

# Race and Ethnic Differences in Depressed Mood Following the Transition from High School\*

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Journal of Health and Social Behavior, Vol 44 (September): 370–389

*Young adulthood is a period of increased mental health risk, with evidence linking psychological disorder to problematic role transitions. To our knowledge, there has been little or no research that examines the forces shaping minority mental health at this time. Using a diverse, urban sample of young adults who are followed over a two-year period, this paper examines the link between race/ethnicity and depressed mood and the transitional roles and interpersonal experiences that mediate this association. Findings indicate that blacks and Hispanics have elevated depressed mood relative to whites and Asian Americans, independent of socioeconomic background factors. The underrepresentation of blacks and Hispanics in four-year colleges largely explains the differences in depressed mood between members of these groups and Asian American youth. In contrast, comparisons of black and Hispanic youth to white youth highlight problems in peer and parental relations among individuals in the former groups. Overall, findings suggest that the heightened depressed mood among Hispanics and blacks relative to whites and Asian Americans reflects their increasingly disadvantaged pathways into adulthood, characterized by poorer prospects for educational advancement and more problematic relationships subsequent to the high school years.*

Racial and ethnic disparities in health are a central problem in medical sociology and key to understanding the inequality-health nexus. Much of the research on race and ethnic differences in psychological distress and disorder has attempted to determine whether any eleva-

tions in disorder among minorities remain once indicators of socioeconomic status are controlled. This early view of the race-class nexus was dramatically altered by the research of Kessler and Neighbors (1986), which showed that controlling for measures of social class does not “explain way” race effects. The acceleration of research and theory on the dynamics linking race and socioeconomic adversity has transformed sociologically informed research on race and mental health. For instance, recent articles examine the role of perceived unfair treatment in explaining the elevated psychological distress evidenced among African Americans (Kessler, Michelson, and Williams 1999; Noh et al. 1999). Other work has focused on the neighborhood contexts that shape stress exposure (Ross 2000; Schulz et al. 2000). Together, these lines of research are beginning to address

\* This research is supported by grants from the National Institute of Mental Health (R01-MH55626) and from the William T. Grant Foundation. The authors gratefully acknowledge the support of Karen Bourdon, NIMH Project Officer, and the Center for Survey Research, which conducted the data collection. We thank Mary Ellen Colten, Dorothy Cerankowski, Phyllis Doucette, Stacey Kadish, Michelle Poulin, and Karen Verrochi for their assistance with this manuscript and their contributions to the project. Address communication to Dr. Susan Gore, Department of Sociology, University of Massachusetts Boston, 100 Morrissey Blvd., Boston, MA 02125; e-mail:susan.gore@umb.edu

the issue articulated by Williams and Harris-Reid (1999) in their review of the literature on race and mental health, that research should focus on the life contexts and experiences that are linked to membership in different racial or ethnic categories and that are likely to adversely impact mental health.

In the present study we seek to advance this goal through examining changes in depressed mood in a diverse sample of young adults as they make the transition from high school to subsequent school and work situations. Analyses address whether and how minority status influences the nature and quality of young adult role transitions, with consequences for mental health. Young adulthood is a period of elevated mental health risk (Institute of Medicine 1994). Data from the National Comorbidity Study (NCS) (Kessler et al. 1994) indicate that members of the youngest age cohort (15 to 24 year-olds) experience the highest prevalence rate for psychiatric disorder (approximately 37%). These epidemiological data serve as impetus for asking how this transitional period operates as a critical juncture in mental health processes and whether such processes differ for minorities.

Of particular importance is the view that social constraints and life choices in school/employment and interpersonal spheres serve to forge directions or pathways that for some youth involve opportunity and growth but for others involve risk and dysfunction (Caspi, Elder, and Bem 1987; Rutter 1990). This understanding of the pivotal nature of young adult transitional experiences is especially important for research on minorities in light of the obvious role that social inequality plays in shaping these opposing pathways. To our knowledge, however, similarities and differences in the social forces affecting the mental health of minorities and non-minorities in the young adult years has not yet been systematically addressed. This study seeks to achieve this needed focus on diversity in research on young adult mental health.

## BACKGROUND

### *Major Theoretical Perspectives*

Two lines of sociological study inform our research. The first is the structural perspective on social stress and mental health, which is

concerned with the inequalities and adversities in social roles and problematic interpersonal experiences that mediate the impact of more distal social statuses (Aneshensel, Rutter, and Lachenbruch 1991; Gore, Aseltine, and Colten 1992; Mirowsky and Ross 1986; Pearlin et al. 1981). To date, this perspective has not been translated into a program for research on more youthful populations. In keeping with the body of mental health research on race and ethnicity in adult populations, an appropriate starting point is evidence from a small number of studies linking young adult socio-economic status and psychological disorder (Link, Dohrenwend, and Skodol 1986; Miech et al. 1999). Our investigation seeks to build on this research through attention to the initial educational and employment pathways young people take subsequent to high school, how these differ by race/ethnicity, and whether these instrumental directions offer some explanation for group differences in mental health. The somewhat fluid nature of these activities at this time of life would suggest that such roles, as status "attainments," are not particularly meaningful. However, conceptualizing these initial placements as structurally influenced pathways into adulthood suggests a potentially greater mental health significance that warrants investigation.

In addition to this instrumental or socio-economic arena of young adult experience, mental health research has been centrally concerned with the structural determinants and individual consequences of supportive and stressful interpersonal relationships. Considerable research on both adult and adolescent populations has documented the positive role of supportive social ties in mental health processes and, conversely, the detrimental impact of interpersonal conflict (Gore, Aseltine, and Colten 1992; House, Umberson, and Landis 1988; Rook 1984, 1998). Recent conceptualizations of the challenges inherent in the young adult period emphasize the importance of both the instrumental and socio-emotional functions of social ties in providing access to diverse institutional resources and in meeting basic needs for emotional security within an impersonal society (Larson et al. 2002). In this study we focus on the socio-emotional quality of interaction with parents and peers.

Given that our point of departure is the association between race/ethnicity and mental health, we ask whether the quality of social interaction with parents and peers during this

transitional period is shaped by race/ethnicity, such that group differences in mental health might also be traced to differences in the quality of social ties. Again, to our knowledge there is little or no research on race/ethnic differences in risk or protective features of social relationships in young adult populations. Some research, however, has indicated that processes of segregation both within and between schools in urban environments deprive black youth of the opportunities held by whites for friendship formation and exploration (Fordham and Ogbu 1986; Steinberg, Dornbusch, and Brown 1992). This line of study gives us reason to believe that structural constraints on health-promoting sociability evidenced during the secondary school years may continue into adulthood. Other sociological research has also pointed to the structural underpinning of supportive social ties (Veroff, Douvan, and Kulka 1981, as reported by House, Umberson, and Landis 1988). In their epidemiological study of Canadians, Turner and Marino (1994) found a positive association between socioeconomic status and social support and, importantly, that the lowest levels of support in their sample were evidenced among young adults, those aged 18–25.

Thus, despite a lack of research on race or ethnic differences in the mental health of young adults that is informed by the social structure/stress perspective, the diverse studies we have noted suggest the potential for such an undertaking.

A distinct but related line of study concerns the processes of human and social capital accrual or “capitalization” that accelerates during the transition to adulthood. Hagan (1998) defines capitalization as involving processes and contexts through which “individuals alternatively augment (e.g., through schooling) and/or deplete (e.g., through problem behaviors) their net capital positions” (p. 505). This view differentiates *human capital*, the skills and capabilities of individuals that are used in the service of goals, and *social capital*, the resources inherent in relationships that assist in this process. According to Coleman (1988), social capital is defined by its transformative potential, that is, relationships help individuals achieve goals that in the absence of capital would not come about. Investigations of young people have typically employed the construct of social capital to examine how school behavior and academic achievement are affected by

forms of family capital (McNeal 1999). However, focusing on young adults, Sampson and Laub (1990) have used the social capital construct to explain the persistence of problem behavior into adulthood as a life course pattern that is fostered by an absence of institutional resources that might reverse these behaviors.

Although ideas about capital and processes of capitalization have not been employed in research on dimensions of psychological health, mental health and social capital studies share an emphasis on the resources embedded in social relationships as causal agents in individual adaptation. Social capital is typically operationalized through attention to social network properties and interpersonal contacts relevant to the flow of information in a particular social setting (see Lin et al. 2001). Given the present study’s concern with socio-emotional support and conflict within relationships, the question arises as to whether a link between mental health and these socio-emotional features of relationships reflects a dynamic involving the use or accumulation of social capital. This is certainly possible. The idea that supportive ties function in either building or depleting subsequent social capital is inherent in developmental perspectives focusing on the life course continuity of strengths and deficits in relationship qualities (see the review by Reis, Collins, and Berscheid 2000). Perhaps more to the point is evidence indicating that perceptions of emotional support at any one time may be grounded in a history of helping transactions (Bolger, Zuckerman, and Kessler 2000), suggesting a bridge between perceptions of socio-emotional support and the more specific behavioral referents of the social capital construct.

#### *Social Structure and Young Adult Mental Health: Capitalization and Inequality in Young Adult Transitions*

The concepts of capital and capitalization are also relevant to the question of why a structural variable such as race/ethnicity would be expected to predict *change* in mental health over this period of time. Structural variables such as race, socioeconomic status, and gender are typically studied through cross sectional investigations focusing on structurally influenced life experience and mental health. Our concern dictates a different approach. If young

adulthood is a watershed for capitalization processes such that resource differences starting early in the life course accelerate as young people prepare for the future, we expect that race/ethnic differences in mental health are likely to *emerge* at this time. Three areas of life for which differences are likely to be evidenced, and that should relate to mental health, include school and employment situations and quality of social relationships. This investigation does not offer an analysis of the obstacles and deficits in capital that minorities may confront in their communities as they prepare for adulthood, as described, for example, by Wilson (1987). Instead, the goal is to document the nature and quality of young adult transitional roles and relationships as indicators of *both* a capitalization and mental health process that may have its origins in conditions intertwined with race/ethnicity.

Taken together, our conceptual frameworks suggest a series of expectations about the link between race/ethnicity and mental health change during the transition to adulthood. As preface, we should note that analyses focus on contrasts among five groups of young people: those who identify themselves as either white, black, Asian American, Hispanic, or multi-ethnic. In framing our problem as concerned with the processes and impact of structured inequality, we omit consideration of the cultural differences that exist both within and between groups and focus instead on the life situations and experiences that follow from a structural approach. The blacks and Hispanics in our sample are inner-city youth who were sampled largely from three major city public high schools. The body of social capital research that links institution-level adversities to lowered educational aspirations, college attrition, and lower rates of school success, in general, documents these outcomes specifically among blacks and Hispanics (Roscigno and Ainsworth-Darnell 1999). In a parallel manner, the limited data on ethnicity and mental health among young people also documents higher levels of depressed mood among blacks and Hispanics than among whites and Asian Americans (Dornbusch et al. 1991; Siegel et al. 1998). Thus, we expect that mental health processes linked to minority socioeconomic disadvantage will most likely be observed for blacks and Hispanics.

Guided by this structural perspective, this research examines change in depressed mood

over a two year period following the transition from high school, whether there are race/ethnic differentials in this change, and, if so, whether these differences are explained or mediated by school/employment roles occupied and differences in the quality of peer and family relationships.

Regarding school and employment roles, involvement in a four-year college as opposed to a lesser school involvement should be psychologically beneficial. This is the optimal pathway for occupational preparation, certification, and eventual self sufficiency in our society. In addition, full-time college attendance, especially when it involves leaving the parental home, represents a moratorium with respect to adult responsibilities and a time of opportunity for personal growth, with expected psychological benefits (Sherrod, Haggery, and Featherman 1993; Raymore, Barber, and Eccles 2001).

Many young people, however, make a transition from high school into full-time employment. The mental health consequences of unemployment and underemployment have been well established through studies largely focusing on older populations (Dooley, Prause, and Ham-Rowbottom 2000). In this investigation we examine the influence of full-time employment and part-time employment in contrast with not working at all. We expect that the mental health risk for minorities may not be their involvement in full-time jobs instead of school. Instead, we think that risk lies in possible higher rates of unemployment and underemployment, problems that may follow from their higher representation in pathways involving employment rather than full time school.

Another set of transitional experiences included in our analyses pertains to the quality of parental and peer relationships. We have already noted the dearth of knowledge about race/ethnic differences in the quality of relationships in this age group and grounded our concerns about linkages among race/ethnicity, relationships, and depressive symptoms in the more general body of research on social structure, social relationships, and mental health. In the present study, we focus on parents and peers. Evidence indicates that supportive and non-supportive experiences in both peer and family domains are important influences of mental health at this time of life and that this importance does not vary with the school or employment pathway young people have cho-

sen (Aseltine and Gore 1993; Gore et al. 1997). Conceptually, despite young people's increasing involvement with peers, the family of origin continues to be psychologically important. It serves as a "safe haven" during times of stress and as young people negotiate the transitions of young adulthood involving a broad restructuring of social ties (Larose and Boivin 1998). Given our interest in accounting for mental health change during this transition, the normative instability in relationships combined with their importance suggests that experiences with parents and peers should be reflected in young adult psychological functioning.

## METHODS

### *Sample and Procedures*

The data for these analyses come from the first two waves of a prospective study of mental health during the transition to adulthood among students in seven communities/school districts in the Boston, Massachusetts metropolitan area. The communities represented were selected from the Boston Consolidated Metropolitan Statistical Area, which defines a large, contiguous geographic area in eastern Massachusetts and includes major cities whose schools were selected to insure the sample would reflect diversity in family socioeconomic background and ethnicity, as well as diversity among the students in post-high school educational and work pathways.

A systematic probability sample of 1,578 high school seniors from nine public schools serving these communities was selected using official rosters obtained from each school. Students were sampled proportionate to the size of the high school they were attending. A total of 1,143 of these students were interviewed in the winter and spring of 1998, representing a 72 percent response rate. Interviews were also conducted with former students of these schools who would have been in the senior cohort but who dropped out. School systems provided initial lists of former students who met the criteria for dropping out: They had left school prior to graduation and had not transferred to another high school within six months or taken a temporary leave of absence. Our efforts to contact these former students yielded the estimate that only two-thirds of the individuals on our lists actually

met the dropout criteria described above. Interviews were completed with 182 students, resulting in an estimated response rate of 70 percent.

At Time 1, personal interviews averaging 70 minutes in length were conducted by trained professional interviewers from the University of Massachusetts Center for Survey Research. A total of 66 interviews were done over the phone for individuals who were not available for a personal interview. Following a home mailing of study information, including a letter from the school indicating administrative support for the research, parents were asked to call the school if they did not want their child to participate. Students gave their consent for participation at the time of the interview and were given a gift of two movie tickets for their time.<sup>1</sup>

The second wave of interviews was conducted in 2000 and involved 1,093 members (83 percent) of the Time 1 sample, which includes both the graduates and dropouts. This interview was conducted over the telephone with all individuals, with verbal consent given at that time. Participants were given a check for \$50 in appreciation for their time. Attrition from the sample was largely a result of an inability to trace respondents; very few participants who were successfully re-contacted refused to participate in the follow-up. We examined variables associated with study retention through estimating a logistic regression model (not presented) that included dummy variables for race/ethnicity, gender, dropout status, parents' highest education, family standard of living, depressed mood, and family support. Significant predictors of study attrition included: being black or Hispanic, dropout status, and having less educated parents ( $p < .001$ ). Depressed mood and parental support were not associated with study retention, and there was no evidence of an interaction involving race/ethnicity, depressed mood, and retention status. Specifically, there was a 12 percent attrition rate among whites, in contrast with a 31 percent rate among Hispanics, and from 18 to 22 percent among the other race/ethnic groups. The high rates of attrition among the minorities are a study limitation that is discussed at the conclusion of the paper.

A demographic profile of the sample is presented in Table 1. As a whole, the sample is quite diverse and contains large numbers of youths from disadvantaged backgrounds. Half

**TABLE 1. Sample characteristics at Time 1 by Race/Ethnicity (N = 1,325)**

	White (648)		Black (279)		Hispanic (145)		Asian (93)		Multi (71)		Other (89)		Total (1325)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Gender														
Male	328	51	132	47	63	43	45	48	31	44	44	49	643	48
Female	320	49	147	53	82	57	48	52	40	56	45	51	682	52
Family Structure														
Intact Two Parent	405	62	90	32	40	28	68	73	25	35	40	45	666	50
Step-Parent	58	9	42	15	16	11	2	2	11	16	10	11	139	11
Single Parent	154	24	105	38	63	43	13	14	27	38	26	29	390	29
Other	31	5	42	15	26	18	10	11	8	11	13	15	130	10
Parent's Education														
Less than High School	36	6	41	16	36	25	24	28	8	11	31	36	178	14
High School Graduate or Voc/Other non college	226	36	100	38	50	35	36	43	37	52	35	40	483	38
Some College	123	19	51	20	18	13	8	9	9	13	10	11	218	17
College Degree or Above	249	39	69	26	38	27	17	20	17	24	11	13	401	31
ESL														
ESL	24	4	85	30	75	52	61	66	12	17	55	62	313	24
No ESL	624	96	194	70	69	48	32	34	59	83	34	38	1011	76
Age														
16-17	235	36	62	28	32	29	28	33	26	44	13	16	396	35
18	299	46	99	45	59	54	42	49	20	34	39	49	559	49
19	48	7	43	19	15	14	14	16	9	15	21	26	149	13
20 and above	4	<1	18	8	4	3	2	2	4	7	7	9	39	2

of the sample is non-white, and 44 percent of participants have parents with a high school education or less. Roughly one-third report that they qualify for free or reduced-price school lunches. As would be expected, there are substantial differences in socio-economic status among youths from different racial/ethnic backgrounds. (The "other" category includes young people who identify their cultural heritage as Cape Verdean ( $N = 61$ ) and do not self identify as black, as well as 10 individuals who self identified as Alaskan Native/Native American or Native Hawaiian/Pacific islander.) In general, the minorities have less educated parents than the whites, with the Asian American parents having the lowest levels of college involvement. English as a second language program involvement of the child was highest among the Asian Americans (66%). Substantial involvement was also reported by Hispanics (52%) and among blacks (30%).

These measures of race and ethnicity necessarily aggregate individuals having different cultural heritages. Additional responses to questions about mother's and father's country of origin indicate that among Hispanics, the modal country of origin is Puerto Rico. Asian Americans were largely from China, Vietnam, and Hong Kong.

Descriptive data also indicate somewhat greater participation of young men among the whites and Asian Americans. In addition, minorities were somewhat older in age. Based on the parent-interviews conducted by phone (data not shown), the average family 1997 income among whites is approximately \$57,000, in contrast to \$36,700 among blacks, \$33,000 among Hispanics, and \$34,200 among Asian Americans. Because some parent-interviews could not be conducted due to language differences, these statistics are inaccurate estimates of group differences.

### *Dependent Variable*

The dependent variable in this analysis is *depressed mood*, as measured with a modified 12-item version of the 20-item Center for Epidemiological Studies' Depression scale (Radloff 1977). The Center for Epidemiological Studies' Depression scale measure has been widely used in epidemiological studies focusing on depressive symptoms in both ado-

lescent and adult populations (Finch, Kolody, and Vega 2000). This smaller set of items was chosen on the basis of prior work (Ross and Mirowsky 1984) and represents the four dimension factor structure that is seen to represent the major components of depressive symptomatology.

As a continuous, self-report measure of depressed mood, the Center for Epidemiological Studies' Depression scale measure differs from diagnostic interview measures. Evidence from studies seeking to ascertain its psychometric properties and relationship to diagnostic assessments (Roberts, Lewinsohn, and Seeley 1991) indicates that the Center for Epidemiological Studies' Depression scale is successful in detecting depressive disorders, but that it identifies a large number of false positives, people who report high levels of symptoms but who do not meet diagnostic criteria for a disorder. Research conducted by Gotlib and associates (Gotlib, Lewinsohn, and Seeley 1995) determined, for a high school population, that high scorers on the Center for Epidemiological Studies' Depression scale who did not have a diagnosable depressive disorder still evidenced dysfunction (based on other measures) that was similar to that of individuals who were determined to have a major depression on the basis of a clinical interview.

To measure depressed mood, respondents were asked to indicate on a four-point scale how often in the past seven days (from "rarely or none of the time," to "most or all of the time") they had the following symptoms: could not shake off the "blues," had trouble keeping their minds on what they were doing, felt that everything was an effort, felt hopeful about the future, had restless sleep, were unhappy, felt lonely, felt that people were unfriendly, enjoyed life, felt sad, felt that people disliked them, or could not "get going." Given our interest in the continuous range of depressive symptoms, consistent with the original intent of the measure, we created an index on the basis of these responses, with high scores indicating high levels of depressed mood. The measure has an internal consistency of .81 at Time 1 and .82 at Time 2, with these alpha coefficients ranging from .73 (for Asian Americans) to .83 (for whites) across race/ethnic groups.

### *Independent Variable*

The central independent variable used in this analysis is the respondent's self-identified *race or ethnicity*. This information was obtained in the Time 1 interview using the two-pronged approach used in the Census. We first asked respondents whether they considered themselves to be of Hispanic or Latino origin, followed by a question about race which allowed for the selection of one or more options. In coding a single measure of race/ethnic identity, we coded as a group all individuals who said they were of Hispanic or Latino background, irrespective of their racial designation. From these variables, we were able to identify five race/ethnic groups for analyses: whites, Hispanics, blacks, Asian Americans, and multi-ethnic youth. Just over 1 percent of the sample reported being an American Indian, Alaska Native, Native Hawaiian, or other Pacific islander. As noted, a number of other young people ( $N = 61$ ) identified a non-Hispanic cultural heritage, but did not select a racial membership. Both sets of individuals were excluded from the analyses unless they reported another ethnic identity, placing them in the multi-ethnic group. In this paper we do not distinguish between race and ethnicity in referring to individuals in these groups because our coding of Hispanic includes individuals who report their race as black, and the investigation does not focus on the cultural variables typically associated with the term ethnicity. For simplicity, we use the term race/ethnicity, or characterize non-whites as minorities.

### *Mediator Variables*

Several potential mediators of the association between race/ethnicity and depressed mood are included in this analysis. School and work statuses are measured using a series of dummy variables that capture statuses at the Time 2 interview. *School status* is assessed with four dummy variables for being enrolled in a four-year college, a two-year college, a vocational or technical school or program, or not enrolled in school (the omitted category). *Work status* is assessed with three dummy variables reflecting their Time 2 employment status as full-time worker, part-time worker, or not employed (the omitted category). Also

included as mediators are parallel measures of emotional support from and conflict with parents and peers, derived from scales developed by Gore, Aseltine, and Colten (1992) and Schuster, Kessler, and Aseltine (1990). The measures of *parent and peer support* ask youths the extent to which parents or peers (1) really care about them, (2) understand the way they feel about things, and (3) appreciate them; as well as the extent to which young people can (4) rely on [them] for help if they have a serious problem, (5) open up to [them] if they need to talk about worries, and (6) relax and be themselves around [them]. Responses range from "a lot" to "not at all" on a four point scale, with higher values indicating greater levels of support. Levels of support from parents were assessed separately for mothers and fathers. For respondents in two-parent families, the mean on each pair of items was calculated prior to summing items to create the final scale; for youths with single-parent families or those living with an adult parent-figure (typically a grandparent or other family member), the score was based on their response for that parent only. Cronbach's alpha coefficients for the measure of peer support are .87 at Time 1 and .85 at Time 2; alphas are .86 and .89 for the measure of parent support at Times 1 and 2, respectively.

Similarly, the *parent and peer conflict* measures ask youths the extent to which parents or peers (1) make too many demands, (2) make them feel tense, (3) argue with them, (4) criticize them, (5) let them down when they are counting on them, and (6) get on their nerves. Responses range from "often" to "never" on a four point scale, with higher values indicating greater levels of conflict. As was true for measures of support, levels of conflict with parents were assessed separately for mothers and fathers. Cronbach's alpha coefficients for the measure of peer conflict are .77 at Time 1 and .82 at Time 2; alphas are .82 and .86 for the measure of parent conflict at Times 1 and 2, respectively.

### *Control Variables*

A number of family demographic and individual background variables were included as controls in the analysis. *Parents' education* is a seven category ordinal variable measuring the highest level of education attained by either of



the respondent's parents. Responses range from fewer than eight grades of school completed to having attended graduate or professional school, with higher values indicating more schooling. Another measure of socioeconomic status, family income, was not included in this analysis because of the missing cases in parental reports of income. As an alternative, *family's standard of living* was obtained directly from youths through a measure usually employed in studies of adult populations to estimate income adequacy (Dubnoff 1985). Respondents were asked, "What best describes your family's standard of living—would you say you are very well off, living very comfortably, living reasonably comfortably, just getting along, nearly poor, or poor?" Higher values reflect a higher standard of living. Controls for youths' *sex* and *dropout status* (coded 1 for female sex and if the respondent left high school prior to graduation) are included in the analysis. We also include a control for the Time 2 *living situation*, which is assessed with three dummy variables: living with parents (omitted), in a dormitory, or in a house/apartment without either parent. Finally, we control for the Time 1 measures of depressed mood and parent and peer support and conflict.

The amount of missing data in this sample is extremely small; the number of cases with missing data on any of the items in a scale did not exceed 3 percent of the sample for any measure. The two respondents with missing information on race and ethnic status were deleted from the analysis. For all variables used in this analysis, missing values on single-item measures are assigned to the sample mean or, in the case of categoric measures, to the modal response. Respondents with missing data on fewer than two-thirds of the items comprising multi-item scales are assigned to the sample mean on those items. Those with invalid responses on more than two-thirds of the items comprising a scale are assigned to the sample mean of the scale.

### *Analysis Plan*

This analysis entails the estimation of a series of multiple regression equations to examine the effects of race/ethnicity on change in depressed mood from Time 1 to Time 2, an interval of roughly two years. After establishing the effects of race/ethnicity on Time 2

depressed mood, net of the individual's personal characteristics, family background, Time 1 depressed mood, Time 1 relationship quality, and Time 2 living situation, analyses will focus on the extent to which race/ethnic differences in depressed mood are mediated or explained by measures of school and work status and by changes in relations with parents and peers. Through controlling for the effects of Time 1 depressed mood and support and conflict involving parents and peers, we interpret the Time 2 coefficients for these variables as the effects of changes in the quality of parental and peer relations on changes in depressed mood from Time 1 to Time 2 (Kessler and Greenberg 1981). The mediating effects of each cluster of potential mediators will then be further specified in a series of analyses decomposing the total, direct, and indirect effects of race/ethnicity on change in depressed mood.

## RESULTS

### *The Gross Effects of Race/Ethnicity on Changes in Depressed Mood Following Graduation*

The effects of ethnic background on change in depressed mood from Time 1 to Time 2 are presented in Table 2. This table presents unstandardized coefficients derived from standard multiple regression equations. Model 1 shows the influence of race/ethnicity on depression at Time 2, controlling only for depressed mood at Time 1. The coefficients in Model 1 indicate that relative to white youth, blacks ( $b = .137$ ,  $SE = .036$ ), Hispanics ( $b = .175$ ,  $SE = .050$ ), and youth from multi-ethnic backgrounds ( $b = .138$ ,  $SE = .066$ ) have significantly higher levels of depressed mood at Time 2. The magnitude of race/ethnic differences are roughly the same for all three of these groups, amounting to an elevation in depressed mood relative to whites of roughly a quarter to a third of a standard deviation. To examine contrasts involving the black, Hispanic, Asian American, and multi-ethnic groups, we reparameterized this equation by taking the arithmetic differences between the coefficients presented in Table 2. These contrasts (data not shown) indicate that the only significant differences involve Asian Americans, who have lower levels of depressed

**TABLE 2. Effects of Race/Ethnicity on Change in Depressed Mood, Net of Work and School Status and Changes in Relations with Parents and Peers**

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Constant	.909*	(.057)	1.459*	(.201)	1.730*	(.218)
Depressed Mood 1	.435*	(.032)	.361*	(.033)	.306*	(.031)
Race/Ethnicity						
White (Omitted)	—	—	—	—	—	—
Black	.137*	(.036)	.097*	(.038)	.052	(.035)
Hispanic	.175*	(.050)	.121*	(.051)	.077	(.048)
Asian	-.013	(.056)	-.048	(.056)	-.026	(.053)
Multi-ethnic	.138*	(.066)	.082	(.065)	.054	(.060)
Controls						
Sex (female = 1)	—	—	.009	(.029)	.023	(.028)
Parents Education	—	—	-.009	(.009)	.004	(.008)
Standard of Living	—	—	-.038*	(.017)	-.016	(.015)
Dropout	—	—	.108*	(.047)	-.004	(.046)
Live in House/Apartment	—	—	-.010	(.039)	.025	(.036)
Live in Dorm	—	—	-.073	(.039)	.005	(.042)
Live with Parents (Omitted)	—	—	—	—	—	—
Support from Parents Time 1	—	—	-.057	(.032)	.044	(.035)
Conflict with Parents Time 1	—	—	.092*	(.031)	.004	(.032)
Support from Peers Time 1	—	—	-.062*	(.030)	-.028	(.028)
Conflict with Peers Time 1	—	—	.003	(.031)	-.068*	(.030)
Time 2 School and Employment						
Four Year College	—	—	—	—	-.098*	(.039)
Two Year College	—	—	—	—	.078	(.048)
Technical School	—	—	—	—	-.238*	(.077)
No School (Omitted)	—	—	—	—	—	—
Full-Time Work	—	—	—	—	-.111*	(.037)
Part-Time Work	—	—	—	—	-.030	(.036)
Unemployed (Omitted)	—	—	—	—	—	—
Parent and Peer Relations						
Support from Parents Time 2	—	—	—	—	-.136*	(.034)
Conflict with Parents Time 2	—	—	—	—	.130*	(.033)
Support from Peers Time 2	—	—	—	—	-.110*	(.033)
Conflict with Peers Time 2	—	—	—	—	.179*	(.032)
R-square	.180		.224		.355	

\*  $p < .05$ 

mood than blacks ( $b = .150$ ,  $SE = .061$ ) and Hispanics ( $b = .188$ ,  $SE = .069$ ).

To better understand the longitudinal patterns that underlie these effects, descriptive data showing the mean levels of depressed mood at Time 1 and Time 2 by race/ethnicity are presented in the first panels of Table 3. For whites and Asian Americans, average levels of depressed mood at Time 2 are lower than those observed at Time 1, indicating that leaving high school is accompanied by improvements in well-being for many individuals (see Aseltine and Gore 1993). In contrast, average levels of depressed mood at Time 2 are higher than those observed at Time 1 among blacks, Hispanics, and those from multi-ethnic backgrounds. Together these disparate trends produce the statistically significant *changes* in depressed mood by race/ethnic status observed in Table 2.

In Table 2, model 2 we see that the race/ethnic differences in depressed mood observed in model 1 are reduced somewhat when controls are added to the equation, indicating that small portions of the group differences in depressed mood are attributable to these characteristics and circumstances. The black, Hispanic, and the multi-ethnic coefficients presented in model 2 are reduced by approximately 30 percent (relative to whites) and save for the multi-ethnic category remain statistically significant at the .05 level. However, the inclusion of the control variables has a trivial effect on the contrasts involving blacks versus Asian Americans ( $b = .145$ ,  $SE = .060$ ) and Hispanics versus Asian Americans ( $b = .169$ ,  $SE = .069$ ; data not shown in Table).

Additional analyses (not shown) were conducted to determine whether the effects of ethnicity on depressed mood differ by youths' sex

**TABLE 3. Description of Race/Ethnic Differences in Depressed Mood and Relationship Quality**

Variable	Black		Hispanic		Asian American		Multi Ethnic		White		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Depressed Mood												
Time 1	1.75	.42	1.79	.45	1.68	.39	1.75	.41	1.72	.48	1.73	.45
Time 2***	1.80	.52	1.88	.55	1.63	.38	1.78	.54	1.65	.49	1.71	.51
Parent Support												
Time 1**	3.29	.56	3.33	.57	3.25	.43	3.22	.59	3.40	.49	3.34	.52
Time 2***	3.33	.60	3.25	.75	3.34	.49	3.20	.67	3.48	.52	3.40	.57
Peer Support												
Time 1***	3.29	.68	3.28	.61	3.47	.43	3.48	.56	3.61	.45	3.48	.55
Time 2***	3.58	.53	3.48	.61	3.64	.37	3.64	.53	3.74	.38	3.67	.46
Parent Conflict												
Time 1	2.17	.60	2.15	.59	2.24	.55	2.26	.54	2.21	.54	2.20	.56
Time 2	2.05	.60	2.15	.64	2.14	.65	2.08	.65	2.09	.58	2.09	.58
Peer Conflict												
Time 1	1.93	.55	1.92	.51	2.02	.48	2.05	.58	2.00	.53	1.98	.53
Time 2	1.83	.56	1.71	.51	1.79	.50	1.75	.50	1.85	.49	1.83	.51

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ , (two-tailed)

Note: Individuals not in these racial/ethnic groups (N = 72) are omitted from the analyses. F Values for tests of group differences in means at T1 and T2 are: Depressed Mood F = 1.26 (Time 1), F = 6.96 (Time 2); Parent Support F = 4.14 (Time 1), F = 7.19 (Time 2); Peer Support F = 23.21 (Time 1), F = 10.32 (Time 2); Parent Conflict F = .89 (Time 1), F = .73 (Time 2); Peer Conflict F = 1.71 (Time 1), F = 2.06 (Time 2)

**TABLE 4. Description of Race/Ethnic Differences in Time 2 Roles**

	Black		Hispanic		Asian American		Multi Ethnic		White		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
School Status Time***												
4-year College	47	21.5	19	19.0	52	68.4	10	18.9	266	46.6	394	38.7
2-year College	41	18.7	18	18.0	5	6.6	7	13.2	63	11.0	134	13.2
Technical School	7	3.2	4	4.0	1	1.3	0	0.0	20	3.5	32	3.1
Not in School	124	56.6	59	59.0	18	23.7	36	67.9	222	38.9	459	45.0
Total	219	100.0	100	100.0	76	100.0	53	100.0	571	100.0	1,019	100.0
Work Status Time 2*												
Full-Time Worker	97	44.3	43	43.0	23	30.3	27	50.9	233	40.8	423	41.5
Part-Time Worker	67	30.6	27	27.0	26	34.2	19	35.8	218	38.2	357	35.0
Not Employed	55	25.1	30	30.0	27	35.5	7	13.2	120	21.0	239	23.5
Total	219	100.0	100.0	100.0	76	100.0	53	100.0	571	100.0	1,019	100.0

\*  $p < .05$ ; \*\*\*  $p < .001$ , (two-tailed)

Note: Individuals not in these racial/ethnic groups (N = 72) are omitted from the analyses. X<sup>2</sup> values for tests of group contrasts in school and employment statuses: School Status (X<sup>2</sup> (12, n = 1,019) = 102.67); Work Status (x<sup>2</sup> (8, n = 1,019) = 19.32).

and family socio-economic status. These results indicate that the impact of ethnicity on change in depressed mood is not altered by either of these variables.<sup>2</sup>

*Explaining the Effects of Race/Ethnicity on Changes in Depressed Mood*

This portion of the analysis examines the extent to which post-graduation school and work statuses and relations with parents and peers mediate the relationship between race/ethnicity and changes in depressed mood. For these variables to serve as mediators of this association they should be associated with both ethnicity and depression. The bivariate analysis presented in Tables 3 and 4 indicates that this is largely the case with respect to ethnicity. Here we see significant group differences for practically all status and quality of relationship variables, with the exception of parent and peer conflict.

To examine these mediating processes more formally, measures of post-graduation school and work status and relations with parents and peers measured at Time 2 were added to the previous equation (model 2).<sup>3</sup> The results of this analysis are presented in model 3 of Table 2. Considering work and school status following graduation, attendance at a four-year college or a technical school and full-time work are all negatively associated with depression. The magnitude of these effects is substantial: Those in either of these two school statuses report levels of depressed mood that are roughly two-fifths to one-half of a standard deviation lower than those not in school, while those working full-time report levels of depressed mood that are roughly two-tenths of a standard deviation lower than those of nonemployed youth. In contrast, enrollment in a two-year college and part-time work are not significantly associated with change in depressed mood.

The effects of the quality of relations with parents and peers on depressed mood following graduation from high school are presented in the lower portion of Table 2. The inclusion of the Time 1 measures of support and conflict in this model adjusts for differences in the quality of youths' social relationships prior to graduation from high school. The results of this analysis indicate that support from both parents and peers at Time 2 is associated with

lower levels of depressed mood, while conflict with both parents and peers is associated with higher levels of depressed mood.

The introduction of these explanatory variables in model 3 substantially explains the association between race/ethnicity and depressed mood. The coefficients for blacks and Hispanics relative to whites are reduced by approximately 50 percent compared to those in model 2 and are no longer statistically significant at the .05 level. The contrasts between blacks and Asian Americans ( $b = .078$ ,  $SE = .057$ ) and Hispanics and Asian Americans ( $b = .102$ ,  $SE = .065$ ) are similarly reduced to non-significance when the mediators are introduced into the model (data not shown).

These results indicate that the effects of race/ethnicity on changes in depressed mood following high school graduation can be completely explained by controlling for measures of school and work status and the quality of relations with parents and peers. What remains unclear, however, is which cluster or clusters of mediator variables accounts for these effects. To address this question, we conducted a series of analyses to decompose the total, direct, and indirect effects of race/ethnicity on depressed mood. Two sets of contrasts are presented, involving comparisons of black and Hispanic youth to both white and Asian American youth, in light of the lower levels of depression among the latter two groups. Results from these analyses are presented in the lower portion of Table 5. The indirect effects presented in this table reflect the degree to which the difference between the total and direct effects of the race/ethnicity categorizations can be attributed to either school or work status or relations with parents or peers; these effects were obtained by subtracting the direct effect of the race/ethnicity variables from the race/ethnicity coefficients obtained in a series of models dropping each set of mediator variables.

Considering first the contrasts involving blacks and Hispanics versus whites, we see in the first two columns of Table 5 that social relationships figure prominently in accounting for these differences. Relations with parents accounts for the lion's share of the reduction in Hispanic-white differences, while relations with peers is the second most important factor in reducing black-white differences in depressed mood. In the former case, 70 percent of the reduction in the Hispanic (versus white)

**TABLE 5** Decomposition of the Direct and Indirect Effects of Race/Ethnicity on Depressed Mood

	Black (vs. White)		Hispanic (vs. White)		Black (vs. Asian)		Hispanic (vs. Asian)	
	B	(SE)	B	(SE)	B	(SE)	B	(SE)
Total Effect:	.097*	(.038)	.121*	(.051)	.145*	(.060)	.169*	(.069)
Direct Effect:	.052	(.035)	.071	(.048)	.078	(.057)	.102	(.065)
Indirect Effect: <sup>a</sup>								
School	<b>.018</b>		<b>.019</b>		<b>.061</b>		<b>.057</b>	
Work	.005		.013		-.002		.000	
Relations with Parents	.006		<b>.035</b>		-.006		.018	
Relations with Peers	<b>.012</b>		-.007		.015		-.008	

\*  $p < .05$

Note: Mediators accounting for large proportions of the reduction in ethnicity contrasts are shaded in bold.

<sup>a</sup> The indirect effects are the arithmetic differences between the ethnicity coefficients from the reduced equations omitting each domain of mediators and the ethnicity coefficient from the full model for each outcome.

coefficient from the full to reduced models can be accounted for by the Time 2 measures of support from and conflict with parents (.035 / [.121 – .071]). Similarly, for blacks, in contrast with whites, approximately 30 percent of the reduction in the black coefficient from the full to reduced models can be accounted for by the Time 2 measures of support from and conflict with peers.<sup>4</sup>

The only other set of mediators to contribute meaningfully to the reduction in the black and Hispanic coefficients relative to whites is school status, which accounts for roughly 40 percent of the group differences in depressed mood. This is not surprising, given the substantial differences in college enrollment presented in Table 3 (only 20 percent of blacks and 15 percent of Hispanics are enrolled in a four-year college at Time 2, in contrast to 46 percent of whites) in conjunction with the strong positive effects of four-year college enrollment on depressed mood presented in Table 2.

Somewhat different results are obtained in the decomposition of black and Hispanic versus Asian American differences in depressed mood. Here, the greatest proportion of the reduction in group differences in depressed mood is attributable to school status, which accounts for roughly 85 to 90 percent of these ethnic differences. Again, the strong effects of school status in explaining these differences are reflected in Table 4, as 68 percent of Asian American youth are enrolled in a four-year college at Time 2. The remaining differences in depressed mood involving the contrasts between blacks and Asian Americans and Hispanics and Asian Americans are explained

by relations with peers and parents, respectively. The role of these variables, however, is modest in comparison to school differences, amounting to roughly 20 to 25 percent of the overall differences between these groups.

## DISCUSSION

This study investigates the role of race/ethnicity in mental health processes at the transition to adulthood. Results indicate that, relative to whites and Asian Americans, blacks and Hispanics had significantly elevated depressed mood at Time 2, and these group differences remained even after controlling for family and individual background variables. Race/ethnic differences are substantially linked to differences in educational status. Attendance at a four-year college or a technical school varies by ethnic status, and school involvement is negatively associated with depression. The low rates of blacks and Hispanics in the four-year college status are striking (21 percent and 19 percent, respectively). The school profile of Hispanics is the most discouraging, with 59 percent of these young people not pursuing higher education of any kind. In contrast, some 68 percent of the Asian Americans were enrolled at four-year colleges, a rate that exceeds the rate among whites by over 20 percent. Because four-year college attendance is an important mediator of depressed mood for all groups, this level of college involvement is certainly a protective factor in the mental health of Asian American youth.

Importantly, working full-time is also a positive mental health influence. Approximately

equal proportions (about 49 percent) of blacks, Hispanics, and whites were working full-time at Time 2, with members of all groups reaping this benefit. Although the decomposition analysis indicates that employment does not play a significant role in accounting for group differences, it is important to note that the apparently similar profiles for this variable (in Table 4) are deceptive because they do not differentiate those who are not working because they are students and those who are both not working and not enrolled in school. When school status is examined in conjunction with employment status, we find that 5 percent of the white youth are non-students who are not working, in contrast with 14 percent of the blacks and 16 percent of the Hispanics (data not shown). These group differences reveal the high numbers of minority youth who do not have a developmentally constructive set of activities following the transition from high school.

A second piece of the picture concerns the group differences in relations with parents and peers. Specifically, for the contrasts involving whites and Hispanics, differences in *parental support* and *conflict* are key to differences in depressed mood among these youths, while for those contrasts involving whites and blacks, the higher level of *peer support* evidenced among whites at Time 2 figures most prominently. Young adulthood is a transitional period during which peer and familial relationships change, usually for the better (Aseltine and Gore 1993). In examining Time 1 and Time 2 means for these variables by race/ethnicity (in Table 3), we see that this is generally the case across the different groups. However, the group difference in friendship support at Time 2 remains an important factor in the black-white mental health differential at this time. In contrast, for Hispanics, family relations are the more problematic social domain. Relationships with parents do not improve from Time 1 to Time 2, in contrast with the trend evidenced for the other groups.

We have argued that the emergence of group differences in mental health during the transition to adulthood can be viewed through the lens of capitalization theory. Borrowing from the field of economics, youth development is now increasingly seen from capitalization perspectives. As Hagan (1998) has described, capitalization theory "begins with the premise that we acquire at birth and accumulate throughout

our lives unequal shares of various types of capital that incrementally and interactively mediate and determine life chances (p. 502)." Although recognizing that our snapshot of development does not fully document this process, it is clear from these school and employment contrasts that blacks and Hispanics are less involved than others in instrumental activities that promote growth in human and social capital. We noted earlier the similarities in the constructs of social support and social capital, though the latter is not typically used in mental health studies. We think that the more optimal situation that whites and Asian Americans experience in their social relationships should be considered from a capitalization perspective because these findings parallel the results for the school and employment variables and because group differences in these pathways of social development are consistent with existing sociological work on social inequality and the quality of social relations.

Finally, with respect to the capitalization construct, we examined the association between race/ethnicity and change in depressed mood over a two-year transitional period to understand whether race/ethnic groups fared differently over a period in the life course characterized by developmental change and heightened mental health risk. In this respect, we should emphasize that the differences we are discussing illustrate the interface of mental health and developmental processes. In this context, we see the ethnicity gap in depressed mood as reflecting an increase in life adversity among black and Hispanic youth during a period of change that is strongly affected by the availability of individual and social resources. Most clearly, ethnicity is tied to depressed mood among young adults through their constrained opportunities for higher education. For reasons not entirely clear to us, our evidence indicates that social relations are not as positive for black and Hispanic youth, and that these problems also contribute to group differences in depressed mood.

An important question we could not consider is how these young people came to occupy these more disadvantaged pathways into adulthood? One obvious analytic direction would be to discern how the effects of minority status are intertwined with those of attending a particular high school. Our data do not allow us to

sort through these various contextual issues. Two of the large city schools from which we sampled were predominantly non-white, and most of our black and Hispanic students were concentrated in these schools, with another portion attending an additional large, urban school. Very few blacks and Hispanics were in the other school settings. Given we could not address the educational and social development of blacks and Hispanics in different school contexts, our analytic goal was to focus on the post-high school pathways linking race/ethnicity to depressed mood, rather than the cultural and structural underpinnings in schools and communities that are key distal determinants of mental health and capitalization.

The diversity of the study population and the size of our total sample are strengths of our study, allowing us to examine the mental health of five groups of young adults. However, the limited numbers of respondents within each ethnic group as well as considerable cultural heterogeneity within groups dictated a set of objectives that necessarily overlook many other variables related to mental health and social capital. For example, within and across groups there are differences in country of origin, language spoken at home, and immigration status. With respect to sample attrition, despite a great deal of interviewer effort to retain study participants in the sample, we were unable to locate or make contact with some members of the black and Hispanic groups. Given the fact that studies of this type typically lose to attrition the more socioeconomically disadvantaged members of the sample, our results may paint a conservative picture of the differences in depressed mood between these ethnic groups.

With respect to the design, the two waves of data are obtained from the first interviews in a long-term study. The data seem to have captured an important transitional period. A different question, however, is whether clear patterns of ethnically linked trajectories of disadvantage and mental health will be evidenced as young people continue to make role transitions in the course of this developmental period. In addition, using the two waves of data we have attempted to model a causal process. Through controlling for Time 1 depressed mood and other background characteristics, we have interpreted the associations involving the Time 2 measures as reflecting the influence of the

predictors on change in depressed mood (Kessler and Greenberg 1981). It is impossible, however, to be definitive about the direction of causality. Also, because the data are self-reported, it is possible that depression at Time 2 is shaping the perception of social relationships at that time. At the same time, because the measures of school and employment statuses are not subject to perceptual biases, and the findings about social relationships are consistent with the findings about educational roles in showing more hardships among blacks and Hispanics, we are on firmer ground in our interpretations than we might otherwise be. Nevertheless, longer-term data are needed to speak more definitely about capitalization processes. In these respects, the findings should be regarded as initial and tentative.

In conclusion, our study findings offer a portrait of the difficulties faced by black and Hispanic young adults. At the same time, these experiences are not uniform. An important next step will be to address how protective factors might lead to the accumulation of capital within these groups and bring about improvements rather than decrements in mental health.

## NOTES

1. The systematic sampling of students from school rosters allows us to see this sample as representative of students from these public schools. The broader representativeness of this data set is limited by the deliberate selection of schools in specific communities. This method was dictated by several features of our study design, including the use of in-person interviews at Time 1, therefore necessitating proximity to the survey center. In addition, because the study concerns the mental health of young adults as affected by various risk factors during the transition to adulthood, we also selected sites to insure adequate numbers of low income and non-white youth. The higher income waterfront and suburban communities were also deliberately excluded. The resulting selection of communities represents a contiguous area in the Boston Consolidated Metropolitan Statistical Area. We used 1990 Census data for this Consolidated Metropolitan Statistical Area to compare the characteristics of the sample for key family background variables with



comparable subgroups in this Census area. These contrasts indicate that our more urban sample is considerably more ethnically diverse than the wider geographic area. In our sample, 49 percent self identify as non-Hispanic white, in contrast with 87 percent of families with children in the Consolidated Metropolitan Statistical Area. In addition, a higher proportion of our participants are not living with two parents (50% versus 20% in the Consolidated Metropolitan Statistical Area). School systems initially gave us lists of former students whom their records showed had dropped out. Our contact information indicated that a large number of individuals had transferred to other schools and therefore did not meet our dropout criteria. We provide an estimated response rate for the dropout subsample that is based on a projected eligibility rate of two-thirds, based on the numbers of individuals who were designated as dropouts in our screening. The estimated response rate of 70 percent for the dropouts includes 14 percent refusals and 16 percent non-interviews due to an inability to make contact after an average of 23 tries. Persons who completed the interview by phone reported lower levels of depressed mood than those who were interviewed in person ( $p < .001$ ). We investigated whether this differential in depression was due to the phone versus in-person interview mode or, alternatively, due to individual selection into the phone mode, by determining whether individuals completing the phone interview at Time 1 also had significantly lower rates of depressed mood in their Time 2 interviews, when all interviews were conducted by phone. We found this to be the case, leading us to conclude that the Time 1 differences were not due to mode of interview. Evidence indicates that requiring active written parental consent for adolescents' participation in research may reduce levels of participation further among less advantaged youth, including those who are poorer functioning (Weinberger et al. 1990). Given that students in this study were high school seniors, many above the age of consent, and that both schools and our university institutional review board were supportive of a passive consent procedure for par-

ents, we decided to use a passive consent procedure.

2. First, multiplicative terms involving gender and the four ethnicity categories were included in a basic regression model controlling for Time 1 depressed mood, parents' education, family standard of living, and dropout status. The F-test for the difference in regression sums of squares attributable to these interaction terms failed to achieve statistical significance at the .05 level ( $F = .033$ ,  $df = 4$ ). Second, multiplicative terms involving both family's standard of living and parents' education with the four ethnicity categories were similarly examined in separate regression models. Once again, the F-tests for the difference in regression sums of squares attributable to these interaction terms failed to achieve statistical significance at the .05 level. For parents' education, the addition of the four product terms resulted in an F-value of 1.51 ( $df = 4$ ); for standard of living, the addition of the four product terms resulted in an F-value of .836 ( $df = 4$ ).
3. Despite the lack of statistical significance in the bivariate associations involving race/ethnicity and both parent and peer conflict, we include these measures in the multivariate analysis for two reasons. First, these variables are theoretically important, and we are loath to eliminate variables at this stage in the analysis, since it is possible that they may be significantly associated with race and ethnicity when other factors are controlled. Second, both parent and peer conflict are significant predictors of depressed mood, which reduces the error variance in regression estimates and strengthens statistical tests. In preliminary analyses, school and work status and peer and parent mediator variables were added to the equation in two steps. Because some portion of the effects of school and work status on depressed mood might be mediated by relations with parents and peers (see Aseltine and Gore 1993), the initial model added only the status variables to the regression equation presented in Table 2. We observed few differences between a reduced model containing only the status variables and the full model presented in Table 2 (model 3), however, justifying the

presentation of a single model containing all plausible mediators.

4. Further analysis contrasting Hispanics with whites indicates a roughly equivalent contribution of support from and conflict with parents. Additional analysis pertaining to the black versus white contrast suggests that this differential is primarily attributable to higher levels of peer support among whites.

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