DEPRESSION, SELF-ESTEEM, AND MULTIRACIAL ADOLESCENTS: THE ROLE OF SOCIOECONOMIC SELCTIVITY, FAMILY STRUCTURE, AND SCHOOL ACHIEVEMENT

Jamie Mihoko Doyle
Population Studies Center
University of Pennsylvania
3718 Locust Walk
Philadelphia, PA 19104
jmdoyle@ssc.upenn.edu

September 22, 2006

* Direct Correspondence to: Jamie Mihoko Doyle, Population Studies Center, University of Pennsylvania, 3718 Locust Walk, Philadelphia, PA 19104 or **jmdoyle@sas.upenn.edu**. This research was supported by a grant from the NICHD (R01 HD38704-01A1; PI: Grace Kao). This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris, and funded by a grant P01-HD31921 from the National Institute of Child Health and Human Development., with cooperative funding from 17 other agencies. Special acknowledgement is due to Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, (www.cpc.unc.edu/addhealth/contract.html).

DEPRESSION, SELF-ESTEEM, AND MULTIRACIAL ADOLESCENTS: THE ROLE OF SOCIOECONOMIC SELCTIVITY, FAMILY STRUCTURE, AND SCHOOL ACHIEVEMENT

Abstract

In light of the growing number of investigations of racial disparities in mental health, there has been an increased interest in multiracials. They are changing the meaning and measurement of race itself. The objective of this study is to investigate differences in depression and self-esteem by examining the role of individual characteristics coupled with family structure and school achievement. The analysis uses Wave I of the National Longitudinal Study of Adolescent Health, a nationally representative sample of 20,743 students ages 12-18. Depression is dichotomized using a modified version of the CES-D. Self-esteem is assessed using the Rosenberg Self-esteem scale. Logistic regression and linear mixed models are used for both outcomes, respectively, and adjust for individual characteristics, family structure, and school achievement. The socioeconomic selection of intermarriage for multiracials overall, and the cultural similarity of multiracial Asians to monoracial Asians should both be important considerations for the expected findings.

DEPRESSION, SELF-ESTEEM, AND MULTIRACIAL ADOLESCENTS: THE ROLE OF SOCIOECONOMIC SELCTIVITY, FAMILY STRUCTURE, AND SCHOOL ACHIEVEMENT

*** Extended Abstract ***

INTRODUCTION

One in five Americans suffer from mental health conditions each year (DHHS 2001).While advances in pharmacologic research have blunted the crippling effects of clinical depression for millions of people, it is racial minorities that suffer to a much greater degree than the general population. They are less likely to be clinically diagnosed, receive poorer quality of care, and experience a greater number and intensity of life stressors than Whites. The recognition of this disparity has fueled initiatives to tailor health interventions, particularly among children and adolescents. Although explanations for the striking racial gradient are still not entirely clear, culture, differences in socioeconomic environment and family structure, and disparities in physical health are widely cited in the literature. However, developing theories for and tracking improvements in the mental health status among minorities is becoming more complex.

Increases in intermarriage have added a layer of complexity to the measurement and meaning of race in America. In fact, demographers anticipate that given the increasing rates of interracial marriage, 21% of the population could self-identify with more than one race by the year 2050 (Smith and Edmonston 1997). Scant attention has been paid to multiracials, yet the few population-based studies of multiracial youth find them to be "at-risk" in terms of indicators of mental health and adverse health behaviors. For instance, Milian and Keiley (2000) examine

depression, conduct problems, school-related behavioral problems, and self-worth of multiracial youth. Their findings suggest that find biracial youth are maladjusted, with a low sense of self-worth and an elevated propensity toward deviant behavior. In addition, Cooney and Radina (2000) find striking differences in the two outcomes when stratifying the analysis by gender. Multiracial boys tend to have higher rates of depression and are more frequently suspended from school than single-race groups whereas multiracial girls did not differ from their monoracial minority peers except for the frequency in delinquent acts. Even further confirmation of these findings comes from Udry, Li, and Hendrickson-Smith (2000), who finds differences, in not only affective but also psychosomatic symptoms. They find that in general, multiracials have a higher odds of experiencing feelings of being depressed/feeling blue, having sleep problems, and waking up tired in addition to psychosomatic symptoms such as aches/pains and headaches, which may suggest the presence of a mental health disorder.

Authors of the aforementioned studies suggest that the stress induced by forming a mixed race identity explains their poor mental health status in addition to their negative coping behavior. In general, adolescents who reported more than one race are more likely to engage in risky health behaviors such as smoking and drinking alcohol regularly compared to single-race groups (Udry, Li, and Hendickson-Smith 2000). Scholars postulate that rebellious behavior serves as a means for which multiracials gain attention and acceptance from racially homogeneous peer groups (Cooney and Radina 2000), since prior research finds that multiracials tend to experience feelings of exclusion from extracurricular activities and social circles (Gibbs 1998; Brown 1990).

Findings from previous studies seem to consistently find multiracials to be at-risk youth with significant signs of mental illness and mood disorders; however, several questions remain unanswered. First, who should be considered multiracial? The Cooney and Radina and Udry, Li, and Hendrickson-Smith studies use self-identified race. The former aggregates all individuals who self-identify with more than one race as a single, homogeneous group, while the latter disaggregates multiracials into six subgroups: Black-White, Asian-White, Native American-White, Native American-Black, Asian-Black, and Asian-Native American. Alternatively, Milian and Keiley use the parent's race to identify the race/ethnicity of the respondent. The question then becomes, is it self-identifying as multiracial the differentiating factor or is it being multiracial that is significant for examining their mental health? Second, researchers often make the assumption that the development of a mixed-race identity is the only characteristic distinguishing monoracials from multiracials. Studies to-date does not rule out other possible explanations. For instance, Udry, Li, and Hendrickson-Smith (2001) speculate that the stress involved in identity formation could be the underlying causal mechanism for their findings, but also qualify that this explanation could not be measured directly.

The current study takes a significant step forward by not only comparing the mental health status of self-identified multiracials with monoracials, but goes further to include those multiracials who are more than one race according to their parent's race. Unlike prior studies, the goal of the analysis is to uncover explanations for why the mental health of multiracials is similar (or different) from single-race groups. Extant literature finds that depression and low self-esteem are common among multiracials due to their mixed racial status and the stress involved with identity formation. Specifically, the current study asks: Are there racial differences in depression

and self-esteem and if so, do individual characteristics, family structure, and school achievement account for these differences?; Do the conclusions about the mental health status of multiracials change if the race of the respondent's parents is used to assign the race of the respondent in lieu of their self-identified race?

LITERATURE REVIEW

(Note: The literature review will be revised in a later draft **)**

Socioeconomic Status, Culture, and Mental Health

Each indicator of mental health depends on, to a large extent, the behavioral choices and peripheral environment of individuals. Two perspectives dominate the literature. The first is *socioeconomic status (SES).* The idea that affluence can "buy" better health, in terms of quality medical care and access to advanced medical technology, and give individuals the freedom to purchase better quality foods is well-established (Kaplan et al. 1996; Krieger, Williams, and Moss 1997; Kawachi and Kennedy 1997; Link and Phelan 1995). What obscures the relationship between SES and health is discrimination, particularly in housing and labor markets. Unlike Whites, most minority groups experience a handicap on nearly every measure of socioeconomic status. For example, Blacks are tracked into lower quality housing in the least desirable areas at every income strata due to housing discrimination. This, in-turn, affects the quality of schools their children can attend (Van Hook 2002). It is important to emphasize that race is distinct from socioeconomic status. Nevertheless, the overarching theme is that Blacks, Asians, and Native Americans are tracked into lower quality housing, receive lower income returns to education, and have greater barriers to educational mobility than Whites (Keister and Moller 2000).

Second, some researchers postulate that some health outcomes stem from *cultural differences*. Acculturation, or the tendency of immigrants and their children to adopt American culture, is a central explanation for decreases in overall health due to two factors: changes in perspectives about mental health and modifying positive health behaviors. Increases in the diagnosis and treatment of mental illness among Asian Americans are due to the re-conceptualization of psychological conditions, such as depression, as actual illnesses. The tendency to seek therapy is positively related to acculturation (Lauderdale and Rathauz 2000; Unger et al. 2004). For instance, Barry and Grielo (2002) find that the willingness of East Asians to seek mental health services increased with each increasing year of residence in the U.S.

EXPECTED FINDINGS

The current study hypothesizes that multiracial subgroups will not only differ from single race groups, but will also differ from one another. This theory is based on the following prior research. First, interracial marriage involves a non-random process called Educational Assortative Mating (Kalmijn 1998; Kalmijn and Flap 2001; Lewis and Oppenheimer 2000; Fu 2001; Qian 1997). Educational Assortative Mating refers to the tendency of educational increases to facilitate interracial contact, which produces families that have a mid-to-high socioeconomic profile (Farley 2002; Harris and Sim 2002; Goldstein and Morning 2000; Qian 1997; Mare 1991). Therefore, multiracials are likely to have college-educated parents, and reside in households with a favorable socioeconomic profile. Second, unlike single-race groups, multiracials face discrimination on three fronts: From each of their constituent racial groups and the broader society. One frequently cited theory that summarizes this phenomena is called the Marginal Man Theory, which states that, “the marginal man lives in two social worlds, both of

which he is more or less a stranger "(Park 1928). Educational assortative mating and the Marginal Man concept lead to two competing hypotheses on the health of multiracials. On the one hand, educational assortative mating predicts that multiracials will have lower risks of depression and higher levels of self-esteem than monoracials due to their high socioeconomic status. On the other hand, the Marginal Man concept predicts that multiracials will exhibit poorer mental health than their monoracial counterparts, since the experience of marginality is an additional stressor specific to multiracials. Since differences in socioeconomic status coupled with racial experiences are intimately tied to depression and self-esteem, systematic differences in the health of multiracials as compared to their single-race counterparts are expected.

Table 1: Descriptive Statistics of Respondents by Self-identified Race, National Longitudinal Study of Adolescent Health, Wave I

	Native American-White	Asian-White	Black-White	Native American	Asian	Black	White	Total
Depression								
% Yes	18.8	30.9	17.8	28.5	17.5	17.9	13.5	14.7
Self-esteem[a]								
Mean	17.8	17.1	17.8	17.4	17.1	18.0	17.9	17.9
Std Dev	2.2	3.0	2.5	2.2	2.5	2.2	2.2	2.3
Age								
Mean	16.0	15.9	15.9	16.0	16.6	16.1	16.1	16.2
Std Dev	1.7	1.7	1.8	1.7	1.6	1.8	1.7	1.7
Sex								
% Female	45.1	59.4	47.1	44.9	47.2	49.7	49.1	49.1
SES								
<HS	16.8	14.4	19.0	34.0	23.0	21.9	12.9	14.9
HS	33.0	20.8	17.8	24.4	15.4	34.3	33.9	33.2
Some post-grad	39.6	26.7	33.2	31.4	19.2	28.1	30.5	30.0
College +	10.6	38.0	30.0	10.2	42.5	15.8	22.7	22.0
Marital Status								
Divorced/Widowed/ Separated	17.2	30.0	58.6	29.6	12.4	35.8	20.4	22.8
Single	4.3	0.1	6.8	9.1	3.4	21.7	2.0	5.2
Married	78.5	69.9	34.6	61.3	84.3	42.5	77.7	72.0
Biological Father Lives in the								
% Yes	56.1	57.7	18.1	51.9	75.7	30.2	63.8	58.2
Mean GPA	2.5	2.7	2.7	2.4	3.0	2.5	2.7	2.7
Std Dev	0.9	0.9	0.8	0.9	0.8	0.8	0.9	0.9
Un-weighted N	268	130	138	211	1,289	3,867	11,032	16,935
Weighted N	360,249	100,358	113,133	198,400	764,941	3,380,163	15,506,276	20,423,520

[a] Self-esteem was measured using the Rosenberg Self-esteem Scale. The maximum score for the scale is 20.

Table 2: Binomial Logistic Regression Models with Depression as the Dichotomous Dependent Variable

	Depression				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Race					
[White]					
Native American-White	**1.48** [N]	**1.56** [N]	**1.35** [N]	**1.35**	**1.35**
95% Confidence Interval	(1.01-2.19)	(1.07-2.29)	(0.92-1.97)	(0.92-1.99)	(0.90-2.01)
Asian-White	**2.87** [A,*]	**2.79** [A,*]	**2.85** [A,*]	**2.89** *	**2.77** *
95% Confidence Interval	(1.58-5.23)	(1.57-4.94)	(1.63-4.99)	(1.58-5.27)	(1.52-5.07)
Black-White	**1.39**	**1.42**	**1.34**	**1.21**	**1.20**
95% Confidence Interval	(0.62-3.13)	(0.61-3.29)	(0.48-3.78)	(0.42-3.54)	(0.39-3.73)
Native American	**2.55** *	**2.82** *	**2.36**	**2.09**	**2.00**
95% Confidence Interval	(1.67-3.92)	(1.77-4.50)	(1.43-3.88)	(1.22-3.59)	(1.17-3.42)
Asian	**1.36**	**1.36**	**1.37**	**1.42**	**1.62**
95% Confidence Interval	(0.95-1.96)	(0.97-1.89)	(0.88-2.12)	(0.90-2.23)	(1.04-2.52)
Black	**1.40**	**1.37**	**1.35**	**1.19**	**1.17**
95% Confidence Interval	(1.19-1.65)	(1.15-1.63)	(1.13-1.62)	(1.00-1.41)	(0.97-1.40)
Age		1.12 *	1.11 *	1.11 *	1.11 *
Female		2.45 *	2.38 **	2.41 *	2.74 *
[Ref=Male]					
Mother's Education					
[HS]					
<HS			1.52 *	1.52 *	1.42 *
Some Post-grad			1.01	1.01	1.08
College			0.75 *	0.79 *	0.91
Post-college			0.65 *	0.64 *	0.83 *
Marital Status					
[Married]					
Divorced/Widowed/Separated				0.84 *	0.84 *
Single				1.18 *	1.20 *
Biological Father Lives in Household					
[No]				0.61 *	1.49 *
GPA					0.64 *
-2 Log L	16966579	16402662	13856395	12856131	12068047

* p<0.05

Self-reported race at Wave I was used

[A, N, B]: Indicates statistical difference between Asians, Native Americans, and Blacks at p<0.05, respectively

Correlation of marital status and whether the biological father lives in the household is 0.62. However, multicollinearity diagnostics find that the tolerance is 0.60 and 0.59 for marital status and biological father's residence, respectively. Allison (1999) suggests that multicollinearity becomes an issue when tolerances are below 0.40.

Table 3: Linear Mixed Models with the Rosenberg Self-esteem Scale as the Continuous Dependent Variable

	Self-esteem [a]				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Race					
Native American-White	-0.21	-0.23	-0.20	-0.22	-0.20
Asian-White	-0.51	-0.49	-0.50	-0.51	-0.42
Black-White	0.21	0.20	0.19	0.26	0.27
Native American	-0.36 *	-0.40 *	-0.31	-0.33	-0.24
Asian	-0.45 *	-0.46 *	-0.46 *	-0.38 *	-0.54 *
Black	-0.08	-0.05	-0.005	0.04	0.15 *
[White]					
Age		-0.07 *	-0.06 *	-0.06 *	-0.03 *
Female		-0.64 *	-0.64 *	-0.62 *	-0.76 *
Mother's Education					
[HS]					
<HS			-0.25 *	-0.26 *	-0.10
Some Post-grad			0.14 *	0.12 *	0.07
College			0.17 *	0.13 *	0.03
Post-college			0.48 *	0.43 *	0.14 *
Marital Status					
[Married]					
Divorced/Widowed/Separated				0.07	0.09
Single				0.004	0.003
Biological Father Lives in Household					
[No]				-0.29 *	-0.19 *
GPA					0.48 *
-2 Log L	72722	72395	72296	67328	63185

* p<0.05

Self-reported race at Wave I was used

[a] Parameter Estimate

[A, N, B]: Indicates statistical difference between Asians, Native Americans, and Blacks at p<0.05, respectively

Correlation of marital status and whether the biological father lives in the household is 0.62. However, multicollinearity diagnostics find that the tolerance is 0.60 and 0.59 for marital status and biological father's residence, respectively. Allison (1999) suggests that multicollinearity becomes an issue when tolerances are below 0.40.

Measure	Description
Center for Epidemiologic Studies-Depression Scale (CES-D)	Add Health asks respondents, "These questions will ask about how you feel emotionally and about how you feel in general. How often was each of the following things true during the past week?" Response choices are as follows: Never rarely, sometimes, a lot of the time, most of the time or all of the time, refused, don't know, and not applicable.
CES-D Items	You were bothered by things that usually don't bother you. You didn't feel like eating, your appetite was poor. You felt that you could not shake off the blues, even with help from your family and your friends. You felt that you were just as good as other people. You had trouble keeping your mind on what you were doing. You felt depressed. You felt that you were too tired to do things. ***Note:*** The wording is different in the original CES-D scale, but ask the same question. You felt hopeful about the future. You thought your life had been a failure. You felt fearful. It was hard to get started doing things. ***Note:*** The question placement for Add Health differs from the original CES-D scale. Add Health places this as question # 18, but for CES-D it is question # 11. You were happy You talked less than usual. You felt lonely. People were unfriendly to you. You enjoyed life. ***Note:*** The wording is different in the original CES-D scale. You felt sad. You felt that people disliked you. You felt life was not worth living.
Rosenberg Self-esteem Scale	You felt that you were just as good as other people. You have a lot of good qualities. You have a lot to be proud of. You like yourself just the way you are. You feel like you are doing everything just about right.

WORKS CITED

Cooney, T.M.and M.E. Radina. 2000. "Adjustment problems in adolescence: Are multiracial children at risk?" *American Journal of Orthopsychiatry* 70(4):433-444.

Farley, R. 2001. "Race Reporting in the Census of 2000: How Do Multiracial Groups Compare to Monoracial Groups on Key Characteristics?" in PSC Research Report. Ann Arbor, MI: University of Michigan.

Gibbs, J. 1989. "Identity and marginality: Issues and treatment of biracial adolescents." *American Journal of Orthopsychiatry* 57:265-278.

Goldstein, J.R.and A.J. Morning. 2000. "The multiple-race population of the United States: Issues and estimates." *Proceedings of the National Academy of Sciences* 97(11):6230-6235.

Harris, D.R.and J.J. Sim. 2002. "Who is multiracial? Assessing the complexity of lived race." *American Sociological Review* 67(4):614-627.

Kaplan, G.A., E.R. Pamuk, J.W. Lynch, R.D. Cohen, and J.L. Balfour. 1996. "Inequality in income and mortality in the United States: Analysis of mortality and potential pathways." *British Medical Journal* 312(7037):999-1003.

Kawachi, I. and B.P. Kennedy. 1997. "Socioeconomic determinants of health .2. Health and social cohesion: Why care about income inequality?" *British Medical Journal* 314(7086):1037-1040.

Keister, L.A.and S. Moller. 2000. "Wealth inequality in the United States." *Annual Review of Sociology* 26:63-81.

Krieger, N., D.R. Williams, and N.E. Moss. 1997. "Measuring social class in US public health research: Concepts, methodologies, and guidelines." *Annual Review of Public Health* 18:341-378.

Lauderdale, D.S.and P.J. Rathouz. 2000. "Body mass index in a US national sample of Asian Americans: effects of nativity, years since immigration and socioeconomic status." *International Journal of Obesity* 24(9):1188-1194.

Link, B.G.and J. Phelan. 1995. "Social conditions as fundamental causes of disease." *Journal of Health and Social Behavior* 35(Extra issue: Forty years of medical sociology: The state of the art and directions for the future):80-94.

Mare, R.D. 1991. "5 Decades of Educational Assortative Mating." *American Sociological Review* 56(1):15-32.

Qian, Z. 1997. "Breaking the Racial Barriers: Variations in Interracial Marriage Between 1980 and 1990." *Demography* 34(2):263-276.

Smith, J.P.and B. Edmonston. 1997. "The Face of the U.S. Population in 2050." Pp. 76-123 in *The New Americans: Economic, Demographic, and Fiscal Effects of Immigration*, edited by J.P. Smith and B. Edmonston. Washington, DC: National Academy Press.

Udry, J.R., R.M. Li, and J. Hendrickson-Smith. 2003. "Health and behavior risks of adolescents with mixed-race identity." *American Journal of Public Health* 93(11):1865-1870.

U.S. Department of Health and Human Services. (2001). *Mental Health: Culture*, *Race, and Ethnicity—A Supplement to Mental Health: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services.

Van Hook, J. 2002. "Immigration and African American educational opportunity: The transformation of minority schools." *Sociology of Education* 75(2):169-189.