

Why Should We Account for Intersectionality in Quantitative Analysis of Survey Data?¹

Joshua Dubrow (Warsaw)

While in the social sciences most of the empirically-based research on intersectionality employs qualitative techniques such as in-depth interviewing and archival work, there is a small, but steadily growing, literature that employs quantitative statistical techniques on national and cross-national survey data. This issue raises two main questions: (1) *why* should social scientists place intersectionality at the heart of their theory-driven quantitative endeavors? and (2) *how* can we account for intersectionality in quantitative analysis of survey data? These questions have been addressed elsewhere (Choo and Ferree 2010; Dubrow 2008; Hancock 2007; McCall 2005; Walby 2007; Weldon 2006). Rare, however, is the discussion of why quantitative-oriented social scientists should account for intersectionality that also provides an empirical example of its potentially revolutionary insights. My contribution is to place the *why* and *how* arguments in the context of quantitatively-oriented – and thus, mainstream – social stratification research, which frequently uses survey data to explore structured differences between demographic groups. My goal is to advocate for the scientific exploration of intersectionality using survey data to test its theoretical propositions and improve its capacity for explaining human social life.

This chapter proceeds in three steps. First, given the theoretical and methodological assumptions social scientists have about the analysis of society, and the way social stratification researchers are trained in leading universities, I argue that intersectionality is a valid and important concept for social scientists to use in social stratification research. Second, I provide an empirical illustration of how intersectionality can redefine how we think about the relationships between demographics and inequality. For the empirical illustration, I use European Social Survey data 2002 – 2006 to compare France and Germany, focusing on the major demographic intersections consisting of gender, ethnicity, and social class. Third, I conclude with a discussion of the special challenges involved in the adoption of intersectionality by quantitative-oriented social stratification researchers.

¹ A previous version of this paper was presented at the conference: Race, Class, Gender as Categories of Difference and Inequality: Which Perspectives arise from the Concept of 'Intersectionality' for Human and Cultural Sciences? in Paris, France, September 2009. The author thanks the participants of the conference for their helpful comments.

I begin by defining some of the main terms I use in this chapter. By social science, I mean the rigorous application of scientific techniques, taken largely from the natural sciences, to the study of human social life in all its aspects. To view sociology as a science, for example, is to identify and explain thoughts and behaviors through the development of theory-driven hypotheses, to devise precise measurements of concepts, and to test hypotheses via repeated observation. There is a long literature on bias in the social sciences (see Blumberg 2007 for consequences of bias); the issue is important, but should not render the attempt at objectivity moot. By social inequality, I mean structured differences in the access and acquisition of scarce and valued resources. By intersectionality, I mean the following: individuals consist of multiple demographic categories including gender, ethnicity, and social class position, among others, and, depending on the particular context, some categories provide advantages and some disadvantages, with each having roots in social stratification structure. Each of these intersections influence thoughts and actions.

1. Incorporating Intersectionality into Quantitative-Oriented Social Stratification Research

Inequality is at the heart of the social sciences and one would be hard-pressed to find an aspect of human social life that social inequality does not touch. Social scientists are determined to rigorously examine the circumstances in which people are unequal, and why some inequalities endure. Acceptance or rejection of social stratification theories and hypotheses based on empirical observation begins with how we theorize and measure inequality.

Through their training at universities, the majority of social stratification researchers are sympathetic to intersectionality. I offer one major example on this point. While Walby (2007) argues that intersectionality has its roots in dual systems theory of the 1980s, one can trace the idea back much farther to Max Weber's multidimensional view of social stratification². Weber's (1946) essay "Class, Status, Party" is standard text across sociology departments in the United States and Europe. In that essay, Weber criticized Marx's reductionist view that all stratification emanates from the economic order. In contrast to Marx, Weber argued that social class, social status, and power (expressed through political organizations, i.e. "parties") are ana-

2 I credit this insight to Christopher Chase-Dunn in his criticism of Walby's book, *Globalization and Inequalities: Complexity and Contested Modernities* (2009), expressed in the session "Authors Meet Critics" at the International Sociological Association XVII World Congress of Sociology, in 2010, Goteborg, Sweden. Weber is sometimes talked about in the intersectionality literature, but mostly for his discussion of status honor, and rarely for his larger point about multidimensional view of stratification.

lytically distinct dimensions of social inequality, yet combine within the same individual in various ways according to the social context. The beginnings of intersectionality emerge from his writings, but are not explicit. For example,

In any individual case, parties may represent interests determined through 'class situation' or 'status situation,' and may recruit their following respectively from one or the other. But they need be neither purely 'class' nor 'purely 'status' parties. In most cases they are partly class parties and partly status parties, but sometimes they are neither (Weber 1946: 194) [emphasis mine].

Because Weber argues for the possibility of "pure" class or status-based parties, and that parties could be neither class nor status based, he is at odds with contemporary intersectionality theorists. Yet, if we take Weber's ideas at base – that class, status and party are separate, but combinable, dimensions – we see the basis of intersectionality. Methodologically, the inclusion of demographics is as old as survey research itself. Quantitatively-oriented social stratification researchers analyzing survey data look for appropriate measures of their concepts. Moreover, there is increasing advocacy for the (proper) use of interaction terms (Brambor et al 2006; Braumoeller 2004). The step from demographics and interaction terms to accounting for intersectionality in the quantitative analysis of survey data using interaction terms consisting of demographic intersections is, on the surface, not that large.

What remains is a translation of sympathy to action. I discuss some of the barriers to action in the final section of this chapter. Suffice to say at this juncture that, theoretically and methodologically, there is great potential for quantitative-oriented social stratification researchers to incorporate intersectionality in their work, but a host of barriers remain (see Choo and Ferree 2010 on this point).

2. How Intersectionality Matters: Employing Quantitative Analysis to Cross-National Survey Data

Another major barrier is that there are few empirical studies on the use of quantitative techniques in accounting for intersectionality that show the relevance of intersectionality for social stratification research (Dubrow 2008). To help remove this barrier, this section provides a brief empirical illustration of how intersectionality can be applied to classic questions in social stratification. The purpose is to provide a practical guide and some suggestive results, but not a definitive test of the theories. I begin with a brief overview of the methodological concerns, and then move to positing theories that link intersectionality with the allocation of socioeconomic resources across demographic groups. I then explain my methodology and present the results.

2.1 Accounting for Intersectionality in Quantitative Analysis of Cross-National Survey Data

All methodological tools have limits: qualitative methods generate results which provide valuable insights into social stratification processes, but it is difficult to generalize these results to populations other than those covered in the qualitative study; quantitative methods generate results which are generalizable to larger populations, but fail to illuminate fine-grained processes. Both methods are needed to produce a full and complete portrait of intersectionality, and to test its main assumptions.

How can we account for intersectionality in the quantitative analysis of survey data? It is important to match the methodology with the theory. To properly test intersectionality, we must consider its various strands, and whether the available methodological tools are appropriate to testing them. The research agenda – applying quantitative analytical techniques to survey data with the goal of testing hypotheses derived from intersectionality literature – has two main components: methodologically, the project seeks to faithfully apply the measurement of intersections with survey data. Substantively, the project tests various theoretical strands related to intersectionality, given existing survey data and statistical tools.

Applying intersectionality to quantitative analysis of survey data poses several challenges (Dubrow 2008). Some argue that surveys are inherently unable to capture intersections. They argue that variable oriented analyses impose “within-case independence of categories” (Hancock 2007: 66; see also Blumer 1956), when it could be argued that for each case – e.g. survey respondent – these categories are interdependent. While survey data usually have demographic categories, combinations of categories can be constructed in the form of interaction terms so that categories are not independent of each other. Still another challenge is how to choose among demographic items. Cross-national research has demonstrated that gender, ethnicity and class have profound consequences for a wide array of attitudes and behaviors and these variables should be tried first³.

A problem with testing intersectionality with survey data consisting of representative samples is the ‘small number of cases’ problem. For statistical techniques such as multivariate regression, the more intersections included in the model, the lower the number of cases (N) that vary across the response variable. A useful way to increase the N for intersectional groups while keeping a relatively homogenous overall dataset is to pool successive rounds of the data. For example, the European Social Survey (ESS) currently has four rounds that occurred every two years from 2002 to

3 Note, however, that as the intersectionality paradigm progresses, the focus on “master” categories – demographics that are theorized to encompass all aspects of a person’s identity, such as gender – may give way to other, “emergent” – particularized and contextually contingent – categories of heretofore undiscovered but nonetheless salient social cleavages (Warner 2008: 457-9).

2008. It is tempting to throw as many countries together as possible to boost the N. Yet, country contexts matters, and care should be taken in their selection. France and Germany have different histories, but both are solidly Western Europe, with similar levels of ethnic heterogeneity and class structure and thus comparable with regard to demographics and socioeconomic resources (see also Duru-Bellat et al 2008). For France and Germany, ESS data can be safely pooled between 2002 and 2006, reflecting a period of time in which there was homogeneity of social, political and economic context.

2.2 Theories and Hypotheses

Theories that explain the relationship between intersectionality and socioeconomic disadvantage argue that level of disadvantage depends on the combination of disadvantaged demographics. However, they differ in how they weight the constituent categories in calculating level of disadvantage. I examine two theories: cumulative disadvantage and group-specific disadvantage.

Cumulative Disadvantage

Cumulative disadvantage argues that groups can be ranked according to some resource scale, such as socioeconomic status, and the groups with the least are at the bottom. In short, this theory says that the more disadvantaged demographics represented by the individual, the more disadvantaged they are in socioeconomic resources. Other names for this theory include double jeopardy, the additive model, and the interactive model⁴.

Cumulative disadvantage, while a social stratification subfield (though with a different meaning; see DiPrete and Eirich 2006), has been criticized by various intersectionality scholars. For example, Purdie-Vaughns and Eibach (2008) call the cumulative disadvantage approach the “score-keeping” or “whose group is most oppressed,” competition. Walby (2007) argues that, “Adding up the disadvantages... does not fully account for the intersection; they may often, at least partially, mutually constitute each other” (451). These scholars argue we must move past the idea of cumulative disadvantage, and instead examine the specific contexts in which disadvantages arise.

However, I argue that cumulative disadvantage has yet to be tested properly. I start with the assumption that gender and ethnicity are equal in their propensity for

4 Double jeopardy is not a desirable term, because the name excludes possibility of adding a third demographic.

disadvantage. This is, at the outset, a problematic assertion. To say who would be the most disadvantaged, I rely on the empirical literature that shows the relative disadvantages of being male versus being female, of being in an ethnic minority or not, and of membership in disadvantaged classes⁵.

A straightforward way of testing cumulative disadvantage is counting the number of historically disadvantaged categories: the greater the number, the greater the disadvantage (Figure 1). In Figure 1, the number of disadvantaged categories represented by the individual is expressed in the first column, and the discrete demographic categories⁶ are in the second column. For example, MAN refers to men who belong to the ethnic majority and a relatively advantaged social class, while MAN and ETHNIC minority refers to a man from an ethnic minority, but is not a member of a disadvantaged social class. WOMAN from ETHNIC minority and low social CLASS is exactly as described in its title.

Figure 1. Cumulative Disadvantage Theory as Applied to Gender, Ethnicity and Class

Number of Disadvantaged Categories	Discrete Demographic Category
0	MAN
1	WOMAN
	MAN and ETHNIC minority MAN and lower CLASS
2	MAN and ETHNIC minority and lower CLASS
	WOMAN and ETHNIC minority WOMAN and lower CLASS
3	WOMAN and ETHNIC minority and lower CLASS

5 An absolute 'oppression' ranking of demographic groups would require some dubious assumptions, a true score-keeping approach. For example, how would one rank women versus ethnic minority men? One could argue that advantage and disadvantage cancel each other out, while being woman is always disadvantaged: Men 1, Women 0. Without placing these cases into context, this is not a defensible assertion.

6 A linguistic problem is the referencing of these 'categories' as distinct groups. If the universe of possible intersections is potentially very, very large, then at the finest, granular level, every single individual constitutes their own unique group. This is obviously untenable from a scientific point of view, where some meaningful level of aggregation is necessary to generalize about social processes and effects. Thus, I find the term 'discrete demographic category' or 'group' to be problematic, but more feasible than the anarchic alternative of no categories or groups whatsoever.

Cumulative Disadvantage Hypothesis: The more disadvantaged demographics represented by the individual, the more disadvantaged they are in socioeconomic resources.

Group-Specific Disadvantage

Like cumulative disadvantage, this theory says that some combinations of demographics – i.e. intersections – have higher socioeconomic resources than others. According to group-specific disadvantage, however, resource allocation depends on the specific combination of demographics and allows for the possibility that disadvantage is not necessarily cumulative. In this theory, "group" means the specific intersection of demographics; for example, gender is not a group, but gender-ethnicity-class is a group.

Some mechanisms as to why disadvantage is not necessarily cumulative are posited by 'intersectional invisibility' theory (Purdie-Vaughns and Eibach 2008). Examining interpersonal dynamics, Purdie-Vaughns and Eibach (2008) define intersectional invisibility as "the general failure to fully recognize people with intersecting identities as members of their constituent groups" (381). The key aspect is the degree to which the intersecting group is targeted by dominant groups. In some situations women are socially invisible because of their particular combination of demographics, providing them a shield from being a direct target of prejudice and discrimination. Or, "ethnic minority women and white lesbian women, by virtue of their non-prototypicality, may escape the more active forms of discrimination ethnic minority men and gay men face" (Purdie-Vaughns and Eibach 2008: 382). In intersectional invisibility the context in which demographic groups operate influence their level of disadvantage: in some contexts men are more disadvantaged, in other contexts, women (Purdie-Vaughns and Eibach 2008; see also Sidanius and Pratto 1999; Sidanius et al 2004). Micro-level processes of this type can be replicated in labor markets and other contexts that influence the acquisition of socioeconomic resources. Those with historically marginalized characteristics will have lower socioeconomic resources, but because advantages and disadvantages are context dependent, there is no direct relationship between number of disadvantaged characteristics and level of socioeconomic resources.

Group-specific Disadvantage Hypothesis: Socioeconomic resource allocation depends on the specific combination of demographics within particular social contexts.

Theoretical Problems

There are problems with these theories. First and foremost, none properly discuss the role of class in weighting the level of disadvantage. Because class is more firmly connected to economic and human capital measures of stratification, class, more so than gender or ethnicity, is expected to be a millstone demographic, dragging down

socioeconomic resources. Second, the group-specific disadvantage theory fails to say exactly why, in some contexts, women as part of a particular combination of demographics would be more advantaged than women with other combining demographics. In this, the group-specific disadvantage theory is little more than a default: if cumulative disadvantage fails its empirical test, group-specific disadvantage is the only theory left, an intellectually unsatisfying situation. Third, theories and the empirical literature on intersectionality say little about cross-national variation in socioeconomic disadvantage. Cross-national variation in social, political, economic and cultural contexts matter, but exactly how these contexts influence intersectional outcomes is relatively unknown.

2.3 Data, Variables and Methods

Data come from the European Social Survey (ESS). ESS is a cross-national, cross-sectional data set with individuals as the units of analysis. I pooled the ESS data for France and Germany, such that my data set consists of rounds 1 (2002), 2 (2004) and 3 (2006) for these countries.

Measuring Intersections

I apply McCall's (2005) intercategory approach, in which the relationship between the person and the attitude or behavior is conditional upon intersecting identities. In measurement terms, I created a series of interaction variables that form discrete demographic categories reflecting the intersections of gender, ethnicity and class. The final analyses are based only on intersections of these three. Gender is based on the respondent's self-description. Ethnicity is constructed from the combination of (a) respondents answering "yes" to the question, *Do you belong to a minority ethnic group in [respondent's country]?* and (b) positive answers to the question, *On what grounds is your group discriminated against?* in terms of at least one of the following: the color or race, nationality, language and ethnic group. Thus, ethnicity is coded with self-report of minority status and/or discrimination based on ethnicity. I constructed lower class by dividing the lower end of the Erikson and Goldthorpe (1992) class schema – unskilled workers, agricultural laborers, and self-employed farmers – from the rest, as members of these class categories typically have the least access to and amount of socioeconomic resources. Professionals, administrators, and managers, routine non-manual employees, small proprietors and employers, the self-employed, lower level technicians and supervisors of manual workers, and skilled manual workers are the reference category (see Erikson and Goldthorpe 1992 for details).

Measuring Socioeconomic Resources

To measure socioeconomic resources, I use the international socioeconomic index (ISEI). ISEI is a combination of income and level of education attached to occupation (so-called ISCO, or international standardized classification of occupation) scores, where the higher the number, the greater the ISEI (see Ganzeboom et al 1992). In other words, the higher the number, the more socioeconomic resources that demographic group has, on average. In the analyses, I calculate the ISEI mean and standard deviation (S.D.) for each discrete demographic intersection. Theoretically, ISEI could range from 1 – 100, but in these data, the range is from 16 to 90.

Because I measure socioeconomic resources with ISEI, cases in my dataset are those who have an occupational score. Therefore, those who report never having had a paying job, or are otherwise not classified as having an occupation recognized by ISCO, are excluded. In these data, women from an ethnic minority (but not a disadvantaged social class) are the most likely to be "missing cases." The potential bias this introduces is an over-estimation of the socioeconomic resources of this group, as only those women from an ethnic minority and have a paying job (or, at least, classified as having one) are included; these women may have better access to socioeconomic resources than those of their group that are not classified as having an occupation.

However, we should not exaggerate the potential overestimation. To determine the extent of this bias, I approximated ISEI with a socioeconomic resources variable that combines age, years of education and household income. Since, due to a quirk in ESS 2002 France has a different household income variable than Germany, I analyze only Germany, 2002 – 2006. Table 1 presents the distribution of its components. The variable ranges from -3,83 to 4,30, where the higher the score, the greater the socioeconomic resources. Women from an ethnic minority with no ISEI score have an SES of -0,33 (S.D. = 0,86), as compared to 0,05 (S.D. = 0,89) for ethnic

Table 1. Alternative Measurement of Socioeconomic Resources and Distribution of Its Components for Germany

Items	Mean	Standard deviation	Factor Loadings ^a
Age	48,87	17,87	-0,55
Years of Education	12,96	3,39	0,79
Household Income	6,82	2,06	0,67

a) Eigenvalue = 1,38; explained variance = 45,99%

minority women who have an ISEI score. The difference is statistically significant at the 0,05 level, but cannot reasonably said to have a large, substantive difference.

2.4 Analytical Strategy

Cumulative disadvantage would have empirical support if those with more disadvantaged categories have a lower mean ISEI than those with fewer disadvantaged categories, and that the difference between them is statistically significant. To test this, I calculate the statistical differences between discrete demographic categories, comparing each with that below it.⁷

2.5 Results

Table 2 presents means and standard deviations of ISEI scores for each discrete demographic category. There are several noteworthy findings. First, class is part of all of the most disadvantaged intersections. Test of mean differences between intersections with class and those without are statistically significant. This shows that of the disadvantaged demographics, class has the strongest relationship to socioeconomic resources. Second, there is some empirical support for cumulative disadvantage: considering the extent to which class increases disadvantage, and that those who represent the most disadvantaged intersections occupy the lowest rungs on the disadvantage scale. Providing further support is that men are at the top and women from a low class, whether they are in an ethnic minority or not, are at the lowest level of disadvantage. Women from low social class are far worse off than men from low social class.

However, a strict test of cumulative disadvantage would show that woman from an ethnic minority would be more disadvantaged than a man with any single form of disadvantage, and this is not the case. The difference in means between men from disadvantaged class and women from ethnic minority is statistically significant: ethnic minority women are, in terms of ISEI, better off than the lower class men. Moreover, women without class disadvantage and are not part of an ethnic minority have a statistically significant difference with ethnic minority men.

Table 3 presents the results of the same type of analysis, but for each country separately. The results are largely the same, but with visible cross-national differences.

⁷ Note that this part of the analysis has the property of the Principle of Transfers, which states that if $A > B$, and $B > C$, then $A > C$.

In both Germany and France, class acts as a millstone variable. However, the positioning of the demographic intersections – ranked based on ISEI for each country – are slightly different. For example, contrary to Germany, ethnic minority French men have a higher ISEI than ethnic minority French women, though the difference is not significant at the 0,05 level. Unlike in France, German lower class men from

Table 2. Mean International Socioeconomic Index (ISEI) by Intersections of Gender, Ethnicity and Class for France and Germany, 2002 – 2006

Discrete Demographic Category	Mean	Standard Deviation	N	Is Difference Statistically Significant from Category Immediately Below? ^{a)}
MAN	49,75	15,01	4545	Yes
WOMAN	47,61	13,19	5097	Yes
WOMAN and ETHNIC minority	44,80	13,50	225	No
MAN and ETHNIC minority	44,27	14,73	225	Yes
MAN and lower CLASS	26,95	5,31	1179	No
MAN and ETHNIC minority and lower CLASS	25,88	5,31	102	Yes
WOMAN and lower CLASS	21,37	6,00	1028	No
WOMAN and ETHNIC minority and lower CLASS	20,75	6,51	80	

Source: Author's calculations based on pooled European Social Survey (ESS), consisting of rounds 1 (2002), 2 (2004) and 3 (2006). ISEI is a combination of income and level of education attached to ISCO occupation scores, where the higher the number, the greater the ISEI (see Ganzeboom et al 1992). ISEI means and standard deviations are calculated for each discrete demographic category. N refers to number of cases in the pooled ESS data for each discrete demographic category.

a) Based on unpaired t-test of statistical significance. Statistical significance is a situation in which the difference between two groups is not due to just chance, or luck. "Yes" means that the statistically significant difference between the row category and the one immediately below has a p value < 0,05. "No" means that difference is not statistically significant at the 0,05 threshold. Note that this part of the analysis has the property of the Principle of Transfers, which states that if $A > B$, and $B > C$, then $A > C$. For example, MAN refers to men who do not belong to an ethnic minority or a disadvantaged social class; their mean ISEI is 49,75, which is statistically different (not due to chance alone) from women who do not belong to an ethnic minority or a disadvantaged social class (47,61), and is statistically significant (not due to chance alone) from women who do belong to an ethnic minority but not a disadvantaged social class (44,80).

Table 3. Mean International Socioeconomic Index (ISEI) by Intersections of Gender, Ethnicity and Class by Country for France and Germany, 2002 – 2006

Germany				
Discrete Demographic Category	Mean	Standard Deviation	N	Is Difference Statistically Significant from Category Immediately Below? ^{a)}
MAN	49,26	15,23	2832	Yes
WOMAN	47,86	12,34	3164	No
WOMAN and ETHNIC minority	46,15	12,45	119	Yes
MAN and ETHNIC minority	43,06	13,80	128	Yes
MAN and lower CLASS	27,28	5,09	739	Yes
MAN and ETHNIC minority and lower CLASS	25,41	5,49	67	Yes
WOMAN and lower CLASS	22,27	6,09	596	No
WOMAN and ETHNIC minority and lower CLASS	21,48	6,83	53	
France				
Discrete Demographic Category	Mean	Standard Deviation	N	Is Difference Statistically Significant from Category Immediately Below? ^{a)}
MAN	50,56	14,62	1713	Yes
WOMAN	47,29	14,47	1932	No
MAN and ETHNIC minority	45,88	13,55	96	No
WOMAN and ETHNIC minority	43,27	14,51	105	Yes
MAN and ETHNIC minority and lower CLASS	26,77	4,91	35	No
MAN and lower CLASS	26,40	5,63	440	Yes
WOMAN and lower CLASS	20,14	5,65	433	No
WOMAN and ETHNIC minority and lower CLASS	19,30	5,66	27	

an ethnic minority are in a worse socioeconomic position than similar men without ethnic minority membership.

In sum, there is evidence for both the group-specific disadvantage and cumulative disadvantage hypotheses. Group-specific disadvantage has empirical support because there is no direct relationship between number of disadvantaged categories and level of socioeconomic disadvantage. Support for cumulative disadvantage is dependent on how disadvantaged is measured and whether class is included. In this study, class is clearly the heaviest millstone around the necks of the disadvantaged, where the lowest socioeconomic strata are largely comprised of men and women from disadvantaged social class. Thus, cumulative disadvantage should not be wholly abandoned, but rather it should be modified to allow for situations in which disadvantage is not piled up so neatly. Language matters, and disadvantage is relative: to say that women from an ethnic minority are better off than women from a low social class should not hide the low social position of both, especially in reference to intersections higher-up the stratification ladder.

3. Discussion

The quantitative literature analyzing intersectionality suggests a radical rethinking of how mainstream social scientists should approach their research. Such change is difficult to achieve. From a data collection standpoint, we would have to get more cases per survey and potentially ask new kinds of survey questions (Bowleg 2008). For example, survey questions such as “are you male or female?” are phrased in such a way

Source: Author's calculations based on pooled European Social Survey (ESS), consisting of rounds 1 (2002), 2 (2004) and 3 (2006). ISEI is a combination of income and level of education attached to ISCO occupation scores, where the higher the number, the greater the ISEI (see Ganzeboom et al 1992). ISEI means and standard deviations are calculated for each discrete demographic category. N refers to number of cases in the pooled ESS data for each discrete demographic category in each country.

a) Based on unpaired t-test of statistical significance. Statistical significance is a situation in which the difference between two groups is not due to just chance, or luck. “Yes” means that the statistically significant difference between the row category and the one immediately below has a p value < 0,05. “No” means that difference is not statistically significant at the 0,05 threshold. Note that this part of the analysis has the property of the Principle of Transfers, which states that if A > B, and B > C, then A > C. For example, MAN refers to men who do not belong to an ethnic minority or a disadvantaged social class; for German MAN, the mean ISEI is 49,26, which is statistically different from German women who do not belong to an ethnic minority or a disadvantaged social class (47,86) and is statistically significant (not due to chance alone) from German women who do belong to an ethnic minority but not a disadvantaged social class (46,15).

as to divorce the categories from their institutional contexts, an idea contrary to the intersectionality paradigm (Hancock 2007: 66). From a data analysis standpoint, we would have to develop a variety of analytical techniques not commonly employed, such as consistently measuring demographics with interaction terms (Weldon 2006). From a publishing standpoint, journals would have to allow space for longer articles filled with more nuanced analysis (see McCall 2005 on this point).

If quantitative-oriented social scientists working in the field of social stratification are predisposed to the ideas of intersectionality, why do they not engage in it now? There are multiple reasons for this. First, intersectionality remains at the margins of graduate student training in the top social science programs. Getting its start in women's studies, intersectional research is an interdisciplinary project. Despite that interdisciplinary endeavors are prized in the modern university, the path of ideas from one discipline to another is littered with disciplinary boundaries and other ideological obstacles (Jacobs and Frickel 2009). Second, the social stratification literature is dominated by older, established scholars for whom the intersectionality revolution occurred late in their careers. Given their past research programs and the commitments they have made to current and future ones, these scholars are not likely to steer their research ship in a completely new direction any time soon. The quantitative literature will have to be taken up by younger scholars who are exposed both to the classic theoretical and methodological currents in the social sciences and the new directions charted by an emergent group of intersectionality scholars. Third, if asked about intersectionality, most social stratification researchers would say that it is obvious. In this, however, they are merely positing the cumulative disadvantage theory, "adding-up" disadvantage and declaring the whole enterprise unsurprising. To be obvious is to be uninteresting, and therefore to be ignored (M. Davis 1971; see also K. Davis 2008). Yet, as the empirical illustration I provide suggests, intersectionality is much more complicated – and much more interesting – than they realize.

Taken together, I offer a rather downcast view of progress toward my stated goal of greater numbers of scholars engaged in the scientific exploration of intersectionality using quantitative techniques on survey data. The prospect of intersectionality being taken into the mainstream of quantitative-oriented social stratification research any time soon is dim. The history of "gender" as a variable in survey research offers an object lesson. In the mainstream social stratification literature, only in the 1980s did gender become routinely considered as an important explanatory variable, decades after the feminist movement emerged as a powerful movement in America. Social stratification research featuring the influence of gender on a variety of outcomes is vast, and much of it improves our understanding of how societies work. Nowadays, sociologists must include gender (male and female dichotomized) in their quantitative models, or face rejection by the top journals. Yet, most of these

scholars do not follow Walby's (2009) suggestion to place gender at the heart of their theory. Often, among the other "standard demographics" (age, education and race/ethnicity, among them), gender is "thrown in" with little explanation as to how or why it should matter, and its effects – large, small or not at all – are but briefly noted. The step from the current situation to one in which gender is conceived as part of an intersection is much too large to happen within the next decade, and possibly much longer.

Yet, the project is now. To answer the question, *Why should social scientists account for intersectionality in quantitative analysis of survey data?*, the answer is: because it matters for classic issues in social inequality. What quantitative social science does best is rigorously test theories with valid and reliable data and generalize to populations; to realize the potential of intersectionality, we need more statistically-oriented studies to understand the contexts in which intersectionality relates to disadvantage. Without more research in this area, intersectionality will remain at the margins of the social sciences and ignored by the top journals, where new questions are left unaddressed and intersectionality's revolutionary promise remains unfulfilled.

Bibliography

- Blumberg, Rae Lesser. 2007. Gender Bias in Textbooks: A Hidden Obstacle on the Road to Gender Equality in Education. Background paper prepared for the Education for All Global Monitoring Report 2008 Education for All by 2015: will we make it? <http://unesdoc.unesco.org/images/0015/001555/155509e.pdf> Accessed July 4, 2010.
- Blumer, Herbert. 1956. Sociological Analysis and the 'Variable.' In: *American Sociological Review* 21(6): 683-690.
- Bowleg, Lisa. 2008. When Black + Lesbian + Woman ≠ Black Lesbian Woman: The Methodological Challenges of Qualitative and Quantitative Intersectionality Research. In: *Sex Roles* 59: 312- 325.
- Brambor, Thomas; Clark, William Roberts, and Golder, Matt. 2006. Understanding Interaction Models: Improving Empirical Analyses. In: *Political Analysis* 14: 63-82.
- Braumoeller, Bear F. 2004. Hypothesis Testing and Multiplicative Interaction Terms. In: *International Organization* 58: 807-820.
- Choo, H, and Myra Ferree. 2010. Practicing Intersectionality in Sociological Research: A Critical Analysis of Inclusions, Interactions, and Institutions in the Study of Inequalities. In: *Sociological Theory* 28(2): 129-149.

- Davis, Kathy. 2008. Intersectionality as Buzzword: A Sociology of Science Perspective on What Makes a Feminist Theory Successful. In: *Feminist Theory* 9(1): 67-85.
- Davis, Murray S. 1971. That's Interesting! Towards a Phenomenology of Sociology and a Sociology of Phenomenology. In: *Philosophy of the Social Sciences* 1: 309-344.
- DiPrete, Thomas A., and Eirich, Gregory M. 2006. Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments. In: *Annual Review of Sociology* 32: 271-297.
- Dubrow, Joshua Kjerulf. 2008. How Can We Account for Intersectionality in Quantitative Analysis of Survey Data? Empirical Illustration of Central and Eastern Europe. In: *ASK: Society, Research, Methods* 17: 85-102.
- Duru-Bellat, Marie; Kieffer, Annick, and Reimer, David. 2008. Patterns of Social Inequalities in Access to Higher Education in France and Germany. In: *International Journal of Comparative Sociology* 49(4-5): 347-368.
- Ganzeboom, Harry B.G.; De Graaf, Paul, and Treiman, Donald J. (with De Leeuw, Jan) 1992. A Standard International Socio-Economic Index of Occupational Status. In: *Social Science Research* 21(1): 1-56.
- Hancock, Ange-Marie. 2007. When Multiplication Doesn't Equal Quick Addition: Examining Intersectionality as a Research Paradigm. In: *Perspectives on Politics* 5(1): 63-79.
- Heyns, Barbara. 2005. Emerging Inequalities in Central and Eastern Europe. In: *Annual Review of Sociology* 31: 163-197.
- Jacobs, Jerry A. and Scott Frickel. 2009. Interdisciplinarity: A Critical Assessment. In: *Annual Review of Sociology* 35:43-65.
- McCall, Leslie. 2005. The Complexity of Intersectionality. In: *Journal of Women in Culture and Society* 30(3): 1771 – 1800.
- Purdie-Vaughns, Valerie, and Eibach, Richard P. 2008. Intersectional Invisibility: The Distinctive Advantages and Disadvantages of Multiple Subordinate-Group Identities. In: *Sex Roles* 59: 377-391.
- Sidanius, Jim, and Pratto, Felicia. 1999. *Social Dominance*. Cambridge: Cambridge University Press.
- Sidanius, Jim, and Pratto, Felicia; van Laar, Colette; Levin Shana. 2004. Social Dominance Theory: Its Agenda and Method. In: *Political Psychology* 25(6): 845-880.
- Walby, Sylvia. 2007. Complexity Theory, Systems Theory, and Multiple Intersecting Social Inequalities. In: *Philosophy of the Social Sciences* 37(4): 449-470.
- Walby, Sylvia. 2009. *Globalization and Inequalities: Complexity and Contested Modernities*. Sage Publications.

- Warner, Leah R. 2008. A Best Practices Guide to Intersectional Approaches in Psychological Research. In: *Sex Roles* 59: 454-463.
- Weber, Max. 1946. *Class, Status, Party*. In: Gerth, Hans, and Mills, Wright C. (eds). *From Max Weber*, Oxford: Oxford University Press: 180-195
- Weldon, S. Laurel. 2006. The Structure of Intersectionality: A Comparative Politics of Gender. In: *Politics & Gender* 2(2): 235-248.