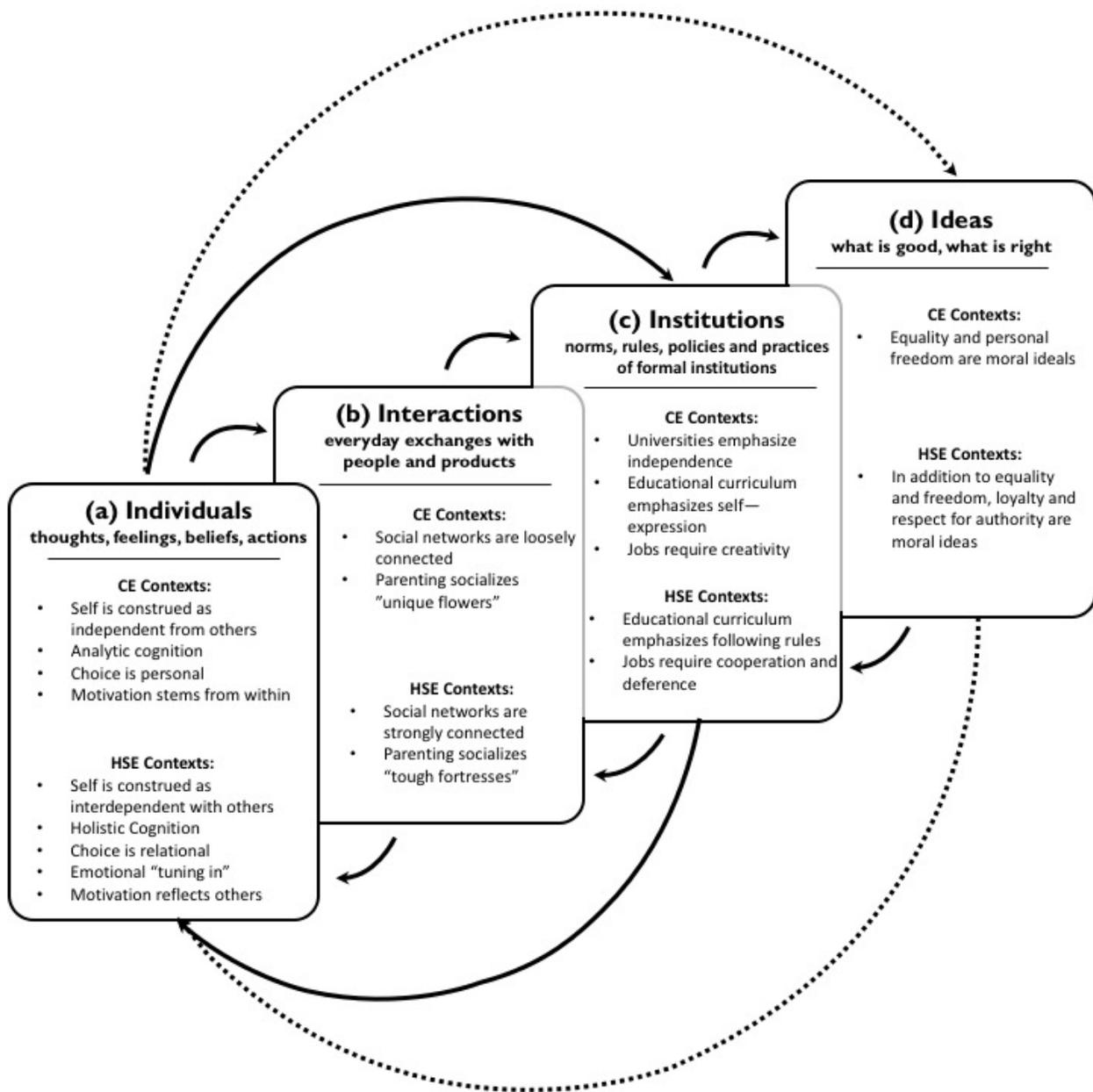
Figure 3. Culture cycles of college-educated (CE) and high school-educated (HSE) contexts.