

# Race, Class, and Gender Differences in High School Seniors' Values: Applying Intersection Theory in Empirical Analysis\*

Seth Ovadia, *University of Maryland at College Park*

*Objective.* This article demonstrates how intersection theory can be applied in empirical studies by testing whether an individual's race, class, and gender have interactive effects. *Methods.* Data on high school students' ratings of the importance of equality, money, career, and family from the Monitoring the Future study are used. A stepwise regression model is employed to determine first whether additive effects exist in the data, and then whether interactions exist among race, class, and gender characteristics. *Results.* Previous findings of additive effects were generally confirmed in the first stage of the regressions, with some exceptions. For the money and family values, significant interactions exist between some pairs of characteristics, but three-way interactions were not significant. For equality and career values, no significant interactions were found. *Conclusions.* Although there are times when additive models are sufficient to describe differences among groups, the omission of interaction terms can sometimes lead to misleading conclusions about the effects of race, class, and gender. Using intersection theory in empirical models will guard against this oversight and may lead to a broad theory of when significant race, class, and gender interactions should be expected.

In a 1983 article on sex role attitude differences, Ransford and Miller noted that in most previous research on stratification,

socioeconomic status, ethnicity/race and gender are somewhat separate hierarchies, each affecting the distribution of power, privilege and prestige. . . . More accurate predictions and a fuller theoretical understanding often result from a consideration of the intersections or joint effects of SES [socioeconomic status], race and sex. These intersections of status positions represent unique social spaces within which persons construct explanations of reality. (46)

\*Direct all correspondence to Seth Ovadia, Department of Sociology, University of Maryland, College Park, MD 20742 <sovadia@socy.umd.edu>. An earlier version of this article was presented at the 2000 annual meeting of the Eastern Sociological Society, Baltimore, MD. The data in the analysis are available through the Inter-University Consortium for Political and Social Research. All other materials necessary for replication are available from the author. I would like to thank Reeve Vanneman, Larry Hunt, and the anonymous reviewers for their feedback and advice.

This article was part of a growing call for the consideration of interactions among race, class, and gender that became known as “intersection theory.” This point of view developed after it became apparent that the aggregation of all women (all blacks, all members of the working class, etc.) was not sufficient to describe the positions of individuals within a society (Glenn, 1992; Brewer, 1993; Zinn and Dill, 1996). As a remedy, advocates of intersection theory have sought to develop research strategies that simultaneously incorporate all three dimensions of stratification within a single frame of analysis.

Unfortunately, translating this theoretical view into a formal methodology for studying interactions has presented significant methodological challenges. Qualitative studies (Hossfeld, 1990; Segura, 1994) have been unable to work with large enough samples to make comparisons across all three systems of difference. Quantitative studies (Brod and Christensen, 1998) have struggled both in developing hypotheses that operate along three dimensions and in describing the results of necessarily complex models that evaluate the interactive effects of a minimum of eight categories (in the case of three dichotomous dimensions). More than 15 years after the publication of Ransford and Miller’s article, their call for complex analytical methods has been often repeated, but rarely fulfilled, in empirical research.

This article has two purposes, one methodological and one substantive. Methodologically, stepwise regression analysis is shown as a way to determine whether the addition of interactions among race, class, and gender improve upon models that consider the effects of these characteristics only in an additive manner. Substantively, the values of a nationally representative sample of high school seniors are analyzed in three areas: (a) correcting social and economic inequalities, (b) intrinsic and extrinsic work values, and (c) having a good marriage and family life.

### **Prior Values Research**

A value can be defined as “a type of belief . . . about how one ought or ought not to behave, or about some end-state of existence worth or not worth attaining” (Rokeach, 1968:124). Values are abstract concepts that play a significant role in determining how individuals act in situations that involve evaluative judgments. Therefore, understanding the importance of specific values to individuals can help social scientists make sense of how people make decisions and interact with one another. On the group level, an understanding of the differences in value structures across groups may offer some insight into why conflict or other types of intergroup processes occur, for example.

Studies of values have usually considered one of three macrosocial systems of difference—race, class, or gender—as a defining system for the differences in valuation of specific goals. Some studies have sought to incorporate more than one of these dimensions at a time (Christenson and Dunlap,

1984; Martin and Tuch, 1993; Gaines et al., 1997), but most research has concentrated on noninteractive, or “main,” effects. Intersection theorists point out that individuals are *simultaneously* situated within the systems of race, gender, and class identity and to consider any one of these systems of difference without including the others may lead to incomplete, or possibly incorrect, conclusions about similarities and differences within and among groups. Therefore, the integration of the ideas behind intersection theory may provide an important extension to the existing models in values research.

### *Equality*

Classical deprivation theory (Runciman, 1966) proposed that those who lack material or social resources will value them highly, and this has been an orienting principle in much research on the importance of equality. Because race, class, and gender are three dimensions along which there are unequal distributions of economic and social goods, they have been used often in studies of the importance of equality.

Consistent with the expectations of deprivation theory, Gaines et al. (1997) found that nonwhites valued equality more than whites. When Gaines and his colleagues introduced gender interactively into the model, they found that the racial/ethnic differences remained only for men, with nonwhite men valuing equality more than white men. Christenson and Dunlap (1984) examined whether gender and race interact with political ideology differences in determining the value placed on principles of gender and racial equality. Looking at racial and gender equality as separate values, they unexpectedly found that whites valued racial equality as much as nonwhites. They found a significant gender difference in the value of sexual equality among nonwhites, but not among whites. Neither of these studies, however, included class in their models.

Kluegel and Smith (1986:129–41) found significant main-effects differences by race and gender in Americans’ beliefs about the fairness of economic inequality. Blacks supported equality in principle more than whites, and women also valued the reduction of inequality through economic redistribution more than men, with the race difference being larger than the gender difference. Kluegel and Smith’s regression analysis interacted race and gender separately with income and education (two class proxies) in predicting the importance of equality, and they found that increased income has a significant positive effect on the importance of equality for whites but not blacks. Unfortunately, they did not study the interactions of race and gender with each other, nor did they construct a three-way interaction, in their model.

Although these studies have used some combinations of race, class, and gender as factors in the valuation of equality, no published research models all three characteristics in an interactive manner. Therefore, we have evi-

dence of main-effects differences and some significant two-way interactions in the importance of equality, but the possibility of interactions across all three dimensions remains an open question.

### **Work Values**

Much of the previous research on work values has distinguished between extrinsic values, which are “instrumental resources that are separable from the meaning of work,” and intrinsic values, which “attach importance to the work itself” (Marini et al., 1996:50). Extrinsic work values include level of pay, job security, and auxiliary benefits, such as health insurance and vacation time. In contrast, intrinsic values include interest in the content of the work, opportunities to develop and use skills, and the freedom to be self-expressive.

Kohn and Schooler's (1969) early research on value differences between men of different classes confirmed the prediction that workers in lower-class positions emphasize extrinsic work elements more than middle-class workers, whereas the opposite held for intrinsic work values. This finding was later supported by Mortimer and Lorence (1979) and Lindsay and Knox (1984), who suggested actual work experiences and educational experiences, respectively, as the causal mechanisms for the relationship.

Shapiro (1977) built upon Kohn and Schooler's research by looking at differences between black and white workers in their valuation of extrinsic and intrinsic work aspects. Using the 1973 and 1974 General Social Surveys, he found that black workers were more likely to prefer extrinsic rewards, whereas white workers were more likely to prefer intrinsic rewards. Controls for class differences as expressed by education, occupation, and income explained half this gap. However, Shapiro did not examine the interaction of the race and class variables, thereby not allowing for differing effects across the joint Race  $\times$  Class identities of the respondents.

Martin and Tuch (1993) confirmed the findings of Shapiro (1977) using the 1985–90 General Social Surveys but also suggested a need to consider the possible interactions among the race, class, and gender determinations of job values. After replicating the additive technique used in Shapiro's original study, they added interaction terms between race and the other independent variables in the model (including gender and four class proxies). They found a significant interaction between race and gender in extrinsic work values and between race and income for intrinsic work values but did not explore these models other than to note their statistical significance. They noted in conclusion that “models employed in previous attempts to partition race and class effects on job values are misspecified. The analysis should not be framed in race versus class terms but focused instead on how race and class interact to affect values” (896). However, this did not serve as a focal point in their study.

Research results on the relationship between gender and job values have been less consistent. In their summary of occupational socialization research, Marini and Brinton (1984) concluded that women place a higher priority on intrinsic aspects of work, whereas men consider extrinsic dimensions to be more important. However, when Harris and Earle (1986) compared job values by gender in a working-class sample, they did not find gender differences in either extrinsic or intrinsic values. More recent research by Marini et al. (1996) showed that the gender difference between men and women in extrinsic work values has become nonsignificant over the past two decades but that women continue to value intrinsic aspects of work more than men. Controls for class and race were not as significant as gender differences and were only used in the model as additive elements, not interactively.

In summary, even though there has been recognition by job values researchers that race, class, and gender have effects on the value of intrinsic and extrinsic values, their models generally do not examine the interactions among these characteristics, and when they do so, they only examine the interaction of two of them at a time. Although some authors argue that interactions exist across race, class, and gender, it remains for these intersections to be fully specified in work values research.

### *Family Values*

There is a surprising lack of empirical research on the importance of family across race, class, and gender lines. It is generally accepted that family is highly valued by individuals in almost all social groups, but studies of whether differences exist have been infrequent.

It has been long believed that women value family and marriage more highly than men (Chodorow, 1978; Crimmins, Easterlin, and Saito, 1991), but actual data on the differences are rare. Using descriptive statistics, Thornton (1989) showed that between 1976 and 1986, women consistently rated the importance of having a good marriage and family life higher than men. However, the statistical significance of these differences and the potential interactions with class and gender were not explored in the study. Lye and Waldron (1997) proposed that differences in "social concerns orientations" between men and women may result in different levels of importance in having a good marriage and family life. In their analysis, Lye and Waldron used multiple measures from different samples, which made summary conclusions difficult to present. Their overall findings were mixed as to whether the determinants of family values were significantly different between men and women.

There is very little published research on differences in the importance of family across class or race lines. Because of this gap in the literature, there has also been no discussion of interactive effects across race, class, and gender in the importance of this value.

In summary, there have been significant findings of main effect differences by race, class, and/or gender for equality and work values, but differences across these lines in the importance of family have not yet been established. For all three values, it is appropriate to ask whether noninteractive models are sufficient to describe the importance individuals place on these values or whether a more complex model is necessary. Although some researchers have recognized that there may be interactive effects in the importance of these values, they have not constructed models that comprehensively test this hypothesis.

## **Data**

The data in this analysis are from Monitoring the Future, an annual survey of American high school seniors. The study is nationally representative, with an annual response rate between 75 and 86% each year since its inception in 1975 (for details on the design and execution of the survey, see Johnston, Bachman, and O'Malley, 1998). Although the primary focus of the study is drug use, extensive data are collected on values, behaviors, and lifestyles of the students. All students are asked a core set of approximately 100 questions, and six different forms are used to collect the remainder of the data. As a result, most of the variables, including the value questions used in the study, are asked of approximately one-sixth of the total sample. To ensure a sufficient number of respondents in each of the intersected Race  $\times$  Class  $\times$  Gender categories, the 1994–96 waves of the study were pooled, resulting in a sample of 4,969 students.

The dependent variables are from a series of questions asking students to rate the importance of 14 values on a scale from 1 to 4, with 4 representing the highest level of importance. From this set, four items are used for this study. Equality values are indicated by the rating of “working to correct social and economic inequalities” (EQUALITY). The importance of “being successful in my line of work” (SUCCESS) is used as a measure of intrinsic work values, whereas the importance of “having lots of money” (MONEY) is taken as an indicator of extrinsic work values. The importance of family is measured by the rating of “having a good marriage and family life” (FAMILY).

The primary independent variables in the study are race, class, and gender.<sup>1</sup> Race is coded in the data as white, black, and other/missing. Since the latter category combines many nonwhite/nonblack categorizations and missing data, the respondents in this category are excluded from the sample. Gender has no missing data and is used as coded. To create a dichotomous

<sup>1</sup>The “gender” measure is, in fact, a measure of the individual’s physical sex, rather than gender identity. Because a measure of gender identity is lacking in the data, sex will be used as the proxy for gender throughout the article.

class variable, students with at least one parent who is a college graduate are coded as “middle class” and all others are coded as “working class.”<sup>2</sup>

Because the purpose of this study is not to maximize the explained variance in the dependent variables, but rather to explore the race, class, and gender differences in the responses, limited control variables are used. Control variables are included for region, urban status, age, frequency of religious services attendance, and year of the survey. Region is coded as four dummy variables (Northeast, North Central, South, West), with Northeast excluded from the regression models. Urban status is coded in three categories (small town or smaller, suburban, urban), with urban serving as the excluded category. Religious services attendance is measured on a four-point scale: never, rarely, once or twice a month, and once a week or more. Only students with complete data on the dependent and independent variables are used for the regression analysis, so that the samples for the four analyses are consistent. The weighted descriptive statistics for the variables of the study are presented in Table 1.

## Method

As with all regression analysis, the characteristics of the dependent variable determine the form of regression (e.g., linear, logistic, tobit) that should be used in intersection analysis. Because the dependent variables in this study are ordinal, the ceiling and floor effects of the limited number of outcome values must be accounted for to generate the best estimates of the model. Although the degree of misspecification that would result from using ordinary least squares (OLS) regression may be minimal, an ordered logit model is preferred because it accounts for the upper and lower limits of the dependent variable and provides estimates of the “distance” between the levels of response (Long, 1997; Winship and Mare, 1984). In addition, ordered logit and OLS estimates become more dissimilar as the skewness of

<sup>2</sup>The resulting proportion of students in each category is about 50%. Although this is a larger proportion of the population than is typically placed in the middle and upper classes of the United States, parents of 18-year-olds in 1994–96 generally were college age in the 1960s and 1970s, a time of high college enrollment. Alternative specifications of the variable were constructed in which middle-class status was defined by either parent having some college and both parents having college degrees, resulting in middle classes of 77% and 24% of the population, respectively. These models had similar results in the pattern of the race/class/gender interactions, with some exceptions (results available from the author).

Although parental education offers only an approximate measure of a student’s class status, no better alternative is available from the data set. It may also be (correctly) argued that class is not sufficiently described by a binary measure, but the use of nonbinary measures substantially increases the complexity of the interactive models. In the interest of keeping the methodological demonstration as simple as possible, the true complexity of class structure must be set aside.

TABLE 1  
Weighted Descriptive Statistics for Variables in the Study

Variable	Mean	SD	Minimum	Maximum
EQUALITY	2.24	0.91	1	4
SUCCESS	3.53	0.68	1	4
MONEY	2.78	0.88	1	4
MARRIAGE	3.67	0.70	1	4
Race (1 = black)	0.12	0.33	0	1
Class (1 = working class)	0.49	0.51	0	1
Gender (1 = female)	0.52	0.51	0	1
Age	18.32	0.54	16	22
Religious attendance	2.70	1.09	1	4
Small town or smaller	0.51	0.51	0	1
Suburban	0.20	0.40	0	1
Urban	0.29	0.46	0	1
Northeast	0.19	0.40	0	1
North Central	0.30	0.47	0	1
South	0.37	0.49	0	1
West	0.14	0.35	0	1
Year = 1994	0.35	0.48	0	1
Year = 1995	0.34	0.48	0	1
Year = 1996	0.31	0.47	0	1

the dependent variables increases, and in these data, some of the values are considerably skewed in their distribution.<sup>3</sup>

In order to identify whether interaction terms significantly improve the model, a stepwise ordered logistic regression is done on each of the dependent variables. The first step in the analysis is a main-effects model, in which each of the dependent variables is regressed on the race, class, and gender variables without interactions. The test for the joint significance of the main effects is a comparison of the  $-2$  log-likelihood statistics for the main-effects model and a model that includes only the intercept and the control variables. This statistic is chi-square distributed, with the degrees of freedom equal to the number of variables added to the model (in this first stage, there are three degrees of freedom). The second stage is the addition of the three two-way interactions, and again a test of the reduction of the  $-2$  log-likelihood statistic between the two models is used to judge whether the expanded model represents a significant improvement. The final stage is the addition of a three-way interaction term, which brings the model to full saturation, and the calculation of the significance of the reduction of the  $-2$

<sup>3</sup>Nevertheless, there is only one difference in the sign and significance of the results in this study when comparing the two techniques. OLS regression results are available from the author.

log-likelihood. The control variables are included in all stages of the analysis.

## Results

Reviewing the means of the values in Table 1, the value of having a good marriage and family life is the most important of the four values, with an overall mean rating of 3.67. The importance of having success in a career is also highly valued, with a mean of 3.53 across all groups. Having lots of money is more moderately valued at 2.78, which is below the level of "quite important." Working to correct social and economic inequality is the lowest rated of the values at 2.24, which is just above the level of "somewhat important."

### *Equality*

The importance of working to correct social and economic inequalities is taken as the indicator of the value of equality. Previous research (Kluegel and Smith, 1986; Gaines et al., 1997) has established that women and blacks are more likely to place a higher importance on this value, as expected from a theoretical approach, according to which those who suffer most from economic and social inequality would place the highest importance on correcting it. Following this logic, it might also be expected that working-class respondents will rate EQUALITY higher than middle-class respondents.

The results of the stepwise regressions for EQUALITY are presented in Table 2. In Model 1, race, class, and gender are all found to significantly affect the importance placed on correcting inequalities. The reduction of the  $-2$  log-likelihood statistic (163.361) is significant at  $p < .001$  ( $df = 3$ ), which indicates that Model 1 is an improvement over the model without the main-effects variables. As expected, blacks rate the importance of correcting inequalities higher than whites, and women higher than men. However, respondents from middle-class backgrounds place higher importance on equality than those from working-class families. Although the difference (.123) is much smaller than the race and gender differences (.738 and .469, respectively), it is statistically significant at  $p < .05$ .

Adding the two-way and three-way interaction variables does not improve the predictive power of the model, according to the differences in the  $-2$  log-likelihood of each model ( $\Delta -2$  log-likelihood<sub>Model2</sub> = 5.977,  $df = 3$ ,  $p > .05$ ;  $\Delta -2$  log-likelihood<sub>Model3</sub> = 1.107,  $df = 1$ ,  $p > .05$ ). Therefore, we can conclude that the main-effects model is sufficient for explaining the differences across race, class, and gender lines in the importance of working to correct social and economic inequalities. Intersection theory does not en-

TABLE 2

Coefficients from Ordered Logistic Regressions on Importance of Working to Correct Social and Economic Inequalities (Equality)

	EQUALITY		
	Model 1	Model 2	Model 3
Race (1 = black)	0.738***	0.703***	0.564**
Class (1 = working class)	-0.123*	-0.053	-0.073
Gender (1 = female)	0.469***	0.580***	0.562***
Race × Class		0.213	0.431
Race × Gender		-0.162	0.055
Class × Gender		-0.181	-0.142
Race × Class × Gender			-0.352
Intercept1	-3.018***	-3.121***	-3.096***
Intercept2	-1.489	-1.591	-1.566
Intercept3	0.581	0.482	0.507
-2 log-likelihood	12752.743	12746.766	12745.659
$\Delta$ -2 log-likelihood	163.361 <sup>a</sup> ***	5.977	1.107

NOTE: Controls for region, residence, age, frequency of religious attendance, and year of survey included in models.

<sup>a</sup>Reduction from model with intercept and control variables (not shown).

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

hance our understanding of differences among high school seniors in the importance of correcting social and economic inequalities.

### Work Values

For the work values, the measure of the importance of having lots of money is taken as a measure of extrinsic work values, whereas the importance of having success in a career is taken as an indicator of intrinsic work values. Previous research on the main effects has shown that whites, females, and middle-class individuals have a higher reported average importance for intrinsic work values, whereas blacks, males and working-class individuals have higher ratings of the extrinsic work values (Kohn and Schooler, 1969; Shapiro, 1977; Marini and Brinton, 1984). The two variables are positively correlated, albeit to a moderate degree ( $r = .22$ ). Therefore, we can be confident that the results are not due to a forced choice between the two values. People can, and apparently do, place high (or low) importance on both MONEY and SUCCESS.

The left panel of Table 3 contains the results of the stepwise regression of the main effects and interaction terms of the regression of SUCCESS on race, class, and gender. Model 1 is a significant improvement over a model with only control variables ( $\Delta$  -2 log-likelihood = 40.693;  $df = 3$ ;  $p < .001$ ),

in that race and gender have significant effects on the importance of intrinsic work aspects. As was found in previous research, women in the sample place a higher value on intrinsic work dimensions than do men. However, an even greater difference exists across race lines; unexpectedly, the higher importance is placed on having success in a career by blacks. This is contradictory to previous studies of race and work values. The difference between working and middle-class respondents was insignificant, which also differs from the previous results.

TABLE 3

Coefficients from Ordered Logistic Regressions on Importance of Being Successful in a Line of Work (Intrinsic Work) and Having Lots of Money (Extrinsic Work)

	SUCCESS			MONEY		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Race (1 = black)	0.540***	0.320	0.204	0.973***	0.612***	0.578**
Class (1 = working class)	0.068	-0.006	-0.021	0.137**	0.122	0.117
Gender (1 = female)	0.143*	0.072	0.058	-0.585***	-0.661***	-0.665***
Race × Class		0.192	0.382		0.059	0.113
Race × Gender		0.194	0.386		0.555***	0.609*
Class × Gender		0.114	0.144		0.028	0.037
Race × Class × Gender			-0.331			-0.089
Intercept1	0.882	0.978	0.997	0.984	1.044	1.050
Intercept2	2.775**	2.872**	2.890**	2.683**	2.746**	2.753**
Intercept3	5.127***	5.224***	5.242***	5.174***	5.241***	5.247***
-2 log-likelihood	9039.306	9036.28	9035.595	12312.135	12300.526	12300.456
Δ-2 log-likelihood	40.693 <sup>a</sup> ***	3.026	0.685	255.384 <sup>a</sup> ***	11.609**	0.07

NOTE: Controls for region, residence, age, frequency of religious attendance, and year of survey included in models.

<sup>a</sup>Reduction from model with intercept and control variables (not shown).

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

Models 2 and 3 add the two-way and three-way interactions among race, class, and gender to explore the simultaneous effects of the dimensions of stratification. None of the interaction effects is significant. To evaluate whether these expanded models are improvements over the main-effects model, the reduction of the -2 log-likelihood statistic can be tested for significance. Both Models 2 and 3 fail to achieve the .05 level of significance and therefore, Model 1 represents the best fit for the data. In the importance placed on having success in a career, an intrinsic work value, the only

significant differences among the groups are the main effects of race and gender.

The results of the stepwise regressions of MONEY on race, class, gender and their interactions are presented in the right panel of Table 3. In the main-effects model (Model 1), all three dimensions are found to have significant effects, and the model is a significant improvement over the base model of the control variables ( $\Delta -2 \log\text{-likelihood} = 255.384$ ;  $df = 3$ ;  $p < .001$ ). Each difference was in the direction that had been found in previous research: Blacks, members of the working class, and men place a greater importance on having money than whites, middle-class respondents, and women, respectively. The largest coefficient is for race, with a value of .973. In comparison, the largest coefficient for the SUCCESS variable was .540 (also for race). The gender coefficient is also substantial at .585, whereas the class coefficient is smaller (.137) and only significant at  $p < .01$ .

With the addition of two-way interactions (Model 2), the predictive power of the model increases significantly ( $\Delta -2 \log\text{-likelihood} = 11.609$ ;  $df = 3$ ;  $p < .01$ ). The only two-way interaction that is statistically significant is the Race  $\times$  Gender interaction, which has a positive coefficient. The noninteracted race and gender coefficients are also statistically significant, but the class coefficient is not. *It is vital to recognize, however, that the non-interactive coefficients in Model 1 do not represent the same effects as they do in Model 2.* For example, race in the interactive model no longer represents the difference between all blacks and all whites, but only that between white and black middle-class males. Therefore, it is more useful to consider the cumulative effects of the coefficients.

These results can be described several ways. Combining the coefficients to calculate the net effects for the four Race  $\times$  Gender groups, black men have a "net coefficient" (difference from white men) of .612, white women have a net coefficient of  $-.661$ , and black women have a net coefficient of .506 ( $= .612 + (-.661) + .555$ ). Therefore, the gender difference is much larger between whites (.661) than between blacks (.106). It is also true that there is a larger race difference between white and black women (1.167) than between white and black men (.612). An option that is perhaps most consistent with the intersection theory perspective is to examine each cell of the Race  $\times$  Gender matrix independently and rank the valuation of extrinsic work properties from highest to lowest: black males (+.612), black females (+.506), white males (0—reference group), white females ( $-.661$ ). Each of these ways of describing the data is equally valid; the best option depends on the question that the data are being used to answer.

As in the other models, the inclusion of the three-way interaction did not significantly improve the model ( $\Delta -2 \log\text{-likelihood} = 0.07$ ;  $df = 1$ ;  $p > .05$ ). Model 2 therefore provides the best description of the data.

The reported importance of having lots of money provides an example of how an additive model would fail to describe the differences in values among these high school seniors accurately. Model 1 indicates that the sig-

nificant differences are between all blacks and all whites irrespective of gender or class, all males and all females irrespective of race or class, and all working-class and all middle-class students irrespective of gender or race. Adding the interactions among the variables, however, reveals a different pattern of intergroup differences. The gender difference is much larger for whites than for blacks, a pattern that the main-effects model could not assess. In addition, the race difference is almost twice as large for women as it is for men. Therefore, the addition of the interaction terms allows researchers to generate results that better define the differences across the simultaneously influential race, class, and gender lines and shows how differences along one dimension are often contingent on one or both of the other characteristics.

### *Family Values*

The importance of having a good marriage and family life is taken as the indicator of the valuation of family life by the respondents. It is generally believed that women place a higher importance on family life than men, but research on the topic has not yielded consistent conclusions on the issue. There has been little published research on class or race differences in the importance of marriage and family.

The results of the stepwise regression of FAMILY on race, class, gender, and their interactions are presented in Table 4. In the main-effects model (Model 1), gender and race differences are significant, and the model is an improvement over the control variables model ( $\Delta -2$  log-likelihood = 119.086;  $df = 3$ ;  $p < .001$ ). Women were found to place more value on having a good marriage and family life than men, which confirms the previous research that has found a difference by gender. In addition, a race difference was found in these data, which indicates that whites place a higher level of importance on family than blacks. Although smaller than the size of the gender difference (.680 vs. .554), the effect is nevertheless substantial and statistically significant at  $p < .001$ . The only dimension across which the importance of family is nonsignificant is class, for which the effect is nearly zero.

With the addition of two-way effects (Model 2), the value of the  $-2$  log-likelihood statistic decreases by 22.636, which represents a statistically significant improvement over the main-effects model ( $df = 3$ ;  $p < .001$ ). The significant coefficients in the model are the gender effect and the Race  $\times$  Gender interaction effect, which are of similar magnitude but in different directions. Adding in the race effect, the model shows that black women report a lower importance of family compared with the reference group (white men) by  $-.231 (= (-.014) + .729 + (-.946))$ . In contrast, white women differ from the reference group by .729, a much higher valuation of family than any of the other Race  $\times$  Gender groups report.

TABLE 4  
Coefficients from Ordered Logistic Regression on Importance  
of Having a Good Marriage and Family Life (Family)

	MARRIAGE		
	Model 1	Model 2	Model 3
Race (1 = black)	-0.554***	-0.014	-0.042
Class (1 = working class)	-0.001	-0.079	-0.082
Gender (1 = female)	0.680***	0.729***	0.724***
Race × Class		-0.017	0.025
Race × Gender		-0.946***	-0.904**
Class × Gender		0.164	0.173
Race × Class × Gender			-0.070
Intercept1	-3.190**	-3.170**	-3.165**
Intercept2	-1.973	-1.949	-1.944
Intercept3	-0.702	-0.678	-0.673
-2 log-likelihood	7243.761	7221.125	7221.097
$\Delta$ -2 log-likelihood	119.086 <sup>a</sup> ***	22.636***	0.028

NOTE: Controls for region, residence, age, frequency of religious attendance, and year of survey included in models.

<sup>a</sup>Reduction from model with intercept and control variables (not shown).

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

Once again, the interaction term makes possible multiple descriptive options. One interpretation is that the gender difference in FAMILY is mainly between white men and women (.729) and much less so between black men and women (.217). Another description is that white women are most likely to rate FAMILY highly (+.729), followed by white men (0—reference group), black men (-.014), and black women (-.231), in that order. This ordering shows that white women are furthest from the other three race/gender groups, all of which are generally similar in their rated importance of family.

The reduction of the log-likelihood statistic (0.028;  $df = 1$ ;  $p > .05$ ) for Model 3 as compared to Model 2 shows that the three-way interaction term does not improve the predictive power of the model. Therefore, Model 2 provides the best description of the data.

The reported importance of marriage and family life is another case where the main-effects model does not accurately describe the differences across Race × Class × Gender groups. Without interactions, it appears that all whites value family more than all blacks, and that all women rate family higher than all men. However, the addition of the interaction terms shows that the largest difference among the groups is the much higher rating by white females, with all males and black females rating family and marriage lower. In fact, there is no statistically significant difference between white

and black males in the value of family, a conclusion that would not have been made with only the main-effects results.

## **Discussion**

The purpose of this article has been to outline and demonstrate how intersection theory can be used to develop better empirical models of differences in outcomes that are believed to be related to the race, class, and/or gender of the individual. A stepwise regression analysis allows the researcher to first establish whether there are main-effect differences in the sample, and then the addition of interactive terms allows for the analysis of whether two or more of the characteristics intersect in their effects. Using the value ratings of a sample of American high school seniors, it has been shown that sometimes the extension of the model into interaction effects does not improve the model, but other times interactive terms reveal patterns of difference that main-effects models fail to identify.

Therefore, the conclusion as to the value of intersection theory for these data is mixed. In some instances, intersection theory is necessary; in others, it is not. Nevertheless, it would be good practice for any researcher who finds race, class, and/or gender main-effects differences to do a supplemental analysis of the interactive effects among the race, class, and gender characteristics of individuals in the sample. Intersection theory is not always validated in its claim that race, class, and gender are simultaneous and interactive in their effects on individuals, but the claim always merits examination.

On a meta-analytical level, the logical next question is: Under what conditions might researchers expect to find significant interactions? In other words, might we have been able to predict beforehand that the extrinsic work and family values would have significant interactions, whereas intrinsic work and equality values would not? The review of previous research on values showed that very few studies have used interaction terms in their models, and none have done so in a comprehensive manner. In order to answer this meta-analytical question, more data must be collected and analyzed so that patterns of significant and nonsignificant findings can emerge. The results presented here represent too limited a body of knowledge to speculate about higher level conclusions. It can only be hoped that more research of this nature will be done in the future, which will then allow for predictive generalizations about when intersection theory will and will not provide a fruitful addition to analytical models. The essential first step is for more researchers to recognize the intersecting nature of race, class, and gender in the lives of individuals and groups and to incorporate this concept into their studies.

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