

**A PROCESS MODEL OF DROPPING OUT OF SCHOOL:  
IMPLICATIONS FOR RESEARCH AND POLICY  
IN AN ERA OF RAISED ACADEMIC STANDARDS**

James S. Catterall

CSE Report No. 264

Center for the Study of Evaluation  
Graduate School of Education  
University of California, Los Angeles

1986

A Process of Dropping Out of School:  
Implications for Research and Policy in an  
Era of Raised Academic Standards

Abstract

This article draws on path-like models of student attrition developed by researchers concerned with American higher education to suggest a process model applicable to secondary school leaving. Existing research on school dropouts is conducted largely without the guidance of such a model. Accumulated evidence on school dropouts is discussed in light of the suggested model and tends to support its structure and central constructs. Some implications of the model for future research into dropping out, the effects of legislated academic standards for the high school diploma, and dropout prevention efforts are explored.

A Process Model of Dropping Out of School:  
Implications for Research and Policy in an  
Era of Raised Academic Standards

Introduction

A suspected but unexamined result of more rigorous standards for the high school diploma is their discouraging effect on school completion. About a fourth of the nation's youngsters leave school without diplomas, and the warning that recently legislated academic orientations may swell the ranks of dropouts has sounded repeatedly over the past three years (Hamilton, 1986; McDill, Natriello, & Pallas, 1986; Business Advisory Commission of the Education Commission of the States, 1985; Howe, 1984; Edson, 1984).

Nearly all of the 50 state legislatures have enacted laws which appear to augment requirements for high school diplomas, and about half the states have mandated competency tests that must be passed before diplomas are awarded (Goertz, 1986; Labaree, 1984). Since added courses, altered curricula, and mandatory tests for graduation are now widely operational, the next few years will undoubtedly yield attempts to gauge the true nature of these changes and their consequences for pupil persistence and achievement.

Just how might research into the school completion effects of academic reorientation proceed? It is suggested in this review that dropping out should be viewed as the result of cumulative processes in the lives of youngsters, and questions about standards or exit tests, along with research on dropouts more generally, should be framed against a longitudinal conception of pupil experiences. As many dropout

on school dropouts has tended instead to be atheoretical and to have concentrated on bivariate links between dropping out and a host of individual and school factors. This research is further limited by its reliance on the analysis of cross sectional rather than longitudinal data. Many researchers express an awareness that important processes are at play over the lives of those who eventually drop out, but this recognition has not led widely to the creation and estimation of longitudinal models (Steinberg, Blinde, & Chan, 1984; Natriello, Pallas, & McDill, 1986; an exception appears in Eckstrom, Goertz, Pollack, & Rock, 1986, which is discussed below).

The conceptual balance favoring higher education attrition research is worth a brief comment. Movement of students into and out of higher education is fluid, and the financial health of many colleges is linked very tightly to their ability to retain students (Kemerer, Baldrige, & Green, 1984). Half or more freshman leave some colleges during their first year. Thus institutional self interest alone has probably underwritten a sizeable body of this research through both direct funding and contributed cooperation. In contrast, school systems exhibit a great deal of ambivalence when it comes to understanding or treating issues of dropouts (Fine, 1986, Catterall, forthcoming). Many districts and states do not even generate reports on school leaving and cannot cite their dropout rates (Catterall, forthcoming; Hammack, 1986). One acknowledged reason for this is the expensive nature of dropout identification and tracking and the unwillingness of schools to allocate resources to these ends. Another is that schools face many challenges in their mission to serve all children and can find the departure of

or separation. Excessive social integration at the expense of academic integration may lead to flunking out. Academic values exceeding institutional expectations and norms can lead to transfer to a more demanding college. And so on. (Bean & Metzner, 1985, provide the most recent review of this literature.)

These post-secondary education studies incorporate the conditions of separation identified by Durkheim (integration deficiencies) into path-like models which trace the evolution of these conditions for individuals. I have constructed a model of school dropout decisions in Figure I that is based on this work.

---

Insert Figure I about here

---

Paralleling the tradition noted above, the central features of this model are the academic and social systems of the school. Successful interactions in these subsystems are shown to lead to successful integration. Academic integration is indicated by grade performance and academic learning. Social integration is indicated by the quality of student interactions with others at school -- peers, teachers, and administrators. Alienation or congruence in either of these sub-systems may have implications for the other, hence the double arrow drawn between them. For example, the overly social sophomore may suffer low grades. The overly bookish senior may have few friends. Or an individual may sufficiently value his social activities at school to tolerate the minimum academic efforts needed to avoid harassment by teachers and school administrators.

academic learning and socially acceptable modes of interaction can be initiated and reinforced by circumstances and activities at home. So family background affects commitments to academic and institutional goals in the model. An additional influence of family background, that on innate pupil ability, also enters the model. Innate pupil ability can then be considered an exogenous variable from the point of view of the school system itself and is shown to influence learning and grade performance directly.

Finally, activities in the larger social system may influence school dropout decisions. Labor market conditions drawing youth to the workplace or keeping them out may affect commitments to school and to the diploma, and may have implications for academic and social interactions within school. The overly involved student worker may have no time for academic pursuits or extracurricular activities. Or a barren job market may keep kids in school for lack of better things to do (see Coleman & Husen, 1985). And some school age youngsters adopt another traditional adult role, bearing and raising children, which has ties to leaving school before graduation.

#### The Evidence on Dropping Out of School in Light of the Model

Research findings on school dropouts have consistent and expected qualities. They are concentrated in background characteristics common to school leavers, in-school performance and behaviors prior to leaving, attitudes about schools and life, and a limited range of out-of-school activities. I will attempt to integrate systematically the major findings with the model in Figure 1.

A sizeable core of dropout research is based on a handful of national longitudinal surveys, surveys large enough to detect dropping

A distinct limitation for researchers interested in the cumulative processes of school achievement and commitment is that these surveys generally began in the early high school years of their subjects -- the ninth grade for Project Talent, the eighth grade for a fraction YLME subjects, and the tenth grade for HS&B and Youth in Transition. None followed the students through critical earlier years of development and school interactions. Various data from these early years were sometimes generated from school records and self reports. Subject to the inherent limitations of these sources, such as the narrow slice of life captured in formal school records and potential inaccuracies in human reporting of past events, information suggesting processes important to our model emerge from this literature. Reports commonly group their findings according to pupil background factors, in school performance and activities, and out-of-school interactions. This organization corresponds to the principal sectors of the model in Figure 1.

#### Pupils Background Influences

Family Background Structure. I have already suggested an overwhelming finding of dropout research, the association of family background with eventual dropping out. Reporting on Project Talent, Combs and Cooley (1968) found that more than half of both male and female dropouts ranked in the lowest socioeconomic quartile. In this survey fewer than a fourth of male dropouts and a fifth of female dropouts hailed from the upper half of the SES distribution. Working with Youth in Transition data, Bachman, Green, and Wirtanen (1971) observed that about 60 percent of dropouts came from families in the lowest two of six measured socioeconomic levels. Dropout rates between

educational role models. Ekstrom et al. (1986) report that dropouts in the High School and Beyond sample claim to spend less time at home discussing their experiences with their parents and that parents of dropouts spend less time monitoring their children's activities both in and out of school. These studies also suggest that independent of social class, coming from a one-parent household is associated with premature school leaving, and that kids from large families drop out more often. Such findings suggest that the intensity of family interest and involvement in schooling is important for school achievement, commitment, and completion, and that actual supportive circumstances within families may be better predictors of school outcomes than SES alone.

Findings regarding the independent influence of race and ethnic background on dropping out are mixed. We know that Blacks and Hispanics drop out more frequently than White youngsters. High School and Beyond data show Hispanic rates exceeding 25 percent (for the two year period between 1980 and 1982), Black rates of nearly 20 percent, and White dropout rates of about 14 percent. Steinberg, Blinde, & Chan (1984) report not-completed and not-in-school fractions 14 to 24 year olds based on a recent Census Bureau survey. Eleven percent in the entire sample, 18 percent of those with a non-English speaking background, and 40 percent of those whose dominant language not English had dropped out. Non-English speaking dominance was a substantial independent predictor of dropping out in this study. An obvious suggestion in terms of the model is that children who have difficulty speaking English are less likely to achieve either academic or social integration in school.



For all 19 tests administered in the 9th grade, eventual dropouts scored significantly lower than a comparison group of students who finished school but did not go on to college. Steinberg, Blinde, and Chan (1984) report in their extensive review of the literature that scores on aptitude or I.Q. tests stand out across numerous studies as significant predictors of school completion, independent of social class.

### In-School Performance and Activities

Academic Achievement. Our model shows grade performance and learning as indicators of academic integration. As I have said, strong relationships between grades earned in school and school completion are evident across reported research. One such pattern of interest in a longitudinal model is early academic performance. More than half of the eventual dropouts in the Youth in Transition Survey had been held back for one or more grades prior to grade 10 (Bachman et al., 1971). Only 24 percent of the entire sample had encountered such detours. Early grade retention and absenteeism were also positively related to dropping out in studies by Howell and Frese (1982), and Stroup and Robbins (1972).

Grades earned in high school show robust connections to dropping out. About half of those reporting D averages in 9th grade in the Bachman study eventually dropped out compared to 2 percent of those reporting A averages. High School and Beyond sophomores show similar patterns: 2.9 percent, 8.1 percent, 18.5 percent, and 42.5 percent of sophomores reporting mostly A's, B's, C's, and D's respectively dropped out (National Center for Education Statistics, 1985). In terms of the model, we expect that those who do poorly in school may fail to adopt

implications of the model's structure for empirical estimation are discussed below.)

Commitments to Schooling. I propose in the model that those who achieve effective academic and social integration in the school become committed to attaining more schooling, which renders attainment of a diploma more likely. Some limited indicators of commitment to schooling -- expressions of educational aspirations -- have been incorporated into dropout analyses. Studies which include such measures agree that lower educational aspirations are associated with dropping out (Bachman et al., 1971; Rumberger, 1983; Eckstrom et al., 1986). The High School and Beyond survey even included a question asking sophomores their own estimates of the likelihood they would finish school, and those who expressed any doubts were more likely to drop out (Wehlage & Rutter, 1986). The work of Sizer (1984) suggests that many high schoolers stay aboard for social reasons only, and strike non-disruption treaties with teachers which permit very minimal academic effort and confer passing grades and diplomas to academically non-engaged youngsters.

#### Out-of-School Activities

The model includes features of out-of-school activity for youth that dropout researchers have paid some attention to. Dropouts generally face (or hope to face) interactions with the world of work when they leave school and their experiences in the workplace while in school may influence their attitudes and decisions about staying enrolled. According to Eckstrom et al (1986) more than 40 percent of High School and Beyond sophomores reported holding jobs outside of

---

Insert Table 1 about here

---

Sophomores who dropped out in the High School and Beyond sample were asked to respond to a similar set of possible reasons for dropping out. Here, subjects indicated all reasons that applied, and not just the primary reason. A summary of these responses is shown in Table 2.

---

Insert Table 2 about here

---

Some overall patterns stand out in these data. School-related reasons for dropping out are acknowledged by a substantial number of youngsters. These echo many of the research findings described above. In the HS&B sample, "School was not for me" and "Had poor grades" were each cited by about one third of females and by about 46 percent and 38 percent of males respectively. As the primary cause for leaving, school-related reasons occupy a similar position among YLME respondents -- 44 percent of males and 32 percent of females cite school-related reasons, particularly dislike of school. Pregnancy or marriage plans influenced about one third of the females in both samples, with pregnancy more frequently cited by minority females and marriage plans by White females. Childbearing behavior is shown as an additional out-of-school circumstance in the model. Economic reasons such as choosing to work rank lower than school related reasons except for Hispanic males. The difference for this latter group, according to YLME, is a comparatively high incidence of home responsibilities.

Schools appear to vary in the degree to which they reinforce or ameliorate alienation among students who find themselves in academic or behavioral trouble. Wehlage and Rutter (1986) find in HS&B data that dropouts perceive teachers to lack interest in students, that discipline systems are ineffective and unfair, and that there is widespread truancy in their schools. Wehlage (1983; 1986) and others (e.g. Hamilton, 1986) report on particular programs where potential dropouts benefit from focused interventions that have a common core of ingredients designed to integrate students into an active and productive in-school life. The common elements of program success reported include small size and low pupil teacher ratios, individualized attention to learner needs, a mix of work experiences and school experiences, and the attention of educators to the whole life of the youngster, in school and out. On this last point, the authors note that dropout-prone kids often experience stresses beyond school, such as parental neglect and abuse and involvement with illegal drugs, that are sometimes mediated by caring teachers.

The attention to potential or actual dropouts in some settings identified by these researchers contrasts sharply to what Fine (1986) found to be total indifference of school officials to students dropout decisions in a New York City high school. Natriello, Pallas, & McDill (1986), summing up a body of work recently incorporated into a special issue of Teachers College Record (Spring, 1986) on school dropouts, also stress the critical nature of school responsiveness as a focal point for future research. Observations in the "effective schools" literature that some schools dominated by pupils of low socioeconomic background manage to maintain successful and retentive learning environments also

research on dropouts continues. A focus on the evolutionary character of the child's integration with the academic and social norms of the school is the most important suggestion for future research deriving from this discussion. We have long recognized that research on school dropouts would be improved by longitudinal designs that cover a more complete span of school years. This ideal is substantially compromised in panel studies of high schoolers. Similar pleas have fallen upon the broader field of status attainment research recently, with hopes that we might learn more of the underlying processes of attainment (Campbell, 1983).

Existing research on school leaving benefits from very limited early data for secondary school age subjects; what appears is generated primarily from school records, family histories, and retrospection by survey respondents. Early grade performance can be obtained with some precision; early attitudes and commitment cannot. These efforts have established, for instance, what we know about correlations between early school performance or grade retention and dropping out, but they have not led to anything like a longitudinal model of academic and social integration or of school continuation. Careful attention to the development of academic and social success (or failure) beginning in the elementary grades and concurrent tracking of demonstrated or expressed pupil congruence with academic and social norms would support estimation of the contributions of the model's constructs to ultimate school continuation and dropout decisions.

Both cautions and promises accompany this more-than-obligatory call for additional research. Technical caveats begin with a simple question of feasibility. The ideal represented here is a longitudinal study

primary grades will help to discern the patterns and flows of influence in the model. Recent advances in methods for estimating structural equation models (Joreskog, 1979) and the LISREL computer programs for performing calculations and tests (Joreskog & Sorbom, 1982) render such analysis at least feasible.

Some Implications for the Study of Standards. The model's critical suggestion that academic integration is central to school continuation decisions reinforces concerns about the impact of stiffer graduation and promotion standards on youth who may be considered likely to drop out. If academic difficulties have been consistently tied to premature school leaving in the past, the likelihood of new standards increasing the numbers of students who fail classes, or who fall behind in the numbers of credits needed for graduation, or who are required to repeat grades should be of critical interest to analysts. As McDill, Natriello, and Pallas (1986) have argued, making high school more difficult academically without extending additional resources to present candidates for failure is likely to push students out at the margin. And if academic integration is substantially developed through early processes, resources applied in the high school years to assist failing students with raised hurdles may prove to be very unproductive.

The academic reform research agenda must also include examinations of the operational nature of legislated standards since they may emerge in the schools in forms rather different from descriptions appearing in the language of laws and regulations. Analysis of standards and dropping out will also have to contend with a dismal state of affairs regarding the availability and consistency of institutional dropout data (Catterall, forthcoming).

## References

- Alexander, K. L., & Eckland, B. K. (1975). Basic attainment processes: A replication and extension. Sociology of Education, 48, pp. 457-495
- Bachman, J. G., Green, S., & Wirtanen, I. D. (1971). Dropping out -- Problem or symptom? Youth in Transition (Volume III). Ann Arbor: Institute for Social Research, The University of Michigan.
- Bean, J. P. & Metzner, B. S. (1985). "A Conceptual Model of Nontraditional Undergraduate Student Attrition." Review of Educational Research, 55(4) (winter) pp. 485-540.
- Blau, P. M., & Duncan, O. D. (1967). The American occupational structure. (New York: John Wiley and Sons.)
- Bureau of the Census (1980). 1980 Census of Population, Vol. 1, chapter C (PC 80-1-C).
- Business Advisory Commission of the Education Commission of the States (1985). "Reconnecting Youth: The next stage of reform." Described in Chronicle of Higher Education (August 7, 1985), p. 14.
- Camp, C. (1980). School dropouts: A discussion paper (Sacramento; CA: Assembly Office of Research, California Legislature.)
- Catterall, J. S. (1986a). On the social costs of dropping out of school. Stanford, CA: Stanford Education Policy Institute Program Report No. SEPI-86-3.
- Catterall, J. S. (forthcoming). School completion indicators for education systems: The long road to satisfactory dropout statistics. (American Journal of Education.)
- Coleman, J. S., et al. (1966). Equality of Educational Opportunity. (Washington D.C.: U.S. Government Printing Office.)

- Howell, F. M., & Frese, W. (1982). Early transition into adult roles: Some antecedents and outcomes. American Educational Research Journal, 19, pp. 51-73.
- Jencks, C., et al. (1972). Inequality: A Reassessment of the Effects of Family and Schooling in the United States. (New York: Basic Books.)
- Joreskog, K., & Sorbom, D. (1982). LISREL V User's Manual. (Chicago: IES).
- Joreskog, K. G., (1979). Statistical estimation of structural equation models in longitudinal-developmental investigations. In J. R. Nesselroade & P. B. Baltes (Eds.), Longitudinal research in the study of behavior and development. (New York: Academic Press, 1979).
- Kemerer, F., Baldrige, V., & Green, K. C. (1984). Strategies for Effective Enrollment Management. (Washington, D.C.: American Association of State Colleges and Universities.)
- Labaree, D. F. (1984). Setting the standard: Alternative policies for student promotion. Harvard Educational Review 54(1) (February) pp. 67-87.
- Mc Dill, E. L., Natriello, G., & Pallas, A. M. (1986). A population at risk: The impact of raising standards on potential dropouts. American Journal of Education, 94(2), (February), pp. \_\_\_\_\_.
- National Center for Education Statistics (1985). The condition of education. Washington D.C.: United States Department of Education.
- Natriello, G., Pallas, A. M., & McDill, E. L. Taking stock: Renewing our research agenda on the causes and consequences of dropping out. Teachers College Record, 87(3), pp. 430-440.
- Pallas, A. M. (1984). The determinants of high school dropout. (John Hopkins University: Unpublished Ph.D. Dissertation.)



FIGURE 1  
A PROCESS MODEL OF DROPPING OUT OF SCHOOL

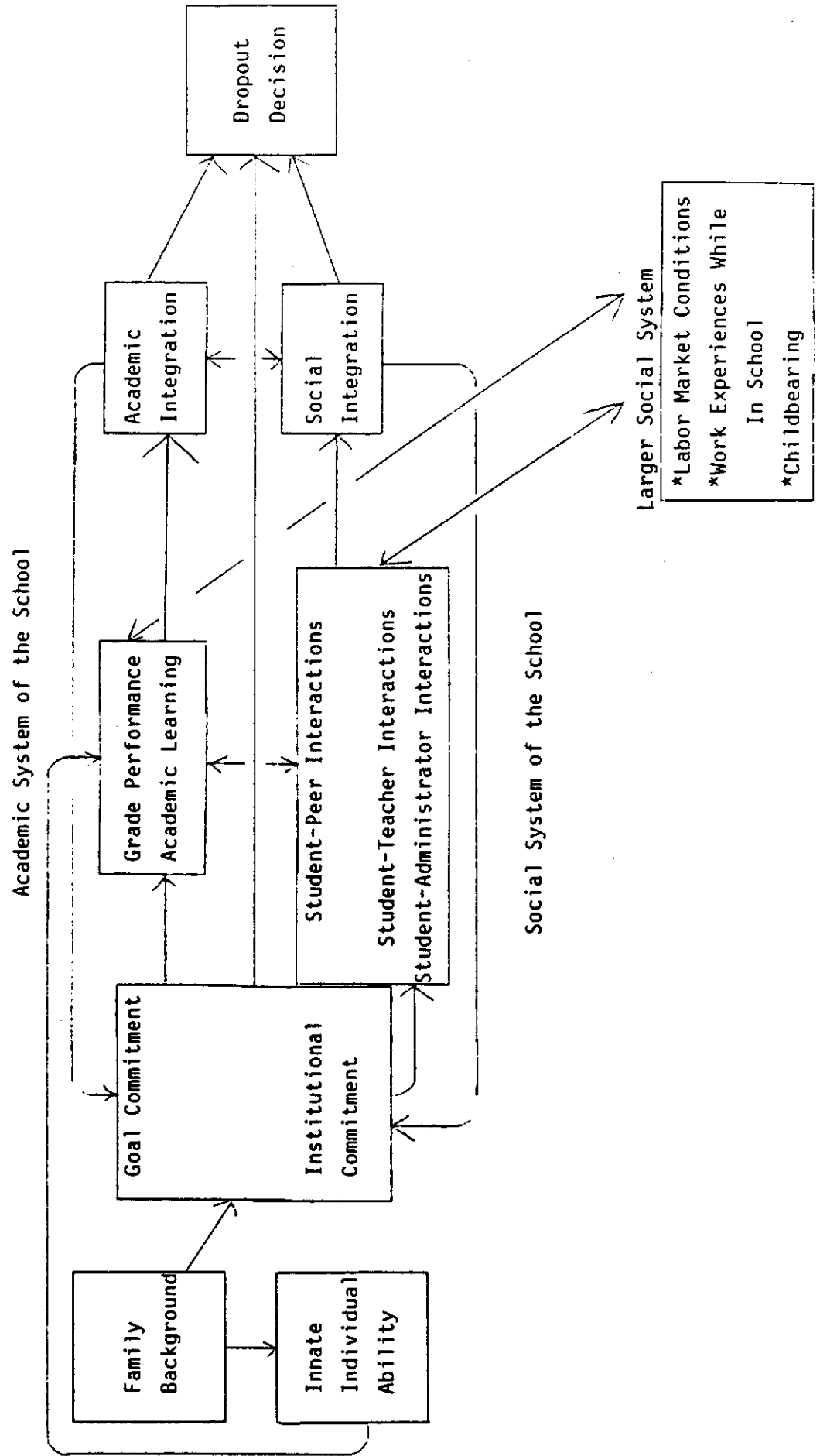


TABLE 2

Primary Reason High School Dropouts, 14 to 21 Years Old, Left School, by Race and Sex

Reason for Leaving School	Female				Male				Total
	Black	Hispanic	White	Total	Black	Hispanic	White	Total	
School Related	29	21	36	32	56	36	55	53	44
Poor performance	5	4	5	5	9	4	9	9	7
Disliked school	18	15	27	24	29	26	36	33	29
Expelled or suspended	5	1	2	2	18	6	9	10	7
School too dangerous	1	1	2	1	0	0	1	1	1
Economic	15	24	14	15	23	38	22	24	20
Desired to work	4	7	5	5	12	16	15	14	10
Financial difficulties	3	9	3	4	7	9	3	5	4
Home responsibilities	8	8	6	6	4	13	4	5	6
Personal	45	30	31	33	0	3	3	2	17
Pregnancy	41	15	14	19	0	0	0	0	9
Marriage	4	15	17	14	0	3	3	2	8
Other	11	25	19	20	21	23	20	21	19
Total Percent	100	100	100	100	100	100	100	100	100

Note. Source: National Longitudinal Survey of Youth Labor Market Experience. Distributions are percentage (Reported by Rumberger, 1983).