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The Connection Between Student Identities and Outcomes Related to Academic Persistence

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Abstract

Young people begin to explore and develop a deeper understanding of who they are, or their identities, during adolescence and young adulthood. The various aspects of these dynamic and developing identities guide how students navigate the world and pursue their goals, including how they engage with academic opportunities and challenges. This article uses the identity-based motivation framework to integrate a selective review of research demonstrating connections between student identities and outcomes related to academic persistence. First, a foundation of significant theoretical and empirical contributions describes how different types of identities—including future identities and social identities—influence academic persistence. Additional evidence builds upon socioecological and sociocultural perspectives to demonstrate various levels of contextual influence on student identities and outcomes related to academic persistence. The area of research has implications for the promotion of more holistic approaches to student success, health, and well-being in addition to effective goal pursuit across the life span.

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INTRODUCTION

Some of the most commonly held goals among children, adolescents, and young adults alike are to do well in school, demonstrate high academic achievement, and succeed in college (Domina et al. 2011, Goyette 2008). Realizing this particular goal trajectory requires young people to maintain a significant level of consistent focus and academic persistence throughout key developmental periods of their lives. Several psychological theories and an accumulation of empirical evidence suggest that this type of focus and persistence can derive from how students understand who they are and what they want for their lives, which can be called their identities. These identities are developed, shaped, and supported based on the characteristics of students' social contexts and environments (Oyserman & Destin 2010). Indeed, young people encounter vastly different and unequal opportunities and experiences based on their sociodemographic backgrounds that strongly predict their likelihood of reaching traditional academic goals (see Carter & Welner 2013). One of the ways that these environmental factors influence life trajectories is through their effects on how people see themselves with consequences for academic persistence and related outcomes.

The most supportive contexts and influences are those that allow and encourage students to explore and develop genuine conceptualizations of who they are and what they imagine for their lives. This deep form of identity development provides one of the most powerful and healthy sources of student motivation to persist in pursuing long-term goals. The current review first covers select evidence for the connections between different types of identities and academic persistence. Importantly, this foundation is followed by evidence demonstrating how various contextual forces shape identities and academic outcomes; the evidence suggests key environmental leverage points for reducing educational inequality.

THE IDENTITY-BASED MOTIVATION FRAMEWORK

Identity-based motivation theory provides a broad guiding framework that helps to explain and integrate evidence regarding how student identities relate to academic persistence (Oyserman & Destin 2010). The theory contributes to a long history of insight from psychology and related disciplines to conceptualize identities as coherent and specific components of a person's broader sense of self (see James 1890, Leary & Tangney 2012, Markus 1977, McLean & Syed 2015). These identities might include individual attributes that people use to describe themselves, important relationships or groups that people belong to, and even the possible versions of themselves that people might imagine becoming in the future.

One of the central assertions of identity-based motivation theory is that these different types of identities are dynamically constructed by the contexts that surround people (Oyserman 2015). The ways that people think about themselves, feel connections to groups, and imagine their futures are all determined by everyday, moment-to-moment social influences. Furthermore, another assertion of identity-based motivation theory is that these dynamically constructed identities have important consequences for behaviors. When a particular identity is activated or made salient, it accompanies a state of action readiness wherein people become more prepared and likely to engage in behaviors that are linked to that identity. Finally, a third assertion is that these dynamically constructed identities influence how people interpret and respond to experiences of challenge and difficulty as they pursue goals. If a salient identity feels connected to a particular challenging task within a given context, the difficulty is more likely to be interpreted as a sign that the task is important rather than impossible. Altogether, within the context of education, identity-based motivation theory helps to predict and explain the many ways that students' identities support academic persistence and positive school outcomes.

The current article provides a selective review of research demonstrating connections between different forms of identity and academic persistence. The review focuses on areas of research with well-developed theory and the ability to make strong claims through experimental evidence and meta-analyses. This includes an emphasis, first, on theory and evidence related to future identities and how conceptualizations of the self in the future affect students' academic persistence. Next, we outline relevant theory and evidence related to social identities and how feelings of connection to other people and groups affect students' academic persistence. Finally, because of the central role of social context in identity-based motivation theory, we describe evidence showing how various levels of context contribute to identity development from micro level factors to macro level factors. This evidence not only leads to a more complete understanding of the relationships among contexts, identities, and academic persistence, but also provides guidance on how social forces can be leveraged to support positive student outcomes and reduce academic inequities.

KEY DEVELOPMENTAL PERIODS

The review of evidence linking different types of identities to academic persistence focuses primarily on adolescence and early adulthood as key developmental periods for these psychological processes. Identity encompasses a sense of oneself as an individual—including personal values, beliefs, and goals—and a sense of self in relation to one or more collective groups (e.g., gender, ethnic-racial, religious; see Erikson 1968). The meaning-making aspect of identity is connected to advancing capacity in cognitive abstractions and requires integration across multiple inputs (e.g., biological, psychological, social; see Hammack 2008). Such capacity is more typical of adolescence relative to earlier periods of development (Kuhn 2006). Accordingly, adolescents are

more self-aware, and their self-definitions tend to be more complex and differentiated than those of children (Harter 2012, Pfeifer et al. 2009).

Cognitive development occurs in tandem with shifts in neurobiological processes that increase attunement to social inputs and facilitate flexible problem-solving and adaptive exploration (Crone & Dahl 2012). Neuroimaging studies confirm the increasing importance of identity processes in adolescence and suggest ways in which such processes may be related to behavior and decision-making. Moreover, specific neurobiological shifts in adolescence, including shifts catalyzed by puberty, support the notion that identity has an important role in decision-making during this developmental period (Pfeifer & Berkman 2018).

While processes of identity development along with behaviors indicative of academic motivation and persistence may be evident in childhood, they take on a more prominent role in adolescence, with respect both to the developmental processes described above and to the potential impact on life-course trajectories (i.e., higher stakes associated with academic persistence in secondary versus elementary school). Some experimental evidence even suggests that an emphasis on identity during early years of childhood can lead to decreased persistence compared to other approaches (Rhodes et al. 2019). For these reasons, the scope of this review centers primarily on linkages between identity and academic persistence during the period of adolescence, with the bulk of research focused on young people at secondary and postsecondary levels of education.

FUTURE IDENTITY

The term future identity can be used to capture several concepts that describe how people think about who they might become in the future. Future identity is one of the primary mechanisms of the identity-based motivation framework, which emphasizes how people's thoughts about their possible futures are shaped by contexts and influence motivation. A variety of psychological perspectives bolster the theoretical basis for a strong connection between how young people think about their futures and the actions that they take in school. On a basic level, students' expectations that they can and will succeed in school consistently predict greater academic persistence and higher academic achievement (see Wigfield & Eccles 2000). For example, one approach to demonstrate this pattern compared the educational expectations and educational outcomes of siblings using a sample of over 1,700 young people who participated in the National Longitudinal Study of Adolescent to Adult Health (Brumley et al. 2019). The study showed that when adolescents had higher expectations for attending college compared with their siblings, they were significantly more likely to attend college years later. In addition to accounting for socioeconomic considerations, family factors, prior grades, and assessments of intelligence, the focus on sibling comparisons strengthens confidence that students' expectations for themselves contribute to differences in academic outcomes. In the deeper review that follows, psychological theory and evidence help to contextualize the connection between expectations and outcomes as related to students' developing future identities.

Theory Related to Future Identity

The idea that people are motivated to work toward imagined versions of themselves can be found throughout psychology and as a part of the field's early theorizing (James 1890). The highly influential control theory, for example, articulates the ways that people develop standards related to the personal goals that they would like to achieve. People then orient their behavior around meeting those standards and reducing discrepancies between their current and desired circumstances (Carver & Scheier 1982). Relatedly, self-discrepancy theory provides another relevant model by

outlining in detail how people feel and act when their current selves do not reach an imagined version of who they should be or want to be (Higgins 1987). Perhaps the most significant advancement in connecting a person's image of their future identity to their current academic behaviors in particular comes from research related to the concept of possible selves.

Possible selves are the images that people have of who they may want to become or avoid becoming in the future (Markus & Nurius 1986). Possible selves include a rich collection of thoughts about the self and provide an inherent connection between the self, goals, and actions. The types of possible selves that people articulate vary across a wide set of domains and specific content. For example, an eighth-grade student might imagine reaching a possible self that has graduated from high school and started to pursue a college degree in computer science. At the same time, she might also imagine avoiding a possible self that became involved with illegal drugs and risked addiction or a health-damaging accident. This variation in possible selves has allowed researchers to investigate the types and characteristics of possible selves that are most likely to encourage persistence in pursuing academic goals. In other words, certain features help to distinguish vague fantasies from the deeply motivating genuine expectations that are a part of future identities (see Oettingen & Mayer 2002). Specifically, when people articulate possible selves that are plausible, cognitively accessible, and linked to concrete strategies, they are the most likely to demonstrate higher motivation and persistence (Norman & Aron 2003, Oyserman et al. 2004).

The theory of identity-based motivation uses the overarching concept of identity congruence to integrate these insights and predict the types of environments that support the development of future identities that encourage goal-directed motivation (Oyserman & Destin 2010). Identity congruence refers to the feeling and experience of alignment between a social context, an identity, and a goal. For example, a high school student may aim to achieve a high score on an advanced placement exam for college credit in biology. If the context provides supports for that goal (like regular access to tutoring) and the student's salient identities feel connected to that goal (like a future identity as a college student and a social identity as a member of a family of medical professionals), then the student will experience a strong sense of identity congruence.

The idea of identity congruence emphasizes the notion that identities are dynamically constructed within contexts rather than fixed, unchanging entities. What it means to be a member of your family or of a particular socioeconomic group, for example, shifts according to everyday experiences and messages from the social context. When the dynamic combination of activated identities feels congruent with goals in context, people then become primed and ready to take goal-directed action and to persist amid challenges they encounter along the way (Smith & Oyserman 2015). This sense of identity congruence between social contexts, future identities, and goals strengthens the connection between a person's idea of their future self and their current self, which makes the future feel closer and immediate action more crucial (Landau et al. 2014, Liberman & Trope 2008, Peetz et al. 2009, Pronin et al. 2008, Strahan & Wilson 2006). A growing amount of strong experimental evidence demonstrates how future identities can be supported to encourage motivation and persistence across adolescence and young adulthood.

Empirical Evidence Linking Future Identity to Academic Persistence

Several experimental studies demonstrate that the developing future identities of young people are consequential for their academic behaviors during early adolescence. Further, these future identities are malleable and sensitive to contextual cues and formative experiences. In a particularly notable example, researchers developed a set of activities and discussions aiming to influence the possible selves of eighth-grade students to have positive effects on their academic achievement (Oyserman et al. 2006). A team of facilitators led 11 sessions over 7 weeks during the regular

school day. The sessions provided students with fun and engaging opportunities to explore ideas about their possible futures in small groups. For instance, in one session they developed timelines and in another session they elaborated upon action plans. These small group discussions and activities provided opportunities for students to draw connections between their ideas about their possible futures (e.g., succeeding in high school) and everyday school behaviors (e.g., completing homework). Students who were randomly assigned to participate in the sessions subsequently had a significantly more positive trajectory of grades than students in a control group. The effect lasted for two years across the transition into high school. The positive effect was mediated by an increase in the likelihood that students in the treatment group articulated the types of possible selves that are connected to persistence and achievement.

Some of the research connecting future identity to academic motivation, persistence, and achievement during early adolescence has a more explicit emphasis on students' socioeconomic circumstances. One series of studies focused on how young people conceptualize the potential barriers to reaching their desired futures. Specifically, some middle school students were randomly assigned to encounter information about available need-based financial aid for college to help provide the feeling that the path to the future goal of college was open or socioeconomically accessible. Other students were randomly assigned to receive information only about the costs of college or no information at all to lead to more of a feeling that the path to higher education was closed or less socioeconomically accessible. The open path condition led to an increase in student motivation. Students from backgrounds with limited financial resources who were randomly assigned to the open path condition subsequently set higher academic goals and planned to spend more time on schoolwork than similar students who received only closed path information. Further, when asked to write about their futures, students randomly assigned to the open path condition became more likely to describe futures that included higher education than other students in the study. The positive effect of salient information about socioeconomic opportunities on immediate school motivation was facilitated by the shift in students' future identities (Destin 2017, Destin & Oyserman 2009).

In a related study, researchers experimentally manipulated the extent to which students' desired futures felt connected to education. Virtually all middle school students express a desire for economic success, but they vary in whether they perceive school as the route to that financial stability. So, some students were randomly assigned to an education-dependent condition in which they received figures showing that completing more education is connected to earning higher incomes. Other students were randomly assigned to an education-independent condition in which they received figures showing the high salaries of professional athletes, entertainers, and musicians. Students who were randomly assigned to the education-dependent future condition subsequently showed more academic motivation than those who were randomly assigned to consider routes to economic success that were disconnected from education (Destin & Oyserman 2010). In line with identity-based motivation theory, these experiments showed that students are most likely to demonstrate academic persistence when their social context conveys that educational goals are within reach and a part of how they imagine their futures.

Evidence from concepts closely related to future identity. Mental contrasting with implementation intentions (MCII) is a related approach that guides people to think about a desired possible future and to combine those thoughts with everyday strategies or if-then plans (Duckworth et al. 2013). For example, "If I have the urge to check social media, then I will study for 30 more minutes." When fifth-grade students were randomly assigned to engage in MCII activities, they subsequently showed improvements in grades and attendance compared with students in a control group.

An additional approach related to future identity that has demonstrated positive effects on academic persistence of early adolescents builds from the expectancy-value theory (Eskreis-Winkler et al. 2016). The expectancy-value theory asserts that motivation to pursue goals results from a combination of people's expectations for their possible success in pursuing a particular goal and various forms of value that they place on that possible success (Wigfield & Eccles 2000). Similar to other conceptualizations of future identity, both the expectation and the value components of expectancy-value theory rest upon how people think about their possible futures. In one series of studies building from this perspective, middle school students were randomly assigned to encounter materials containing the overarching message that certain positive things in life are connected to hard work and practice. Students who received these messages paired with other motivating messages subsequently showed improved academic performance compared with students in a control group (Eskreis-Winkler et al. 2016).

Another set of considerations related to future identity that influences student outcomes is how particular school tasks and subjects are presented. Experiments demonstrate that when high school students are randomly assigned to complete writing activities that provide the opportunity to connect particular class topics to their own deeply held interests, their engagement increases compared to students who do not complete those activities (Hulleman & Harackiewicz 2009). One reason why this exercise matters is likely that it allows students to consider the connections between current schoolwork and their thoughts about their desired futures. High school students show similar benefits from being encouraged to think about the ways that topics in their classes can be useful in their lives (Hulleman et al. 2010), which often brings to mind connections to images of their future lives and careers.

Other research extends these ideas beyond students' thoughts about their own potential personal gains. In another experiment, high school students who were randomly assigned to complete activities encouraging them to consider how they hope to make the world a better place subsequently showed increased self-regulation compared to other students in a control group (Yeager et al. 2014a). Together, these studies show how a wide range of thoughts related to what young people imagine doing in the future can be connected to education and school tasks in a way that supports persistence. During adolescence in particular, students are beginning to craft cohesive narratives about who they are, where they come from, and where they are going, and these narratives of their identities help to guide behaviors (Jones et al. 2018).

Evidence related to future identity during postsecondary education. Many of the approaches that demonstrate a connection between future identity and academic motivation, persistence, and achievement during adolescence also show evidence of the relationship during young adulthood. The majority of existing experiments in this area focus on students at major four-year colleges and universities investigating various aspects of future identities within those types of contexts. In some of the most directly relevant work, for example, experiments have shown that identity congruence between a salient identity and students' perception of the academic environment shapes academic motivation. It is most motivating to bring desired, positive future identities to mind (e.g., becoming a member of an honor society) when the college or university is made to feel like a place where success is likely and the positive future identity is most relevant. By contrast, bringing undesired, negative future identities to mind (e.g., becoming a college dropout) is most motivating when the college or university is made to feel like a place where there are indeed relevant risks to consider (Oyserman et al. 2015).

There is also a fairly robust body of evidence demonstrating that college students feel more motivated to persist when school tasks are presented as useful and relevant for their lives, including what they hope to do for themselves and others after graduation (Canning et al. 2018,

Harackiewicz et al. 2014, Priniski et al. 2019). This notion of utility value can be especially important in supporting the achievement of first-generation college students from ethnic-racial groups that are underrepresented in higher education, and conveying utility value to students can sometimes have lasting positive effects on academic trajectories (Canning et al. 2018, Harackiewicz et al. 2016). Similarly, connecting tedious school tasks to a greater sense of purpose that college students hope to achieve in the world around them increases their self-regulation and deeper learning (Yeager et al. 2014a). Research among college students has also demonstrated how future identities can support goal pursuit in domains beyond education, such as a variety of health behaviors (see Hoyle & Sherrill 2006, Ouellette et al. 2005).

On the whole, there has been extensive research connecting young people's future identities and other psychological processes related to their thoughts about the future to academic persistence and academic outcomes. This evidence includes findings from experiments and intervention studies that may have direct implications for programs and practices. The work may be even more consequential, however, in considering how future identities can be effectively supported and cued within a variety of social developmental contexts. Before providing a deeper investigation of how contexts can be leveraged to support persistence through identities, we review relevant research on a second major form of identity.

SOCIAL IDENTITY

Another broad area of the identity-based motivation framework focuses on the role of particular social identities. In addition to thoughts about the future, people's thoughts about the important relationships and groups in their lives provide a powerful source of motivation. This section focuses specifically on the thoughts, ideas, and feelings that students from minoritized groups develop about the racial or ethnic group to which they belong. A rich tradition of theory draws a connection between these specific types of social identities and academic persistence, which is in turn supported by extensive empirical evidence.

Ethnic-Racial Identity as a Relevant Area of Theory Related to Social Identity

Ethnic-racial identity (ERI) is a multidimensional construct reflecting beliefs and attitudes about one's ethnic-racial group and the dynamic processes through which these beliefs develop over time (Umaña-Taylor et al. 2014). For example, the content of a student's ERI might include beliefs that being a Black American of Caribbean descent is an important part of who she is and that people from her community have pride in their backgrounds and high aspirations for their lives. The process related to her ERI might include increasing reflection on the ways in which carrying herself and pursuing her goals reflect positively on the values of her community, which her parents emphasize regularly.

Ethnicity and race are separate phenomena, and scholars have studied ethnic and racial identity separately (Williams et al. 2012); however, in recent years the field has moved to a more integrated conceptualization of ERI as a meta-construct, particularly given that the distinction between race and ethnicity may be blurred in the daily lived experience of some groups, along with evidence showing convergence among some dimensions across theoretical traditions (Rivas-Drake et al. 2014b). ERI dimensions include exploration (i.e., actively thinking/learning about one's group), centrality (i.e., how important group is to self), commitment or private regard (i.e., sense of connectedness to and pride in one's group), public regard (i.e., perceptions of how others view one's group), and ideology (i.e., beliefs about how one's group should function in society).

Evidence Linking Ethnic-Racial Identity to Academic Persistence

Two recent meta-analyses examining associations between ERI and academic outcomes reveal similar patterns. They converge on the finding that positive racial affect, encompassing high levels of ERI commitment and private regard, are positively associated with academic attitudes and achievement (Miller-Cotto & Byrnes 2016, Rivas-Drake et al. 2014a). These studies generally suggest that a stronger and more positive ERI is beneficial for student outcomes, especially for students from groups who have historically faced and continue to face marginalization and discrimination in education and society at large. Notably, across both meta-analyses Black American samples were most common, with fewer studies examining associations between ERI and academic adjustment in other ethnic-racial groups.

In addition to the general pattern observed in the meta-analyses, some studies reveal important contextual nuances consistent with the concept of identity congruence. For instance, in one study high private regard was associated with high intrinsic motivation *only* in the context of a positive school racial climate (Byrd & Chavous 2011). Private regard and centrality also appear to buffer against the deleterious impact of a negative school racial climate on academic persistence (Butler-Barnes et al. 2018, Chavous et al. 2008). Contextual factors like school climate and ethnic-racial composition also have implications for how ERI may function in relation to academic persistence (Leath et al. 2019).

Another factor complicating the association between ERI and academic persistence is one's racial ideology. Among Black high school students, those expressing high racial centrality and private regard and low public regard were most likely to complete high school and enroll in college; for these students, the importance (i.e., utility) of school was related to completion. In contrast, students high on all three dimensions had the most positive attitudes about school and believed that the relevance of school was most important for completion. Finally, students low on all three ERI dimensions were most likely to leave high school and least likely to enroll in college (Chavous et al. 2003). Other researchers have found that Black youth espousing a minority ideology (i.e., the belief that all minority groups should work together; Butler-Barnes et al. 2018, Smalls et al. 2007) and/or a sense of collectivism (Carson 2009) report higher levels of academic persistence, while those with a raceless ideology report less valuing of and more detachment from school (Harris & Marsh 2010). Finally, some researchers have conceptualized ERI ideology to be inclusive of attitudes toward achievement. Specifically, Oyserman et al. (1995) proposed embedded achievement as a dimension capturing how much academic achievement is embedded in one's ethnic-racial group, positing that this socially contextualized model of ERI can best explain academic persistence (Oyserman et al. 1995). Empirical evidence supports this model for both Black and Latinx adolescents (Altschul et al. 2006, Oyserman et al. 2001). Collectively, studies of racial ideology reveal how dynamically constructed identities in context are related to behavior, which is consistent with core assertions of the identity-based motivation framework.

Research Including Less Often Studied Ethnic-Racial Groups

As noted above, most studies of ERI and academic persistence have included Black American samples; thus, whether the same patterns hold for individuals from other ethnic-racial groups is an open question. The meta-analyses discussed previously show support for the positive association between ethnic identity and academic adjustment for Black, Asian American, and Latinx youth and young adults, with some variation across specific ERI constructs (Miller-Cotto & Byrnes 2016, Rivas-Drake et al. 2014a). In addition, as discussed above and consistent with the concept of identity congruence, contextual factors have bearing on the association for multiple groups. For instance, among Latinx college students, aspects of the university environment play a role in

understanding the connection between ethnic identity and persistence (Castillo et al. 2006). Students' ethnic identities are associated with how they perceive and experience the university, which is in turn related to their persistence.

Importantly, traditional ERI models may not capture relevant processes like acculturation or specific cultural values. Some studies of Latinx adolescents have considered how cultural orientation toward one's heritage culture versus mainstream American or Anglo culture relates to academic persistence. Among Mexican-origin middle school students, endorsement of traditional Mexican values was positively associated with academic engagement, including school attachment and future aspirations (Gonzales et al. 2008). Similarly, among Mexican-origin high school students, placing high value on the cultural concept of *familismo* in conjunction with proficiency in English was most strongly related to educational attainment (Roche et al. 2012). This body of work suggests that for some Latinx adolescents having an ethnic-racial schema emphasizing both in-group connections (i.e., heritage culture orientation) and connections to broader society (i.e., dominant culture orientation) may be most adaptive for positive academic outcomes (Altschul et al. 2008). Watson (2009) drew similar conclusions in one of the few studies of Native American students. ERI internalization, a status reflecting a bicultural orientation (see Helms 1990), was positively associated with academic adjustment and institutional attachment, while ERI dissonance was negatively associated with these constructs. Watson concluded that maintaining connections to one's cultural heritage while also integrating elements of the dominant culture helped facilitate academic persistence in this sample of college students.

Research focused on cultural orientation and specific cultural values like familism suggests that having an identity that includes connection to the values of one's heritage culture facilitates academic persistence among Latinx students and other ethnic-racial groups (Morgan Consoli & Llamas 2013). Such cultural assets can be fostered to promote persistence in part because of the ways in which individuals connect these cultural values to a larger sense of purpose (i.e., directed at uplifting family and community; Stein et al. 2013), which is consistent with the identity-based motivation framework. For instance, a sense of family obligation is often associated with a belief both in the importance of education and in levels of academic motivation. These values are strongly linked to ethnic identity, particularly among young people who are Black, Asian, and/or Latinx immigrants (Daoud et al. 2018, Kiang & Fuligni 2008, Lee & Zhou 2014). For many students, attitudes and behaviors fostering academic persistence are intricately tied to cultural beliefs reinforced through family socialization processes (Coll & Marks 2012).

Some experimental research has also demonstrated a causal relationship between aspects of ERI development and academic outcomes. In one study, adolescents were randomly assigned to participate in an eight-session curriculum designed to promote positive ERI. The program led to increased exploration and resolution over time in comparison to students in a control group, which led to improvements in grades and other forms of psychosocial adjustment one year later (Umaña-Taylor et al. 2018). Another series of experiments focused on the connection between the social and future identities of adolescents and young adults from immigrant and minoritized ethnic-racial backgrounds. The studies found that leading participants to feel a greater sense of connection between the characteristics of members of their ERI group and the characteristics of people who succeed in their desired careers led to stronger academic engagement (Debrosse et al. 2018). These types of experiments might inform the development of educational practices, programs, and curricular approaches that regularly engage with students' ERIs.

Despite these compelling patterns and findings, immigrant and minoritized youth are not monolithic and can face diverse and complex challenges that interfere with academic resilience

(Suárez-Orozco et al. 2018). Research in this area can continue to expand its investigation of the variety of experiences and outcomes within groups. Further, despite some attention devoted to a wider range of ethnic-racial groups, it may be worthwhile for researchers to continue to expand the consideration of the unique ways that ERI and racial socialization processes occur for various other groups with different histories, statuses, and experiences.

INTERSECTIONAL SOCIAL IDENTITIES: EXAMPLES FROM SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH FOCUSED RESEARCH

Studies of identity and persistence in the science, technology, engineering, and math (STEM) fields build from the idea that motivation and persistence require identifying with the field. This is articulated in the concept of a science or STEM identity (Carlone & Johnson 2007). This work often takes an intersectional approach (e.g., Crenshaw 1989) that considers how multiple identity categories (particularly gender and race) and the sociohistorical power dynamics associated with them are at play as members of historically underrepresented groups pursue STEM careers. In addition, advances in understanding the connection between identities and academic outcomes have come from qualitative investigations providing an in-depth analysis of how young people make meaning of their identities within a context of complex systems of power and oppression (e.g., Rogers et al. 2015). In this vein, Carlone & Johnson (2007) theorized that a strong science identity is one encompassing a high sense of competence, opportunities for performance, and explicit recognition by others. Their empirical evidence, drawn from interviews with women of color in science-related majors, suggested that recognition by self and others as a science person was particularly important in shaping persistence in the field. Importantly, however, women who felt that their gender, race, or ethnicity interfered with others' perceptions of them as capable scientists experienced a disrupted science identity (Carlone & Johnson 2007).

Scholars building upon this work argue that to foster STEM identities and STEM persistence among members of underrepresented groups, it is essential to create opportunities for redefining what STEM means and looks like through more culturally grounded perspectives (Ireland et al. 2018). Moreover, considering the intersectional nature of multiple identities is necessary for understanding persistence in or attrition from STEM fields (Wilkins-Yel et al. 2019). Notably, conclusions arguing for the importance of intersectionality are primarily based on studies of students of color. In research with a predominantly White sample of undergraduate engineering majors, engineering identification was the strongest predictor of persistence, and gender identification was not a significant predictor for men or women (Jones et al. 2013). For women, however, engineering identification was more strongly related to the likelihood of changing to a different major than it was for men. Thus, while the study affirms the idea that identifying with the field is critical for persistence, gender differences in the interrelations of key constructs indicate that gender identity may still play a role even if it did not emerge as a main effect. Indeed, numerous studies suggest that gender identity is a relevant factor connected to STEM identity and persistence among women (Deemer et al. 2016); moreover, greater centrality of gender identity along with greater congruence between woman and scientist identities may be protective against psychological and contextual stressors that would otherwise undermine persistence in STEM (Jensen & Deemer 2019, Settles et al. 2009).

As a whole, the evidence linking a strong ERI and various intersectional identities to academic persistence and related outcomes should be considered in light of the broader identity-based motivation framework to guide the action of practitioners and policymakers. That is, these identities are continually shaped by a variety of environmental forces that can be targeted with potential

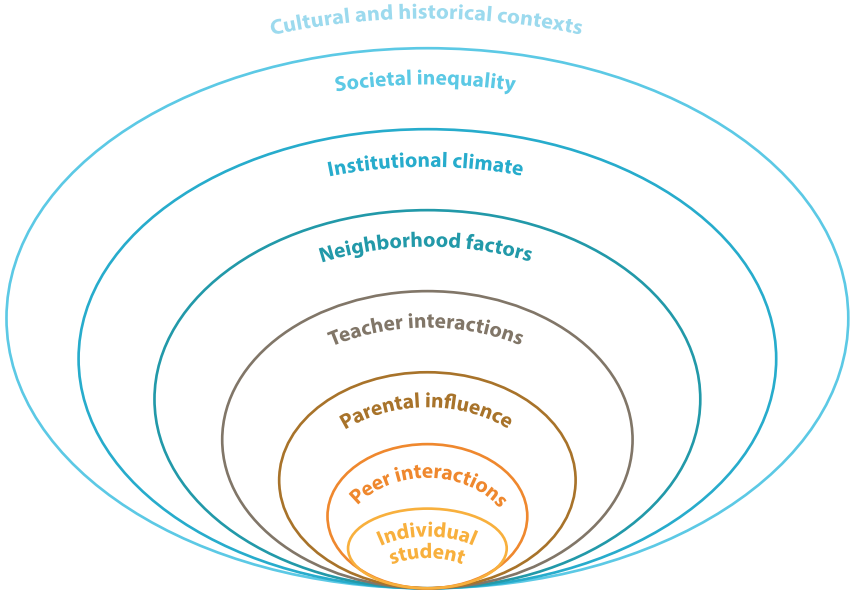

Figure 1

Examples of levels of context surrounding students and dynamically influencing aspects of identity development (see Bronfenbrenner 1977, Destin 2020, Stephens et al. 2014b). Proximal settings include peers, parents, and teachers; intermediate to distal settings include neighborhood factors, institutional climate, and societal inequality. These settings are embedded in the broader cultural and historical contexts.

positive implications for students' trajectories (see **Figure 1**). A collection of experimental studies have focused further on these types of contextual factors to demonstrate that specific aspects of the environment (such as numerical representation of women or gender stereotypical items and images) affect specific identities and outcomes (such as women's sense of belonging, identity safety, and ability to effectively participate and succeed in STEM) (Cheryan et al. 2009, Murphy et al. 2007, Schmader & Sedikides 2018). In the next sections, we review a range of studies that have taken a similar approach to investigate how various specific levels and aspects of contexts shape the development of different types of identities that influence academic persistence, engagement, and other related outcomes more broadly.

CONTEXTUAL CONTRIBUTORS TO IDENTITY DEVELOPMENT AND ACADEMIC PERSISTENCE

Identities develop in context, and ongoing, reciprocal interactions (i.e., proximal processes; Bronfenbrenner 1979) with others play an important role in identity development and academic persistence. These social contextual forces are essential to consider as educators, practitioners, and policymakers aim to support student identities, persistence, and positive academic outcomes. Schachter & Ventura (2008) offered the term "identity agents" as a way of conceptualizing the active role significant others can play in the co-construction of identities; identity agents have concerns and goals related to identity development and act accordingly in support of those concerns and goals.

Proximal to Intermediate Contextual Influences

Peer relationships are a particularly important proximal context; students' relationships with their peers are associated with identity, academic behavior, achievement motivation, and school outcomes. Young people who are socially competent are more likely to demonstrate academic competence, particularly when academic and social goals and norms are aligned in a learning context (Wentzel 2017). Given that individuals may be drawn to peers who share aspects of their social identities (i.e., homophily; Williams & Hamm 2018), teasing apart peer selection versus socialization effects is challenging; however, studies employing longitudinal social network analysis confirm that each is relevant for academic self-concept and persistence (Gremmen et al. 2017, Kindermann 2007, Rambaran et al. 2017). Despite the widely accepted notion that peer context has a bearing on identity development and academic behaviors, much of the evidence is correlational; however, research on norm perception offers insights into viable approaches to intervention (Tankard & Paluck 2016). For instance, Paluck et al. (2016) found that socially influential students could effectively shift school-wide norms around aggression, and such an approach may hold potential for academic norms. Other forms of vicarious peer influence have been used successfully in social-psychological interventions to promote academic self-concept and persistence through experimentally manipulated messages from more senior peers normalizing challenges and promoting identity safety (e.g., Destin et al. 2018, Stephens et al. 2014a, Walton & Cohen 2011). These approaches demonstrate the importance of peers in critical aspects of self-construal and academic behaviors. Further, they suggest that school programs and policies can enhance their success by finding innovative ways to actively engage the peer context.

Parents also play a significant role in the relationships between contexts, identities, and academic persistence, making them an important force to incorporate into efforts to support student outcomes. Parents can influence their children based on their own beliefs (e.g., about the malleability of intelligence; Haimovitz & Dweck 2016, Muenks et al. 2015) and by supporting children's needs for autonomy and competence (e.g., Pomerantz & Grolnick 2017). While a wealth of correlational evidence shows positive associations between aspects of parent involvement and socialization and the identities, academic motivation, and outcomes of young people (for meta-analyses, see Hill & Tyson 2009, Wang et al. 2020), attempts to enhance these associations are not often studied in experimental paradigms. An exception to this includes parent-focused interventions to promote STEM interest and persistence. Researchers used a utility value intervention in which parents received materials about the importance of STEM in high school and tips for conveying this to their children. Students in the intervention condition were more likely to enroll in high school STEM courses (Harackiewicz et al. 2012), and they had higher ACT scores in STEM fields and greater pursuit of STEM careers 5 years later (e.g., STEM interest, attitudes, and college courses; Rozek et al. 2017). The intervention effects were mediated by the mother's STEM utility value (Rozek et al. 2015), which suggests that parents' utility beliefs may be appropriate targets for promoting students' academic identity and persistence. However, other research suggests parents' beliefs about the value of education alone may not suffice (e.g., Simpkins et al. 2012); thus, to increase the likelihood of impact it may be necessary to pair parents' beliefs with resources to scaffold their agency around influencing their children (see also Destin & Svoboda 2017).

Finally, in the school setting teachers may influence student identity-competence processes through instructional practices, relationships, and classroom climate (Anderman & Gray 2017). From a motivational perspective, tasks and assessments that promote mastery and competence may reinforce a student's sense of themselves as an efficacious learner (Anderman et al. 2001). Moreover, students' sociocultural identities factor into their perceptions of the learning context

(e.g., content, practices, climate; Byrd & Chavous 2011) and their persistence behaviors (Kumar et al. 2018, Oyserman et al. 1995). If teachers implicitly or explicitly convey expectations that conflate sociocultural (e.g., ethnic-racial) identity and achievement ability, they can undermine student persistence, particularly for students from negatively stigmatized ethnic-racial groups (Gershenson et al. 2016). Values affirmation interventions have been used to buffer students from identity threats in settings in which they may be vigilant to negative teacher bias. These brief interventions in which students write about personal values they deem important generally have positive effects on academic performance and persistence (Cohen et al. 2006, Dee 2015). Other interventions have manipulated the kind of feedback teachers give to students. Wise feedback is designed to convey to students that they are being judged as individuals (versus members of a stereotyped group) and that teachers are holding them to high expectations. Yeager et al. (2014b) found benefits of wise feedback on Black students' academic persistence; further, when students were encouraged to view teacher feedback as indicative of teachers' high standards (i.e., attributional retraining), there were also positive effects on achievement.

Experiments have also explicitly targeted teachers' beliefs about students, although more work is needed on impacts on student identity and academic persistence. Recent studies demonstrate how experimentally manipulating teachers' mindsets about discipline to favor empathetic over punitive approaches benefits students who experience disproportionately harsh discipline (Okonofua et al. 2016); this approach could be leveraged for promoting positive identity and persistence especially given evidence that teachers' mindsets about students' abilities are related to student performance (Heyder et al. 2020). Finally, a recent causal inference study confirms the longstanding idea that culturally relevant pedagogy (see Gay 2018) affirms students' cultural identities and promotes academic engagement and persistence (Dee & Penner 2017). All of this evidence aligns with an effort to encourage sustained educator recruitment and development practices that are informed by the growing body of research illuminating the types of practices that support student identities and outcomes.

Proximal factors, including peers, parents, and teachers, are critical contributors to young peoples' identities and beliefs about academic success. While experimental manipulations often target individual students to change how they understand associations between their identities and outcomes, there remain untapped opportunities to leverage the influence of proximal contexts (e.g., schoolwide peer norms) and actors (e.g., teacher beliefs about students) to promote congruence between a student's identity and achievement goals. Interventions to shift behavioral outcomes through proximal influences (e.g., Okonofua et al. 2016, Paluck et al. 2016) offer promising approaches that may be adapted to support connections between identity and achievement.

Intermediate to Distal Contextual Influences

In addition to concrete ways that individuals surrounding students contribute to their identity development and academic persistence, larger institutions and systems also have a tangible influence. At the school level, a wide range of institutional practices and policies help to shape students' understandings of who they are with consequences for their engagement in school tasks. In one series of studies, for example, researchers showed the consequences of opportunities for students to engage with cultural events and groups that celebrate their ERI and heritage on college campuses (Brannon et al. 2015). For Black students, these experiences improved academic persistence and performance. Another series of experiments demonstrated similar positive effects focused on students' socioeconomic backgrounds and identities. College students were randomly assigned to encounter messages either about the university's support for socioeconomic diversity (e.g., financial and work study policies) or about its emphasis on wealth and wealthy students (e.g., a

large financial endowment). For students from lower socioeconomic status (SES) backgrounds, the messages of support for socioeconomic diversity led to increases in students' academic motivation compared to an institution's focus on wealth (Browman & Destin 2016). Both lines of research demonstrate how the policies and practices of institutions can shape how students experience their own identities with consequences for their academic behaviors and outcomes.

Another important level of influence on identity development beyond an individual school is the neighborhood context. Neighborhoods provide a backdrop to the life experiences of young people in a way that shapes their understanding of the larger world around them. For instance, the level of ethnic-racial segregation of a neighborhood is connected to the types of messages that young people are likely to encounter and internalize about their ethnic-racial group (Oyserman & Yoon 2009). Relatedly, the level of affluence or socioeconomic disadvantage in a neighborhood is connected to the types of futures that young people imagine and can effectively pursue (Oyserman et al. 2011). In a rare example of randomizing families to receive opportunities to move to neighborhoods with greater economic prosperity, there were some apparent positive effects on developmental outcomes in addition to some mixed long-term effects (Chetty et al. 2016, Leventhal & Brooks-Gunn 2003, Ludwig et al. 2012). Because every neighborhood and social network is a complex system with a variety of risk and protective factors (Spencer et al. 1997), one approach to understanding neighborhood effects is to isolate particular aspects of neighborhood environments. One area of research has focused on the ways that neighborhoods and physical spaces are stereotyped based on their racial composition (Bonam et al. 2017). In experiments, negative stereotypes about Black neighborhoods and spaces have specific negative consequences that perpetuate inequality (Bonam et al. 2016) and can eventually reduce opportunities available to young people. More research is necessary to directly evaluate how specific aspects and perceptions of neighborhoods can influence the ways that young people understand who they are and what the future may hold for them.

Even at a broader level than neighborhoods, there are certain aspects of society as a whole that influence identity development and the pursuit of academic goals. A series of studies have drawn attention to socioeconomic mobility as a key factor at the societal level. Specifically, the more that young people from lower SES backgrounds believe that a person's status in society can change, the more academic persistence and success they become likely to demonstrate (Browman et al. 2017). This relationship has been observed among adolescents and young adults in both correlational studies and experiments that randomly assign certain students to momentarily have stronger or weaker beliefs in socioeconomic mobility. Further, beliefs about socioeconomic mobility are directly connected to identities, and the effects on academic outcomes are mediated by a shift in young people's thoughts about their own possible futures (Browman et al. 2019b). This area of work connects to another societal factor by also showing that economic inequality influences people's perceptions of socioeconomic mobility. Even when momentarily manipulated in an experiment, making high levels of economic inequality salient weakens people's beliefs that socioeconomic mobility occurs in society, with all of the corresponding consequences for identities and academic outcomes (Browman et al. 2019a, Davidai 2018). As such, wide-scale efforts to reduce societal levels of inequality can not only promote more equal access to tangible economic opportunities but also yield positive effects on young people through these identity-based mechanisms.

Finally, all of the described levels of context exist under the broader influence of culture and its inherent connection to conceptions of the self and identity. A rich tradition of theory and empirical evidence establishes the deep links between cultural contexts and a person's dynamic conception of self and identity (Stephens et al. 2014b). The interplay between self and cultural context shapes people's experiences in a range of life domains in ways that can support or impair goal progress.

More specifically, studies have demonstrated that the context of many colleges and universities is governed by cultural norms and values of independence that encourage people to separate and distinguish themselves from others. Working class contexts tend to be characterized by cultural norms and values that encourage a more interdependent sense of self that emphasizes connection to others and collaboration. As a result, college students from working class backgrounds might experience a sense of cultural mismatch where their more interdependent sense of self feels incongruent with the college culture's more independent focus. Several experiments have demonstrated that the nature of this interaction between the self and the cultural context affects students' academic persistence and outcomes (Stephens et al. 2012). Practices and policies that genuinely incorporate and convey various forms of cultural inclusion are likely to have positive effects on students through these psychological processes.

BROADER CONSIDERATIONS IN UNDERSTANDING STUDENT PERSISTENCE

Despite the breadth of reviewed evidence in support of the pathways from contexts to identities to persistence and student outcomes as outlined by the identity-based motivation framework, there are of course various other important pathways to student persistence and academic outcomes (for examples, see Destin 2013). There are also structural barriers endemic to our society (e.g., structural racism) that have long undermined success for students from historically oppressed groups. In other words, identities alone do not determine student persistence, and persistence alone does not determine student outcomes. Furthermore, some forms of relentless academic persistence may have unintended negative consequences in other areas of people's lives, such as health and well-being. This is especially true for young people who must overcome significant socioeconomic obstacles and ethnic-racial discrimination to reach their goals. Specifically, several studies demonstrate a cost to indicators of physical health that can be experienced by students from lower SES backgrounds who succeed in school and achieve upward socioeconomic mobility (see Brody et al. 2013, James et al. 1987, Miller et al. 2015).

Even in light of the important nuances and limitations of an emphasis on identities and academic persistence, these mechanisms provide solid guidance for the development of systems of support that leverage various levels of context to promote positive student outcomes. There are even likely to be potential benefits for health and well-being in addition to achievement when efforts to support student persistence are accompanied by a commitment to bolstering the social connections and social identities of young people (e.g., Antonucci & Jackson 1987, Cohen & Willis 1985). Practices and policies that consider multiple environmental forces and potential avenues for social connection increase the likelihood that young people will experience these positive patterns of health and well-being in addition to achievement as they pursue their academic and professional goals (Destin 2019, Destin & Debrosse 2017).

CONCLUDING POINTS

As described, the various aspects of valued identities that people develop play a direct role in how they pursue academic goals with complex implications for well-being. Importantly, a range of social contextual factors and forces systematically influence the nature of people's individual, social, and future identities from moment to moment. There is no single solution to encourage academic persistence and well-being for all students at all times. However, the robust and growing evidence regarding how societal and institutional forces shape students' consequential psychological processes points to the role that institutions in particular can play in increasing opportunity

and combating social disparities in academic outcomes. In other words, the extent to which students demonstrate persistence and express their academic potential is dependent upon more than just individual choices and actions; it is shaped by specific social circumstances and institutional policies and practices.

While different levels of contextual influence on individual identity development and academic outcomes are described and studied in isolation, they are inherently linked and in conversation with each other (Markus & Kitayama 2010). In any given moment, young people experience any combination of influences, and more research is necessary to better understand this complexity of interactions. Further, the various identities that people have also interact with each other to shape subjective experiences, particularly in relation to everyday encounters of systemic forms of societal oppression (Cole 2009, Syed & Ajayi 2018). An approach that acknowledges complexity in understanding the relationships between contexts, identities, and student outcomes must also attend to the roles of time, history, and historical narratives about individuals and groups (Bonam et al. 2019, Nelson et al. 2013).

Finally, although the evidence presented in the current review focuses heavily on adolescence and early adulthood, identity and personality development is a lifelong process that continues later into the life course (e.g., Caspi et al. 2005, McAdams & Olson 2010). There remains enormous potential to expand the understanding of the connections between identity and the pursuit of various life goals related to work, relationships, well-being, and other domains across the life span.

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