Determinants of Student Success: An Integrative Perspective to Orient Policy and Practice

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Midwestern Higher Education Compact

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About this MHEC Research Brief Series

This research brief is drawn from specific topics examined in the forthcoming MHEC report, *Institutional Practices Conducive to Student Success: An Overview of Theory and Research.*

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Determinants of Student Success: An Integrative Perspective to Orient Policy and Practice

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Over the past few decades, several theoretical conceptions have been proposed to explain the determinants of student success (e.g., Astin, 1985; Bean, 1980; Pascarella, 1985; Tinto, 1993). Most prominently, Astin (1970) emphasized the effect of intense student involvement on academic performance, and Tinto (1993) argued that persistence partly resulted from integration within the institution's social networks and personal commitments to the goal of graduation. This brief seeks to elaborate these concepts by examining the indicators and facilitators of goal commitment, academic engagement, and social identification.

The Concept of Student Success

Although various outcomes may be indicative of student success, this report focuses solely on the essential elements of academic achievement, persistence, and degree completion. The ability to perform at a level that meets the institution's academic standards as well as one's own expectations can have multifarious consequences in college and beyond. The student's level of academic achievement can be pivotal in determining her major field of study, undergraduate research opportunities, graduate school admissions, internship or employment opportunities, and earnings. For example, Pascarella and Terenzini (2005) estimated that an increase in academic achievement by one letter grade was associated with an earnings premium of between 8 and 9 percent.

A high level of academic achievement ideally culminates in the attainment of a postsecondary credential. Since employers are more likely to demand an educational credential than a specific number of postsecondary credits, a premature departure from college can severely curb one's prospects for future employment and earnings. This is partly evident in the 2013 annual average unemployment rate of individuals with some college but no degree, which was three percentage points higher than the unemployment rate of individuals with a bachelor's degree (Bureau of Labor Statistics, 2014). Moreover, individuals who have attained a bachelor's degree earn 26 percent more than those who have completed 16 years of schooling without graduating from college (Jaeger & Page, 1996).

The basic elements of student success are conceptually distinct, and yet academic achievement and persistence are clearly interrelated (e.g., Tinto, 1993). Students with exceptionally poor performance may face academic probation, enrollment restrictions, or institutional expulsion. Indeed, few variables have been more consistently linked with student persistence and graduation

than academic performance (Astin, 1993; Adelman, 2004; Titus, 2004). In Adelman's (2004) analysis of a nationally-representative sample of four-year college students, academic performance was positively associated with educational attainment while controlling for demographic characteristics, finance, and attendance patterns. Specifically, students with a first-year grade point average in the top two quintiles were 23 percent more likely to graduate than students with lower first-year grades.

Determinants of Student Success

While past theory has advanced our understanding of student success, it has frequently failed to maintain an explicit connection with institutional practice (Swail, 2004; Tinto, 2012). Accordingly, Figure 1 portrays a general model of student success that links 12 rubrics of institutional practice with three target areas: goal commitment, academic engagement, and social identification.[1] This section examines the nature of each target factor and summarizes key research findings relevant to academic achievement and persistence.

Goal commitment.

Although most college students aspire to attain a postsecondary credential, their long-term goals for degree completion vary by degree of specificity and ascribed importance (Bui, 2002; Gardenhire-Crooks, Collado, & Ray, 2006; Pryor et al., 2012). At least three types of long-term goals are relevant to student success: (a) obtaining a particular type of postsecondary credential; (b) completing a program within a specific period of time; and (c) attaining an appropriate level of civic and vocational development. A strong commitment to such goals can increase persistence by enhancing the perceived value of academic tasks, moderating the amount of effort exerted (through feedback), and stimulating the design of short-term goals and effective strategies for degree completion (Locke & Latham, 1990; Miller & Brickman, 2004). The strength of college goal commitments has thus been postulated to be directly linked with the likelihood of persistence and degree completion (Bean & Metzner, 1985; Tinto, 1993). In a meta-analysis of 109 studies, Robbins et al. (2004) found that commitment to the goal of completing college predicted higher student retention after controlling for socioeconomic status and academic preparation.

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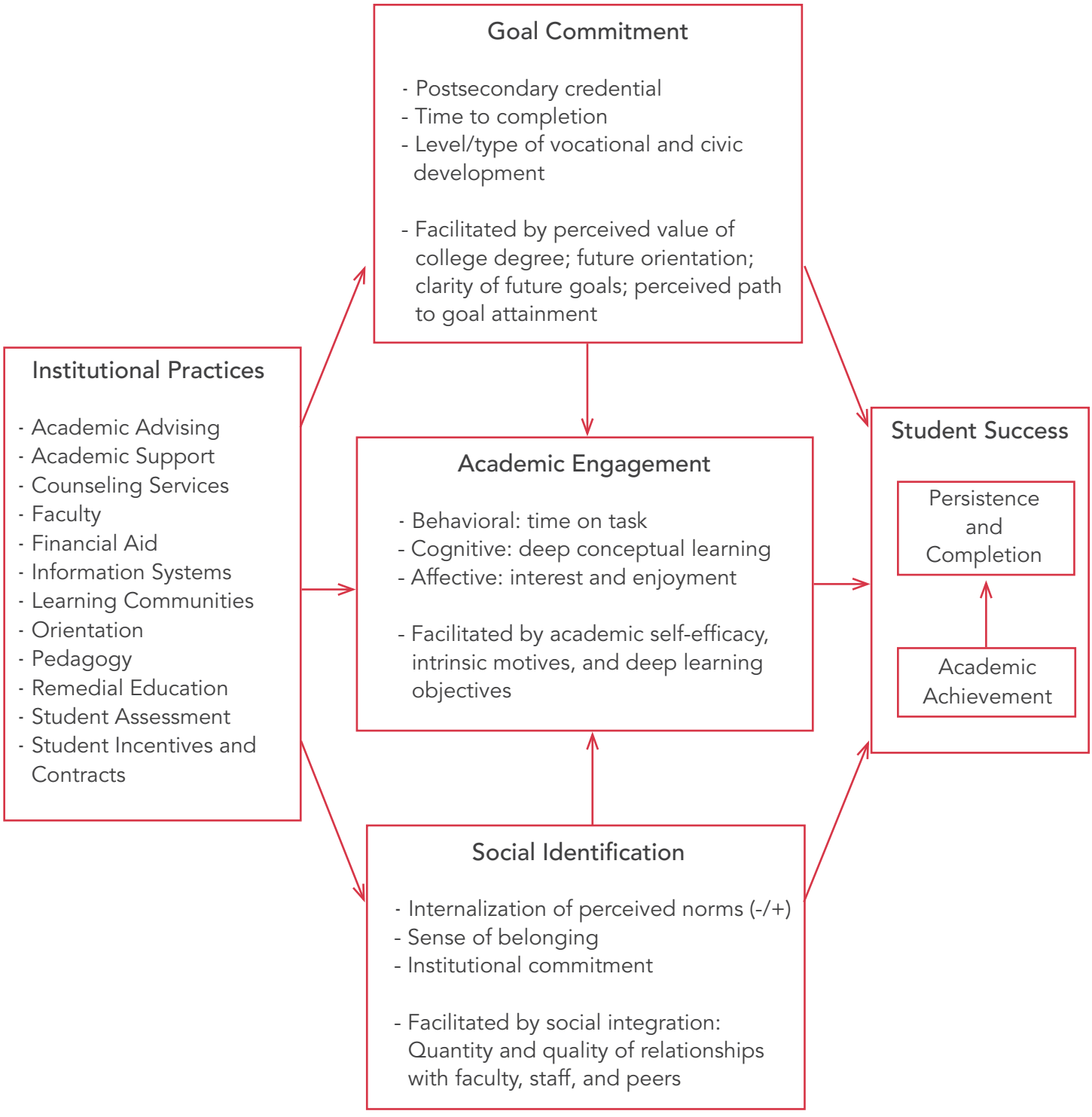
[1] This model focuses only on central social-psychological factors that can be modified through intervention. Many demographic and background variables, for instance, may be relevant to modeling student success but are not considered here (e.g., SES, ethnicity, intelligence).

Figure 1. Linking Institutional Practices with Student Success.



Variation in commitment to long-term goals is partly due to differences in self-efficacy and the perceived value of the goal (Feather, 1982); the clarity and personalization of future goals (Nuttin, 1984; Markus & Nurius, 1986); and the ability to construe present activities as instrumental for future goal attainment (De Volder & Lens, 1982; Miller & Brickman, 2004; Zimbardo & Boyd, 1999). A future orientation, for instance, has been positively correlated with academic goal-setting (Murrell & Mingrone, 1994; Lasane & Jones, 1999) and the amount of time allocated to studying (Zimbardo & Boyd, 1999). Similarly, the degree to which students link present activities with long-term goals has been positively associated with achievement (De Volder & Lens, 1982; Creten, Lens, & Simmons, 2001) and persistence (Zaleski, 1987; Husman & Lens, 1999).

Academic engagement.

Academic engagement can be defined as "the student's psychological investment in and effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote" (Newmann, 1992, p. 12). Behavioral, cognitive, and affective dimensions are evident in past conceptions of academic engagement (e.g., Finn, 1989; Appleton et al., 2006; Skinner et al, 2008; Martin, 2007; for a review, see Fredricks et al., 2004). In the present framework, behavioral engagement refers to time and energy on task, class participation, and effort in coursework (Astin, 1970; Pascarella, 1985). Cognitive engagement is characterized by deep or conceptual learning with the aim of understanding course material rather than surface or rote learning that reproduces unconnected facts (Martin, 2007; Marton & Säljö, 1976). Affective engagement denotes the level of interest, enjoyment, and vitality experienced during the execution of academic tasks (Skinner et al., 2008). Past research has demonstrated that the degree of academic engagement is positively associated with academic achievement and persistence (Astin, 1993; Kuh et al., 2008; Pascarella & Terenzini, 2005; Richardson, Abraham, & Bond, 2012). For example, Richardson, Abraham, and Bond's (2012) meta-analysis revealed that effort regulation predicted college GPA after controlling for academic preparation (ß=.22).

Academic engagement can be facilitated by cultivating positive expectancies and motives for learning (Pintrich & Garcia, 1991). In the former, expectancies refer to the student's perceived likelihood of success as well as efficacy beliefs about the ability to complete academic tasks (see Bandura, 1986), which have been positively associated with student retention and academic

performance (Robbins et al., 2004). In the latter, motives can be differentiated by their source of origin and correspondence with basic psychological needs. Students who pursue academic goals for self-originating reasons such as subject-matter interest or personal values are more likely to attain their goals than students who adopt other-originating reasons such as the need to fulfill a program requirement or satisfy the expectations of others (Koestner et al., 2008; Acee et al., 2012). Moreover, experimental research has demonstrated that students who conceive of learning tasks as instrumental for so-called intrinsic goals (oriented towards community, personal growth, relationships) exhibit better learning and persistence outcomes than those who frame learning tasks for extrinsic goals such as making money or gaining fame (Vansteenkiste et al., 2004). Student-centered learning objectives should thus be employed to support autonomous motivation in which students experience an internal locus of control, volitional and active engagement, and perceived choice of task selection (Reeve, 2002). Learning objectives should further emphasize both conceptual depth and integration (Biggs & Tang, 2011). Finally, faculty must ensure that students are rewarded for high academic engagement rather than the simple reproduction of course material (see Campbell and Cabrera, 2014).

Social identification.

Identification with a college community arises from a perception of membership, a positive value attached to the community, and a high level of importance assigned to one's affiliation (see Tajfel, 1981, p. 255). Students may identify with a small group of classmates, an extracurricular activity group, an academic department, and the institution as a whole, for example. A sense of belonging and commitment to the institution may promote persistence directly (Bean, 1983; Tinto, 1993; Braxton, Sullivan, & Johnson, 1997; Robbins et al., 2004; see also DeBerard, Spielmans, & Julka, 2004) and indirectly through both educational opportunities and perceived norms associated with academic performance and degree completion (see Oseguera & Rhee, 2009; Pascarella, Wolniak, & Pierson, 2003).[2] Reason et al. (2006) found that salient academic values and expectations (i.e., "institution emphasizes spending significant amounts of time on studying and academic work")

[2] These additional benefits of social integration ultimately depend upon the nature of the social group (e.g., predominant norms, educational aspirations).

predicted first-year students' perceived impact of college on the development of knowledge and skills.

Social identification can be facilitated through integration within social networks, that is, interactions and activities among valued peers, faculty, and staff that create a common history over time (see McMillan & Chavis, 1986). Students who are deeply integrated within an institution's social networks are those who have forged emotionally-rewarding, meaningful, and resourceful relationships with others. Accordingly, Leppel (2002) examined data from a national longitudinal study and found that persistence was positively associated with a moderate level of social engagement, including interaction with campus friends, faculty, and advisors as well as extracurricular participation.[3] Integration within social networks may also constitute an important source of emotional support for students (Nicpon et al., 2006). The challenge of social integration, however, may be particularly daunting for the non-traditional student with familial and work priorities or the student of a non-White ethnicity in a predominantly White institution. The perception of racial discrimination among non-White students has been negatively associated with their persistence (Cabrera et al., 1999; Fischer, 2007).

Summary

This brief elaborated three social psychological factors that influence student success during college. Students glean a sense of direction and meaning from long-term goals related to the completion of a postsecondary credential, a specific timeline for graduation, and the future competencies that will be acquired. Whether students realize a high level of academic achievement largely hinges on the degree to which they are cognitively, affectively, and behaviorally engaged in their academic work. Identification with a campus community fulfills a fundamental human need for belonging, forges an affective attachment to the institution, and helps to align students' academic goals with institutional norms. A robust understanding of such factors is crucial to effectively designing and evaluating institutional policies and practices conducive to student success.

[3] More generally, Astin (1993) concluded that "the student's peer group is the single most potent source of influence on growth and development during the undergraduate years" (p. 398).

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