



---

Dropout from Higher Education: A Theoretical Synthesis of Recent Research

Author(s): Vincent Tinto

Source: *Review of Educational Research*, Winter, 1975, Vol. 45, No. 1 (Winter, 1975), pp. 89-125

Published by: American Educational Research Association

Stable URL: <https://www.jstor.org/stable/1170024>

---

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



JSTOR

American Educational Research Association is collaborating with JSTOR to digitize, preserve and extend access to *Review of Educational Research*

## Dropout from Higher Education: A Theoretical Synthesis of Recent Research

Vincent Tinto

*Teachers College  
Columbia University*

Despite the very extensive literature on dropout from higher education, much remains unknown about the nature of the dropout process. In large measure, the failure of past research to delineate more clearly the multiple characteristics of dropout can be traced to two major shortcomings; namely, inadequate attention given to questions of definition and to the development of theoretical models that seek to explain, not simply to describe, the processes that bring individuals to leave institutions of higher education.

With regard to the former, inadequate attention given to definition has often led researchers to lump together, under the rubric of dropout, forms of leaving behavior that are very different in character. It is not uncommon to find, for instance, research on dropout that fails to distinguish dropout resulting from academic failure from that which is the outcome of voluntary withdrawal. Nor is it uncommon to find permanent dropouts placed together with persons whose leaving may be temporary in

---

I am indebted to my research assistant, John B. Cullen, for having made an extensive literature search and compiling summaries of the literature for me. I am also indebted to Professors Peter Moock, to John Weidman, and to an unknown reviewer for their insightful comments on an earlier draft of this paper. The work reported here overlaps to a large extent work performed for the Office of Budgeting, Planning, and Evaluation, U.S. Office of Education, under contract OEC-0-73-1409.

nature or may lead to transfer to other institutions of higher education.

Because of the failure to make such distinctions, past research has often produced findings contradictory in character and/or misleading in implication. Failure to distinguish academic failure from voluntary withdrawal, for instance, has very frequently led to seemingly contradictory findings that indicate ability to be inversely related to dropout, unrelated to dropout, and directly related to dropout. In other cases, failure to separate permanent dropout from temporary and/or transfer behaviors has often led institutional and state planners to overestimate substantially the extent of dropout from higher education.

In both cases, the failure to define dropout adequately can have significant impact upon questions of policy in higher education. From the institutional perspective, administrators may be unable to identify target populations requiring specific forms of assistance. From the wider perspective of the state, planners may not be able to provide for flexible admission and transfer procedures that permit individuals to find a niche in some part of the higher educational system more easily.

Research on dropout from higher education has also been marked by inadequate conceptualization of the dropout process. This is particularly noticeable in the lack of attention given to the development of those types of longitudinal models that would lead to an understanding of the processes of interaction, which bring, over time, differing individuals within the institution to varying levels of persistence and/or to varying forms of dropout behavior. With the exception of a few studies, notably those by Spady (1970, 1971) and Rootman (1972), most studies of dropout have been limited to descriptive statements of how various individual and/or institutional characteristics relate to dropout. But knowing, for instance, to what degree an individual's measured ability and social status relate to the probability of his leaving college does not mean knowing how these attributes affect the process of dropping out from college. Whereas the former requires little more than a simple comparison of the rates of dropout among individuals of differing ability and social status characteristics, the latter requires the development of a theoretical longitudinal model that links various individual and institutional characteristics to the process of dropping out from college.

This paper attempts to formulate a theoretical model that explains the processes of interaction between the individual and the institution that lead differing individuals to drop out from institutions of higher education, and that also distinguishes between those processes that result in definably different forms of dropout behavior. With this institutionally-oriented model as referent, recent research in the field is reviewed and synthesized

to gain new insights into the social process of dropout from higher education. Finally, the areas that require further attention in future research on dropout are pinpointed.

*Dropout as Process: A Theoretical Model of  
Dropout Behavior*

The theoretical model to be developed in the following sections has its roots in Durkheim's theory of suicide as it is currently modified by work in social psychology regarding individual suicide. The model also takes, from the field of economics of education, notions concerning the cost-benefit analysis of individual decisions regarding investment in alternative educational activities. In each instance, these different conceptual frameworks are applied to a model of dropout that seeks to explain dropout from institutions of higher education, not one that seeks to explain dropout in the system of higher educational institutions. It is, then, an institutional rather than a systems model of dropout.

*Durkheim's Theory of Suicide As Applied to Dropout*

According to Durkheim (1961), suicide is more likely to occur when individuals are insufficiently integrated into the fabric of society. Specifically, the likelihood of suicide in society increases when two types of integration are lacking—namely, insufficient moral (value) integration and insufficient collective affiliation.<sup>1</sup> Largely the result of prevailing social conditions, these forms of malintegration are seen, in the former instance, as the outcome of one's holding values highly divergent from those of the social collectivity, and, in the latter instance, as the result of insufficient personal interaction with other members of the collectivity.

When one views the college as a social system with its own value and social structures, one can treat dropout from that social system in a manner analogous to that of suicide in the wider society (Spady, 1970).<sup>2</sup> One can reasonably expect, then, that social conditions affecting dropout from the social system of the college would resemble those resulting in suicide in the wider society;

---

<sup>1</sup> Durkheim referred to this type of suicide as egoistic suicide. Other types of suicide, classified as altruistic and anomic, were viewed, in the former instance, as the result of value orientations which give special meaning to suicide (e.g., as exemplified in certain religious sects), and in the latter instance, as the outcome of insufficient regulation of the individual by society during time of significant social upheaval.

<sup>2</sup> Credit must be given to William Spady (1970) for having first applied Durkheim's theory of suicide to dropout. The current work takes its impetus from that earlier work and builds upon it in ways which lead to a predictive rather than descriptive theory of dropout behavior.

namely, insufficient interactions with others in the college and insufficient congruency with the prevailing value patterns of the college collectivity. Presumably, lack of integration into the social system of the college will lead to low commitment to that social system and will increase the probability that individuals will decide to leave college and pursue alternative activities.

But, as colleges are made up of both social and academic systems, it is important to distinguish between normative and structural integration in the academic domain of the college from that in the social domain of the college. This is necessary, Spady (1970, p.78) points out, because of the direct relationship between a person's participation in the academic domain of the college and his future occupational attainment (e.g., as reflected in academic attainments and occupational role socialization). It is also necessary because withdrawal from college can arise either from voluntary withdrawal (like suicide) or from forced withdrawal (dismissal), which arises primarily, though not necessarily, from insufficient levels of academic performance (poor grades) and/or from the breaking of established rules concerning proper social and academic behavior (e.g., student strikes, stealing exams, etc.).

Distinguishing between the academic and social domains of the college further suggests that a person may be able to achieve integration in one area without doing so in the other. Thus, a person can conceivably be integrated into the social sphere of the college and still drop out because of insufficient integration into the academic domain of the college (e.g., through poor grade performance). Conversely, a person may perform adequately in the academic domain and still drop out because of insufficient integration into the social life of the institution (e.g., through voluntary withdrawal). Nevertheless, one would expect a reciprocal functional relationship between the two modes of integration such that excessive emphasis on integration in one domain would, at some point, detract from one's integration into the other domain. Too much time given to social activities at the expense of academic studies springs to mind as one example of such a relationship.

### *Toward a Predictive Theory of Dropout*

The application of Durkheim's theory of suicide to the phenomenon of dropout does not, in itself, yield a theory of dropout that helps explain how varying individuals come to adopt various forms of dropout behavior. Rather, it is a descriptive model that specifies the conditions under which varying types of dropout occur. With specific reference to Durkheim's treatment of suicide, it is now clear that his largely structural argument was insufficient to explain the distribution of suicide within society among differ-

ing individuals. Among the set of additional factors needed to account for such intra-societal variations are those pertaining to individual characteristics, especially those psychological attributes that predispose certain individuals toward suicidal responses. In this respect, traditional measures of social status, though helpful, are inadequate proxies for the psychological dispositions of individuals that are relevant to the question of suicide.

In a similar manner, if one wishes to develop a theoretical model of dropout from college, one which seeks to explain the longitudinal process of interactions that lead differing persons to varying forms of persistence and/or dropout behavior, one must build into the model sets of individual characteristics and dispositions relevant to educational persistence. To do this, it is suggested here that one must include not only background characteristics of individuals (such as those measured by social status, high school experiences, community of residence, etc., and individual attributes such as sex, ability, race, and ethnicity) but also expectational and motivational attributes of individuals (such as those measured by career and educational expectations and levels of motivation for academic achievement). With specific reference to dropout from higher education, one would need to know the individuals' educational expectations and their institutional manifestations, if any.

With regard to educational expectations, a model of dropout would have to include information on both the level of expectation (e.g., two- or four-year degree) and the intensity with which the expectation is held. Referred to here as an individual's educational goal commitment, it is an important input variable in the model of dropout because it helps specify the psychological orientations the individual brings with him into the college setting—orientations that are important predictors of the manner in which individuals interact in the college environment. Other things being equal, one would anticipate goal commitment to be directly related to persistence in college. Persons who expect to complete a doctoral program, for instance, would be viewed as more likely to complete a four-year degree program than would other persons whose expectations stop at the college level. And, of individuals with similar levels of educational expectations, one would expect those who are most committed to the expected goal to be more likely to complete college than other persons less committed to that goal.

One would also need to know whether the person's educational expectations involved any specific institutional components which predispose him toward attending one institution (or type of institution) rather than another. Such information, referred to here as an individual's institutional commitment, permits the inclusion in the model of data specifying the dispositional, finan-

cial, and time commitments individuals make in attending a particular institution (or type of institution). These commitments are often substantial (e.g., attending law school or a prestigious private university attended by members of one's family) and are frequently important factors influencing a person's persistence in college and/or decisions to transfer to alternative institutions. For a number of persons, attendance at a specific institution (or type of institution) may be an integral part of long-range career plans which dictate against transfer to other institutions. For others, especially those from families with limited financial resources, attendance at a private institution of higher education may entail significant financial commitments that induce the individual to persist until completion or until forced to leave because of academic failure. In this sense, one would expect permanent dropout rates at private universities to be smaller than those at public institutions if only because of the greater financial commitment persons make in attending private institutions.

### *A Longitudinal Model of Dropout*

Until now, we have focused our attention upon the specification of the conditions under which dropout occurs (e.g., academic and social malintegration) and upon the delineation of the individual characteristics, especially those involving educational and institutional commitments that are needed to account for the variation of differing types of dropout behavior among differing individuals. We now turn to the specification of the longitudinal process of interactions by which differing individuals come to dropout from higher education.

In brief, this theoretical model of dropout, diagrammed in Figure 1, argues that the process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person's experiences in those systems (as measured by his normative and structural integration) continually modify his goal and institutional commitments in ways which lead to persistence and/or to varying forms of dropout.<sup>3</sup>

Individuals enter institutions of higher education with a variety of attributes (e.g., sex, race, ability), precollege experiences (e.g., grade-point averages, academic and social attainments), and family backgrounds (e.g., social status attributes, value climates, expectational climates), each of which has direct and indirect impacts upon performance in college. More importantly, these back-

---

<sup>3</sup> Though the lines joining the various elements of the model are not to be taken to represent paths of a path model, it is suggested that path analysis utilizing longitudinal data would indeed be an appropriate technique to study dropout behavior.



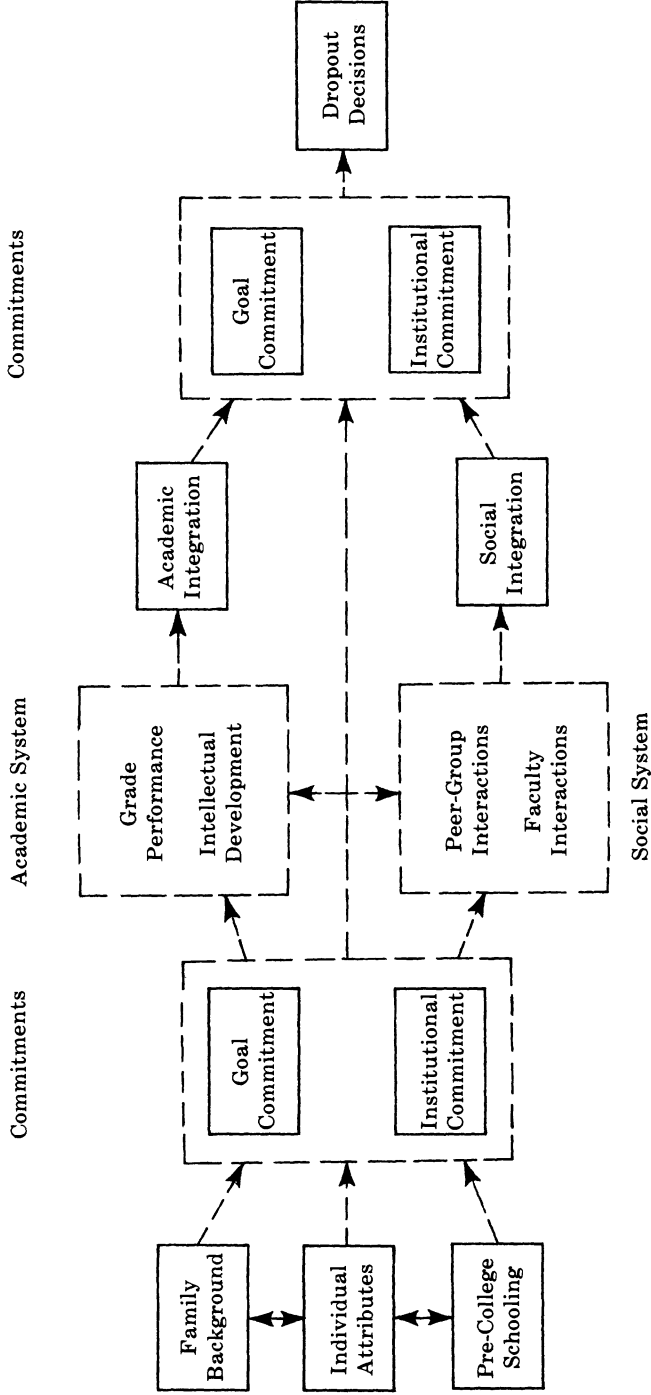


Figure 1  
A conceptual Schema for Dropout from College



ground characteristics and individual attributes also influence the development of the educational expectations and commitments the individual brings with him into the college environment. It is these goal and institutional commitments that are both important predictors of and reflections of the person's experiences, his disappointments and satisfactions, in that collegiate environment.

Given individual characteristics, prior experiences, and commitments, the model argues that it is the individual's integration into the academic and social systems of the college that most directly relates to his continuance in that college. Given prior levels of goal and institutional commitment, it is the person's normative and structural integration into the academic and social systems that lead to new levels of commitment. Other things being equal, the higher the degree of integration of the individual into the college systems, the greater will be his commitment to the specific institution and to the goal of college completion.

In the final analysis, it is the interplay between the individual's commitment to the goal of college completion and his commitment to the institution that determines whether or not the individual decides to drop out from college and the forms of dropout behavior the individual adopts. Presumably, either low goal commitment or low institutional commitment can lead to dropout. Given prior commitment to the goal of college completion, the lower an individual's commitment to the institution, the more likely he is to drop out from that institution. Whether or not he transfers to another institution or simply leaves higher education altogether depends both upon the varying levels of the person's goal and institutional commitments and upon the level of the institution at which the person is registered. Sufficiently high commitment to the goal of college completion, even with minimal levels of academic and/or social integration and therefore minimal institutional commitment, might not lead to dropout from the institution. In this case, the individual might decide to "stick it out" until completion of the degree program or until he is forced to leave because of insufficient levels of academic performance. The person may also decide, in this instance, to transfer to another institution. Depending on a variety of factors, especially those pertaining to the manner in which attendance at a particular institution (or type of institution) fits into the person's career plans, the person may transfer to an institution of comparable type or level as a means of achieving his educational goal expectations.

Given levels of institutional commitment, the lower the individual's commitment to the goal of college completion, the more likely is he to drop out from college. Largely the result of the person's experience in the academic domain, the person may

reevaluate his educational expectations and decide to withdraw voluntarily from the institution. This may occur despite his having been socially integrated into the institution. The notion of self-selection applies here as one dimension of the process of voluntary withdrawal. Burton Clark's (1960) discussion of the "cooling-out" process in higher education may be another. Sufficiently high levels of institutional commitment may, however, lead individuals to remain in college even though they are little committed to the goal of college completion. The phenomenon of "getting by" is often the result.

The interplay between varying levels of goal and institutional commitment and the characteristics of the institution (e.g., level, quality, and size) may also be utilized to explain the occurrence of differing patterns of transfer between institutions of higher education. Low to moderate levels of institutional commitment may lead to transfer behavior when educational expectations are substantially altered. Where expectations have diminished, downward transfer may be likely when such transfers are possible (e.g., from four-year to two-year institutions). Where expectations have been enhanced as a result of one's experience in college, upward transfer may be the outcome.

### *External Impacts Upon Dropout*

All this is not to say, however, that individual decisions to leave institutions of higher education are unaffected by events external to the college. Very frequently, events in the social system external to the college can affect integration within the more limited social and academic systems of the college. But, though it is recognized that a person may withdraw from college for reasons that have little to do with his interaction within the college systems, it is suggested that those impacts will be best observed through the person's changing evaluations of his commitments to the goal of college completion and to the institution in which he is registered.

As specified in the theory of cost-benefit analysis, individual decisions with regard to any form of activity can be analyzed in terms of the perceived costs and benefits of that activity relative to those perceived in alternative activities. Given the notion that costs and benefits are of both direct and indirect types and include social as well as economic factors, this theory states that individuals will direct their energies toward that activity that is perceived to maximize the ratio of benefits to costs over a given time perspective. With regard to staying in college, this perspective argues that a person will tend to withdraw from college when he perceives that an alternative form of investment of time, energies,

and resources will yield greater benefits, relative to costs, over time than will staying in college.

The model of dropout presented here takes this perspective as given and suggests that such evaluations will be reflected in the person's changing commitments to the goal of college completion and to the institution in which he is registered. This is so because these commitments, which reflect the person's integration into the academic and social domains of the institution, are themselves the result of the person's perception of the benefits (e.g., academic attainments, personal satisfactions, friendships) and the costs (e.g., financial, time, dissatisfactions, academic failures) of his attendance at college.

The theoretical model suggested here, thus, takes account of the variety of external forces that may affect a person's decision to stay in college. For instance, it permits one to include the effects of changing supply and demand in the job market on rates of dropout, while also taking account of the existence of restrictions (e.g., through discrimination) that may limit the ability of individuals to invest in alternative forms of activity perceived as being potentially more rewarding. With regard to the former, a reduction in the supply of available jobs may lead individuals to perceive a decreased likelihood that energies invested at present in college will yield acceptable returns in the future. That being the case, individuals may decide to drop out from college (voluntary withdrawal) in order to invest their time and energies in alternative forms of activity even though their experience in college may have been, to that point, entirely satisfactory. Conversely, the model also accepts the fact that persons may stay in college because of restrictions on their pursuit of alternative activities. Easing of restrictions may then lead to noticeable changes in rates of dropout even though there are no noticeable changes in the quantity and quality of individual interactions within the college environment. The recent upsurge in the movement of more able blacks from black colleges to largely white institutions of higher education appears to be similar to the increased rates of dropout following the repeal of the draft law.

Finally, the model of dropout proposed here accepts, as central to the process, the notion that perceptions of reality have real effects on the observer, and, for a variety of reasons, persons of varying characteristics may hold differing perceptions of apparently similar situations. In both integration into the academic and social systems of the college and in the evaluation of the costs and benefits of that and alternative forms of activity, it is the perceptions of the individual that are important. Since perceptions are, in turn, influenced by both the characteristics of the individual and of his college environment, it is clear that this model must also take account of these attributes in a manner that

allows for the simultaneous interaction between the individual and the institution.

### *Dropout as Process: Synthesis of Recent Research*

In terms of the basic elements of the theoretical model, the synthesis of the recent research on dropout from college examines first those characteristics of individuals that appear to be related to their persistence in college, then the characteristics associated with individuals' interaction within the college setting, and finally the characteristics of institutions of higher education that have also been associated with dropout from college.

The synthesis attempts not only to fill in, with research findings, the various relational elements in the longitudinal model of the dropout process but also to develop suggestions for further research on dropout from higher education. It should be noted beforehand that, despite the very large volume of recent studies on dropout, there have been but a few multivariate analyses that permit the reviewer to isolate the independent effects of various factors on college dropout. Most often, in studies on dropout, input and process variables have been mixed in ways that do not permit the determination of the independent contribution of each to dropout from college. This being the case, the following synthesis of recent research contains, in a number of instances, interpretations by the reviewer of the implications of various studies on the process of dropout even when those implications are not immediately derivable from the studies themselves.

### *Individual Characteristics and College Dropout*

Of those characteristics of individuals shown to be related to dropout, the more important pertain to the characteristics of his family, the characteristics of the individual himself, his educational experiences prior to college entry, and his expectations concerning future educational attainments.

*Family Background.* As has been true in other areas of educational performance, the likelihood of an individual's dropping out from college has been shown to be related to the characteristics of the family. Put in general terms, the family's socioeconomic status appears to be inversely related to dropout (Astin, 1964; Eckland, 1964b; Lembesis, 1965; McMannon, 1965; Panos & Astin, 1968; Sewell & Shah, 1967; Wegner, 1967; Wolford, 1964). Specifically, children from lower status families exhibit higher rates of dropout than do children of higher status families even when intelligence has been taken into account (Sewell & Shah, 1967).

Such general findings with regard to family, and therefore student social status, pertain as well to the numerous, more specific findings that cite particular family attributes as being

related to the child's persistence in college. To summarize these findings, it appears that college persisters are more likely to come from families whose parents are more educated (Chase, 1970; Cope, Note 1; Cope & Hewitt, Note 2; Fenstemacher, Note 3; Jaffe & Adams, 1970; Spady, 1971), are more urbane (Gurin, Newcomb, & Cope, 1968; Iffert, 1958), and are more affluent (Eckland, 1964a; Iffert, 1958; Van Alstyne, Note 4). In this latter aspect, Astin (1972) suggested that family income alone is becoming increasingly less a determinant of college persistence. As will be discussed in a following section, this may be attributed, among other things, to the fact that an increasing number of dropouts are voluntary withdrawals.

Additional research has indicated that other factors associated with family background are also important to the child's educational attainment and performance in college. The most important of these factors are the quality of relationships within the family and the interest and expectations parents have for their children's education. With regard to the former, college persisters tend to come from families whose parents tend to enjoy more open, democratic, supportive, and less conflicting relationships with their children (Congdon, 1964; Merrill, 1964; Trent & Ruyle, 1965; Weigand, 1957). With regard to the latter, college persisters seem not only to get more parental advice, praise, and expressed interest in their college experience (Trent & Ruyle, 1965), but they also have parents who express greater expectations for their children's further education (Hackman & Dysinger, 1970). In this respect, it appears that parental levels of expectations may have as much influence upon the child's persistence in college as the child's own expectations for himself (Hackman & Dysinger, 1970). Suggested here is the notion that patterns of intergenerational mobility may be built upon the passing on of family expectations to their children.

*Individual Characteristics.* But, as important as the family is in determining the child's educational performance, at the college level it is quite clear that the child's own ability is even more important (Sewell & Shah, 1967; Wegner & Sewell, 1970; Wegner, 1967). Sewell and Shah (1967), for instance, found that measured ability was nearly twice as important in accounting for dropout as was the social status of the family. Although measured ability is undoubtedly related to persistence in college, most research on dropout has focused on ability as demonstrated through grade performance in high school and has shown that it, too, is related to persistence in college (Blanchfield, 1971; Chase, 1970; Coker, 1968; Jaffe & Adams, 1970; Lavin, 1965; Lawhorn, 1971; Panos & Astin, 1968; Smith, 1971; Taylor & Hanson, 1970). Measures of ability, as obtained on a standardized test and as demonstrated in high school grade performance, are, however, measures of different

aspects of individual competence. Of the two, past grade performance tends to be the better predictor of success in college if only because it corresponds more closely to the individual's ability to achieve within an educational setting with social and academic requirements not too different from that of the college (Astin, 1972).

Ability, however measured, is but one of a number of individual characteristics found to be associated with college persistence. Though not of the importance of ability, significant personality and attitudinal differences have been noted between college persisters and college dropouts (Pervin, Reik, & Dalrymple, 1966).<sup>4</sup> Vaughan (1968) suggested that dropouts tend to be more impulsive than persisters, lacking in any deep emotional commitment to education and unable to profit as much from their past experiences. This lack of flexibility in dealing with changing circumstances is also cited by E. S. Jones (1955) and Lavin (1965) as characteristics of college dropouts. Such persons also seem to be more unstable, more anxious, and overly active and restless relative to their successful college counterparts (Grace, 1957; Grande & Simmons, 1967; Vaughan, 1968). In all, research suggests that personality characteristics of dropouts are such as to make more difficult the level of achievement required in the college setting (Weiner & Potepan, 1970).

Vaughan (1968) correctly pointed out, however, the need to distinguish carefully between dropouts who are academic failures and those who are voluntary withdrawals. In this respect, college withdrawals tend to manifest greater oversensitivity and egotism than any other group, factors which, in this model, seem to relate more to social integration than to academic integration. On other measures of personality, however, voluntary withdrawals tend to be more like persisters than do academic dismissals.

Sex of the individual also appears to be related to college persistence with a higher proportion of men finishing college degree programs than women (Astin, 1972; Cope, 1971; Fenstermacher, Note 3; Spady, 1970), but of those who drop out, a greater proportion of women tend to be voluntary withdrawals than academic dismissals (Lembesis, 1965; Robinson, 1967; Spady, 1971). In addition to questions of institutional biases, it is probably true that men are more likely to perceive educational attainment as being directly related to their occupational careers and feel the need to persist in college as an economic necessity. One would expect, however, that social status considerations would partially mediate the relationship between patterns of dropout and sex,

---

<sup>4</sup> In this respect, it is necessary to point out the existence of a substantial amount of research directed toward the effect of an individual's mental health upon both performance and persistence in college. For example see Farnsworth (1957), Pervin et al. (1966), Suczek and Alfert (1966), and Wedge (1958).



such that the perceived need to complete college, as an integral part of the process of occupational attainment, would be less strongly felt by persons of highest social status backgrounds.

*Past Educational Experiences.* Although past educational experiences have not been explicitly referred to as being directly related to college dropout, it is clear that performance in high school, as measured either by grade-point average or rank in class, has been shown to be an important predictor of future college performance (Astin, 1971). Moreover, since it is also clear that the characteristics of the high school, such as its facilities and academic staff, are important factors in the individual's achievement (Dyer, 1968), it follows that they would also affect the individual's performance and therefore persistence in college.

From the perspective suggested here, the characteristics of the high school are also important because they directly and indirectly affect the individual's aspirations, expectations, and motivations for college education (Nelson, 1972). As suggested first by Davis (1966) and later by Nelson (1972) and St. John (1971), the ability level of students in the school and the social status composition of the school affect not only the individual's perception of his own ability, but also his expectations for future college education; in this sense, they affect his commitment to the goal of college completion.

*Goal Commitment.* As suggested by a number of researchers, once the individual's ability is taken into account, it is his commitment to the goal of college completion that is most influential in determining college persistence. Whether measured in terms of educational plans, educational expectations, or career expectations, the higher the level of plans, the more likely is the individual to remain in college (Astin, 1964; Bucklin & Bucklin, 1970; Coker, 1968; Krebs, 1971; Medsker & Trent, 1968; Sewell & Shah, 1967; Spaeth, 1970; Weigel, Note 5; Weigand, 1953; White, 1971). Sewell and Shah (1967), for instance, found that level of educational plans held by the individual was by far the strongest independent influence upon college completion, once family social status and ability were taken into account. In a somewhat similar vein, Spaeth (1970) demonstrated that the individual's expectation for his future occupational status was, after ability, the single most important independent predictor of actual attainment.

More pertinent to the theoretical model developed here is a direct relationship, indicated by several studies, between the level of an individual's commitment to the goal of college completion and persistence in college (Hackman & Dysinger, 1970; Marks, 1967; Medsker & Trent, 1968; Spady, 1970).<sup>5</sup> Hackman and

<sup>5</sup> Such findings appear to be related to studies in other areas which suggest a relationship between motivation (Demos, 1968; Nicholson, 1973; Pervin et al., 1966; Smith, 1971), need-achievement (Heilbrun, 1962; Stone, 1965), and perfor-



Dysinger (1970), for example, found that it was possible to distinguish between four groups of college students—persisters, transfers, voluntary withdrawals, and academic dismissals—in terms of their level of commitment to the goal of college completion. Relating this to the difference between male and female dropouts, Gurin et al. (1968) noted that female dropouts tend to have lower levels of goal commitment relative to persisters than do male dropouts. Since voluntary withdrawal tends to be more common among female dropouts than among male dropouts, it is again implied that goal commitment is related to dropout in a manner which distinguishes voluntary withdrawal from academic dismissal.

It should be noted, in this context, that goal commitment is placed after family background and prior educational experiences in the longitudinal model diagrammed in Figure 1. In so doing, it is suggested that one's commitments are themselves a reflection of a multidimensional process of interactions between the individual, his family, and his prior experiences in schooling (Sewell & Shah, 1968; Williams, 1972). More importantly, the impact of these background factors upon college persistence, especially that of the family, is largely mediated through their impact upon the development of an individual's educational and institutional commitments. Thus, one can argue that families pass on the "advantages" of their social position to their children in large measure through the process of expectational development—a process that leads children of higher status backgrounds to expect more of themselves, other things being equal, than do children from lower status backgrounds.

### *Interaction Within the College Environment*

Persistence in college is, however, not simply the outcome of individual characteristics, prior experiences, or prior commitments. As developed here, one must view dropout from college as the outcome of a longitudinal process of interactions between the individual and the institution (peers, faculty, administration, etc.) in which he is registered. Assuming unchanging external conditions, dropout is taken to be the result of the individual's experiences in the academic and social systems of the college. These experiences lead to varying levels of normative and structural integration in those collegiate systems and to the reevaluation and modification, if need be, of commitments to the goal of college completion and to the institution. Given the perceived returns to

---

mance in college. Other discussions of motivation (Foote, 1951; Cullen, 1973) also suggest that, when an individual has an identification of himself as a future college graduate, he will, in fact, be more motivated to complete the college degree program.

alternative activities, changes in these commitments are seen as leading, in varying ways, to persistence or to differing forms of dropout behavior. Thus, in the model of dropout diagrammed in Figure 1, educational and institutional commitments are placed both at the beginning and the end of the model, and become both input and process variables that provide the dynamic component of an individual's progression through the educational system.

*Academic Integration: Its Varying Forms.* With respect to the academic system of the college, it is argued here that an individual's integration can be measured in terms of both his grade performance and his intellectual development during the college years. Although both contain structural and normative components, the former relates more directly to the meeting of certain explicit standards of the academic system, and the latter pertains more to the individual's identification with the norms of the academic system. As pointed out by Spady (1970), grades tend to be the most visible form of reward in the academic system of the college. They represent, in this respect, an extrinsic form of reward of the person's participation in the college—one that can be utilized by persons as tangible resources for future educational and career mobility. Intellectual development, on the other hand, represents a more intrinsic form of reward that can be viewed as an integral part of the person's personal and academic development. Whereas intellectual development can be seen as the individual's evaluation of the academic system, grade performance reflects, in part, the notion that the student is also being evaluated and judged by that system—an evaluation of the student's attributes and achievements in relation to the system's values and objectives. Grade performance becomes, then, both a reflection of the person's ability and of the institution's preferences for particular styles of academic behavior.

With respect to grade performance, many studies have shown it to be the single most important factor in predicting persistence in college (Ammons, 1971; Astin, 1972; Blanchfield, 1971; Coker, 1968; Greive, 1970; Jaffe & Adams, 1970; Kamens, 1971; Mock & Yonge, 1969). It is, however, important to distinguish between dropouts who are academic dismissals and those who are voluntary withdrawals because the latter often score higher on various measures of ability and/or grade performance than do college persisters, whereas the former generally score lower than persisters (Coker, 1968; Hackman & Dysinger, 1970; Hanson & Taylor, 1970; Rossman & Kirk, Note 6; Sexton, 1965; Vaughan, 1968).<sup>6</sup>

---

<sup>6</sup> Since grades also reflect the institution's evaluation of the student, it is not surprising to find that some academic dismissals are also more able than the average persister. Here the question of ability styles, academic evaluations, and grade performance comes into play.

Hackman and Dysinger (1970), for instance, were able to distinguish between persisters, transfers, voluntary withdrawals, and academic dismissals in terms of the interaction between an individual's level of commitment to the goal of college completion and his level of academic performance (as measured by grade-point average). They distinguished several forms of behavior: (a) Students with solid academic competence but moderately low commitment to college completion tended to withdraw voluntarily from college, often to transfer to another institution or reenroll at the same institution at a later date (i.e., stopout). (b) Students with poor academic qualifications but moderately high commitment tended to persist in college till completion or until forced to withdraw for academic reasons (i.e., academic dismissal). (c) Students with both low commitment to college completion and moderately low academic competence tended to withdraw from college and not transfer to another institution or reenroll at a later date (i.e., permanent dropout).

When sex is taken into account, it is relatively clear that grade performance tends to be more important for male students than for female students (Coker, 1968; Spady, 1971). This is especially true during the first year of college when most academic dismissal among males occurs. But, as noted earlier, males who drop out are more often academic dismissals than are females. Thus, it is difficult to determine whether grade performance is simply a proxy for this difference or whether it further distinguishes between males and females in specific categories of dropout behavior.

Intellectual development, as an integral part of the person's personality development and as a reflection of his intellectual integration into the academic system of the college, has also been found to be related to persistence in college (Bayer, 1968; Daniel, 1963; Faunce, 1966; Medsker & Trent, 1968; Rose & Elton, 1966; Sarnoff & Raphael, 1955; Spady, 1971). Medsker and Trent (1968), for instance, found that persisters, more than dropouts, are likely to value their college education as a process of gaining knowledge and of appreciating ideas than as a process of vocational development. For students at a very selective four-year college, Spady (1971) suggested that this may be more true of females than it is of males. Specifically, Spady found that intellectual development is more directly related to persistence among females than among males. It was suggested that males, more than females, would be more concerned about the extrinsic rewards of the academic system (grades) than about the intrinsic rewards (intellectual development) because of the pressure they feel for future occupational placement. Similar distinctions between the effect of intellectual development on the persistence of males and females were also noted by Gurin et al. (1968).

Summerskill (1962) further suggested that it is not simply the absence or presence of intellectual development that is important in persistence, but the degree of congruency between the intellectual development of the individual and the prevailing intellectual climate of the institution. Other studies (Dresser, 1971; Hanson & Taylor, 1970; Rootman, 1972; Rossman & Kirk, Note 6) suggested that this notion of congruence can be utilized to distinguish voluntary withdrawal from other forms of dropout behavior. Dresser (1971), for example, found that voluntary leavers of both sexes showed significantly higher intellectual interests, as well as academic aptitude, than did persisters. Similar results were recorded by Rossman and Kirk (Note 6) for students at a major West Coast university, but they suggested that a similar process may occur at two-year institutions or four-year institutions of lower quality and may lead to transfer to higher quality institutions rather than to simple dropout.

In this respect, Rootman (1972) argued that voluntary withdrawal can be viewed as an individual's response to the strain produced by the lack of "person-role" fit between himself and the normative climate of the institution that establishes certain roles as appropriate to the institution. Voluntary withdrawal then becomes a means of "coping" with the lack of congruency between the individual and his environment. With regard to integration in the academic system through intellectual development, it then follows that insufficient integration may arise from either insufficient intellectual development or insufficient congruency between the intellectual development of the individual and the normative climate of the academic system.

Within the academic system of the college then, dropout appears to be related both to academic grade performance and intellectual development, but in apparently different ways for males and females and for voluntary withdrawals and academic dismissals. Though grade performance and intellectual development appear as separate components of a person's integration into the academic system, it is clear, from the discussion of the evaluative aspects of grades, that persons with high grades are more likely to be high in measures of intellectual development, especially as specified by the notion of congruency with the prevailing intellectual climate of the college. And, finally, as noted above, the effect upon dropout of insufficient integration of the individual into the academic system of the institution must be viewed in terms of the individual's changing educational and institutional commitments. Both are presumably related in a direct manner to integration into the academic system of the college, the former more directly than the latter.

*Social Integration: Its Multiple Dimensions.* Given prior levels of goal and institutional commitment, individual decisions as to

persistence in college may also be affected by a person's integration into the social system of the college. Seen as the interaction between the individual with given sets of characteristics (backgrounds, values, commitments, etc.) and other persons of varying characteristics within the college, social integration, like academic integration, involves notions of both levels of integration and of degrees of congruency between the individual and his social environment. In this instance, social integration occurs primarily through informal peer group associations, semi-formal extracurricular activities, and interaction with faculty and administrative personnel within the college. Successful encounters in these areas result in varying degrees of social communication, friendship support, faculty support, and collective affiliation, each of which can be viewed as important social rewards that become part of the person's generalized evaluation of the costs and benefits of college attendance and that modify his educational and institutional commitments. Other things being equal, social integration should increase the likelihood that the person will remain in college.

With regard to integration in the collegiate social system composed of one's peers, Cope (Note 1), Cope and Hewitt (Note 2), Flacks (1963), and Jones (1962) found that social integration via friendship support is directly related to persistence in college. More to the concerns of the present discussion, Pervin et al. (1966), Rootman (1972), Scott (1971), and Spady (1971) found that it is individual perceptions of social integration that are most directly associated with persistence. Specifically, college dropouts perceive themselves as having less social interaction than do college persisters. Pervin, et al. (1966) and Rootman (1972) went one step further and suggested that it is the individual's perceptions of his "social fit" that are important in decisions of dropout. Spady (1971) noted, however, that once perceptions of social interaction (via friendship) are taken into account, perceptions of "social fit" are relatively unimportant in explaining dropout behavior. Even when the individual perceives himself as not being congruent with the prevailing social climate of the college (i.e., lack of "social fit"), sufficient friendship support can still lead to social integration. In this respect, Newcomb and Flacks (1964) observed that "social deviants" (i.e., persons who are deviant with respect to the prevailing normative and social climate of the college) are less likely to drop out if they are able to establish friendships with students similar to themselves.

Social integration, as it pertains to persistence in college, seems, then, not to imply absolute or even wide-ranging congruence with the prevailing social climate of the institution as much as it does the development, through friendship associations, of sufficient congruency with some part of the social system of the college—

thus, the notion of subcultures within colleges and their role in providing modes of social integration into the collegiate social system. In any event, it does seem true that students with more "conventional" values, attitudes, and interests are more likely to establish close relationships with a wider range of peers than are their less conventional counterparts within the college (Spady, 1970).

Absence of any such supportive groups or subcultures is, in turn, more often associated with voluntary withdrawal than it is with dismissal (Grande & Simmons, 1967; Hanson & Taylor, 1970; Rootman, 1972; Rose & Elton, 1966; Watley, 1965). Hanson and Taylor (1970), for instance, using multivariate discriminant analysis, found that academically successful students who withdraw from college score significantly lower on measures of social relationships than do either persisters or academic dismissals. Part of this difference between withdrawals and dismissals arises from the too often overlooked fact that dropout may arise from excessive social interaction as often as it does from lack of social interaction (Lavin, 1965; O'Shea, 1969; Phillips, 1966; Spady, 1971; Wallace, 1966). Specifically, excessive interaction in the social domain (e.g., dating) may, beyond a certain point, tend to detract from time spent on academic studies and therefore lead to lower academic performance and eventual academic dismissal. Voluntary withdrawal rarely occurs as a result of such excessive social interaction.<sup>7</sup>

Whether excessive social interaction leads to poor academic performance seems, however, to be a function of the types of persons with whom the interaction occurs. Lavin (1965) and Nasatir (Note 7) argue that some of the strain between the demands of the academic system and those of the social system of the college may be alleviated if friendship ties are established with persons having strong academic orientations. In this way academic and social system influences may coalesce, providing opportunities for both social interaction and mutual assistance. Conversely, Malloy (1954) suggested that the reverse may be true if the friendship ties are with persons who themselves are underachievers. In this respect, college fraternities are often thought to reduce members' academic performance not only because of the great deal of time taken up in social activities, but also because fraternity members are thought to be disinclined toward academic achievement.

---

<sup>7</sup> Results of studies on the effect of social integration upon males and females have shown little consistent difference between sexes (Brown, 1960; Newcomb & Flacks, 1964; Reed, 1968). Some evidence suggests, however, that the effect of insufficient social integration among males tends to be mediated through its effect upon grade performance, whereas among females its effect appears to occur through its influence upon intellectual development (Spady, 1971).



Given then, the importance of academic integration (especially grade performance) in persistence in college, social interaction with one's peers (through friendship associations) can both assist and detract from continuation in college. Insufficient social interaction seems to lead primarily to voluntary withdrawal, whereas excessive social interaction may, in some cases, lead to dropout if the group with whom one associates is itself disinclined toward academic achievement or if the intensity of interaction detracts from time spent on academic studies.

Social integration through extracurricular activities appears, however, to have no such deleterious effects upon academic performance or persistence in college. Studies by Bemis (1962), Chase (1970), Goble (1957), Spady (1971), Stone (1965), and Wolford (1964) found that participation in extracurricular activities, for both sexes, is directly related to college persistence. Presumably, participation in these semi-formal and formal institutional activities provides a major link to the social and academic systems of the college, and, as suggested above with regard to certain types of peer-group associations, may help reduce the strain between the demands of the two systems. More importantly, extracurricular activities may provide both social and academic rewards that heighten the person's commitment to the institution and therefore reduce the probability of his dropping out from college (Spady, 1971).

The social system of the college consists not only of other students but also of faculty and administrative personnel. Given the faculty's more intimate and direct association with the academic system of the institution, it is not surprising that a number of studies have found that social interaction with the college's faculty is related to persistence in college (Centra & Rock, 1971; Gamson, 1966; Gekoski & Schwartz, 1961; Spady, 1971; Vreeland & Bidwell, 1966).<sup>8</sup> Spady (1971) suggested that these findings arise from the fact that interaction with the faculty not only increases social integration and therefore institutional commitment but also increases the individual's academic integration. Although he argued that this should occur mainly through the person's intellectual development, it is also likely that grade performance would be enhanced by significant student-faculty interactions. Grades, as institutional and faculty modes of evaluation of students, are not totally objective measures of ability and are not randomly distributed among differing persons of supposedly similar ability in institutional settings. In this respect, the quantity and quality of student-faculty interactions are not

---

<sup>8</sup> As in the case of student-student interaction patterns, it is necessary to include the notion of faculty subcultures in the college, subcultures which may provide significant faculty support for a range of students not possible in a more homogeneous faculty setting.



independent either of the characteristics of the people involved in the interaction or of the styles of teaching utilized by faculty in classroom situations (Wilson, Wood, & Gaff, 1974).

The outcomes of such interactions also seem to vary with sex and with the academic area in which those interactions occur. Given the greater importance of intellectual development for female persistence, it follows that interaction with the faculty, in certain cases, may be more important for females than for males (Spady, 1971). Both Gamson (1966) and Vreeland and Bidwell (1966) argued, however, that such considerations must be made dependent upon the academic situation in which interactions occur. Student interaction with faculty appear to be more important in the student's major area than it is in other areas not only because of the former's proximity to the interests of the student but also because of its potential impact upon the student's future occupational mobility. Again, a differential impact upon males and females is suggested, in this instance one which implies that student-faculty interactions in the major area may be more important for males than for females.

*Social Integration and Institutional Commitment.* Of the various forms of social interaction that occur within the social system of the college, peer-group associations appear to be most directly related to individual social integration, whereas extracurricular activities and faculty interactions appear to be of approximately equal secondary importance in developing commitment to the institution. At given levels of educational goal commitment, it is the individual's institutional commitment that most directly relates to variation in dropout behavior. Assuming high goal commitment, variations in the individual's commitment to the institution may spell the difference between transfer and persistence. Assuming low goal commitment, variations in institutional commitment may mean the difference between persistence in that institution and permanent dropout. In any event, as has been pointed out earlier, lack of institutional commitment is, in itself, insufficient to explain variations in dropout behaviors. Sufficiently high goal commitment may lead to persistence in the institution even when little commitment to the institution is present. The phenomenon of "sticking it out" may be just such a case.

Implied here is the notion that the relationship between academic and social integration and dropout, and, in turn, between goal and institutional commitment and dropout is asymmetrical in nature. As postulated by the model of dropout presented here, integration into the academic system of the college most directly affects goal commitment, whereas behaviors in the social system most directly relate to a person's institutional commitment. Though sufficiently high goal commitment may lead a

socially malintegrated person to persist in college, the reverse is not true to the same extent because of the limiting condition that requires the maintenance of minimum levels of academic performance. Though institutions of higher education are composed of both academic and social systems, they are, in varying degrees, institutions of academic achievement, which distribute rewards more according to academic excellence than according to social attainment.

### *Institutional Characteristics and Dropout*

Since dropout is the outcome of a multidimensional process involving the interaction between the individual and the institution, it is not surprising that the characteristics of the institution, even at the aggregate level, have also been shown to relate to differential rates of dropout. It is the characteristics of the institution—its resources, facilities, structural arrangements, and composition of its members—that place limits upon the development and integration of individuals within the institution and that lead to the development of academic and social climates, or “presses,” with which the individual must come to grips. On the one hand, this is true with regard to achievement within the academic system if only because institutions of different quality maintain different standards of academic achievement. On the other hand, this is also true with respect to the social system of the college since much dropout appears to result largely from a lack of congruence between the individual and the social climate of the institution rather than from any specific failure on the part of the individual.

Analysis of the effect of institutional characteristics upon dropout has not been, however, as extensive as that relating to individual characteristics. Unfortunately, much of the research that does exist is too simplistic to permit meaningful interpretation. Common to such research has been not only the failure to control for other institutional characteristics (i.e., other than those being studied) which may also affect dropout, but also the tendency to ignore the fact that differences in dropout rates between institutions results from the differences in the types of students admitted (i.e., student inputs). In any case, enough research does exist to permit us to make some rather general statements about the effect of certain large-scale characteristics of institutions upon persistence in college—specifically, institutional type, quality, student composition, and size.

*Institutional Type and Dropout.* With regard to type of institution, it is fairly clear that public institutions of higher education tend to have higher dropout rates than private institutions if only because much of the student selection process takes place before

entering private colleges, whereas the selection process within the public institutions normally takes place after entrance (Astin, 1972; Van Alstyne, Note 4).

It is also fairly clear that two-year colleges have higher dropout rates than do four-year colleges, even after student input characteristics have been taken into account (Astin, 1972; Bayer, 1973; Berls, 1969; Van Alstyne, Note 4). Astin (1972), for instance, found that, even though the higher rates of attrition at two-year colleges are primarily attributable to the lower level of motivation and academic ability of the entering students, the retention rates of two-year colleges are still somewhat lower than would be expected from the characteristics of their students alone. Some authors have concluded from this that it may well be the function of two-year colleges to screen-out, or cool-out, students from going on to senior college (Clark, 1960).

Since two-year institutions also tend to be institutions of the lower and lower-middle class, other authors have further suggested that two-year colleges may also function to screen out primarily lower status persons from going on to senior college and thereby act to reinforce inequality of opportunity within the educational system (Karabel, 1972; Spady, 1970; Tinto, 1971, Note 8). Despite some contrary findings, this appears to arise not only from the fact that these institutions serve largely lower status individuals, but also from the fact that dropout within these institutions is also a function of the individual's social status (Folger, Astin, & Bayer, 1970; Jaffe & Adams, 1970; Jencks, 1968; Leon, Note 9). The two major studies that tend to dispute this conclusion are, for example, subject to methodological problems that cast doubt upon their validity. On one hand, Astin's (1972) study of dropout ran into the problem of attempting to include as many as 134 independent variables in a regression equation based upon data of limited student representation (an average of 250 persons in each of 217 institutions). On the other hand, Van Alstyne's (Note 4) study of dropouts faced the problem of not having included measures of individual ability. Van Alstyne found, for example, that, among two-year college students, dropout rates are highest among persons from families with the higher income levels (the reverse being true within the four-year colleges). Given the nature of entrance requirements at two- and four-year colleges, it is likely that persons from high income families enrolled in the two-year colleges are of lower ability and motivational levels than are other students in these colleges from lower income backgrounds. That being the case, controls for ability would probably have eliminated or even reversed differences in dropout rates attributable to family income alone. Jaffe and Adams (1970), for example, used controls for both family background and individual ability, and observed that dropout

within both two- and four-year institutions was still a function of the individual's social status. They did note, however, that the effect of family status was less important within the two-year colleges than it was within the four-year institutions of higher education. Interestingly, they further noted that of income, occupational, and educational measures of family social status, family income was, in both colleges, the least related to dropout. As suggested elsewhere (Tinto & Cullen, 1973), family income may no longer be an adequate measure of differences in social status between families, and when used in studies of dropout, it may underestimate the extent to which dropout varies among individuals of different social status backgrounds.

*College Quality, Student Composition, and Dropout.* Since type of college is roughly correlated with quality of the college, it is not surprising that the quality of the college has also been found to influence persistence in college (Astin, 1971; Kamens, 1971; Rock, Centra, & Linn, 1970; Wegner, 1967; Wegner & Sewell, 1970). For the state of Wisconsin, Wegner (1967) and Wegner and Sewell (1970) found that higher quality institutions have higher rates of graduation than do lower quality institutions. Rock, Centra and Linn (1970), focusing upon specific components of college quality, found that institutions with a greater percentage of faculty with doctorates and/or institutions with higher income per student are also those institutions in which students appear to overachieve relative to what one would have expected from student characteristics alone. Since performance and dropout are directly related, one would assume that these same institutional characteristics are also related to differential rates of dropout.

The impact of college quality is, however, more complex than would be assumed from simple comparisons among institutions of differing quality. Simple comparisons tend to mask the fact that an important interaction exists between the quality of the institution, the composition of its students, and individual performance and, therefore, persistence in college. For the most part, these interactive effects can be summarized in terms of the "frog-pond" effect and the "social status" effect of educational institutions.

The "frog-pond" effect, a term first used by Davis (1966) and later applied to elementary schools by St. John (1971) and to high schools by Nelson (1972) and Meyer (1970), argues that a direct relationship exists between the ability level of the student body of an institution and the expectations individuals will hold for themselves. Specifically, the higher the average ability of the student body, the lower will be the grades of individuals of given ability relative to the grades of persons of similar ability in institutions with students of lower average ability. Since grades are, in turn, related both to one's expectations for future educational attainment and to the probability of dropping out, it follows

that the higher the ability level of one's peers, the lower will be one's expectations and the greater will be the probability of dropping out. From this perspective alone, one might then infer that higher quality institutions, which tend to have students of higher ability, might also have higher dropout rates than institutions of lower quality.

Although this appears to be true (Davis, 1966; Spady, 1970), there also appear to be countervailing forces that tend to reverse, on the aggregate level, the effect of college quality upon persistence; namely, the "social status" effect of educational institutions (Meyer, 1970; Nelson, 1972). In short, the "social status" effect argues that the higher the average social status composition of the institution, the higher will be the perceived value of that education by the individuals within that institution. Since higher quality institutions also tend to have student bodies that are higher in average social status, it follows, from the generalized theory of cost-benefit analysis discussed earlier, that rates of dropout would be lower at institutions of higher quality. Indeed, this is just the implication of the few studies that have looked at the "frog-pond" and "social status" effects simultaneously (Meyer, 1970; Nelson, 1972).

These findings and the findings from studies on the aggregate level have indicated that college quality and persistence are directly related, but it is by no means clear in which ways these countervailing forces interact to produce the aggregate effect and for which types of individuals the aggregate effect is positive. Specifically, since dropout is itself a function of varying individual characteristics, it may well be that, for certain types of students, dropout rates are higher in higher quality institutions.

The results of studies that have looked at the effect of college quality upon the persistence of students of different abilities and social status backgrounds have been somewhat mixed. A study by Wegner (1967), for instance, of retention rates among a sample of Wisconsin institutions of higher education found that lower-status individuals of either lower or higher ability levels are more likely to graduate at very low quality or very high quality institutions than they are at institutions of middle quality. For individuals of higher social status, graduation rates are lowest in the lower-middle quality institutions and highest in the upper-middle and higher quality institutions. Therefore, although it is true that graduation rates are highest for all types of students in the higher quality institutions, the reverse is not true. Especially for students of lower social status backgrounds, attendance at lowest quality institutions is associated with higher graduation rates than at somewhat higher quality institutions. It should be noted that with ability and social status controlled, students of higher social status are more likely to graduate at all types of institutions than are lower status students.



Wisconsin is not, however, a state that is representative of the national pattern of higher education. For a representative national sample, Kamens (1971) found that, at all levels of achievement, ability, and educational aspirations, students at higher quality institutions are more likely to graduate than are similar students at lower quality institutions. Similar results hold when family background is considered; that is, students of all social status categories are more likely to graduate at institutions of higher quality than they are at institutions of lower quality. And unlike the findings of Wegner's study for Wisconsin, Kamens found that the lowest quality institutions tend also to have the lowest graduation rates for all types of students. Of note is Kamens' finding that, "across quality contexts," grades become more important for the "survival" of students from low status families and less important for those students from business and professional families. Implied is the notion that the effect of quality upon individuals of different abilities and social status backgrounds may vary in terms of its effect upon different forms of dropout; namely, academic dismissal and voluntary withdrawal.

One might also expect quality (and institutional type) to be related to different patterns of dropout through its relationship to the differential value placed on academic versus social activities in differing institutions. Given the interplay, noted earlier, between academic and social integration and dropout, and, in turn between goal and institutional commitment and dropout, an asymmetrical relationship is suggested that implies that academic integration, and therefore goal commitment, is somewhat more important to persistence in college than is social integration and/or institutional commitment. Since quality of institution (and type of institution, e.g., two-year, four-year, university, graduate) is presumably related to the degree to which academic achievement is valued in the collegiate environment, one would expect academic integration to be increasingly more important for persistence, relative to social integration, the higher the quality of the institution. Though no research has been directed to this likelihood, data concerning the increased importance of ability (relative to social status) in influencing access to and completion of differing levels of education suggest that this may be the case.

*Institutional Size and Dropout.* Size of the institution (e.g., enrollment) also appears to be related to persistence, but again in a manner as yet unclear. Nelson (1966), for instance, found that smaller institutions have lower dropout rates than do larger ones, whereas Kamens (1971) found that larger institutions have lower dropout rates. Nelson (1966), however, simply categorized institutions as above or below a given size without controls for type or quality of the institution, and Kamens (1971) noted that, even

after the quality of the institution and the characteristics of the students are taken into account, larger institutions tend to have lower dropout rates than do smaller ones. Rock, Centra, and Linn (1970), though focusing upon achievement rather than dropout, took similar factors into account and obtain somewhat different results. Specifically, they find that, at higher levels of institutional income per student (i.e., higher quality institutions), smaller colleges have higher levels of achievement than do larger colleges even after student characteristics were taken into account. At low levels of institutional income per student, no relationship between size and achievement was noted. Since achievement and dropout are directly related, these findings suggest that very good, small colleges might be as effective in promoting students to the college degree as the larger, high quality institutions, but effective in different ways. The smaller institution, given its normally lower student-faculty ratio, may be able to enhance persistence through increased student-faculty interaction and, therefore, through its effect upon both grades and intellectual development. The larger institution, normally more heterogeneous in student composition, may enhance persistence through its ability to provide for a wider variety of student subcultures and, therefore, through its effect upon social integration into the institution.

Clearly much more remains to be known about the effects of institutional characteristics upon dropout among individuals of differing characteristics. What we do know is, at present, quite crude; namely, that four-year institutions, private institutions, and high quality institutions have lower dropout rates than do two-year institutions, public institutions, and lower quality institutions. How these differences come about or for which types of persons the differences are greater, smaller, or even reversed is, thus far, beyond our reach.

### *Dropout from Higher Education: Some Concluding Comments*

#### *Voluntary Withdrawal and Academic Dismissal*

In dealing with the effects of individual and institutional characteristics upon individual integration into the academic and social systems of the college, it is, as noted, important to distinguish between the varying types of dropout behaviors, especially between academic dismissal and voluntary withdrawal. This is so not only because these behaviors involve different persons but also because they result from different patterns of interaction within the college setting. Thus, although academic dismissal is most closely associated with grade performance, dropout in the



form of voluntary withdrawal is not. Such withdrawal, instead, appears to relate to the lack of congruency between the individual and both the intellectual climate of the institution and the social system composed of his peers. In this respect, voluntary withdrawals are most frequently found to be both "social isolates" and/or "deviants" regarding the intellectual norms of the institution. Larger institutions, by providing for a wider variety of student and faculty subcultures and, therefore, for a heightened probability for some degree of social and intellectual congruency and support, seem to reduce the rate of voluntary withdrawal among their students.

Academic dismissals, on the other hand, are often lacking in both intellectual and social development or are socially integrated to an extreme. That is, dismissals have often been found to be unable to meet the intellectual and social demands of the college or have been so integrated into the social system of the college that academic demands go unmet. In either instance, grade performance is the single strongest predictor of academic dismissal. Such persons tend to be the least able of the entering college cohort, whereas voluntary withdrawals generally show both higher grade performance and higher levels of intellectual development than do the average persisters. That this is so suggests that higher educational institutions, as presently structured, may be unwilling or unable to meet the needs of its most creative and challenging students. Whether this results from organizational constraints or from what some commentators argue to be the latent social functions of higher education remains to be seen.

*Goal Commitment, Institutional Commitment, and Dropout.* As suggested by Hackman and Dysinger (1970) and as argued here, the distinction between voluntary withdrawal and academic dismissal, as well as between permanent dropout and transfer, can be more effectively analyzed by taking account of the interplay between the individual's educational commitments (goal commitment) and his commitment to the institution in which he is registered.

It is the levels of goal and institutional commitment, in periods of stable market conditions, as they are affected and modified by the individual's experiences in the academic and social systems of the college, that determine his decision to remain in college. Given sufficiently low goal commitment, individuals tend to withdraw not so much because of poor grade performance as because of insufficient rewards gained in the social system of the college. As a result, low levels of commitment to the institution and to the goal of college completion distinguish the voluntary withdrawal from the person who is an academic dismissal.

That goal and institutional commitment are important parts of the dropout process is further suggested by the fact that, among

men, voluntary withdrawal becomes a decreasing proportion of the total yearly dropout as individuals approach college graduation (Sexton, 1965). Since voluntary withdrawal implies a decision on the part of the individual that the benefits of the degree and of persistence in the institution do not outweigh the costs of attendance, it can be argued that perceived benefits increase with increasing nearness to completion. In a real sense, past costs become an investment once those costs have been borne. As a result, the perceived ratio of benefits to costs, other things being equal, would tend to increase as one proceeds through college. Therefore, one would expect to find both goal and institutional commitment increasing as a function of nearness to the completion of the degree program and proportion of voluntary withdrawals decreasing.

For both dismissals and voluntary withdrawals, levels of goal and institutional commitment can also be utilized to distinguish between dropouts who transfer from those who leave the system of higher education altogether. Presumably, among dismissals, high goal commitment will lead to transfer to institutions having lower standards of academic performance (i.e., downward transfer). Among voluntary withdrawals, sufficiently high goal commitment may lead to transfer to institutions perceived to be more matched to the person's intellectual and/or social needs and wants (i.e., horizontal or upward transfer). In both instances, sufficiently low goal commitment will tend to lead to permanent dropout from the system of higher education.

*Social Status and Dropout.* Interestingly, although voluntary withdrawals tend to be somewhat more able and to exhibit higher levels of intellectual development than do persisters, they also tend to be of somewhat higher social status than the average persisters. Conversely, academic dismissals tend to exhibit both lower aptitude and levels of intellectual development and to be of somewhat lower social status. The average voluntary withdrawal tends, therefore, to come from higher social status backgrounds than does the average academic dismissal. Given the multiple relationships between academic and social integration, goal and institutional commitment, and varying forms of dropout behaviors, it can then be argued that the effect of coming from lower social status backgrounds upon persistence in college occurs not as much through goal commitment (since dismissals tend to have levels of goal commitment comparable to that of persisters) as it does through its impact upon academic performance. In this respect, given sufficient social interaction, programs designed to influence the academic performance of persons from lower social status backgrounds (backgrounds frequently of inferior schooling prior to college) seem to be aimed in the proper direction to

enhance their persistence in college. Whether this applies equally well to the various racial minorities that are disproportionately represented in the lower social status categories of college students remains, however, to be determined.

### *Suggestions for Future Research*

A large number of questions concerning dropout from higher education require further attention. Among these, it is suggested that future research look into the following areas of inquiry. First, there is simply too little information regarding the relationship between race and dropout from higher education. It is clear that race is an independent predictor of dropout (independent of both ability and social status), but it is unclear in which ways this aggregate relationship occurs. We simply do not know enough about the processes of interaction that lead individuals of different racial backgrounds to drop out from higher education. Nor do we know enough about how these processes relate to differing patterns of academic and social integration or how they vary between institutions of different academic and social characteristics.

Second, there is a need for additional research on the phenomenon of dropout from urban institutions of higher education. Given the fact that most students in such institutions do not live near the institution itself, it is unclear to what degree participation in social groups external to the college influence persistence in the institution. Nor is it clear how such social groups overlap and intersect with the social system composed of one's peers in the college environment. Whether social integration, as defined here, becomes irrelevant to the question of dropout from urban institutions remains undetermined.

Third, future research on dropout should further explore the question of student and faculty subcultures and persistence in college. This is true not only for questions of dropout per se but also for questions relating to internal transfers between different programs of study within the institution. Whether interaction with particular clusters of students and faculty leads to persistence seems to depend both upon the network of relationships tying those groups into the fabric of the institution and upon their relationship to the academic and social concerns of the individual. How these relationships work themselves out in the college setting is at the moment unclear. Equally unclear is how such patterns of association lead, over time, to various stages of disassociation—stages of integration that may lead in differing ways to voluntary withdrawal or academic dismissal.

And finally, it is suggested that future research should look at

the longitudinal process of dropout as reflected in longitudinal follow-up data rather than cross-sectional data. This requires the detailed following up of entering cohorts of individuals in various types of higher educational institutions. Though it is recommended that dropout studies be based upon separate institutional data files, it is hoped that the development of comparable longitudinal data files in differing institutions will lead to meaningful comparative analyses of institutional impacts upon dropout behaviors. In all such cases, it is suggested that future analyses will find the techniques of longitudinal path analysis a useful tool in studying the process of dropout from higher education. Given the categorical nature of dropout as a dependent variable (e.g., dropout or persistence), it is further suggested that such longitudinal regression analyses look to the utilization of logit analysis, arcsine transformations, and/or the disaggregation of regression equations according to selected categories of interest as a means of dealing with the problems of carrying out regression analysis when qualitative dependent variables are present. In any event, questions of methodology should always follow from decisions concerning conceptual frameworks. Since dropout studies have been so lacking in the latter respect, it is to the development of such conceptual frameworks that this paper has been written.

### *Reference Notes*

1. Cope, R. College press and dropouts. Paper presented at the meeting of the American Educational Research Association, Los Angeles, California, 1969.
2. Cope, R., & Hewitt, R. A typology of college student dropouts: An environmental approach. Paper presented at the meeting of the New England Educational Research Conference, Chestnut Hill, Massachusetts, 1969.
3. Fenstemacher, W. College dropouts: Theories and research findings. Unpublished manuscript, Office of the Chancellor, Minnesota State College System, 1973.
4. Van Alstyne, C. Attrition rates of college students. Unpublished manuscript, American Council on Education, Washington, D.C. 1973.
5. Weigel, M. A comparison of persisters and non-persisters in a junior college. Paper presented at the EPDA Institute of Advanced Study in Student Personnel Work in Junior Colleges and Technical Institutes, University of Missouri, 1970.
6. Rossman, J., & Kirk, B. Factors related to persistence and withdrawal among university students. Unpublished manuscript, University of California, Berkeley, 1968.
7. Nasatir, D. The interaction of antecedent and contextual factors in the prediction of academic failure. Paper presented at the meeting of the American Sociological Association, San Francisco, 1969.
8. Tinto, V. Public junior colleges and the substitution effect in higher education. Paper presented at the meeting of the American Educational Research Association, Chicago, Illinois, April, 1974.
9. Leon, D. An exploration of the dropout problem: Chicano students in a California university. Paper presented at the meeting of the American Sociological Association, New York, August, 1973.

### References

- Ammons, R. M. *Academic persistence of some students at St. Petersburg Junior College*. St. Petersburg: St. Petersburg Junior College, 1971. (ERIC Document Reproduction Service No. ED 063 929)
- Astin, A. Personal and environmental factors associated with college dropouts among high-aptitude students. *Journal of Educational Psychology*, 1964, 55, 219-227.
- Astin, A. *Predicting academic performance in college*. New York: Free Press, 1971.
- Astin, A. College dropouts: A national profile. *ACE Research Reports*, 7, Washington, D.C.: American Council on Education, 1972.
- Bayer, A. E. The college dropout: Factors affecting senior college completion. *Sociology of Education*, 1968, 41, 305-316.
- Bayer, A., Royer, J., & Webb, R. Four years after college. *ACE Research Reports*, 8, Washington, D.C.: American Council on Education, 1973. (ERIC Document Reproduction Service No. ED 077 329)
- Bemis, J. F. A study of undergraduate students who voluntarily withdrew from the University of Washington. Unpublished doctoral dissertation, University of Washington, 1962.
- Berls, R. Higher education opportunity and achievement in the United States. In Joint Economic Committee, *The economics and financing of higher education in the United States*, Washington, D.C.: Congress of the United States, 1969.
- Blanchfield, W. C. College dropout identification: A case study. *Journal of Experimental Education*, 1971, 40, 1-4.
- Brown, F. G. Identifying college dropouts with Minnesota counseling inventory. *Personnel and Guidance Journal*, 1960, 39, 280-282.
- Bucklin, R., & Bucklin, M. *The psychological characteristics of the college persister and leaver: A review*. Washington, D.C.: Office of Education Report, 1970, HE-002-154. (ERIC Document Reproduction Service No. ED 049 709)
- Centra, J., & Rock, D. College environments and student achievement. *American Educational Research Journal*, 1971, 8, 623-634.
- Chase, C. I. The college dropout: His high-school prologue. *Bulletin of the National Association of Secondary School Principals*, 1970, 54, 66-71.
- Clark, B. The 'cooling-out' function in higher education. *American Journal of Sociology*, 1960, 64, 569-576.
- Cohen, A., & Brawer, F. *Student characteristics: Personality and dropout propensity*. Washington: ERIC Clearinghouse for Junior Colleges and American Association of Junior Colleges, 1970.
- Coker, D. *Diversity of intellectual and non-intellectual characteristics between persisting students and non-persisting students among campuses*. Washington, D.C.: Office of Education Report, 1968, BR-6-2728. (ERIC Document Reproduction Service No. ED 033 645)
- Congdon, J. D. Personality factors and capacity to meet curriculum demands. *Personnel and Guidance Journal*, 1964, 42, 17-31.
- Cope, R. *An investigation of entrance characteristics related to types of college dropouts*. Washington, D.C.: Office of Education Reports, 1971, BR-0-1-068. (ERIC Document Reproduction Service No. ED 052 749)
- Cullen, J. B. Social identity and motivation. *Psychological Reports*, 1973, 33, 338.
- Daniel, K. L. B. A study of dropouts at the University of Alabama with respect to certain academic and personality variables. Unpublished doctoral dissertation, University of Alabama, 1963.
- Davis, J. A. The campus as a frog-pond. *American Journal of Sociology*, 1966, 72, 17-31.
- Demos, G. Analysis of college dropouts—some manifest and covert reasons. *Personnel and Guidance Journal*, 1968, 46, 681-684.
- Dresser, D. The relationship between personality needs, college expectations, environmental press, and undergraduate attrition in a university college of liberal arts. Unpublished doctoral dissertation, Syracuse University, 1971.

- Durkheim, E. *Suicide* (J. Spaulding & G. Simpson, trans). Glencoe: The Free Press, 1961.
- Dyer, H. School factors and equal educational opportunity. *Harvard Educational Review*, 1968, 37, 38-56.
- Eckland, B. College dropouts who come back. *Harvard Educational Review*, 1964, 34, 402-420.(a)
- Eckland, B. Social class and college graduation: Some misconceptions corrected. *American Journal of Sociology*, 1964, 70, 60-72.(b)
- Farnsworth, D. *Mental health in colleges and universities*. Cambridge: Harvard University Press, 1957.
- Faunce, P. Personality characteristics and vocational interests related to the college persistence of academically gifted women. Unpublished doctoral dissertation, University of Minnesota, 1966.
- Flacks, R. Adaptations of deviants in a college community. Unpublished doctoral dissertation, University of Michigan, 1963.
- Folger, J., Astin, H., & Bayer, A. *Human resources and higher education*. New York: Russell Sage, 1970.
- Foote, N. Identification as the basis for a theory of motivation. *American Sociological Review*, 1951, 16, 14-21.
- Gamson, Z. Utilitarian and normative orientations toward education. *Sociology of Education*, 1966, 39, 46-73.
- Gekoski, N., & Schwartz, S. Student mortality and related factors. *Journal of Educational Research*, 1961, 54, 192-194.
- Goble, R. A study of the student dropout problem at Miami University. Unpublished doctoral dissertation, Indiana University, 1957.
- Grace, H. Personality factors and college attrition. *Peabody Journal of Education*, 1957, 35, 36-40.
- Grande, P., & Simmons, J. Personal values and academic performance among engineering students. *Personnel and Guidance Journal*, 1967, 46, 585-588.
- Greive, D. A study of student attrition: Part 1. Cleveland: Cuyahoga Community College, 1970. (ERIC Document Reproduction Service No. ED 038 976)
- Gunderson, M. Retention of trainees: A study with dichotomous dependent variables. *Journal of Econometrics* (in press).
- Gurin, G., Newcomb, T. M., & Cope, R. B. Characteristics of entering freshmen related to attrition in the literary college of a large state university. Office of Education, U. S. Department of Health, Education, and Welfare Project No. 1938. Ann Arbor, Mich.: Survey Research Center, Institute for Social Research, University of Michigan, 1968.
- Hackman, R., & Dysinger, W. Commitment to college as a factor in student attrition. *Sociology of Education*, 1970, 43, 311-324.
- Hanson, G., & Taylor, R. Interaction of ability and personality: Another look at the dropout problem in an institute of technology. *Journal of Counseling Psychology*, 1970, 17, 540-545.
- Heilbrun, A. Personality factors in college dropout. *Journal of Applied Psychology*, 1964, 49, 1-7.
- Iffert, R. E. Retention and withdrawal of college students. Washington, D.C.: U. S. Department of Health, Education and Welfare, Bulletin No. 1, 1958. Washington, D.C.: U. S. Government Printing Office.
- Jaffe, A., & Adams, W. Academic and socio-economic factors related to entrance and retention at two- and four-year colleges in the late 1960's. *Proceedings of the American Statistical Association*, Social Statistics Section, 1970.
- Jencks, C. Social stratification and higher education. *Harvard Educational Review*, 1968, 38, 277-316.
- Jones, E. S. The probation student: What he is like and what can be done about it. *Journal of Educational Research*, 1955, 49, 93-102.
- Jones, J. Some personal-social factors contributing to academic failure at Texas Southern University. *Personality Factors on College Campus*. Austin: Hogg Foundation for Mental Health, 1962.



- Kamens, D. The college "charter" and college size: Effects on occupational choice and college attrition. *Sociology of Education*, 1971, 44, 270-296.
- Karabel, J. Community colleges and social stratification. *Harvard Educational Review*, 1972, 42, 521-562.
- Krebs, R., & Liberty, P. A comparative study of three groups of withdrawal students on ten factor variables derived from a 36 problem self-report inventory. Austin: University of Texas, 1971. (ERIC Document Reproduction Service No. ED 052 690)
- Lavin, D. *The prediction of academic performance*. New York: Russell Sage Foundation, 1965.
- Lawhorn, J. A study of persisters and dropouts in the secretarial science program at Miami-Dade Junior College. Unpublished doctoral dissertation, The University of Miami, 1971.
- Lembesis, A. A study of students who withdrew from college during their second, third or fourth years. Unpublished doctoral dissertation, University of Oregon, 1965.
- Malloy, J. An investigation of scholastic over- and under-achievement among female college freshmen. *Journal of Counseling Psychology*, 1954, 1, 260-263.
- Marks, E. Student perceptions of college persistence and their intellectual, personality, and performance correlated. *Journal of Educational Psychology*, 1967, 58, 210-221.
- McMammon, W., Jr. The use of non-intellectual variables in predicting attrition of academically capable students at the University of Tennessee. Unpublished doctoral dissertation, University of Tennessee, 1965.
- Medsker, L., & Trent, J. *Beyond high school*. San Francisco: Jossey-Bass, 1968.
- Merrill, K. The relationship of certain non-intellectual factors to lack of persistence of higher ability students at the University of California, Berkeley. Unpublished doctoral dissertation, The University of California, Berkeley, 1964.
- Meyer, J. High school effects on college intentions. *American Journal of Sociology*, 1970, 76, 59-70.
- Mock, K., & Yonge, G. *Students' intellectual attitudes, aptitude, and persistence at the University of California*. Berkeley: Center for Research and Development in Higher Education, 1969. (ERIC Document Reproduction Service No. ED 032 862)
- Nelson, A. G. College characteristics associated with freshman attrition. *Personnel and Guidance Journal*, 1966, 44, 1046-1050.
- Nelson, J. High school context and college plans: The impact of social structure on aspirations. *American Sociological Review*, 1972, 37, 143-148.
- Newcomb, T., & Flacks, R. *Deviant subcultures on a college campus*. Ann Arbor: University of Michigan, 1964.
- Nicholson, E. Predictors of graduation from college. *ACT Research Report*, 1973, 56. Iowa City, Iowa: American College Testing Program, 1973.
- O'Shea, A. Peer relationships and male academic achievement: A review and suggested clarification. *Personnel and Guidance Journal*, 1969, 47, 417-423.
- Panos, R., & Astin, A. Attrition among college students. *American Educational Research Journal*, 1968, 5, 57-72.
- Pervin, L., Reik, L., & Dalrymple, W. *The college dropout and the utilization of talent*. Princeton: Princeton University Press, 1966.
- Phillips, D. Deferred gratification in a college setting: Some costs and gains. *Social Problems*, 1966, 13, 333-343.
- Reed, H. College students' motivations related to voluntary dropout and under-achievement. *The Journal of Educational Research*, 1968, 61, 412-416.
- Robinson, L. Relation of student persistence in college to satisfaction with 'environmental' factors. Unpublished doctoral dissertation, University of Arkansas, 1967.
- Rock, D., Centra, J., & Linn, R. Relationships between college characteristics and



- student achievement. *American Educational Research Journal*, 1970, 7, 109-121.
- Rootman, I. Voluntary withdrawal from a total adult socialization organization: A model. *Sociology of Education*, 1972, 45, 258-270.
- Rose, H., & Elton, C. Another look at the college dropout. *Journal of Counseling Psychology*, 1966, 4, 343-372.
- St. John, N. The elementary school as a frog-pond. *Social Forces*, 1971, 48, 581-595.
- Sarnoff, I., & Raphael, T. Five failing college students. *American Journal of Orthopsychiatry*, 1955, 25, 343-372.
- Scott, J. A study of the relationship between students' personal perception of environmental press and attrition in a two-year college. Unpublished doctoral dissertation, University of Missouri-Columbia, 1971.
- Sewell, W., & Shah, V. Socioeconomic status, intelligence, and the attainment of higher education. *Sociology of Education*, 1967, 40, 1-23.
- Sewell, W., & Shah, V. Parents' education and children's educational aspirations and achievements. *American Sociological Review*, 1968, 33, 191-209.
- Sewell, W., & Wegner, E. Selection and context as factors affecting the probability of graduation from college. *American Journal of Sociology*, 1970, 75, 665-679.
- Sexton, V. Factors contributing to attrition in college populations: Twenty-five years of research. *Personnel and Guidance Journal*, 1975, 72, 301-326.
- Smith, J. A multivariate combination of academic and non-academic factors related to student attrition. Unpublished doctoral dissertation, University of Pittsburgh, 1971.
- Spady, W. Dropouts from higher education: An interdisciplinary review and synthesis. *Interchange*, 1970, 1, 64-85.
- Spady, W. Dropouts from higher education: Toward an empirical model. *Interchange*, 1971, 2, 38-62.
- Spaeth, J. Occupational attainment among male college graduates. *American Journal of Sociology*, 1970, 4, 632-644.
- Stone, D. Predicting student retention and withdrawal in a selected state university college of New York. Unpublished doctoral dissertation, Cornell University, 1965.
- Suczek, R., & Alfert, E. *Personality characteristics of college dropouts*. Berkeley: University of California, Dept. of Psychiatry, Student Health Service, 1966.
- Summerskill, J. Dropouts from college. In N. Sanford (Ed.), *The American college*. New York: Wiley, 1962.
- Taylor, R., & Hanson, G. Interest and persistence. *Journal of Counseling Psychology*, 1970, 17, 506-509.
- Tinto, V. The effect of college accessibility upon the rates and selectivity of college attendance. Unpublished doctoral dissertation, The University of Chicago, 1971.
- Tinto, V., & Cullen, J. *Dropout in higher education: A review and theoretical synthesis of recent research*. Washington, D.C.: Office of Planning, Budgeting, and Evaluation, Department of Health, Education, and Welfare, Contract OEC-0-73-1409, 1973. (ERIC Document Reproduction Service No. 078 802)
- Trent, J., & Ruyle, J. Variations, flow, and patterns of college attendance. *College and University*, 1965, 41, 61-76.
- Vaughan, R. College dropouts: Dismissed vs. withdrew. *Personnel and Guidance Journal*, 1968, 46, 685-689.
- Vreeland, R., & Bidwell, C. Classifying university departments: An approach to the analysis of their effects upon undergraduates' values and attitudes. *Sociology of Education*, 1966, 39, 237-254.
- Wallace, W. *Student culture: Social structure and continuity in a liberal arts college*. Chicago: Aldine, 1966.
- Watley, D. The Minnesota counseling inventory and persistence in an institute of technology. *Journal of Counseling Psychology*, 1965, 12, 94-94.
- Wedge, B. *Psycho-social characteristics of college men*. New Haven: Yale University Press, 1958.

- Wegner, E. The relationship of college characteristics to graduation. Unpublished doctoral dissertation, University of Wisconsin, 1967.
- Wegner, E., & Sewell, W. Selection and context as factors affecting the probability of graduation from college. *American Journal of Sociology*, 1970, 75, 665-679.
- Weigand, G. Goal aspirations and academic success. *Personnel and Guidance Journal*, 1953, 31, 458-461.
- Weigand, G. Adaptiveness and the role of parents in academic success. *Personnel and Guidance Journal*, 1957, 35, 518-522.
- Weiner, B., & Potepan, P. Personality correlates and affective reactions towards exams of succeeding and failing college students. *Journal of Educational Psychology*, 1970, 61, 144-151.
- White, J. Individual and environmental factors associated with freshman attrition at a multi-campus community college. Unpublished doctoral dissertation, The George Washington University, 1971.
- Williams, T. Educational aspirations: Longitudinal evidence on their development in Canadian youth. *Sociology of Education*, 1972, 45, 433-445.
- Wilson, R., Wood, L., & Gaff, J. Social-psychological accessibility and faculty-student interactions beyond the classroom. *Sociology of Education*, 1974, 1, 74-92.
- Wolford, M. A comparison of dropouts and persisters in a private liberal arts college. Unpublished doctoral dissertation, University of Oregon, 1964.

#### AUTHOR

TINTO, VINCENT *Address*: Sociology and Education, Teachers College, Columbia University, New York, New York 10027. *Title*: Assistant Professor of Sociology and Education. *Degrees*: B.S., Fordham University; M.S., Rensselaer Polytechnic Institute; Ph.D., The University of Chicago. *Specialization*: Sociology of education; social stratification theory.