

The Decision of African American Students to Complete High School: An Application of the Theory of Planned Behavior

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A longitudinal study explored high school completion among African Americans. Male and female high school students aged 14 to 17 ($N = 166$) completed a theory of planned behavior (I. Ajzen, 1991) questionnaire early in their 2nd year. Intentions to complete the year were accurately predicted from attitudes, subjective norms, and perceived behavioral control ($R = .71; p < .01$). Attitudes were related to beliefs about short- and long-term consequences; subjective norms reflected perceived expectations of family, teachers, and friends; and control considerations included requisite academic abilities, conflict with peers and teachers, and distracting life conditions. Intentions and, to a lesser extent, perceived behavioral control, predicted graduation almost 3 years later ($R = .50; p < .01$). The findings indicate opportunities for early interventions.

Obtaining a high school diploma has become an increasingly important prerequisite for economic and social mobility in the United States. High school dropouts are roughly three times more likely to be chronically poor than are high school graduates (U.S. Census Bureau, 1996). Young people without a high school education are ill equipped for the modern workforce. They are less likely to be permanently employed, they add to the welfare burden, and they are disproportionately at risk for drug abuse and incarceration (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993). Although a high school diploma does not guarantee a job, it increases substantially the chances for employment and with it chances for a better life.

Research on high school dropout has dealt with a variety of factors related to the individual student, the student's family, peers, the community, and the school (see Campbell & Duffy, 1998; Jimerson, Egeland, Sroufe, & Carlson, 2000). Among the factors that have been shown to correlate with dropout rates are gender, ethnicity, parental education, scholastic ability and achievement, self-esteem, socioeconomic status, drug and alcohol use, parental involvement, peer relations, school climate, class size, and participation in extracurricular activities (Battin-Pearson et al., 2000;

Cairns, Cairns, & Neckerman, 1989; Ekstrom, Goertz, Pollack, & Rock, 1986; Fine, 1989; Garnier, Stein, & Jacobs, 1997; Oakland, 1992; Parker & Asher, 1987; Rumberger, 1995; Weis, Farrar, & Petrie, 1989).

Dropping out of school has particularly negative consequences for members of ethnic or racial minorities. The study reported in the present article focused on dropout among African American high school students. Although the high school graduation rate of African Americans has increased significantly over the past 30 years, it still lags behind that of White Americans (Thompson, 1995). At present, 79% of African Americans aged 25 and over are high school graduates, which is double the percentage in 1970 (U.S. Census Bureau, 2000). However, as a group, African Americans continue to earn lower grades and to drop out of school in larger numbers than their White peers (Ensminger & Slusarcick, 1992; Garibaldi, 1992; Halle, Kurtz-Costes, & Mahoney, 1997; U.S. Census Bureau, 1997). And recent data suggest that the dropout rate for 16–19-year-olds is twice as high in the city core as in the suburbs (Annie E. Casey Foundation, 2000). Furthermore, lack of a high school diploma is found to have more severe consequences for Black than for White students. Between 1997 and 1999, African American dropouts aged 20–24 years were more than twice as likely to be unemployed as were White dropouts (U.S. Department of Education, 2001).

In light of its inevitable negative impact on college attendance rates and long-term standard of living, the relatively high dropout rate among African Americans has been of great concern. Research on dropout among African Americans has implicated a subset of variables identified in investigations of dropout in general: the socioeconomic environment, drug and alcohol use, and the effects of global and racial self-esteem on poor academic performance and on the decision to leave school (Bachman & O'Malley, 1984; Fordham, 1996; Spencer, 1985).

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In sum, several decades of research on high school dropout in the general population and among students from racial or ethnic minorities has revealed the detrimental impact of poverty; deprived or inadequate social, family, and school environments; as well as academic and behavioral shortcomings. The work presented in the present article emerged from a different perspective. Instead of examining broad societal conditions, personality variables, or the social context, we conducted a 4-year longitudinal study that allowed us to examine the personal beliefs and attitudes of African American youth with respect to the decision to stay in school and to use this information to predict actual behavior. Specifically, we tried to identify factors that determine students' intentions to stay in school to the end of the year and, in the long term, whether a student successfully graduates from high school. A better account of the attitudinal factors that contribute to such positive decisions can broaden our understanding of high school dropout among African Americans, and this information can assist in the preparation of effective intervention strategies.

The conceptual framework for the study was provided by the theory of planned behavior (Ajzen, 1991). The theory has been used successfully in attempts to provide a better understanding of such diverse behaviors as exercising, donating blood, adhering to a low-fat diet, using condoms for AIDS prevention, using illegal drugs, wearing a safety helmet, and choosing a career, among many more (for recent reviews, see Ajzen, 2001b; Armitage & Conner, 2001; Sutton, 1998). With its emphasis on personal beliefs and attitudes, perceived social expectations, and self-efficacy concerns, this theory seemed particularly appropriate for studying the factors that influence high school students' decisions to stay in school.

Briefly, according to the theory of planned behavior, human action is influenced by three major factors: a favorable or unfavorable evaluation of the behavior (attitude toward the behavior), perceived social pressure to perform or not perform the behavior (subjective norm), and self-efficacy in relation to the behavior (perceived behavioral control). In combination, attitude toward the behavior, subjective norm, and perception of behavioral control lead to the formation of a behavioral intention. As a general rule, the more favorable the attitude and subjective norm, and the greater the perceived behavioral control, the stronger should be the person's intention to perform the behavior in question. Finally, given a sufficient degree of actual control over the behavior, people are expected to carry out their intentions when the opportunity arises (see also Gollwitzer, 1993; Triandis, 1977). Intention is thus assumed to be an immediate antecedent of behavior. However, because many behaviors pose difficulties of execution that may limit volitional control, it is useful to consider perceived behavioral control in addition to intention. To the extent that people are realistic in their judgments of a behavior's difficulty, a measure of perceived behavioral control can serve as a proxy for actual control and contribute to the prediction of the behavior in question (see Ajzen, 1991). A schematic representation of the theory is shown in Figure 1.

When applied to retention of high school students, the theory of planned behavior suggests that intentions to stay in school, together with perceived behavioral control, predict the likelihood that a student will graduate from high school. Intentions to stay in school, in turn, are determined by attitudes toward staying in

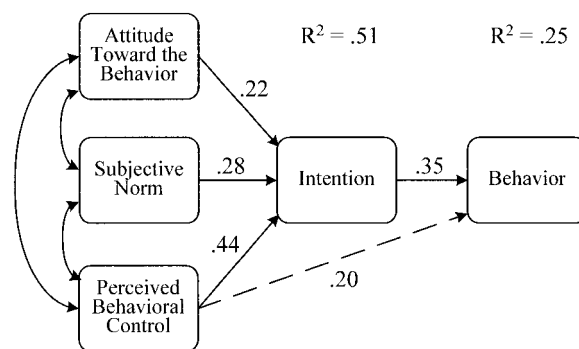


Figure 1. Path analysis for the theory of planned behavior. All path coefficients are significant at $p < .05$.

school, by perceived social pressure to stay in school (subjective norm), and by perceptions of control over this behavior.

The three major determinants in the theory of planned behavior—attitudes toward staying in school, subjective norms, and perceptions of behavioral control—are traced to corresponding sets of behavior-related beliefs. Consistent with an expectancy-value model (Feather, 1982; Fishbein, 1963), attitude toward staying in school is assumed to be determined by beliefs about the consequences of staying in school, each belief weighted by the subjective value of the outcome in question (Fishbein, 1963, 1967; Fishbein & Ajzen, 1975). A similar logic applies to the relation between normative beliefs and subjective norm, and the relation between control beliefs and perceived behavioral control. Normative beliefs refer to the perceived behavioral expectations of such important referent individuals or groups as the student's family, friends, and teachers. These normative beliefs—in combination with the student's motivation to comply with the different referents—determine the prevailing subjective norm regarding school completion. Finally, control beliefs have to do with the perceived presence of factors that can facilitate or impede performance of a behavior. It is assumed that the perceived power of each control factor to impede or facilitate staying in school contributes to perceived control of this behavior in direct proportion to the person's subjective probability that the control factor is present.

In focusing on these subjective psychological determinants, the theory does not deny the importance of objective environmental factors that may place a burden on students, such as family conflicts, poverty, or poor health. The theory assumes, however, that factors of this kind influence behavior indirectly by affecting attitudes, subjective norms, and perceptions of behavioral control.

The present study, then, was designed not only to predict intentions and actual high school graduation but also to explore the cognitive and affective foundation that, ultimately, is assumed to determine these intentions and actions. The study followed high school students from their freshman year through their senior year. The target behavior to be predicted was actual high school graduation. The principle of compatibility (see Ajzen, 1988) would require that beliefs, attitudes, and intentions also be assessed with respect to this behavior (i.e., completing high school). However, because this event was still far in the future at the beginning of the investigation, with the possibility of many unanticipated intervening events, the survey dealt with the more immediate goal of

completing the present school year. It was assumed that students would be better able to answer questions about the present school year than about a more distant event. Moreover, our focus in the present article is on the second school year. By the second year in high school, students' beliefs and attitudes regarding high school had crystallized sufficiently to provide a stable basis for prediction, yet it was still early enough to test the ability of the theory to make long-range predictions of high school completion. The ability to predict over the long term is particularly important for effective early interventions.¹

Method

Participants

The study was conducted in a large urban high school in the Midwest with a total enrollment of approximately 1,200 students. At the beginning of the investigation, the participants ranged in age from 14 to 17 years, with a mean of 14.5 years. The age range is explained by the fact that, for a variety of reasons, some students had repeated one or more grades in previous years. The student body was virtually all African American (99%), with approximately equal numbers of boys and girls. All students were invited and encouraged to participate in the study, but some chose not to, and others were absent or failed to secure parental or guardian permission to participate. The initial sample consisted of 262 African American ninth-grade students (56% female). This group constituted approximately 80% of the total freshman class.

Thirty-one percent of the sample indicated that they resided with both biological parents, 28% reported living with only one parent, and the remaining 41% of the sample reported residing in a blended or extended family with relatives. These percentages are similar to those identified at the national level, where 33% of African American youth live with both parents, and the remaining youth live in some form of extended or augmented family arrangement (U.S. Census Bureau, 1995). Similarly, 52% of the students in this sample reported receiving a lunch subsidy, suggesting low-income status. Nationally, 46% of African American students live below the poverty line (U.S. Census Bureau, 1995).

Procedure

Students were recruited with the assistance of a school guidance counselor who served as primary liaison among students, parents, and research team members. Students were initially asked to volunteer through their homeroom class where the study was explained in detail. Students and their parents or guardians were required to sign informed consent statements before a student could participate in the study. Questionnaires were administered in the early part of 4 consecutive school years (1994 to 1998). Students completed the questionnaire in groups of between 15 and 40 participants. Individual administrations of the survey were conducted to accommodate the schedules of 14 students. A team of two African American graduate research assistants administered the surveys. Because of wide variability in reading levels, one of the research assistants read the items to the group while the students followed along with their questionnaires and filled in their answers. The second research assistant was present and available to assist those students who had questions or experienced difficulty in completing the survey. Each questionnaire administration took approximately 1 hr. Participants were paid \$15 for their time and effort.

Target Behavior

As indicated at the beginning of this article, the target behavior was actual high school completion. Because of its obvious practical significance, this outcome, rather than year-by-year completion data, was used as the behavioral criterion. Moreover, for a sizable number of students, it was

impossible to keep accurate year-by-year records. A number of students moved away and may have enrolled in a different school; some left school for short or extended periods, only to return later; and some dropped out without official notification. The absence of a student at year's end, therefore, was not necessarily an indication that the student had dropped out of high school. A special effort was made to recontact all students at the end of the investigation. Of the 262 students in the original sample, 208 (79%) could be located again at the end of the 4-year period to ascertain their graduation status. In the second year of the study, crucial for present purposes, 186 of these students had completed the questionnaire, but because of missing data on some of the variables, the sample was further reduced to 166 (61% female). The demographic characteristics of the retained participants were substantially the same as those of the original sample.

Questionnaire

The questionnaire contained items designed to assess the major constructs in the theory of planned behavior as well as several sections dealing with such issues as general and racial self-esteem, academic self-efficacy, neighborhood living conditions, and after-school activities. Because the present article is concerned with the theory of planned behavior and its ability to predict intentions and actual high school completion, these issues are not addressed here. The four major theoretical constructs—intention to stay in school, attitude toward this behavior, subjective norm, and perceived control over staying in school—were each assessed by means of several direct questions. The items used were modeled after previous investigations (e.g., Hrubes, Ajzen, & Daigle, 2001; see Ajzen, 2001a). Responses to these questions were submitted to a principal axis factor analysis with orthogonal rotation. In a four-factor solution, all items designed to assess a given construct loaded highly on the same factor and had relatively low loadings on the remaining three factors. These findings are considered in the *Direct Measures* section in combination with reliability data.

Direct Measures

Intention. Five items assessed intentions to complete the present school year. Participants indicated, on 7-point *agree–disagree* scales, to what extent they expect to, intend to, will try to, are determined to, and might not (reverse scored) complete the present school year. The results of the factor analysis described earlier confirmed that all five items loaded highly on the intention factor (loadings ranged from .46 to .75) and that these items had relatively low loadings on the attitude, subjective norm, and perceived behavioral control factors (–.07 to .34). Responses to the five items were averaged to yield a measure of intention to stay in school. Scores could thus range from 1 to 7, and actual scores were found to cover the whole range. In the crucial second-year administration, the scale had an internal consistency of .77, as indicated by Cronbach's alpha. An estimate of the stability in intentions can be obtained by looking at the correlation of this measure with the corresponding measure obtained 1 year later, at the beginning of the third year. This coefficient of stability was found to be .54 ($p < .01$).

¹ The results for data collected in the third year were similar to the results for the second year in terms of the ability of the theory of planned behavior to predict intentions to stay in school and actual high school graduation. The first year data also yielded a similar pattern of results, but because the attitudes and intentions of many students had not sufficiently crystallized at the beginning of their first year in high school, the relations among the variables were somewhat weaker. Finally, most of the students who remained until their senior year managed to complete high school. There was very little variance in intentions at that point and, of course, there was also virtually no variance in the behavioral criterion.

Attitude. Attitudes toward “My completing the present school year” were assessed by means of a series of eight evaluative semantic differential scales. The anchors of these scales were as follows: *rewarding–punishing, useful–useless, bad–good, harmful–beneficial, wise–foolish, unpleasant–pleasant, desirable–undesirable, and boring–exciting*. High scores were assigned to the positive end of each scale. All eight items had high loadings on the attitude factor (.50 to .77) and much lower loadings on the other three factors (–.26 to .37). Responses were averaged to provide a direct attitude measure. Scores were found to range from 2.25 to 7.00. The coefficient alpha for this measure in the second year was .82, and the 1-year stability coefficient was found to be .51 ($p < .01$).

Subjective norm. Three items were used to assess subjective norms with respect to completing the present school year. Respondents were asked to indicate, on 7-point *unlikely–likely* scales, the extent to which they believe that most people who are important to them think they should complete the present school year, would be disappointed if they did not complete the present school year, and expect them to complete the present school year. These three items loaded highly on the subjective norm factor (.69 to .76), and they had low loadings on the remaining three factors (–.02 to .22). The average response to the three items served as a direct measure of subjective norm, with a coefficient alpha of .71 in the second year. The coefficient of stability from the second to the third year, however, was only .22 ($p < .01$). Scores were found to cover the whole range from 1 to 7.

Perceived behavioral control. The following four items assessed perceived control over completing the present school year: “I have complete control over completing the present school year” (*disagree–agree*), “I can overcome any obstacles or problems that could prevent me from completing the present school year if I want to” (*disagree–agree*), “It is mostly up to me whether or not I complete the present school year” (*disagree–agree*), and “For me to complete the present school year will be . . .” (*easy–difficult*). These four items loaded highly on the perceived behavioral control factor (.45 to .72), with much lower loadings on the other three factors (–.10 to .19). Responses to the four items were averaged to yield a measure of perceived behavioral control which, in the second year, had a .54 alpha coefficient and whose 1-year stability coefficient was .49 ($p < .01$). The obtained scores ranged from 2 to 7.

Beliefs

In addition to the direct measures, beliefs postulated to provide the cognitive foundations for attitudes, subjective norms, and perceptions of behavioral control were also assessed. A small pilot study was conducted to identify accessible outcomes of staying in school, relevant social referents, and possible control factors. Ten students from the high school volunteered in the guidance office to participate in a focus group. These students were later excluded from the study sample. In the course of a 2-hr meal, participants in the focus group discussed their motivations for attending school, who wanted them to attend school and why, and what barriers they thought might get in the way of their school completion. This information was used to construct behavioral, normative, and control belief items, respectively. All items pertaining to the theory of planned behavior used 7-point graphic response scales.

Behavioral beliefs. Two questions were asked with respect to each of the 14 outcomes of completing the present school year identified in the pilot study. (For a list of outcomes, see Table 3, which is presented later.) First, students were asked to evaluate each outcome (e.g., “For me, preparation for college is . . .”) on a 7-point *good–bad* scale. Second, to assess belief strength, they were asked to rate the likelihood that completing the present school year would produce each of the 14 outcomes on a 7-point *unlikely–likely* scale. For example, students rated how likely it was that “Completing the present school year will prepare me for college.” To produce a belief-based estimate of attitude, we multiplied belief strength and outcome evaluation measures, and the resulting products were summed, in accordance with the expectancy–value model discussed at the

beginning of this article.² On the basis of an optimal scaling analysis (Ajzen, 1991), belief strength and outcome evaluation were both scored in a bipolar fashion, ranging from –3 (*unlikely, bad*) to +3 (*likely, good*).

Normative beliefs. The pilot study had identified eight normative referents of relevance to completing the present school year (see Table 4, which is presented later). With respect to each of these eight referents, two items assessed normative belief strength and motivation to comply. For example, the statement “My mother thinks that I should complete the present school year” was rated on a 7-point *unlikely–likely* scale to produce a measure of normative beliefs strength; and to assess motivation to comply, students rated, on the same likelihood scale, the statement “Generally speaking, I want to do what my mother thinks I should do.” Optimal scaling analyses resulted in unipolar (1 to 7) scoring for normative beliefs and motivation to comply. The products of normative belief strength and motivation to comply were summed across the eight referents to obtain a belief-based estimate of subjective norm.

Control beliefs. Sixteen factors that might interfere with completing the present school year (e.g., sickness, family obligations) were identified in the pilot study (see Table 5, which is presented later). According to the theory of planned behavior, the following two questions should have been asked with respect to each factor. One question would have measured the factor’s likelihood or anticipated frequency (strength of control belief), the other the extent to which its presence would further or hinder completing the school year (power of control factor). Unfortunately, the questions actually formulated did not follow this format. Instead, one question addressed the importance of each control factor; the other how easy or difficult it would be to overcome it. Consider, for example, the problem of “sickness that prevents me from attending school.” Students were asked to rate how important this problem was for them on a 7-point *important–unimportant* scale. The second question asked students to rate, again on a 7-point *easy–difficult* scale, how easy or difficult it would be for them to overcome this problem. Ratings of importance most likely capture both the anticipated frequency or likelihood of being sick and how easy or difficult it would be to overcome the problem and still attend school. The second question, being already incorporated in the first, is superfluous. Consequently, the findings presented in the Results section focus on the first question. Responses to this question (scored from 1 to 7) were averaged to yield a belief-based estimate of perceived behavioral control.

Results

Comparison of the original sample ($N = 262$) with the sample of students who completed the second-year questionnaire and whose graduation status could be ascertained ($N = 166$) revealed no significant differences in demographic characteristics or any of the measures related to the theory of planned behavior. We are thus assured that the results of our investigation are not biased by selective attrition.

Descriptive Statistics and Correlations

Table 1 presents descriptive statistics and correlations among the major variables of interest. It can be seen that in their second

² Unlike items used to assess attitude toward the behavior directly, items assessing accessible beliefs and outcome evaluations are not required to exhibit high internal consistency. Accessible beliefs about a behavior, such as completing high school, may contain a degree of ambivalence, with some outcomes valued positively and others valued negatively. There is therefore no expectation that the different beliefs will necessarily correlate highly with each other. The same logic also applies to the measures of normative and control beliefs described in the Method section.

Table 1
Attitude, Subjective Norm, Perceived Behavioral Control, and Intention in Second Year and High School Graduation: Means, Standard Deviations, and Correlations (N = 166)

Variable	M	SD	A	SN	PBC	I
Attitude (A)	6.28	0.89	—			
Subjective norm (SN)	6.58	1.00	0.22	—		
Perceived behavioral control (PBC)	5.71	1.20	0.43	0.32	—	
Intention (I)	6.35	1.19	0.47	0.47	0.62	—
High school graduation	0.74	0.43	0.25	0.23	0.36	0.42

Note. All correlations are significant at $p < .01$.

year of high school, students had, on average, highly positive attitudes toward completing the school year, they perceived strong social pressure to do so, they had moderately strong confidence that they could accomplish this behavioral goal, and they had strong intentions to try. At the end of the study period, 74% of the sample was found to have completed high school. The completion rate in the total initial sample of 262 students was 60%, considerably lower than the 74% completion rate in the final sample. The reason for this discrepancy is that many of the students who could not be recontacted and who were therefore lost had dropped out of school.

Female students were, overall, more favorably disposed toward completing their second year of high school than were male students, and—consistent with national data (Hawkins, 1996)—they graduated from high school at a higher rate. In our final sample, 82% of female students completed high school, compared with a completion rate of 66% for male students, $\chi^2(1, N = 166) = 6.65, p < .01$. However, mean gender differences were not the focus of the present investigation, which focused on the prediction of high school completion from beliefs, attitudes, and intentions. Separate analyses by gender revealed no appreciable differences in relations among the variables assessed in the present study, and the data were therefore pooled across gender.

Prediction of Intentions and Behavior

The significant correlations of all theoretical constructs with the behavioral criterion shown in Table 1 indicate that, in comparison with students who did not graduate from high school, students who eventually completed high school had, by their second year of studies, formed more favorable attitudes toward staying in school, had perceived stronger social pressure to do so, were more likely to believe that they had control over this behavior, and had formed stronger intentions to stay in school. These conclusions are confirmed in Table 2, which displays the means and standard deviations of these variables for students who completed high school and students who did not. A multivariate analysis of variance indicated that, across all predictors, the two groups of students differed significantly from each other, $F(4, 161) = 9.86, p < .01$, and the univariate tests, shown in Table 2, reveal that this difference was significant for each of the constructs in the theory of planned behavior.

A path analysis was conducted to test the theory's ability to predict intentions to complete the school year and actual graduation from high school 3 years later. Using EQS Version 5.7b

(Bentler, 1995) for this analysis,³ direct paths were specified from attitude, subjective norm, and perceived behavioral control to intention, and from intention and perceived behavioral control to behavior (see Figure 1).⁴ The dichotomous school completion criterion was treated as a categorical variable in this analysis, and the alpha coefficients were used as estimates of reliability. In addition to computing the chi-square for the difference between predicted and obtained values, the fit between structural model and data was evaluated by means of three standard indices: goodness of fit (GFI), adjusted goodness of fit (AGFI), and root mean square error of approximation (RMSEA). The GFI estimates the amount of variance explained by the model, and the AGFI adjusts this estimate by taking into account the degrees of freedom. Both of these estimates can vary from 0 to 1, and a good fit is indicated by values above .95. The RMSEA index additionally compensates for sample size, with low values indicating good fit. Usually, a RMSEA value of .05 or less is considered acceptable. The fit for the proposed model was found to be excellent in light of these criteria. The discrepancy between predicted and obtained covariance structures was not significant, $\chi^2(2, N = 166) = 0.39, p = .82$, and the three GFI indices reached highly satisfactory levels (GFI > .99, AGFI = .99, RMSEA = .01).

The model representing the theory of planned behavior was also found to be greatly superior to an alternative model based on the theory of reasoned action, a version that does not include perceived behavioral control as a predictor of intention and behavior (Ajzen & Fishbein, 1980). The alternative model was evaluated by repeating the previous path analysis but setting to zero the paths from perceived behavioral control to intention and to behavior. This analysis resulted in a significant discrepancy between observed and predicted covariance structures, $\chi^2(4, N = 166) = 35.63, p < .01$, and the three GFI indices were also less than satisfactory (GFI = .91, AGFI = .66, RMSEA = .11). By including perceived behavioral control, the theory of planned behavior provided a significantly better fit to the data, as indicated by a significant difference between the chi-square values for the two models, χ^2 difference(2, $N = 166) = 35.24, p < .01$.

Inspection of Figure 1 shows that the theory of planned behavior afforded accurate prediction of intentions to stay in school. Attitudes toward completing the year, subjective norms, and perceptions of behavioral control accounted for 51% of the variance in intentions. Attitudes and subjective norms made significant contributions to the prediction, but the strongest path coefficient was associated with perceived behavioral control, suggesting that the perceived ease or difficulty of completing the school year played a major role in the formation of intentions.

³ We are grateful to Amiram Vinokur for his assistance with the EQS analyses.

⁴ The direct measures of attitudes, subjective norm, and perceived behavioral control were used in the path analysis. As a general rule, this is preferable to using the belief-based measures because it is consistent with the direct assessment of intentions. More important, as indicated in the Method section, the assessment of control beliefs in the present study was problematic, and as will be shown in the Results section, these beliefs, as assessed, had indeed only very low correlations with intentions and behavior.

Table 2
High School Completion as a Function of Second-Year Differences in Attitude, Subjective Norm, Perception of Behavioral Control, and Intention: Means, Standard Deviations, and Univariate F Tests

Variable	Students who completed high school ^a		Students who did not complete high school ^b		Univariate <i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Attitude	6.40	0.75	5.85	1.23	35.43*
Subjective norm	6.70	0.87	6.13	1.30	9.17*
Perceived behavioral control	5.93	1.06	4.86	1.36	24.88*
Intention	6.61	0.76	5.37	1.87	35.43*

^a *N* = 131. ^b *N* = 35.

* Difference between means significant at $p < .01$.

Figure 1 also reveals considerable predictive validity with regard to actual graduation from high school. Intentions to stay in school and perceptions of control over this behavior accounted for 25% of the variance in high school graduation. Intention was the better of the two predictors, but perceived behavioral control also made a significant contribution.

Behavioral, Normative, and Control Beliefs

The results presented thus far show that the theory of planned behavior could be used successfully to predict intentions to complete the second year of high school and to account for considerable variance in actual graduation at the end of the fourth year. Attitudes toward completing the second year, as well as perceived social pressures and perceived control over the behavior, were implicated as important predictors. However, from a practical perspective, the specific underlying beliefs should be of greatest utility because these beliefs provide substantive information about the kinds of considerations that guided the behavior of the students in our sample. Before these beliefs are examined, however, it is important to check whether they correlate with the corresponding direct measures, as specified by theory. A strong correlation confirms that the appropriate accessible beliefs were identified and properly measured.

We first correlated the direct measure of attitude with the summed products of the 14 behavioral beliefs and outcome evaluations (see Method section). This correlation was .40 ($p < .01$), suggesting that the set of behavioral beliefs captured the overall attitude reasonably well. A similar conclusion emerged in the analysis of normative beliefs. The aggregate index of eight normative beliefs, each multiplied by motivation to comply, had a correlation of .49 ($p < .01$) with the direct measure of subjective norm. However, the control beliefs did not correlate with the direct measure of perceived behavioral control. The correlation between the belief-based index of 16 control factors and the direct measure of perceived behavioral control was .03 (*ns*). It appears that the control factors identified in the pilot study failed to capture the important considerations related to perceived behavioral control.

Additionally, as mentioned in the Method section, control beliefs may not have been properly assessed, thus reducing the correlations between individual beliefs and the direct measure of perceived behavioral control.

Behavioral beliefs. To get an understanding of the role of attitudinal considerations in the determination of intentions and behavior, we examined the students' behavioral beliefs and outcome evaluations. Inspection of Table 3 shows that, overall, the second-year students held relatively favorable beliefs about the consequences of completing the school year. They believed strongly that doing so would prepare them for college, give them job training, allow them to learn new things, give them new challenges, require hard work, give them a sense of accomplishment or success, and help them to do something positive with their lives. They also valued all of these consequences quite positively.

The products of belief strength and attribute evaluation were correlated with intentions and actual graduation. Because of the large number of coefficients, a conservative alpha level of .01 was adopted for statistical significance. The behavioral beliefs listed previously correlated strongly with intentions and, most interestingly, they were among the best predictors of actual high school graduation. What these beliefs have in common is that they all deal with long-term achievement-related outcomes of graduating from high school. Short-term outcomes of staying in school, such as wasting time, being able to join clubs or participating in sports, keeping out of trouble, and having less time for fun and leisure correlated with intentions to complete the present year, but they had little effect on eventual high school graduation.

Normative beliefs. Earlier we saw that students generally felt strong social pressure to complete their second school year (see Table 1). The results concerning specific normative beliefs, displayed in Table 4, show that this social pressure was perceived to come from all important referents. Parents, family, counselors and teachers, as well as classmates were all viewed as strongly in support of a student's completing the school year, and students were generally motivated to comply with these referents. However, there was sufficient variability in normative beliefs and motivations to comply to permit prediction of intentions and behavior. The stronger the combination (product) of normative belief and motivation to comply, the more students intended to stay in school, and the more likely they were to graduate 3 years later.

Control beliefs. The means for the two control belief items and their correlations with intentions and behavior are shown in Table 5. Inspection of the means shows that students did not consider the potential problems in attending school to be particularly important, and they viewed overcoming them as neither easy nor difficult. Further, as anticipated by the low correlation between the belief-based and direct measures of perceived behavioral control reported earlier, the correlations of the individual control beliefs with intentions and behavior were quite low and not significant at $p < .01$. However, there were some interesting trends, suggesting that students were less likely to graduate if they thought they had academic difficulties (inadequate study skills, understanding of the material), if they tended to get into fights with other students or into arguments with school teachers and staff, and if they felt too tired to go to school or tended to forget to do so. These beliefs reflect some of the objective difficulties students often face in an inner-city school.

Table 3
Means and Standard Deviations for Behavioral Belief Strength and Outcome Evaluation, and Correlations of Belief–Evaluation Product With Intention to Complete Sophomore Year and High School Graduation (Behavior)

Outcome (Completing the current school year will . . .)	Belief strength (b)		Outcome evaluation (e)		Correlation	
	M	SD	M	SD	$b_i e_i$ with intention	$b_i e_i$ with behavior
Prepare me for college	1.99	1.75	1.24	1.33	0.37*	0.28*
Give me job training	1.48	1.74	1.55	0.73	0.39*	0.25*
Allow me to see my friends on a regular basis	0.97	1.83	0.86	1.15	0.17	0.20*
Waste my time	-2.32	1.53	-3.03	1.60	0.42*	0.09
Allow me to learn new things	2.32	1.38	1.62	0.66	0.60*	0.21*
Give me new challenges	2.14	1.47	1.45	0.90	0.44*	0.25*
Allow me to join clubs or participate in sports	1.54	1.85	1.22	1.17	0.32*	0.15
Keep me out of trouble	1.22	2.08	1.44	1.15	0.28*	0.11
Require hard work	2.27	1.44	1.45	0.87	0.27*	0.17
Mean I will be told by others what to do	0.52	2.23	-1.24	1.96	0.19	0.07
Help me acquire material goods	1.51	1.77	1.03	0.98	0.21*	0.10
Give me a sense of accomplishment or success	2.42	1.30	1.82	0.62	0.44*	0.13
Reduce the amount of time I have for fun or leisure	0.38	1.99	-1.71	2.01	0.05	0.01
Help me to do something positive with my life	2.55	1.15	1.92	0.33	0.57*	0.24*

Note. Behavioral belief strength and outcome evaluation scored from -3 to +3. $b_i e_i$ = Behavioral Belief \times Outcome Evaluation.

* $p < .01$.

Discussion and Conclusions

Much past research has dealt with relatively broad socioeconomic, personality, and academic deficiencies that may predispose African American youth to drop out of high school. In contrast, the present research focused on specific beliefs and attitudes related to the decision to stay in school, and the results suggest that such a focus can provide very useful additional information about high school dropout. Consistent with the theory of planned behavior (Ajzen, 1991), intentions to complete the second school year were predicted very well from the students' personal attitudes toward school completion, from perceived social pressure (subjective norm), and from perceived control over attending and staying in

school. In addition, the variables assessed in the present study also afforded good prediction of actual behavior. Graduation from high school could be predicted with considerable success from intentions to complete the school year and from perceived control over this behavior. Despite the long time lag between administration of the questionnaire at the beginning of the second year and graduation almost 3 years later, the amount of explained variance in behavior (25%) was comparable with the level obtained in many other applications of the theory of planned behavior that have not involved such a long time interval. In a meta-analysis of 185 data sets that applied the theory of planned behavior in a variety of contexts (Armitage & Conner, 2001), an average of 27% of the

Table 4
Means and Standard Deviations for Normative Belief Strength and Motivation to Comply, and Correlations of Belief–Motivation Product With Intention to Complete Sophomore Year and High School Graduation (Behavior)

Normative referent	Belief strength (n)		Motivation to comply (m)		Correlation	
	M	SD	M	SD	$n_i m_i$ with intention	$n_i m_i$ with behavior
My mother	6.81	0.99	6.01	1.65	0.38*	0.25*
My father	6.63	1.19	5.48	2.03	0.33*	0.28*
Other close relatives	6.80	0.94	5.46	1.91	0.40*	0.32*
My boyfriend–girlfriend	6.53	1.27	4.88	1.90	0.34*	0.20
My school counselor	6.64	1.18	5.50	1.75	0.30*	0.26*
My teachers	6.46	1.35	5.26	1.81	0.40*	0.25*
My classmates	6.01	1.40	4.16	1.85	0.23*	0.17
My close friends	6.52	1.30	5.08	1.85	0.37*	0.27*

Note. Normative belief strength and motivation to comply scored from 1 to 7. $n_i m_i$ = Normative Belief \times Motivation to Comply.

* $p < .01$.

Table 5
Means and Standard Deviations for Control Belief Strength and Power of Control Factor, and Correlations With Intention to Complete Sophomore Year and High School Graduation (Behavior)

Control factor	Control belief (c)		Easy to overcome		Correlation	
	M	SD	M	SD	c with intention	c with behavior
Sickness	3.51	2.26	4.21	1.84	0.15	0.04
Family obligations	3.41	2.34	4.10	1.89	-0.06	0.00
Time conflicts with a job	2.05	2.18	4.52	1.77	0.04	-0.10
Being too tired	2.84	2.42	4.74	1.77	0.01	-0.17
Not having reliable transportation	2.71	2.53	4.61	1.84	-0.03	0.02
Upsetting personal problems	3.06	2.30	3.95	1.97	0.00	-0.13
Forgetting to go to school	1.86	2.34	4.89	1.62	-0.04	-0.17
Not having assignments or homework done	4.15	2.16	4.71	1.74	-0.05	0.04
Being afraid of being picked on or attacked at school	1.72	2.15	4.85	1.64	0.05	-0.09
Not having the study skills (e.g., writing, reading) needed for my classes	3.18	2.58	4.56	1.79	-0.11	-0.15
Not understanding what is taught	3.87	2.27	4.10	1.94	-0.12	-0.15
Not getting encouragement or support from my teachers	3.22	2.36	4.13	1.86	-0.08	-0.04
Not getting encouragement or support from my family	3.53	2.54	4.18	2.03	-0.01	-0.04
Getting into fights with other students	2.51	2.39	4.32	1.93	-0.09	-0.14
Getting into arguments with school teachers or staff	2.82	2.43	4.53	1.79	-0.09	-0.13
Not having confidence in myself	3.21	2.67	4.42	2.04	-0.02	-0.10

Note. Control belief and easy to overcome scored from 1 to 7.

variance in behavior was found to be accounted for by intentions and perceptions of behavioral control. This finding is particularly encouraging because it suggests that relatively early interventions are likely to have a lasting effect, influencing not only completion of the present school year but also leading to eventual high school graduation.

Perceived behavioral control made a particularly strong contribution to the prediction of intentions, indicating that many students were concerned about their ability to overcome obstacles in their lives that might prevent them from carrying out their intentions to stay in school. Unfortunately, the specific control beliefs assessed in the present study provided only limited information about the factors that might be involved. The pattern of results indicates that among the important control factors are perceived weaknesses in academic skills; distracting life situations that cause students to be too tired to go to school or simply to forget to do so; and conflicts with other students, teachers, or staff. We would tentatively suggest, therefore, that interventions designed to keep African American students in high school could usefully be targeted at these factors.

Inspection of the beliefs about the likely outcomes of staying in school provides insight into the attitudinal considerations that guided students' decisions to complete the school year and allowed them, ultimately, to graduate from high school. Intentions to complete the school year were associated with anticipated short- as well as long-range consequences. In contrast, actual graduation from high school was related primarily to beliefs about long-range consequences of staying in school. Among the important short-term considerations were seeing friends on a regular basis, wasting

time, joining clubs or participating in sport, and being told by others what to do. The long-term considerations had to do with success in later life and included preparation for college, job training, and doing something positive with one's life. The implications for interventions are quite clear. For actual graduation from high school, students need to be convinced of the long-term value of their high school education in terms of such implications as job prospects and monetary benefits. However, to keep them in school in the short term, it is also important to emphasize the short-term benefits of attending school. For example, it can be emphasized that staying in school will afford them the opportunity to maintain their existing social networks with friends, fellow club members, and athletes.

Finally, the perceived normative expectations of several individuals and groups were found to be important considerations in students' decisions to stay in school. Included among these normative referents were parents, other family members, teachers and counselors, as well as friends and peers. Generally speaking, all of these referents were perceived to expect of students that they stay in school, and students expressed a high degree of motivation to comply with their referents. Because the normative pressure to stay in school is already perceived to be quite strong, only minor effects can be expected if interventions are targeted at these normative beliefs.

The present study demonstrates the applicability of the theory of planned behavior to the problem of high school dropout. By focusing on specific beliefs and attitudes concerning the decision to stay in school, we were able to increase our understanding of dropout among African Americans, a population at high risk. The

theory's ability to predict intentions and actual graduation, together with the descriptive information about underlying behavioral, normative, and control beliefs, holds out considerable promise for effective interventions. The results suggest that information should be provided early in high school, focusing on behavioral beliefs concerning positive short- and long-term consequences of staying in school as well as discussing likely obstacles and how to overcome them.

These conclusions must be tempered, however, with several notes of caution. First, the data of the present study were collected in a single inner-city high school in the Midwest. Although it is true that students in inner-city high schools are at particular risk for dropout (Annie E. Casey Foundation, 2000), and although—as indicated in the description of our sample—the participants in our study were quite similar in their characteristics to those found in national samples, we must be cautious in generalizing our conclusions beyond the current population.

Second, of the eligible students, about 20% failed to participate in the investigation for a variety of reasons. Because we have no information that would allow us to compare these students with students who chose to participate, we cannot rule out the possibility that our sample was in some way biased. Of some reassurance in this regard is the fact that the 74% graduation rate in our sample is comparable with the 79% graduation rate for African Americans found in national surveys (U.S. Census Bureau, 2000). However, it must also be remembered that the 74% graduation rate applies to the final retained sample. Many students who failed to complete the study did so because they had dropped out of school. The final sample may thus be biased in other unidentified ways.

Finally, perceptions of control over staying in school, found to be a major predictor of intentions and behavior, need to be further investigated. Control beliefs, as assessed in the present study, were unrelated to a direct measure of perceived behavioral control, and they had only very weak relations to intentions and behavior. Additional research is needed to identify the factors that capture students' overall sense of behavioral control and that better predict intentions to stay in high school and better account for actual graduation.

Given the difference in the quality of life between students who complete school and those who do not, and the expected demand for skilled workers in the future, high school completion remains an issue of paramount importance (Thompson, 1995). The findings of the present investigation suggest that the difference between students who stay in school and those who drop out can be understood in terms of cognitive, motivational, and situational factors that are reflected in beliefs about the likely consequences of staying in school and about the difficulties involved in doing so. It is our hope that these findings may help to combat what continues to be a significant problem for still far too many African Americans.

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