

## Academic Motivation and Student Development During the Transition to College

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### ABSTRACT

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Academic motivation has been shown to be related to retention to the sophomore year, and the goal orientation model of academic motivation has been widely evaluated in school transition settings. Academic motivation consists of self-efficacy, positive attributions, intrinsic motivation, and goal orientations. Mastery goal orientation focuses on new skills and competencies, while performance goals focus on competition with others and earning recognition. A performance orientation can be performance approach (potentially adaptive) or performance avoidance (a social defense mechanism). Academic motivation can be severely challenged during school transitions; a defensive response to this challenge could result in maladaptive behaviors by first-year students. Mastery approach goals have been shown to be related to more positive academic achievement; meanwhile, performance approach goals have mixed outcomes. Perhaps, performance approach orientations may morph into performance avoidance under the academic challenge of college-level course work. First-year students go through dramatic academic and social transitions, as well as significant developmental and identity issues, thus programs designed to enhance success of first-year students appear to require a mix of academic and social interventions. For example, class belonging of first-year students may be related to both self-efficacy and mastery orientation. Others have encouraged a “plus one” strategy of academic challenge well matched to students’ capabilities, and approach coping is favored over avoidant coping in exam preparation. Finally, a critical balance between challenge and support may be most important for students with potentially fragile academic motivation, for example, first generation students, ethnic minorities, and rural students.

**Keywords:** academic motivation, student development, college transition.

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### Introduction

According to Pintrich & Schunk (2002), “motivation is the process whereby goal-directed activity is initiated and sustained.” In the college context, first-year students arrive with a wide array of goals, only a portion of which is directly related to their academic pursuits (Duncan, 2008). As discussed below, motivation is not a monolithic concept, even when applied strictly to academic contexts (Pintrich & Schunk, 2002). Academic motivation, expressed positively as efficacy and negatively as apathy, has been shown to be related to retention to sophomore year (Davidson & Beck, 2006). The goal orientation model of academic orientation presented by Midgley (2002) has been most widely evaluated in school transition settings; hence, her work will primarily guide the approach to academic motivation during the college transition in this paper.

First-year students are going through a dramatic transition in almost every aspect of their lives. Schlossberg, Waters, & Goodman (1995) categorized the individual meanings inferred from such transitions as related to the type of transition (expected, not expected, and failure of expected event to come to pass), the context of the transition (what else is going on or is not going on in the person’s at the same time as the transition), and the impact of the transition (how much are daily life rhythms disrupted or not disrupted). The high school-to-college transition can result in significant pressure in all three of the above categories, as first-year students can be quite surprised by a variety of aspects of their first college experience, continue to carry the burden for difficult situations at home, and change their entire daily routine. A potent surprise for first-year students could be the level of academic challenge, especially if they have not experienced Advanced

Placement, International Baccalaureate, or dual credit courses in their high schools (Reid & Moore, 2008). First generation college students may be especially vulnerable to expectations from their families for continued involvement in day-to-day family issues (Reid & Moore, 2008; Pittman & Richmond, 2008; Pidcock, Fischer, & Munsch, 2001). Many first-year students face drastic changes in their drinking patterns (Campbell & Demb, 2008), eating patterns (Striegel-Moore, Silberstein, Grunberg, & Rodin, 1990), and levels of physical activity (Bray & Born, 2004).

Many, if not most first-year students are also facing significant development issues over their first semesters in college. For example, Perry (1970) found that many male first-year students started Harvard University at one of the first two of nine positions on his ethical and cognitive development continuum; by the time they were seniors, most had progressed to Perry's positions 4 or 5. Kohlberg (1981) and Rest (1986) saw moral development as occurring over the college years, and Kolb (1981) identified a continuous cycle of learning through which students must pass to progress academically. Of course, such development does place pressure on students as they begin to change their ways of thinking and even their ways of knowing (Belenky, Clinchy, Goldberger, & Tarule, 1987).

Academic motivation during college transition may thus be related to students' progression through developmental phases/stages. Ideally, academic motivation would remain robust across school transitions; unfortunately this is not consistently the case. For example, Eccles, Wigfield, Midgley, Reuman, Mac Iver, & Feldlaufer (1993) reported that academic motivation actually declined during the transition from elementary to middle school,

blaming inherent structural factors in the middle school for this painful outcome. Perhaps then, a "do no harm" strategy of helping first-year students maintain their initial level of academic motivation would be a good first step. Still, in order to construct classroom and institutional environments conducive to high levels of academic motivation during the twin stresses of transition and development, we need to understand how these factors may be related. Thus, the objectives of this paper are 1) to review contemporary literature on academic motivation and high school-to-college transition, and 2) to explore the connections among academic motivation, college transition, and student development.

### **Academic Motivation**

Achievement goal theory (Meece, Anderman, & Anderman, 2006) is perhaps the most prominent theory related to academic motivation. The tenets of this theory have been widely tested at both primary and secondary educational levels (Meece et al., 2006) including several reports across school transitions (for example, Eccles et al., 1993). Classroom and institutional achievement goal orientations can be communicated to students and such communication can influence both academic motivation and academic performance (Meece et al., 2006).

Academic motivation of students is considered to have four primary components: 1) self-efficacy, a given student's belief in her capability to complete an assigned task, 2) attributions, a student's recognition of the degree to which particular academic tasks and their outcomes are under his control, 3) intrinsic motivation, personal interest in a topic, and 4) goal orientations, including mastery- and performance-related goals (Linnenbrink & Pintrich, 2002). It is

this last category of goal orientations upon which this paper will focus.

Mastery orientation involves the desire to learn new skills, increase competence, and to develop a fuller understanding of their studies (Ames, 1992). Meanwhile, performance oriented learners are interested in competing with others, demonstrating their superiority, and earning recognition for their accomplishments (Ames, 1992). Middleton & Midgley (1997) argued that the performance orientation ought to be subdivided into performance approach (indicating an orientation toward the competitive, demonstrative, and recognition factors discussed above) and performance avoidance. This latter orientation was conceived of as a social defense mechanism, whereby a student's attitude toward learning contexts was to avoid demonstrating a lack of competence (Middleton & Midgley, 1997). More recently, Elliot & McGregor (2001) concluded that achievement goals should be represented as a 2 X 2 matrix, adding mastery avoidance to complete the foursome of performance approach, performance avoidance, mastery approach, and now, mastery avoidance as goal orientations. Their argument was that real-world examples of mastery avoidance exist (for example, perfectionist students who try to avoid making even a single mistake); their data set confirmed the existence of such a construct among their student sample. However, relatively few subsequent researchers have taken up the challenge presented by Elliot & McGregor (2001) to invoke this fourth goal orientation in their work. Therefore, this paper will treat performance approach, performance avoidance, and mastery approach as the three goal orientations of interest.

The literature on motivation is many and varied. For example, Kaplan & Maehr (2007) reported that "work-avoidance" or

"academic alienation", representing a desire to get through the work with as little effort as possible, is distinctly different from performance avoidance. Such students may "simply want to be left alone" (Nicholls, Pataschnick, & Nolen, 1985), and as such fit poorly into the three goal orientations described. It is not clear how many college students might fit into this category of work avoidance. Another approach was that of Van Etten, Pressley, McNerney, & Liem (2008) who interviewed college seniors about their motivations during their final year of college. Van Etten et al. (2008) concluded that seniors were motivated by grades and graduation (extrinsic factors) along with student beliefs (including their level of control and their desire for learning) among many other factors. They called for a much broader view of academic motivation, encouraging subsequent researchers to employ qualitative, open-ended research methods to uncover additional motivational factors for college students.

Academic motivation is challenged by school transitions (Eccles et al., 1993; Yeung & McNerney, 2005; and Otis, Grouzet, & Pelletier, 2005). Eccles et al. (1993) found a "developmental mismatch" between the needs of entering middle school students and the classroom and institutional structures they encountered. Notably, the middle school students had fewer opportunities to make decisions about their own learning and felt lower math self-efficacy (confidence in their capability to do mathematics). These changes were related to a decline in a mastery approach orientation among the middle school students. The converse may also be supported -- indeed, Usher & Pajares (2009) suggest that perceived mastery experience can foster growth in math self-efficacy. Yeung & McNerney (2005) compared 7<sup>th</sup> and 9<sup>th</sup> grade students' mastery approach orientation over time, and were quite concerned to see a

decline in both task and effort aspects of mastery approach over those two years. In a similar manner, Otis et al. (2005) found intrinsic motivation (often compared closely with mastery approach) to decay from eighth to 10<sup>th</sup> grade in their sample. There appears to be legitimate cause for concern about declining motivation across school transitions.

While academic motivation during the transition to college has been less studied than it has during other school transitions, several authors have ventured to begin exploration of this important terrain. Hsieh, Sullivan, & Guerra (2007) found that mastery approach goals were related to high academic self-efficacy and higher grade point averages; meanwhile, performance avoidance goals were negatively related to grade point average (but not to self-efficacy). They concluded that mastery approach was an adaptive pattern for learning while performance avoidance was maladaptive. Notably, they were unable to identify clear patterns for the performance approach orientation. This appears to be related to the mix of adaptive and maladaptive aspects of this goal orientation. For example, competitiveness can motivate students to study harder, but may result in relatively shallow learning.

First generation students are of special interest with regard to college motivation. Dennis, Phinney, & Chuateco (2005) found that personal motivation was more closely related to college adjustment and college commitment than was the motivation supposedly conferred by family/community expectation. The authors were somewhat surprised by this finding, as they presumed that their primarily Latino/a sample would be primarily motivated by expectations originating in their family and community. What is termed “personal motivation” by Dennis et al. (2005) appears from their text to represent a mix of intrinsic

(personal interest) and extrinsic (career interest) factors, while what they term “family expectation motivation” appears to be purely extrinsic (pressure to do well). Thus, there is some evidence in their work for the adaptive nature of mastery approach (via intrinsic motivation) for a smoother adjustment to college and a greater likelihood of continuing in college. Olive (2008) studied the motivation of first-generation Hispanic students; she found a “package” of commonalities among the highly motivated, highly successful students she interviewed in depth. That “package” included high self-efficacy (no surprise), successful high school experiences, the desire to move up economically, an others-centeredness, the willingness to break traditional molds, and the presence of aspirational role models. While Dennis et al. (2005) provide evidence for a central role of motivation per se, it seems that Olive’s (2008) work goes well beyond to identify individuals very comfortable with who they are, having made substantive progress in their own intellectual and identity development.

The concept of “flow” as described by Csikszentmihalyi (1975) could be related to a high level of motivation for those students fortunate enough to experience it. Briefly, flow is the “holistic sensation that people feel when they act with total involvement” (Csikszentmihalyi, 1975). Key features of flow include a close match between an individual’s ability and the level of task challenge she faces, a high degree of focus on that task, and a loss of consciousness of the passage of time (Fullagar & Mills, 2008). Further, this abandon allows the person to engage in the task fully without regard to extrinsic motivation; the resulting preeminence of intrinsic motivation would seem to make flow relate well to a mastery approach orientation. Of course, in some academic

settings, such concentration upon a task could turn out to be counter-productive; for example, if a student were engrossed in solving a problem unrelated to an impending exam, he may perform poorly on that exam, simply because his attention was directed elsewhere. Architecture students with high levels of intrinsic motivation reported higher frequencies of flow experiences than did architecture students with low levels of intrinsic motivation. Conversely, Lee (2005) found students with high procrastination scores to show low levels of intrinsic motivation and flow experiences. Since flow “. . . is an experience so enjoyable that one is motivated to return to this state” (Fullagar & Mills, 2008), it seems reasonable that such experiences would only serve to solidify any pre-existing inclination toward intrinsic/mastery approach orientations of students.

### **High School-To-College Transition**

Like any school transition, the transition from high school to college can be difficult for students; however, attrition rates can be dramatically higher during the first year of this transition than for transitions made at younger ages. Just what makes this transition so difficult? In addition, why are some students able to “get through” without apparent difficulty, while others struggle so seriously? What can be done to assist first-year students in making this transition? Schlossberg et al. (1995) developed a transition model, which seems to be useful to this important transition. Briefly, a student’s ability to cope with this transition may be explained by her available assets compared with her liabilities in the following four categories: situation, self, support, and strategies. These categories can be further described briefly as the seriousness of the situation, personal and psychological resources from within the self,

types and stability of support, and management or coping strategies. Institutional responses to aid students in this transition should address all four categories of Schlossberg et al. (1995). For example, counseling interventions will need to be accessible in the case of severe emotional distress, some populations (for example, first-generation students) may be more vulnerable during transition and require specific support programs, and students may need to be actively offered sessions on coping strategies when facing inordinate stress.

Many colleges and universities presume that transition interventions need to be primarily academic. For example, an Italian university reported that two-hour lectures about their preliminary major choices given to high school seniors served to reduce interest in their previously announced major, but presumably to increase persistence in that major and perhaps in that university (Lent, Nota, Soresi, & Ferrari, 2007). An Australian university study found that retention of first-year students varied by their academic disciplines. It indicated a need to include a “local” component in the field of study. Some programs apparently failed to communicate their expectations clearly to incoming students, resulting in relatively low retention rates (Danaher, Bowser, & Somasundaram, 2008).

Many other factors are also related to the retention issue: disordered drinking, disordered eating, and disordered physical activity, to name a few. Twenty percent of high-risk college drinkers continue to persist in such extreme drinking habits as adults (Campbell & Demb, 2008), and alcohol abuse awareness programs address subsequent consequences. While the “freshmen fifteen” have gained urban myth status, institutions have additional interest in learning whether disordered eating may be

triggered (or initiated) by the stresses inherent in early weeks of the college experience. While Vohs, Heatherton, & Herrin (2001) found correlates of disordered eating to be no more common among females surveyed in their first college semester than in their final high school year, another study reported that maladaptive eating patterns among women students were common during their first college semester (Striegel-Moore et al., 1990). According to Bray & Born (2004), students reporting an adequate level of physical activity during their first 8 weeks of college were only 44%, compared with 66% who reported such a level during their senior year of high school. Thus, the first-year population may be vulnerable to disordered drinking, eating, and exercising during their transition to college, and it would seem that would perhaps raise some challenges for their academic motivation.

Students differ in their ability to cope with the stresses of the college transition. Negative coping strategies (smoking, drinking) and perfectionism were harmful to students' health status by the end of their first year; on the other hand, optimism and positive self-esteem resulted in better physical and psychological status by year's end (Pritchard, Wilson, & Yamnitz, 2007). Students exhibiting "academic buoyancy" defined as "students' ability to successfully deal with academic setbacks and challenges that are typical of the ordinary course of school life", managed not to become anxious, had a high level of self-efficacy, and were academically engaged (Martin & Marsh, 2008). Given that in high school, students generally have relatively little autonomy and that the level of autonomy afforded them in college is generally much higher (Ratelle, Guay, Vallerand, Larose, & Senecal, 2007), it should not be surprising that those college students capable of managing their own autonomy would be

more motivated and more highly persistent than those who floundered under autonomous conditions. Contrary to the popular belief that women in science and technology lack self-confidence, Larose, Ratelle, Guay, Senecal, & Harvey (2006) found that female first-year students in science and technology had increasing science self-efficacy as they became more certain about their choice of a career in science and technology.

What about social support during this critical transition? At the middle-to-high school transition, support by parents proved to be a predictor of both school bonding and academic motivation (Schneider, Tomada, Normand, Tonci, & de Domini, 2008). Freeman, Anderman, & Jensen (2007) found "class belonging" of first year students to be related to their self-efficacy and intrinsic and task motivations (perhaps related to mastery approach orientation). Pittman & Richmond (2008) also underscored the importance of quality friendships among first-year students for improved self-perceptions and reduced problem behaviors. Female first-year Hispanic students were found to be at particular risk of leaving college during their first year (Pidcock et al., 2001), perhaps due to a higher prevalence of first-generation students among the group studied (although that was not reported). Some institutions have experimented with programs designed to help incoming first-year students acquire some "cultural capital" prior to their arrival, so that they can be more prepared for the social and academic contexts in which they find themselves (Scanlon, Rowling, & Weber, 2007). Taken together, there is no doubt that social support networks can help first-year students persist. One tech-savvy British university even decided to tap into that idea by sending their first-year students text messages, some broadcast, but others truly personalized (Harley, Winn, Pemberton, & Wilcox, 2007).

### **Connections Among Academic Motivation, Transition, And Development**

According to Erikson (1980), the primary developmental task of adolescents is identity development; the unpleasant alternative of the tension during that phase of the human life cycle is identity confusion. Given that the focus of this paper has been on traditionally aged first-year students, identity development is indeed a critical task for such students. Further, both performance approach and performance avoidance orientations to learning have their attitudinal roots in comparisons with others, which is perhaps a maladaptive approach if identity development is the unspoken goal. While a mastery approach orientation is not explicitly connected with positive identity development, it would certainly seem to create fewer difficulties in getting to that point.

Griffin (2006) decries the extent of attention given to low achieving African American first-year students, arguing instead for careful characterization of high achieving African American students as positive role models. In her qualitative study of nine such students, Griffin (2006) concluded that exceptional academic performance and high levels of academic motivation were related to a high level of autonomy and independence—these students were not dependent on their parents, peers, or the institution to drive them toward academic excellence, they were instead internally driven and motivated. Another key factor in her analysis was that these African American students worked actively to challenge common misperceptions about their academic abilities, drawing motivation from even the persistent well of racism. This level of development seems consistent with the fourth stage (internalization) of Cross's (1995) model of psychological Nigrescence.

In that stage, African American students are self-confident about being black, and comfortable in the face of academic and social challenges.

Hardre, Crowson, Debacker, & White (2007) called for specific strategies to enhance the academic motivation of rural high school students preparing for college. Their emphasis was on "perceived instrumentality" which relates to student perceptions that the current tasks expected of them related to future outcomes they personally value. Communicating this to rural students (or any students) requires an understanding of just what the students value. Knowing what students value can also open windows into their perceived abilities and grant a teacher the opportunity to support realistic, yet optimistic views of those abilities. Handled skillfully, this could result in cycling around Kolb's (1981) learning cycle, building both academic understandings and a higher level of academic self-efficacy.

Glynn, Aultman, & Owens (2005) openly call for a "plus one" strategy to stimulate academic motivation among first year students in general education courses in college. Briefly stated, their sense is that academic disconnects have resulted from both excessive and inadequate levels of challenge—students need to experience a moderate level of challenge in order to be stimulated to learn. This fits well with several developmental theories, including Perry (1970) (wrestling with how two authorities can disagree) and Kohlberg (1981) (dealing with a moral dilemma which cannot be neatly solved by merely considering its impacts on the individual student). In addition, these same ideas fit well with those of Vygotsky (1978), who developed the conceptions of the "zone of proximal development" and "cognitive dissonance." Students who are asked to step just beyond their "comfort zone" may find

that “this does not compute”, and suffer some difficulties in re-constructing their ways of knowing. However, such transitory periods may indeed result in significant growth. Thompson (1999) argues that teachers (and, by inference, student support personnel) need to provide appropriate support to go along with such challenges.

Differing academic coping styles have been shown to result in differing academic outcomes. For example, Applehans & Schmeck (2002) found that students using “approach coping” strategies during exam preparation (that is, directly tackling the preparation process) were more organized and more able to think critically. On the other hand, students employing “avoidant coping” strategies (that is, which “tend to involve management of attention and perception in an effort to reduce negative emotion” (Applehans & Schmeck, 2002)) were more likely to try to “get by” through memorizing notes or textbook information. Patry, Blanchard, & Mask (2007) found that students differed in their use of leisure coping styles—some masterfully employed leisure as a “planned breather”, while others simply used leisure as a way to avoid an unpleasant task. Finset, Steine, Haugli, Steen, & Laerum (2002) further subdivided avoidant coping into resignation/withdrawal and diversion. Adaptive coping strategies seem to be related to higher levels of academic motivation, if for no other reason than the terminology employed is comparable (approach and avoidant). This seems to relate well to growth in moral development, wherein students understand more of the implications of their choices for both themselves and others.

Given ongoing disastrous outcomes of deplorable moral decisions made in the US business sector, business schools are quite interested in ethical training of their students. Davy, Kincaid, Smith, & Trawick

(2007) found extrinsically motivated business students more prone to cheat than intrinsically motivated business students. Given that we may reasonably infer that intrinsic motivation overlaps considerably with a mastery orientation motivation, this provides support for the idea that we ought to aim to change students’ motivations. Another way to describe that effort is “fostering moral development” (Evans, 1987). Kohlberg’s (1981) academic interest in moral development may have been related to his own life experiences during World War II.

Rest (1986) amplified Kohlberg’s “moral reasoning” to consist of the four connected stages of moral sensitivity (recognizing that a problem has moral implications), moral discernment (perceiving that various resolutions of varying merits exist), moral judgment (the capacity to make a morally sound decision), and moral implementation (following through on that decision with specific behavior). Rest (1986) found that college education resulted in a greater degree of moral development than would be expected simply by growing older. More recently, Brendel, Kolbert, & Foster (2002) found a positive trend for moral development among counselor trainees intentionally exposed to a program for moral education.

When using Perry’s (1970) conception of intellectual and ethical development of sophomores (Zhang, 2002) and seniors (Wise, Lee, Litzinger, Marra, & Palmer, 2004; Marra & Palmer, 2004), cognitive development was generally more advanced than for entering first-year students in Perry’s own initial work. This may indicate that intentionally designed programs are indeed having some impact on student development. Zhang (2002) concluded that implementation of a variety of thinking styles could help students to progress along the Perry continuum. Wise et

al. (2004) found transient growth in Perry positions to result for engineering students who participated in a collaborative design project during their first year. Unfortunately, more traditional engineering courses comprised the bulk of the curriculum, and little cognitive development was noted until the students' reached their senior year. Marra & Palmer (2004) studied groups of divergent senior engineering students (Perry's position 5 and above, contextual relativism and Perry's position 3.7, multiplicitous views) and concluded that curricular planning needed to be done to provide appropriately challenging yet supportive experiences to bring their multiplistic students further along.

### Implications Of This Study

Based on the above literature review, the author has drawn the following implications:

1. As with other school transitions, the transition from high school to college can be quite difficult, and can result in decreased levels of academic motivation.
2. Transitional stress levels may be higher for particular groups of students, for example: first generation students, ethnic minorities, rural students, and less well-prepared students.
3. Students with higher levels of mastery or intrinsic orientations

to learning generally fare better than students with performance or extrinsic orientations to learning. The negative consequences of a performance avoidance orientation are especially well established.

4. The transition model of Schlossberg et al. (1995) should be helpful in devising a holistic approach to help ease the high school-to-college transition.
5. Coping strategies (against academic challenge) are not all created equally, and efforts should be made to foster positive coping strategies among first-year students.
6. First generation students are especially vulnerable during their first year, and deserve additional support.
7. Developmental theories often intersect with best practices devoted to enhancing academic motivation across the high school-to-college transition, and should be thoughtfully utilized to enhance the effectiveness of any interventions. Evans, Forney, & Guido-DiBrito (1998) is the best available, easily understood text on student development theories.

### References

- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*, 261-271.
- Appelhans, B. M., & Schmeck, R. R. (2002). Learning styles and approach versus avoidant coping during academic exam preparation. *College Student Journal, 36*, 157-160.
- Belenky, M. Clinchy, B., Goldberger, N., & Tarule, J. (1987). *Women's ways of knowing: The development of self, voice, and mind*. New York: Basic Books.

- Bray, S. R., & Born, H. A. (2004). Transition to university and vigorous physical activity: Implications for health and psychological well-being. *Journal of American College Health, 52*, 181-188.
- Brendel, J. M., Kolbert, J. B., & Foster, V. A. (2002). Promoting student cognitive development. *Journal of Adult Development, 9*, 217-227.
- Campbell, C. M., & Demb, A. (2008). College high-risk drinkers: Who matures out? And who persists as adults? *Journal of Alcohol & Drug Education, 52*, 19-46.
- Cross, W. E., Jr. (1995). The psychology of Nigrescence: Revising the Cross model. In J. G. Ponterotto, J. M. Casas, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (pp. 93-122). Thousand Oaks, CA: Sage.
- Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety: Experiencing flow in work and play*. San Francisco: Jossey-Bass.
- Danaher, P. A., Bowser, D., & Somasundaram, J. (2008). The student departure puzzle: Do some faculties and programs have answers? *Higher Education Research & Development, 27*, 271-280.
- Davidson, W. B., & Beck, H. P. (2006). Survey of academic orientation scores and persistence in college freshmen. *Journal of College Student Retention, 8*, 297-305.
- Davy, J. A., Kincaid, J. F., Smith, K. J., & Trawick, M. A. (2007). An examination of the role of attitudinal characteristics and motivation on the cheating behavior of business students. *Ethics & Behavior, 17*, 281-302.
- Dennis, J. M., Phinney, J. S., & Chuateco, L. I. (2005). The role of motivation, parental support, and peer support in the academic success of ethnic minority first-generation college students. *Journal of College Student Development, 46*, 223-236.
- Duncan, J. M. (2008). Assessing reasons for attending college and student satisfaction: A longitudinal study. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 68*, 3755.
- Eccles, J. S., Wigfield, A., Midgley, C., Reuman, D., Mac Iver, D., & Feldlaufer, H. (1993). Negative effects of traditional middle schools on students' motivation. *The Elementary School Journal, 93*, 553-574.
- Elliot, A. J., & McGregor, H. A. (2001). A 2 X 2 achievement goal framework. *Journal of Personality and Social Psychology, 80*, 501-519.
- Erikson, E. H. (1980). *Identity and the life cycle*. New York: Norton. (Original work published in 1950).
- Evans, N. J. (1987). A framework for assisting student affairs staff in fostering moral development. *Journal of Counseling and Development, 66*, 191-194.
- Evans, N. J., Forney, D. S., & Guido-DiBrito, F. (Eds.) (1998). *Student development in college: Theory, research, and practice*. San Francisco: Jossey-Bass.
- Finset, A., Steine, S., Haugli, L., Steen, E., & Laerum, E. (2002). The brief approach/avoidance coping questionnaire: Development and evaluation. *Psychology, Health & Medicine, 7*, 75-85.
- Freeman, T. M., Anderman, L. H., & Jensen, J. M. (2007). Sense of belonging in college freshman at the classroom and campus levels. *The Journal of Experimental Education, 75*, 203-220.
- Fullagar, C. J., & Mills, M. J. (2008). Motivation and flow: Toward an understanding of the dynamics of the relation in architecture students. *The Journal of Psychology, 142*, 533-553.

- Glynn, S. M., Aultman, L. P. & Owens, A. M. (2005). Motivation to learn in general education programs. *The Journal of General Education, 54*, 150-170.
- Griffin, K. A. (2006). Striving for success: A qualitative exploration of competing theories of high-achieving Black college students' academic motivation. *Journal of College Student Development, 47*, 384-400.
- Hardre, P. L., Crowson, H. M., Debacker, T. K., & White, D. (2007). Predicting the academic motivation of rural high school students. *The Journal of Experimental Education, 75*, 237-269.
- Harley, D., Winn, S., Pemberton, S., & Wilcox, P. (2007). Using texting to support students' transition to university. *Innovations in Education and Teaching International, 44*, 229-241.
- Hsieh, P., Sullivan, J. R., & Guerra, N. S. 2007. A closer look at college students: Self-efficacy and goal orientation. *Journal of Advanced Academics, 18*, 454-476.
- Kaplan, A., & Maehr, M. L. (2007). The contributions and prospects of goal orientation theory. *Educational Psychology Review, 19*, 141-184.
- Kohlberg, L. (1981). *The meaning and measurement of moral development*. Worcester, MA: Clark University Press.
- Kolb, D. A. (1981). Learning styles and disciplinary differences. In A. W. Chickering & Associates, *The modern American college: Responding to the new realities of diverse students and a changing society* (pp. 232-255). San Francisco: Jossey-Bass.
- Larose, S., Ratelle, C. F., Guay, F., Senecal, C., & Harvey, M. (2006). Trajectories of science self-efficacy beliefs during the college transition and academic and vocational adjustment in science and technology programs. *Educational Research and Evaluation, 12*, 373-393.
- Lee, E. (2005). The relationship of motivation and flow experience to academic procrastination in university students. *The Journal of Genetic Psychology, 166*, 5-14.
- Lent, R. W., Nota, L., Soresi, S., & Ferrari, L. (2007). Realistic major previews in the school-to-college transition of Italian high school students. *The Career Development Quarterly, 56*, 183-191.
- Linnenbrink, E. A., & Pintrich, P. R. (2002). Motivation as an enabler for school success. *School Psychology Review, 31*, 313-327.
- Marra, R., & Palmer, B. (2004). Encouraging intellectual growth: Senior college student profiles. *Journal of Adult Development, 11*, 111-122.
- Martin, A. J., & Marsh, H. W. (2008). Academic buoyancy: Towards an understanding of students' everyday academic resilience. *Journal of School Psychology, 46*, 53-83.
- Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review Psychology, 57*, 487-503.
- Middleton, M. J., & Midgley, C. (1997). Avoiding the demonstration of lack of ability: An underexplored aspect of goal theory. *Journal of Educational Psychology, 89*, 710-718.
- Midgley, C. (Ed.). (2002). *Goals, goal structures and patterns of adaptive learning*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Nicholls, J. G., Pataschnick, M., & Nolen, S. B. (1985). Adolescents' theories of education. *Journal of Educational Psychology, 77*, 683-692.
- Olive, T. (2008). Desire for higher education in first-generation Hispanic college students enrolled in an academic support program: A phenomenological analysis. *Journal of Phenomenological Psychology, 39*, 81-110.

- Otis, N., Grouzet, F. M. E., & Pelletier, L. G. (2005). Latent motivational change in an academic setting: A 3-year longitudinal study. *Journal of Educational Psychology, 97*, 170-183.
- Patry, D. A., Blanchard, C. M., & Mask, L. (2007). Measuring university students' regulatory leisure coping styles: planned breathers or avoidance? *Leisure Sciences, 29*, 247-265.
- Perry, W. G., Jr. (1970). *Forms of intellectual and ethical development in the college years*. New York: Holt, Rinehart, & Winston.
- Pidcock, B. W., Fischer, J. L., & Munsch, J. (2001). Family, personality, and social risk factors impacting the retention rates of first-year Hispanic and Anglo college students. *Adolescence, 36*, 803-818.
- Pintrich, P. R. & Schunk, D. H. (2002). *Motivation in education: Theory, research, and applications (2<sup>nd</sup> ed.)* Upper Saddle River, NJ: Merrill Prentice Hall.
- Pittman, L. D., & Richmond, A. (2008). University belonging, friendship quality, and psychological adjustment during the transition to college. *The Journal of Experimental Education, 76*, 343-361.
- Pritchard, M. E., Wilson, G. S., & Yamnitz, B. (2007). What predicts adjustment among college students? A longitudinal panel study. *Journal of American College Health, 56*, 15-21.
- Ratelle, C. F., Guay, F., Vallerand, R. J., Larose, S., & Senecal, C. (2007). Autonomous, controlled, and motivated types of academic motivation: a person-oriented analysis. *Journal of Educational Psychology, 99*, 734-746.
- Reid, M. J., & Moore, J. L, III. (2008). College readiness and academic preparation for postsecondary education: Oral histories of first-generation urban college students. *Urban Education, 43*, 240-261.
- Rest, J. R. (1986). *Moral development: Advances in research and theory*. New York: Praeger.
- Scanlon, L., Rowling, L., & Weber, Z. (2007). 'You don't have like an identity . . . you are just lost in a crowd': Forming a student identity in the first-year transition to university. *Journal of Youth Studies, 10*, 223-241.
- Schlossberg, N. K., Waters, E. B., & Goodman, J. (1995). *Counseling adults in transition (2nd ed.)* New York: Springer.
- Schneider, B. H., Tomada, G., Normand, S., Tonci, E., & de Domini, P. (2008). Social support as a predictor of school bonding and academic motivation following the transition to Italian middle school. *Journal of Social and Personal Relationships, 25*, 287-309.
- Striegel-Moore, R. H., Silberstein, L. R., Grunberg, N. E. & Rodin, J. (1990). Competing on all fronts. Achievement orientation and disordered eating. *Sex Roles, 23*, 697-702.
- Thompson, J. (1999). Enhancing cognitive development in college classrooms: A review. *Journal of Instructional Psychology, 26*, 56-63.
- Usher, E. L., & Pajares, F. (2009). Sources of self-efficacy in mathematics: A validation study. *Contemporary Educational Psychology, 34*, 89-101.
- Van Etten, S., Pressley, M., McInerney, D. M., & Liem, A. D. (2008). College seniors' theory of their academic motivation. *Journal of Educational Psychology, 100*, 812-828.
- Vohs, K. D., Heatherton, T. F., & Herrin, M. (2001). Disordered eating and the transition to college: A prospective study. *International Journal of Eating Disorders, 29*, 280-288.
- Vygotsky, L. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- Wise, J. C., Lee, S. H., Litzinger, T., Marra, R. M., & Palmer, B. (2004). A report on a four-year longitudinal study of intellectual development of engineering undergraduates. *Journal of Adult Development, 11*, 103-110.

Yeung, A. S., & McInerney, D. M. (2005). Students' school motivation and aspiration over high school years. *Educational Psychology, 25*, 537-554.

Zhang, L. F. (2002). Thinking styles and cognitive development. *The Journal of Genetic Psychology, 163*, 179-195.

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