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Molly B. Kerby¹

Abstract

Theoretical models designed to predict whether students will persist or not have been valuable tools for retention efforts relative to the creation of services in academic and student affairs. Some of the early models attempted to explain and measure factors in the *college dropout process*. For example, in his seminal work, Tinto defined retention as a longitudinal process incorporating both the academic potential of the student and institutional social systems, thus creating a directional model based on continual variance in social commitments that influence academic performance. Others expanded the earlier theoretical models to test the predictive capabilities of these models using logistical regression and structural equation modeling to project college retention rates. As public sectors push for performance-based accountability in federal and state agencies, higher education funding becomes directly linked to academic performance. Critics of performance-based accountability in higher education contend that these funding structures undermine the mission of the university system and negatively impact retention in higher education. As Astin suggested, the structure of the American college system is a great deal more complex than the elementary concept of supply side economics. Additionally, due to globalization and aggressive progress in information technology, a shift from labor-intensive, information-age economies to a knowledge-based economy has created

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competing forces between academic and social integration in retention efforts. As intensity increases toward developing global knowledge-based economies, latent functions providing the framework for the process of learning (social integration, social control, and social change) give way to the manifest functions that reduce education to a process in which individuals merely collect information for future dissemination. Decades of research indicate that the role of education is not merely transmission of information. Higher education prompts progressive social changes that are augmented not only by dissemination of knowledge but also by the interconnectedness of the college experience, socialization process, and discovery of self in terms of place. A new conceptual model, grounded in classical sociological theory, is necessary to accommodate a knowledge-based economy. Universities must incorporate protective factors that generate a resilient environment for student learning, adaptation, and retention. Expanding the retention models of Spady and Tinto enhances the predictability of conceptual models for a new paradigm that fully recognizes the relationships among external factors (national and educational climate), internal factors (institutional culture and climate), and adaptive factors (sense of place) that effect voluntary dropout decisions in higher education.

Keywords

conceptual modeling, higher education, resilience, retention, sense of place

Introduction

Over the past four decades, the retention of college and university students has been a major concern for educators and administrators in higher education. Theoretical models designed to predict whether students will persist or not have been valuable tools for retention efforts relative to the creation of services in academic and student affairs. Some of the early models attempted to explain and measure factors in the *college dropout process* ([Pascarella & Terenzini, 1977, 1979](#); [Spady, 1970](#); [Tinto, 1975](#)). For example, in his seminal work, [Tinto \(1975\)](#) defined retention as a longitudinal process incorporating both the academic potential of the student and institutional social systems, thus creating a directional model based on continual variance in social commitments that influence academic performance. Others expanded the earlier theoretical models ([Allen, 1997](#); [Bean, 1985](#); [Cabrera, Nora, & Castañeda, 1993](#); [McGrath & Braunstein, 1997](#); [Sadler, Cohen, & Kockesen, 1997](#)) to test the predictive capabilities of these models using logistical regression and structural equation modeling to project college retention rates.

First to second year of college attrition, rather than overall retention and graduation rates, has become the central focus of educators, administrators,

researchers, and legislators in recent years. Various researchers ([Bean, 1980](#); [Murtaugh, Burns, & Schuster, 1999](#); [Pascarella & Terenzini, 1977, 1979](#); [Upcraft & Gardener, 1989](#)) conducted studies that indicated a positive experience during the first year of college could be more important than social and academic integration. Additional studies have noted that numerous institutions have applied the use of first-year retention prediction models to develop innovative and successful programs such as learning communities, orientation programs, and coordinated studies programs ([Pascarella, Terenzini, & Wolffe, 1986](#); [Tinto & Goodsell, 1993a, 1993b](#); [Tinto & Russo, 1994](#); [Upcraft & Gardner, 1989](#)).

Subsequent research involving predictive models of persistence in higher education, however, has failed to examine the experiences that take place within the institutional context and climate from a classical theoretical lens; organizational structure and individual function. While it is valuable to understand how the context and climate of the institution is shaped by structural and organizational features, such as size, type of institution, selectively, and the institutional mission and vision, the most important factor in building predictive models is to define the functional relationship of the individual in relation to the institutional collective ([Tinto, 1993](#)).

Theoretical Perspectives

Classical social theorists of the 19th and 20th century (e.g., Marx, Mead, Durkheim) focused on the relationships between organizational structures and the functions of individuals within those institution. Marx and his contemporaries were specifically interested in the concept that social structures transform over time through the collective function of individuals and communities. Social transformation, therefore, occurs when the alteration of previously ascribed social norms create a different paradigm based on newly formed assumptions and beliefs. This process of adaptation is analogous to the first-year college student experience.

Although Karl Marx is best known for his work, *The Communist Manifesto*, and his ideologies concerning social class, his earliest writings dealt with the social-psychological dimensions of alienation. Marx believed that intertwined systems dehumanized individuals by creating a metaphoric state of human bondage resulting in a paradigm of *social* alienation. In other words, the extreme separation from one's own nature, from the products of one's labor, or from social reality often results in an indifference or aversion toward some aspect of life that might otherwise be attractive and significant ([Meszaros, 1986](#)). Similarly, first-year college students who feel isolated, separated, or socially alienated from the college experience often have negative encounters that affect their decisions of persistence or voluntary withdrawal from higher education.

Similar to Marx's ideology of alienation, George Herbert Mead (1934) focused his research in the area of social psychology and development of the phases of the *I* and the *Me*. Mead posited that the development of the self was the most important aspect of individual maturation because the self appears as a new individual identity within the context of the social whole. In this analysis, Mead explained that as the self evolves, the *I*, or individual definition of self, is transformed to the *Me* through a conversation of social gestures. The *Me* then is a representation of the group of attitudes that stand for others in the community. How we dress, how we communicate, and our beliefs and attitudes are all a part of the *social ideal*.

According to Mead, the social ideal is the concept that we are all unconsciously striving for a perfect social intelligence in which all gestures and social meanings would be shared in their respective individual consciousness. In Mead's analysis, existence in community activates individual consciousness. Participation in community shapes understanding of collective perspectives, subsequently those experiences become the self or individual conscious. The university community and social organizations within the university that give individuals a sense of belonging to the larger group would be called the *generalized other*. The attitude of the generalized other is the attitude of the whole community. It is in the form of the generalized other that the social process or community enters as a determining factor into the individual's thinking (Mead, 1965). As relationships become more complex, the fusion of individualities produces a common whole, so that one's self evolves into the shared collective of the group (Cooley, 1965).

A synthesis of the *I*, *Me*, *generalized other*, and the idea of alienation is imperative in developing an understanding of the organizational aspects of social life, sense of place, and the experiences that fuse what society terms community. An analysis of the development of the university community provides insight relative to the concept of sense of place; however, a comprehensive understanding of the definition and conceptualization of sense of place has not yet been theoretically explored. Physical place or location is not the focus of this ideology, but rather the sense of place and its relation to shared experience. Steele (1981), a social psychologist, writes that:

One of the main themes is the difference between settings, physical and social, and the sense of place that is our experience of them heavily influenced by our own contribution. We therefore cannot know what a place is like in a vacuum, independent of the people who will experience it. (p. 9)

While Steele is correct in the general sense, Mead's observations contend that our influences and experiences are derived more from group contributions (values, morals, customs, and beliefs) than from personal or individual contribution. Individuals form positive bonds between self and place (sense of place)

from the social experience. Although a sense of place, physical or social, is important to this concept, it is the experience that shapes the bases of Mead's theoretical concepts. Within the sense of place experience, either a positive or negative sense of social identity is developed. This phenomenon of group cohesion and sense of place experience is central to the development of retention models for first-year programs.

Social identity theory, one of the major social-psychological theories of inter-group relations and group processes, was formulated in the late 1970s by Henri Tajfel. Central to social identity theory is the tenet that individuals are connected to social structures through self-definitions as members of certain social categories. There is no implication of right or wrong ideologies within these social structures, just a conception of the social structure that form individual social identities as a member of particular social categories ([Abrams & Hogg, 1990](#)).

Social identity theory is based on two underlying processes: categorization and self-enhancement. Categorization is the cognitive process that assigns subjective meaning to stereotypes and norms in a group, or category, and allows for individual interpretation. Stereotypical perceptions of a particular group are an individual's image of certain sets of characteristics, either favorable or unfavorable, that define that entire group. Normative perceptions, on the other hand, are an individual's definition of acceptable behavior in specific situations.

Self-enhancement guides the social categorization process so that these perceived norms and stereotypes are favorable (Robinson, 1996). In other words, it is assumed that an individual's membership in a particular group is a categorization of positive stereotypes and normative beliefs. Assumptions, however, may differ depending on the status of the individual. It is well known, for example, that all people have multiple identities (i.e., student, wife, daughter, etc.). These identities can also be dominant (i.e., White, male, Protestant, heterosexual, honors student, etc.), or they can be *minority* identities (i.e., Asian, female, Hindu, homosexual, underachiever, etc.; [Cox & Gallois, 1996](#)). Dominant identities tend to carry positive stereotypes and norms as stated in the context of social identity theory, while minority identities might be associated with negative stereotypes and norms. Like other social groups, higher education institutions are usually organized around a central theme or premise; in this case, education. Colleges and universities, however, differ from most social groups in that they also serve as an integrated community with its own set of cultural norms, values, and beliefs, or institutional climate.

The theoretical assumptions outlined above contribute to the foundation for understanding the ubiquitous relationships among socialization, development of self, and perceptions of sense of place within the university community. In the development of these classic theoretical paradigms, the theoretical intersection between functionalism and structuralism emerged. Groups that fall outside the

parameters of socially deemed normalcy, that is, the alienated, are placed in categories at the lower levels of the hierarchical structure of society. These categories are not defined individually but by the structure itself.

As Radcliff-Brown (1952) formulated, structural functionalism integrates the structural aspects of a society with the functions of the system. In this sense, structure refers to normative patterns of behavior, while function explains how patterns operate as systems to form a social structure. Radcliff-Brown's work has been criticized for ignoring historical changes and, more importantly, that functions seem to determine structures rather than work together simultaneously (Parsons, 1975); however, the theoretical grounding of structural functionalism provides foundation for a hermeneutic understanding of the fundamental anatomy of social groups.

An application of these theories implies that first-year college students have an innate drive to feel connected to the university both socially and academically, or what Mead would call the *social ideal* in terms of the *generalized other*. Expanding on this notion, the emphasis on sense of social unity and the idea of categorization and enhancement form a basis for the compulsion of the individual student to fuse personal characteristics with the common experience of the group. In comparison, the university is a society within itself in which socialization, belonging, and unity are vital parts the institutional culture and effect student persistence in higher education.

Classical Theory Application: Early Predictive Models

The primary investigations of the 1970s ([Pascarella & Terenzini, 1977, 1979](#); [Spady, 1970](#); [Tinto, 1975](#)) were theoretically grounded in classical social theories relevant to the integration of academic and social realms of academia and built upon existing research and conceptual frameworks. [Spady \(1970\)](#), however, raised the concern that research involving the withdrawal process in higher education lacked theoretical and empirical coherence. Prior research examined college persistence from a variety of operational definitions and intellectual perspectives, but Spady argued that a more rigorous interdisciplinary approach was needed to include both the academic and social systems of the college or university. Spady posited that a path model based on Durkheim's theory of suicide would accurately synthesize a large portion of the current research and focus of the interaction between student attributes (e.g., dispositions, interests, attitudes, and skills) and influences, expectations, and demands imposed by the university environment.

Durkheim (1897/1951) formed the foundation of his thesis on the phenomenon of suicide based on what he termed *sui generis*, or "the *totality* of suicides in a society is a fact separate, distinct, and capable of study in its own terms." Because suicide, according to Durkheim, could not be explained in isolation and was a distinct phenomenon, he believed that currents of suicide were related to

social concomitants or concurrent negative social factors. From a study on religious affiliation, marriage and family, and national communities, Durkheim divided the phenomenon of suicide into three broad categories: (a) egoistic, (b) altruistic, and (c) anomic.

The first category of suicide, egoistic suicide, results from the individual's lack of integration into society. Societies that force individuals to rely on personal resources rather than group resources tend to have higher suicide rates. Durkheim found, in respect to religious society, that the suicide rate among Catholics was significantly lower than the suicide rate among Protestants because Catholicism integrates individuals into the collective life. Protestantism, in contrast, purports a greater state of individualism, which Durkheim associated with higher rates of suicide. The advancement of science and knowledge, according to this analysis, accompanying the secularization process under Protestantism subsequently disintegrates the nexus of the individual to the group and leads to elevated suicide rates.

The analysis of the variation of the suicide rate with the degree of social integration led Durkheim to consider the second category of suicide, altruistic. In contrast with egoistic suicide, altruistic suicide in social groups or societies occurs when integration of the individual is comparatively high. Intense integration tends to occur in lower societies where the individual's life is authoritatively governed by custom and habit. Suicide in these social groups occurs in response to higher commandments that are related to either religious sacrifice or impulsive political allegiance.

The third category Durkheim called anomic suicide. The term *anomic suicide* stems from the root of the word *anomie*, or the temporary condition of social deregulation. In other words, *anomie* is the condition of relative *normlessness* in a whole society or in some of its component groups, whereas anomic suicide is the resulting type of self-inflicted death (Jones, 1986). Social change may create *anomie* either in the whole society or in a subsection of a part of the society. According to Durkheim, when social norms and regulations are not static, the controlling influence of society on individuals is no longer effective, and individuals are left to their own devices. Individuals integrated insufficiently into society, for example, are more prone to suicide. Similarly, if the college or university is viewed as a social system with its own structures and values, then *dropout* can be looked at as analogous to suicide (academic suicide; Spady, 1970). Therefore, conditions affecting dropout from the social system of the college or university resemble those conditions that result in suicide in the broader society (Tinto, 1975). Although we have yet to move in the realm of what Merton (1938) refers to as *grand theory*, our middle-range theories can serve as a starting point to predict persistence in higher education (Tinto, 1982).

Similarly, using Marx's application of alienation, Pascarella and Terenzini (1991) asserted that the transition of first-year college students is a combined

process of desocialization and socialization. Desocialization is defined as the abandoning of values, beliefs, and traits (precollege characteristics) students bring to university in response to the college experience. Conversely, socialization is the process of adapting to reconstructed values, attitudes, beliefs, and perspectives as prescribed by the institutional experience as a whole. Transition through this process of desocialization and socialization can be daunting for students if the process is in some way impeded. When students feel alienated from the socialization process, retention becomes problematic.

Talcott Parsons (1960) focused his attention on the incompatibility of *reductionism* with the study of human behavior. Parsons criticized the behaviorist of the 1920s as being reductionist and denying the existence of subjective categories of human behavior. According to Parsons, the study of human behavior is concerned with the interaction of pluralities of human individuals, which can include the analytically isolated individual as well as the individual who adapts readily to a given stimulus. Parsons called the framework of this general theory, *action*, which simply stated, refers to human behavior as it is symbolically oriented. While the term *action* is not particularly important in this discussion, the context or framework in which the term is used is highly relevant to the study of students in higher education.

Parsons believed that action treats behavior as goal-directed, adaptive, motivated, and driven by symbolic anecdotes, which can be perceived as subjective categories rather than a simple objective process. Specifically, Parsons (1975) outlined four functions of action: (a) latent pattern-maintenance, (b) integration, (c) adaption, and (d) goal attainment. The four functions of actions form a general paradigm for all systems. The paradigm can also be further collapsed into two axes for cross-classification: (a) internal–external and (b) instrumental–consummatory (Figure 1).

Social systems and systems of action are open systems that consist of continual interchange of inputs and outputs with and within their environments (internal–external). The process and interchange of inputs and outputs vary between individuals and the psychological states of the individuals. As a result, the norms of a culture do not always directly relate; social disorganization by alienation and anomie can result. While Parsons is considered the most important structural–functional theorist, his student Merton pushed structural functionalism further by giving continuing usefulness to its conceptual insights.

Although it has been perceived Parsons favored grand, overarching theories, Merton (1938) is recognized for his more limited, middle-range theories. According to Merton, the search for a total system of sociological theory is similar to the ancient philosophical systems, which are no longer used due to lack of empirical value. Ironically, Merton's work resonated a general theory of social structure. The notion of person as structurally located and anchored in networks of social relationships was the core of Merton's general theory of social structure (Parsons, 1960). Merton also suggested that what makes the

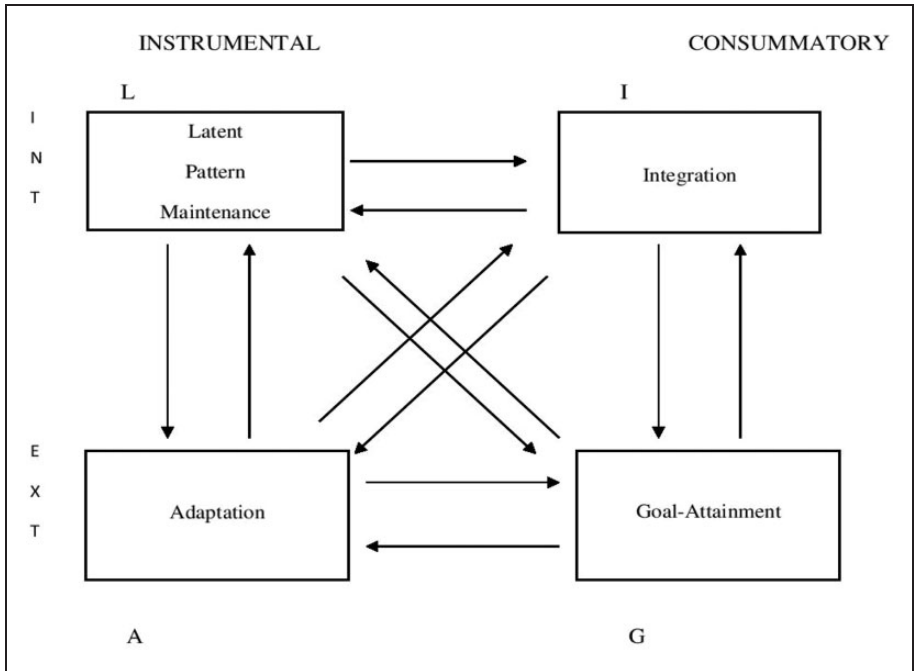


Figure 1. The four-function paradigm. An illustration of Parson's four-function paradigm: (a) latent pattern-maintenance, (b) integration, (c) adaption, and (d) goal attainment. The four functions of actions form a general paradigm for all system. The paradigm can also be further collapsed into two axes for cross-classification: (a) internal–external and (b) instrumental–consummatory. Adapted from “The American University” by T. Parson, 1973. Cambridge, MA: Harvard University Press, p. 12.

interaction between the person and the social order complex is the fact that the norms, or patterns of expected behavior, for given idea that individuals are confronted with preexisting external social norms. Instead, Merton posited that individuals have to find their own orientations among multiple, incompatible, and contradictory norms. In addition, aspects of social structure are not readily apparent to the individuals themselves and are an inherent part of manifest and latent functions. The most important idea, however, is that social influence, change, and norms are inherent in institutions of higher education and occur both with and within the social structure itself.

Similarly, Merton's image of the relationship between the individual and social order can be described as dynamic. It attends routinely to the forces that produce two major changes: (a) changes within social structures and (b) changes of social structures (Merton, 1938). Extending this ideology, it is imperative when examining persistence in higher education to analyze not only

the functions of and within the institutional structure but the interaction of the internal and external forces as well.

Spady (1970) first recognized that there are two distinctly different definitions of attrition generally accepted when conducting research on persistence in higher education.

The first definition includes all individuals who leave a college or university where they are registered. The second definition refers only to those individuals who never receive a degree. Spady also pointed out that there was a distinction between those who are forcibly dismissed from a college or university for academic or disciplinary reasons and those who voluntarily withdraw. Predictive models and equations that involve college or university grade point average (GPA) can be applied directly to retention only if failure or dismissal is the issue at hand. Conversely, the analysis of withdrawal phenomenon rather than dismissal phenomenon requires a more complex prediction model.

Spady's proposed Durkheimian model (Figure 2) both implied temporal order and depicted the assumed direct causal connections between pairs of variables. Because familial association influences both academic potential and normative congruence, family background provides the foundation for the remainder of the model. The model also suggested the broad range of attributes have a direct influence not only on the student's friendship support and social integration but also on grade performance and intellectual development. Spady's path model suggested the result of the entire model may lead to changes in students' attitudes, interests, goals, or motivation that will have either positive or negative effects at later stages of the college or university career. In alignment with Durkheimian theory, changes in personal attributes will alter the conditions included under normative congruence.

Working from Spady's conceptual model of the dropout process, Tinto asserted that theoretical models developed in the past sought to simply describe, not explain the processes that bring individuals to leave institutions of higher education. Tinto also noted, as did Spady, that it was not uncommon for research on attrition to fail to distinguish between academic dismissal and voluntary withdrawal. Tinto agreed that colleges and universities comprise both academic and social systems and that it is important to distinguish between normative and structural academic integration of the college or university and that of the social domain.

In contrast with Spady's conceptual model of attrition, Tinto (1975) argued that Durkheim's theory of suicide was not an adequate means of theoretically describing how varying individuals adopt different forms of withdrawal behavior. Instead, Tinto contended that Durkheim's theory only created a descriptive model that specifies conditions under which varying types of withdrawal behavior may occur. In other words, Durkheim's largely structural model of suicide was not sufficient in explaining suicidal behavior within society among differing individuals.

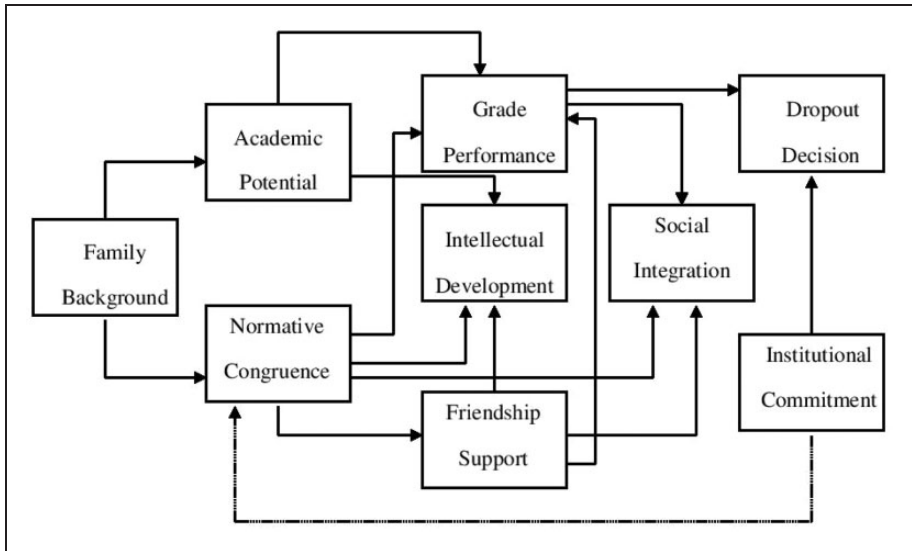


Figure 2. Spady's explanatory model of the dropout process. Spady's proposed Durkheimian model both implies temporal order and depicts the assumed direct causal connections between pairs of variables. Unlike other connections in the model, the arrow from grade performance to dropout decision is direct and implies an absolute condition. This path represents those students who are dismissed from academia due to failure or low academic performance. In this case, institutional policy overrides the theoretical pattern of the model. The broken arrow from institutional commitment back to normative congruence is also different from the others in that it represents a cyclical and flexible pattern rather than an unchangeable path. Adapted from "Dropouts from higher education: An interdisciplinary review and synthesis," by W. G. Spady, 1970, *Interchange*, 1, p. 79.

Explaining the longitudinal process of interactions that lead differing individuals to varying forms of persistence in higher education, researchers must build into their models individual characteristics and dispositions relevant to educational persistence (Tinto, 1975). In developing a theoretical model of dropout behavior, Tinto suggests that researchers should include not only background characteristics of individuals but the individual expectations and motivational attributes of individuals as well.

Tinto's theoretical model of dropout argues that the withdrawal process from higher education can be viewed as a longitudinal process of interactions between academic and social systems that are continually modified by variance in the individuals' performance (Figure 3). Individuals enter a college or a university with a variety of attributes, precollege experiences, and family backgrounds, all of which directly and indirectly impact academic performance. Both Spady's and Tinto's theoretical models set the stage in the 1970s for further investigation into the use of predictive models for persistence in higher education.

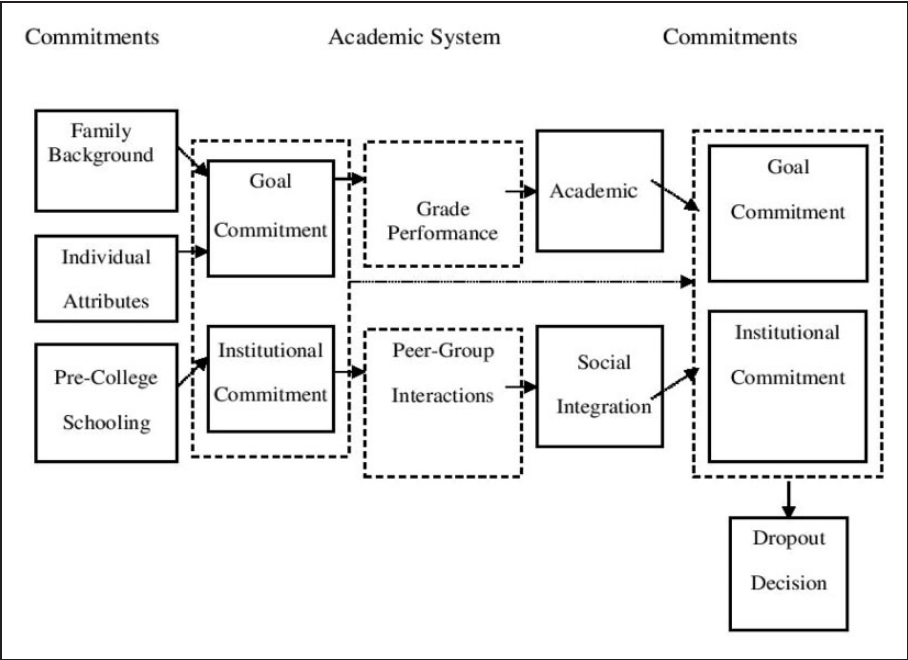


Figure 3. Tinto's explanatory model of the dropout process. Tinto's explanatory model of the dropout can be viewed as a longitudinal process of interactions between academic and social systems that are continually modified by variance in the individuals' performance. In this case, institutional policy overrides the theoretical pattern goals and institutional commitment. Individuals enter a college or a university with a variety of attributes, precollege experiences, and family backgrounds, all of which directly and indirectly impact academic performance. Adapted from "Dropouts from higher education: A theoretical synthesis of recent research," by V. Tinto, 1975, *Review of Educational Research*, 45, p. 95.

The models developed by these researchers define the dropout process as a longitudinal process that includes the academic and social systems as well as individual expectations and motivational attributes. Their models prompted other researchers to test these conceptual frameworks using empirical data. In addition, Durkheim and Merton understood the power of social forces and norms whether the individual is forced to confront external norms or must actively search for a sense of place among multiple, incompatible, and contradictory norms. The most important idea, however, is that social influence, change, and norms are inherent in institutions of higher education and occur both with and within the social structure itself. Extending this ideology, it is imperative when examining persistence in higher education to analyze not only the functions of and within the institutional structure but the interaction of the internal and external forces as well.

Validation of Early Predictive Models

The theoretical models of the early 1970s prompted researchers to advance the study of the attrition process by attempting to validate these explanatory, predictive models of the dropout process (Terenzini & Pascarella, 1980). The models asserted that students come to college with a wide range of background characteristics (e.g., sex, race, GPA, and family social status) as well as an array of goal commitments (e.g., highest degree expected and importance of graduating from college). Theoretically, these background characteristics and goal commitments influence not only how well students will perform but also how well they will interact and become integrated into the institution's social and academic systems (Pascarella & [Terenzini, 1980](#)).

While early models designed to predict student retention are adequate, Tinto's model (1975) remains the most prominent because it was designed to investigate the longitudinal process leading to departure or persistence. In developing a theoretical model of dropout behavior, Tinto suggested researchers should include not only background characteristics of individuals but also individual expectations and motivational attributes of individuals. In other words, individuals enter a college or a university with a variety of attributes, precollege experiences, and family backgrounds (personal characteristics), all of which directly and indirectly impact academic performance, normative congruence, and social interaction.

Expansion of the Early Predictive Models

First-year experience affects students differently, depending upon their precollege characteristics, level of maturity, or feelings of belonging in the institution. Students who have a negative first-year experience may choose to leave the university either permanently or temporarily until the conflict can be resolved. While dropping out of college may be beneficial to the individual, it can have extremely negative impacts on the institution. This is of particular concern to those universities with open enrollment policies that admit at-risk students and experience high rates of transfer ([Barefoot, 2004](#)). In light of these concerns, retention research, data collection, and the expanding of causal models for predicting attrition have become a crucial part of administration in higher education.

In a prominent study involving first-year persistence, Bean (1979) developed a causal model that synthesized research findings on turnover in work organizations and student attrition. The purposes of the study were (a) to apply a causal path model of employee turnover to student attrition in higher education, (b) to test the predictive power of this model on student attrition, and (c) to rank the variables by the extent to which they explain variations in student attrition.

In 1985, Bean expanded the model in an attempt to surpass merely defining variables significantly correlated with student attrition (Figure 4). The goal of the model was to describe how the significant variables affect student attrition, or the *dropout syndrome*. While Spady and Tinto stressed the importance of

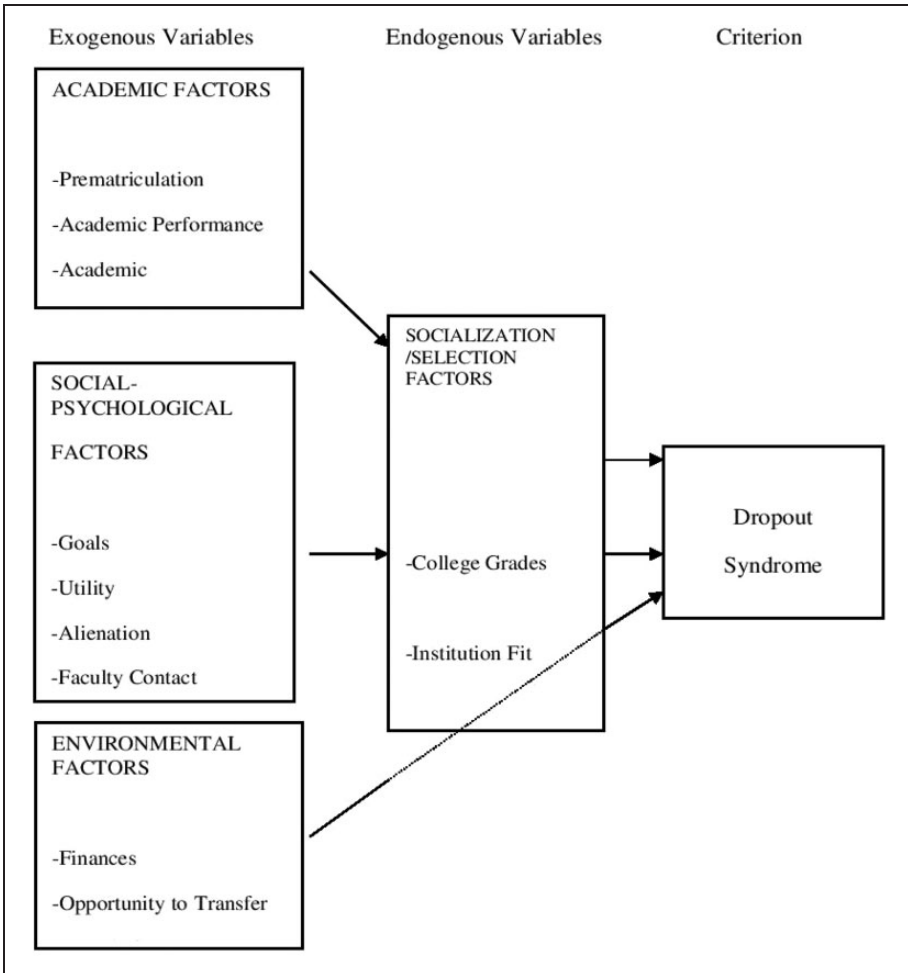


Figure 4. Bean's conceptual model of dropout syndrome. In Bean's model, academic, social-psychological, and environmental factors are expected to impact the three factors of the socialization/selection process: (a) academic, (b) social, and (c) personal. In turn, these factors are expected to influence dropout syndrome. Adapted from "Interaction effects based on class level in an explanatory model of college students dropout syndrome" by J. P. Bean, 1985, *American Educational Research Journal*, 22, p. 37.

distinguishing between dismissal and voluntary withdrawal, Bean defined drop-out as the failure of a student enrolled at a particular university in the spring to enroll in that same university the next fall semester. The criterion variable, therefore, in Bean's model was not *dropout* but *dropout syndrome*.

Dropout syndrome, according to Bean, is an openly discussed intention to leave a university meshed with actual attrition. Bean cited four reasons for using this criterion instead of the criteria used by Spady and Tinto. First, in previous research after statistically controlling for intent to leave, other variables generally do not contribute to the explained variance in retention. Second, both intent to leave and discussion of leaving have reciprocal, direct effects on persistence; variables that apply to intent to leave also apply to discussion of leaving. Third, students who leave due to health problems or family crisis are not representative of failure on the part of the student or the university. The attrition of these students can be adequately explained but not predicted.

Bean's use of dropout syndrome negates the need for a separation of dismissal versus voluntary withdrawal. Students who are dismissed from a university due to substandard social or academic achievement represent failure of socialization or improper selection criteria on the part of institution. According to Bean, including these students in an estimation of the conceptual model is desirable. In this conceptual model, academic, social-psychological, and environmental factors are expected to impact the three factors of the socialization/selection process: (a) academic, (b) social, and (c) personal. In turn, these factors are expected to influence dropout syndrome. The endogenous and exogenous variables as described in Figure 4 were used to estimate the model.

The model outlined by Bean shares a great deal of commonality with Tinto's model. There are, however, four distinct differences in Bean's models: (a) family background and individual difference are expected to manifest themselves in the social-psychological variable, (b) initial goals are expected to manifest themselves in later institutional and goal commitments, (c) grade performance and intellectual development leading to academic integration have a direct influence on dropout syndrome, and (d) goal commitment and institutional commitment are expected to directly affect dropout.

As Tinto and Spady suggested, Bean's model indicated background characteristics of the student must be taken into consideration in order to understand interaction within the college environment. Also included in the model were independent variables similar to those included in employee turnover research, which had been determined to affect satisfaction and expected to influence attrition. GPA, for example, was used as a surrogate variable for pay because they are both tangible measures of success. Bean's study also supported Spady and Tinto's hypotheses that structural and social integration, in addition to academic performance, are the most important factors influencing student attrition. Contrary to other models, Bean's study indicated that students actively shape their social environment.

Implementing Effective Intervention

Past literature grounded in classical sociological theory has provided a foundation for understanding the process of student persistence and withdrawal. As [Pantages and Creedon \(1978\)](#) suggested, these models are valuable tools for building and implementing effective retention programs. As indicated by past research ([Bean, 1980](#); [Terenzini & Pascarella, 1978, 1980](#); [Terenzini, Lorang, & Pascarella, 1981](#)), there are many factors such as the type of institution students attend (e.g., residential vs. nonresidential), sex, and individual characteristics (e.g., age, sex, race, and intellectual aptitude) that influence the direct and indirect effects of endogenous variables on student persistence. The next step in exploring retention issues in higher education logically leads researchers to examining first-year programs designed to increase academic and social integration, faculty–student relationships, and development of sense of place.

One concern with current research in retention is it does not look to primary paradigms when building predictive models nor does it build upon the causal models previously delineated by other research. Another concern with previous models predicting retention in higher education is the lack of emphasis on the contribution of external (exogenous) variables that relate to sense of place. Most models concentrate efforts on retention factors, most often related to dropout, that play a major role within the academic structure (endogenous) of the institution rather than factors that are external to the academy ([Bean, 1985](#); [Tinto, 1982](#)). In addition, the pressures placed on public institutions in the last decade for greater accountability (outcomes) should motivate change in predictive models as well.

A New Model for Retention

In building new predictive path models for current and future retention efforts, researchers must conceptualize these models as multifaceted and include precollege factors other than individual academic aptitude (high school and first-year GPA, American College Test (ACT) scores, Scholastic Assessment Test (SAT) scores, etc.). Parson's notion that (a) latent pattern-maintenance, (b) integration, (c) adaption, and (d) goal attainment form a general paradigm for all systems provides a solid foundation for retention models; however, institutions, like social structures, do not function independently of one another.

Additionally, results from quantitative analysis of retention models ([Bean, 1985](#); [Kerby, 2007](#); [Pascarella & Terenzini, 1991](#)) indicate there is a significant correlation (positive and negative) between GPA/grade performance and retention. As Spady (1970) pointed out, because there is a distinction between those who are forcibly dismissed for academic reasons and those who voluntarily withdraw, predictive models and equations that involve college or university GPA can be applied directly to retention only if failure or dismissal is the

issue at hand. Conversely, the analysis of withdrawal phenomenon rather than dismissal phenomenon requires a more complex prediction model with multi-variate constructs.

While GPA is a common predictor of retention, there are also correlations among social and academic integration (Tinto, 1975), intellectual development (Spady, 1970), institutional commitment (Pascarella & Terenzini, 1977, 1979; Spady, 1970; Tinto, 1975), and financial factors (Bean, 1985). New models that consider the causal effects between contemporary external (exogenous) factors and multifaceted internal (endogenous) factors are necessary in forming constructs that accurately test and measure the causal relationship within the model.

The proposed model in Figure 5 is an expansion of the models proposed by Tinto (1975), Spady (1970), and Bean (1985). First, the model describes a causal relationship between exogenous and precollege factors. Linearly, exogenous variables are ones outside the model and not explained by or are independent of the model. In other words, in this model, the national and educational climate (political, economic, and social) directly influences the environmental factors,

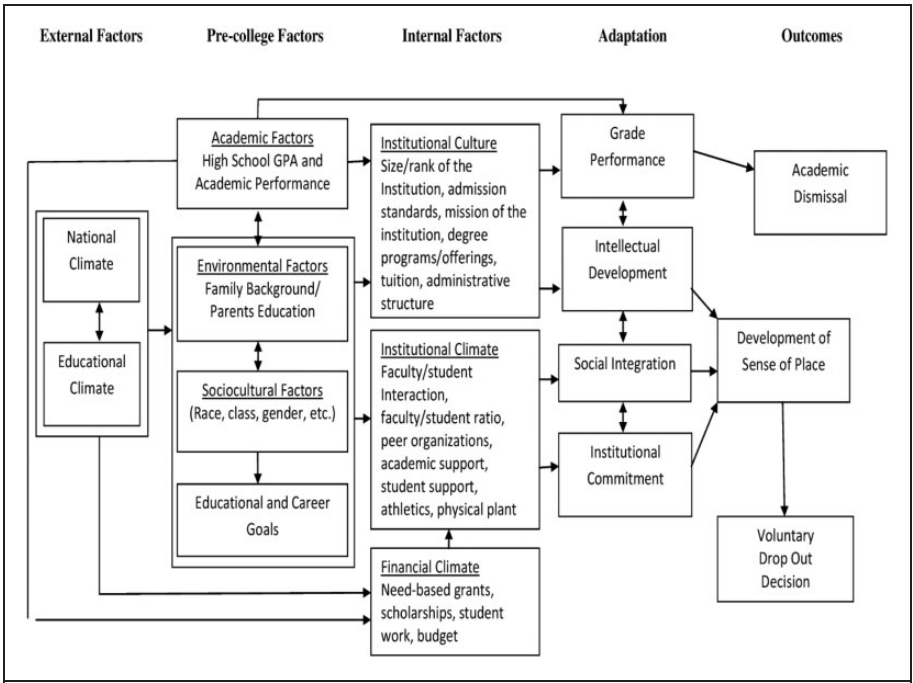


Figure 5. Proposed new model of voluntary dropout decision.
GPA = grade point average.

sociocultural factors, and individual educational/career goals, but they are variables independent of the other factors in the model.

For example, during the early part of the new millennium in the United States, the national climate was drastically altered by a radical change in political leadership, economic recession, and war with Afghanistan as a result of the attack on September 11, 2001. The national climate, in this case, changed the educational climate in terms of educational funding (federal and state), methods of course delivery, and occupational demands. This change had a directed effect on student financial assistant as well as sociocultural factors, educational and career choices, and environmental precollege factors. In addition, these exogenous variables essentially dictated institutional reforms in institutional culture and climate.

The second addition to Spady, Tinto, and Bean's models is the concept that adaptation to internal factors culminates into a notice of sense of place. The theoretical assumptions of Marx, Mead, and Tajfel, outlined earlier, contribute to the foundation for understanding the inseparable relationship between social development within the university community and academic success. The application of these theories provided a basic framework for building a contemporary conceptual model for predicting retention and a new paradigm for considering sense of place as a foundation for retention in higher education. While overall GPA is significant in predicting retention, the majority of students earns GPAs that are somewhere in the middle of the grade spectrum. It is also important to note that GPA and intellectual development are not necessarily interdependent. Institutions that effectively create retention programs that consider sense of place as an outcome of adaptation can contribute to positive individual intellectual development as well.

Third, the models of both Spady and Tinto paved the way for understanding the social consequences of alienation and ineffectual socialization. Students who are isolated, or separated from the college experience in some way, often have negative encounters both socially and academically, which affects their decisions of persistence in higher education. Grounded in the classical theories of socialization, these models provided the basic conceptual frameworks for predicting retention in higher education and a starting place for developing effective first-year programs. The researchers defined the dropout process as a longitudinal process including the academic and social systems as well as individual expectations and motivational attributes. Further development of the Spady-Tinto model reinforced the notion that external factors such as encouragement from family and friends, financial support, commitment, and expectations of the college experience were crucial factors in student retention.

In Figure 5, the expansion of the meaning and importance of social groups within the university community is a vital part of academic success and persistence in higher education. Students' development of sense of place is highly correlated with their interactions with the institutional climate and culture and

is directly associated with dropout decisions. It is also essential to realize social influence, change, and norms are inherent in institutions of higher education and occur both with and within the social structure itself. Extending this ideology, when examining persistence in higher education, it is imperative to analyze not only the functions of and within the institutional structure but the interaction of the internal and external forces as well. External factors, however, are independent of the model and cannot be altered by the institution. When developing effective first-year programs, consideration of external factors in creating internal structures that are congruent with adaptation leads to the development of sense of place and directly affect dropout decisions.

Implications for Institutional Practice

While predictive models grounded in sociological theory may seem complex, an analysis of classical perspectives of human behavior and adaptation sheds new light on the development of retention plans for administrators in higher education. It is also beneficial to understand the theoretical framework of institutional structures and their function both externally and internally. Past models, while useful in predicting retention in general, did not account for national and educational climate or, in most cases, the diversity of the student body. Understanding pertinent social theories that focus on both the external and internal factors and how they function within the universities are imperative in creating retention plans that are specific to the needs of individual students and institution.

The key difference between the model outlined in Figure 5 and earlier models is that the proposed model considers the idea that retention issues in higher education are multifaceted, vary from institution to institution, and are continually in flux. While some universities may have increased attrition because of economic struggles and state budget cuts, other institutions may experience withdrawals and transfers because of poor faculty–student relationships and large class sizes. Because of these differences, many of which are related to the external factors (national and educational climate), administrators must create retention plans that are appropriate for their universities.

Earlier models typically focused on traditionally aged students with the goal of degree completion in 4 to 5 years and the factors that affect their retention. Because of changes in the national and educational climate (unemployment, military duties, global economic shifts), some universities have experienced an influx of nontraditionally aged students with aspirations that may contrast those of traditional age and experience. For example, due to the national unemployment rate and technological advances, students may enroll in certificate programs simply for advancement in the workplace, job security, and higher wages. Other examples of national factors that may preclude persistence include

federal cuts in financial aid, student loan interest, unemployment, and global political unrest.

While universities have no control over external and precollege factors, they do have control over the internal factors (institutional culture and climate) that lead to student adaptation. From previous studies using predictive models (Bean, 1980, 1985; Cabrera, Nora, & Castañeda, 1993; Hausmann, Ye, Schofield, & Woods, 2009; Kerby, 2005; McGrath & Braunstein, 1997), variables related to adaptation are among the strongest predictors in voluntary dropout decisions. The new model proposed here allows retention plans and programs to be flexible enough to respond to external factors by molding internal factors on a continuum appropriate for the changing needs of the institution and its students. This predictive model can also serve as the foundation for building student retention programs that delineate specific institutional risk factors so that administrators, faculty, and staff can address each appropriately.

Future Research

As reported in academic literature, building effective retention programs in higher education is not an easy task. The theoretical constructs focusing on the importance of social and academic integration, intellectual development, and institutional commitment (adaptation) support the findings of other research. Upon analysis, these factors should remain an integral part of the theoretical building process. The research also stressed the significance of factors other than the academic experience alone (external factors). Current research (Campbell & Mislevy, 2009; Hausmann, Schofield, & Woods, 2007; Hausmann et al., 2009; Meeuwisse, Severiens, & Born, 2010; Morrow & Ackerman, 2012) also indicates a growing interest in connectedness (institutional and individual) and sense of belonging as important constructs in college persistence and institutional commitment.

While some research exists on sense of belonging and retention, the nature of that connection needs further exploration. Furthermore, establishing theoretical understandings of the distinct relationships among social identity, sense of belonging, and sense of place may strengthen the grounding of predictive models for retention in higher education in the future. It is also important to note that the theoretical constructs proposed in this new model need to be operationally defined for empirical analysis.

As the public sector pushes for performance-based accountability in federal and state agencies, higher education funding is increasingly linked to academic performance. Critics of performance-based accountability in higher education contend that these funding structures undermine the mission of the university system and negatively impact delivery of education (Rabovsky, 2012). As Astin

(1997) suggested, the structure of the American college system is a great deal more complex than the elementary concept of a supply side economics. In other words, colleges and universities do not exist merely to fill slots in a job market. Additionally, due to globalization and aggressive progress in information technology, a shift from labor-intensive, information-age economies to a knowledge-based economy has created competing forces between academic and social integration in retention efforts ([Powell & Snellman, 2004](#)).

Conclusion

As intensity in the national climate increases toward developing global knowledge-based economies, latent functions providing the framework for the process of learning (social integration, social control, and social change) give way to intentions that reduce education to a process in which individuals merely collect information for future dissemination. Higher education grounded in knowledge-economy and performance-based accountability also requires students to move quickly through the adaptation processes rather than allowing them to work through the desocialization and socialization progression that leads to the development of sense of place. The implications of this trend in the national and educational climate could have a negative effect on student completion rates if they are not considered in retention efforts.

Decades of research indicate that the role of education is not merely transmission of information. Higher education prompts progressive social changes that are augmented not only by dissemination of knowledge but also by the interconnectedness of the college experience, socialization process, and discovery of self in terms of place. Creating future models for retention must consider the concepts of performance-based accountability and knowledge-based economies in tandem with the individual need for adaptation and sense of place. Using grounded classical sociological theory as a foundation enhances the predictability of conceptual models for a new paradigm that fully recognizes the relationships among external and internal social, economic, and environment factors in higher education retention efforts. In order to accommodate a knowledge-based economy, universities must incorporate protective factors that generate a resilient environment for student learning and retention.

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