Towards a quantitative feminist sociology: the possibilities of a methodological oxymoron

Rachel Lara Cohen

Department of Sociology, City University London

Rachel.cohen.1@city.ac.uk

Towards a quantitative feminist sociology: the possibilities of a methodological oxymoron

British sociology, feminism and the quantitative lacuna

British sociology's antipathy to quantitative methods is well documented (Payne, Williams, and Chamberlain 2004; Rice et al. 2001; Williams et al. 2008). Typically, as Williams, Payne and Sloan (Chapter XX) outline, this antipathy is understood as a historical reaction against the prior dominance of positivist quantification. It has recently been shown, however, that this story of conversion from quantitative to qualitative methods is overly simplistic. British sociology has long been qualitative. If anything, it was initially more theoretical and less empirical (Payne 2014; Platt 2007). Therefore, British sociology's rejection of quantitative methods and focus on qualitative methods, was not initiated by either the women's movement generally, nor feminism specifically. Yet, undeniably, the rise of second wave feminism within and beyond the academy, involving a concerted methodological and epistemological critique, has provided ongoing legitimation for qualitative methodologies, rather than quantitative (Oakley 1998; Payne 2014).

Today feminists employ a wide range of methods (Fonow and Cook 2005, 2214) and research on gender and women is often quantitative (Cohen, Hughes, and Lampard 2011; Dunn and Waller 2000). Further, over the last three decades feminists have championed the use of quantitative methods for feminist sociological research (Oakley 1998; Sprague and Zimmerman 1989; Westmarland 2001) and suggested ways that feminists might use, adapt and refine quantitative and survey methods (Crocker 2010; Hester, Donovan, and Fahmy 2010; Kim 1997; Patulny and Pini 2013; Wilson 2013). Notwithstanding this, today it remains rare for quantitative studies to be framed as 'feminist' or engage with feminist methodology or epistemology (Cohen, Hughes, and Lampard 2011). Moreover, despite transformative projects associated with critical quantitative analysis, for example the Radical Statistics Group (RSG) (Simpson et al. 2013), a coherent Feminist Statistics Group has not emerged.[1]

This is reflected in, or perhaps reflects, the teaching of 'feminist methodology'. Thus textbooks acknowledge the potential of quantitative methods, but detailed advice is notable by its absence: for instance, advice on how to use quantitative methods *as a feminist*; overcoming potential gendered pitfalls; feminist data sources. Discussion of quantification is often relegated to a single textbook chapter (Undurraga 2010), or single session of a class. These typically begin by encouraging feminists to employ 'the best methods for the topic' and making the case that it *is legitimate* to use quantitative methods. Justification complete, there remains little space or time for specification, which is left to generic quantitative texts. Quantitative research is implicitly positioned, therefore, as external, albeit not necessarily antagonistic, to feminist research methods.

This chapter suggests, conversely, that there is considerable mileage in bringing these closer together. A critical feminist perspective may not only accord with, but suggest, innovative ways of developing quantitative sociology. To elaborate the chapter first outlines key themes in feminist

critiques of quantitative research. Next it explores four interrelated issues: the topics addressed by and categories produced within survey research, the sex-gender divide, abstraction versus contextualisation and, finally, reflexivity. These are by no means the only methodological issues to which a feminist quantitative sociology might speak, but are explored because they draw upon key themes within the feminist critique.

The feminist critique

Second wave feminists highlighted the relationship between doing and knowing (Letherby 2004, 176). Importantly, this included critically appraising both the *process* and *product* of quantitative social research. On the one hand the product – a quantified reality – was seen as reductionist, presenting social reality as ahistorical and de-contextualised. On the other hand the process – hierarchical and undemocratic while formally neutral – was seen as masking the privilege of (white, heterosexual) male researchers. In contradistinction, the feminist project was conceived as *for* and *with* women. *With* women via a research process that is close to the lived experiences of women's lives[2]. *For* women in the sense that research should aim to improve women's lives and thus be part of a transformative project (Westmarland 2001). Such 'feminist approaches to research have always emphasized action and social change' (Fonow and Cook 2005, 2223).

In doing research with women, a key feminist objective has been that the subjects of research gain power over the interaction.[3] Unstructured interviews, in which subjects can direct conversation, or ideally Participant Action Research, in which research aims are oriented by subjects' priorities, are widely advocated as providing participants with voice (c.f. Parr 2015).[4] Conversely, quantitative research, and especially surveys based on closed-response questions, have been seen as denying subjects' voice, notwithstanding some variation in this (see Kim 1997). Increasingly, however, there is recognition that even within qualitative research research subjects' voices are never simply broadcast in unmediated form. Rather, 'it is the researcher who makes the final decision about what to include and what to leave out of the final report. So the final shift of power is in the researcher's favour' (Letherby 2004, 182. See also discussion by Tremlett and Harris XXX on what gets left on the cutting room floor). Furthermore, the transparency of quantitative research, typically involving defined and clearly documented procedures and re-usable data, may increase the control of a third party – readers – rarely mentioned in critiques of subject-researcher power relations. Quantitative methods can, thereby facilitate independent judgements, and 'critical discourse within a community of scholars' (Sprague and Zimmerman 1989, 73). The problem is that without calibrating the diverse effects of various research methods on the relative power of different women (researchers, research subjects, research readers or a wider public), it is not easy to determine the methods that necessarily best empower women, nor when or if quantitative analysis is appropriate.

Feminists have targeted survey research, as well as quantification *per se*. Survey research is criticised for hiding the role of the researcher as active agent, especially in published findings, for constraining female respondents to tick-boxes designed by men and for equalling out individuals (who are transformed into individual equally weighted isolates) and therefore obviating patriarchal relations of power (Westmarland 2001). These criticisms are apposite with regard to surveys. They have, however, at times been ascribed erroneously to all quantitative sociology, including where this involves unobtrusive measures.[5] Moreover, some issues – such as who designs questions and how

these fit women's lives or the social abstraction of individuals – may prove less of a sticking point than they originally appeared, something discussed below.

The preceding criticisms raise important issues, yet two additional rejoinders remain. First, quantitative methods tend to be understood by feminists as historically practiced (and rooted in specific contexts and relations of gendered power), whereas these have often been juxtapoised with an idealised qualitative methodology. Second, and importantly, 'equating men with quantitative methods continues and confirms stereotypes about men's superior numerical abilities and their lack of emotional skill' (Letherby 2004, 180). There may therefore be social and institutional value in feminist women laying claim to quantitative sociology. The following sections identify and discuss four key areas that might facilitate and be targeted by such a claim.

Research with women, or asking the right questions

Fonow and Cook argue that feminists have 'consistently searched for more inclusive and nuanced ways to measure complex phenomena' (2005, 2226). In this feminists differ little from other quantitative sociologists in principle. In practice, the difference may lie in the complex phenomena that are the targets of their interest, as feminists seek to standardize and categorise with attention to women's experiences (Fonow and Cook 2005; Kim 1997; Westmarland 2001). For instance there has been extensive feminist discussion about how to measure domestic and sexual violence (see, for instance Crocker 2010; Hester, Donovan, and Fahmy 2010). Feminist researchers have also pushed to extend the remit of what is measured. In consequence, the last three decades have seen a rapid growth in publically available secondary survey data within which women's experiences are reflected (Maynard 1994, 12). Various surveys now include questions about domestic labour (Coltrane 2000) or gender attitudes (Scott and Clery 2013). Increased use of time-diaries has meanwhile meant that multitasking by women with regard to childcare and employment is revealed (Craig 2007). Consequently, women's 'second shift', long described by qualitative research, can today be measured empirically using survey data.

Within my field, the sociology of work, data have improved substantially, with large datasets, time series, and cross-country comparability, all of which provide new opportunities to measure women's lives. The Labour Force Survey (LFS), for example, is conducted every quarter and includes a sufficiently large sample for researchers to drill down to smaller groups of workers in order to investigate changes in concrete types of work. For instance in a previous study I highlighted the changing age and marital profile of mobile hairdressers, showing that while salon-based hairstyling remains primarily a young female occupation, mobile styling has become an occupational niche for older married women (Cohen 2010). Despite these strengths, because the LFS is a study of 'labour force' behaviour, it contains little information about respondents' reproductive labour or personal lives. Researchers are therefore unable to explore interactions between employment, leisure, or domestic labour, and are, by this omission, forced to reproduce in their research the public-private separation that has been subject to extensive feminist criticism.

Moreover, the LFS, like most large-scale surveys employs understandings of industry and occupation that allow men's lives to be investigated more easily and with more nuance than women's. For instance industrial sector is recorded using Standard Industrial Classification (SIC) codes at four levels of aggregation. The highest includes just 9 very broad 'sectors', the second (2 digit) includes as many

as 83 'major groups'. The third (3 digit) has up to 416 possible 'industry groups'. Finally these are further disaggregated into 1,005 possible 'industries' (4 digit)[6]. Much quantitative analysis employs either the major sectors or the 2-digit groups, partly because as disaggregation occurs fewer workers are in any one category, making it difficult to use occupation in inferential analyses.

Figure 1 about here

Using data from the Labour Force Survey (January-March 2013) Figure 1 describes distribution of men and women across broad industrial sectors. In six sectors male workers comprise the majority. In the other three female workers are the majority, suggesting that female workers are clustered in relatively few sectors of the economy. This appears to be borne out by a more detailed examination of the 237 industry groups to which at least one respondent was coded. While ostensibly these groups are each measured at the same level of abstraction there is actually great variability in industrial group size; the smallest group includes a single respondent and the largest 2,199. To examine these patterns by sex, Table 1 focuses on industrial groups where relatively few workers were recorded (under 100) and industrial groups where very high numbers of respondents were recorded (over 1,000). Most smaller industrial sectors (with few recorded respondents) are male-dominated. Conversely, large sectors tend to be female dominated. Notably, over a third of female workers are recorded as working in just seven of the 237 industrial groups.

Table 1 about here

There are two ways of understanding Table 1. On the one hand we could conclude that women are clustered into only a few spaces in the economy. This might speak to arguments about the industrial segmentation and marginalisation of women. Alternatively (or at least additionally) we can think of it as an issue of methodology, in which less attention has historically been paid to women's work and *variation within this*. Thus the industrial spaces within which women work remain relatively undifferentiated by researchers in comparison to the spaces occupied by men. Luckily it is possible to find out more detail about women's work by moving to four-digit codes. There remain, however, problems. The first is that there are still more female-dominated large industrial groups than male. Thus women's work continues to be less differentiated and as such this is only a partial solution. That notwithstanding, the second problem is simply that data manipulation of a variable containing nearly a thousand categories becomes quite unwieldy, especially since many categories contain very few respondents. Unsurprisingly, 4-digit SIC codes are thus rarely employed in sociological analysis. Given, however, that the use of the existing (1, 2 and 3 digit) classification schemes differentially affect our understanding of men's and women's work it is an issue that feminist sociologists of work could address collectively. Industrial and occupational categories could be re-aggregated into a new classification system that more adequately reflects variety in the work done by and interests of women workers.[7] As such, this is a case where feminist critique of existing categories suggests new avenues for quantitative data categorisation.

A second example, relating to the gendering of domestic roles, highlights the importance of simply asking the right questions. On the one hand, there has been considerable evidence that gender attitudes are changing with support for a 'traditional' household division of labour decreasing over time and by cohort. Figure 2 shows data drawn from the British Social Attitudes (BSA) survey and nicely summarised by Scott and Clery (2013). Yet as the report's authors highlight, despite dramatic changes in stated attitudes, there has been remarkably little change in the domestic division of

labour over the last twenty years. This conundrum can and has been explained by reference to ongoing structural, economic and social inequalities, including for instance, differential maternity and paternity cover and differences in the social norms facilitating or retarding male and female workers' ability to ask employers for time off.

Figure 2 about here

To get a better sense of how this plays out at the micro level we have to go beyond BSA data. An American study of young people (Gerson 2009) helps. This study involved qualitative life-history interviews, but sufficient respondents (N=120) to enable limited quantitative analysis. Figure 3 shows that when asked what domestic arrangements they would like ideally, both young men and women (overwhelmingly) opted for an egalitarian arrangement, whereby both partners did paid work and shared domestic labour. Because, however, Gerson prompted respondents to talk about what might happen should this ideal be unachievable, a very different picture emerged. A large majority of young men opted for a fallback position of 'traditional' gender relations. In contrast young women opted for a fallback of self-sufficiency. The contrast between what appears to be a harmonious set of ideals and less harmonious pragmatic solutions reveals the interpersonal context in which domestic relations are negotiated, shedding light on the stalled revolution found by the BSA data (Figure 2). By investigating the divergence between what people believe to be ideal and what, in the real world, they think they can live with Gerson highlights the critical space between agency and structure. This space is key to sociologists of most stripes, but especially to those, including feminists, with a transformational agenda. Accordingly the design of survey questions to expose this space is a potentially fruitful contribution for feminist quantitative sociology. This might be done in various ways, for example Pedulla and Thébaud (2015) build on Gerson's analysis using experimental-survey research to test the ideal and fallback domestic arrangements of more and less educated men and women, under conditions of varying institutional constraint.

Insert Figure 3, from Gerson, p122 – *permission required*

From binary sex to gender analysis

One of the central tenets of feminist social theory is the separation of biological sex from gender: the understanding of gender as a social construction, and subject to historic and contextual variability, is fundamental to our ability to imagine and work towards transformation. Yet almost all quantitative research in sociology that explores 'gender' employs the *binary* variable: male/female (the preceding analysis on industrial group is a case in point). Furthermore, this analysis usually assumes the variable to be *invariant within cases over time*: someone coded a woman at time t_1 will also and necessarily be coded a woman at time t_2. Although often termed 'gender' in published analysis, the variable should more accurately be understood as sex by another name. The ongoing uncritical use of the variable, therefore, undermines feminist attempts to destabilise gender.

On the one hand the binary male/female variable remains relevant. As has been regularly noted, enumeration of 'facts' about inequalities between men and women has social, theoretical and political impact (Lawson 1995, 452; Maynard 1994, 13). It matters that women are systematically paid less than men. This information enables us to interrogate reality and orient campaigns. Feminists have therefore welcomed international attempts to gather gender data (such as Data2X[8]),

and employed national legislative requirements for inequality monitoring, including the UK's Public Sector Equality Duty (Griffin 2015). Engagement with the act of counting and the discovery of patterns can, moreover, be emancipatory. For example Sprague and Zimmerman (1989, 79) report that the act of listing what housework was done in their household and by whom this was done, enabled female survey respondents to characterise their daily experiences from a new perspective and as such gain consciousness. Counting and accounting may also affect people at a remove from the research process. This occurs where quantitative analysis highlights patterns that equip readers with the information to move from individualist towards social explanations of their own circumstances. A recently reported US study offers an example (Snyder 2014). Using quantitative analysis of workplace appraisals the study found systematic differences between men's and women's appraisals. The majority of men, and larger majority of women, received some criticism, but men's criticism was largely constructive, whereas criticism of women was frequently negative: 71 percent of women's critical reviews contained negative feedback as compared with just seven percent of men's. Moreover, certain critical adjectives were *only* ascribed to women, most notably 'abrasive', used to describe 13 women and no men. This was relatively small study and not necessarily representative. But the point is that the production of numbers in the context of comparisons between men and women is powerful. They provide the basis for both the researcher herself[9] and other women to contextualise and recognise patterns in an economically important practice, but one systematically represented *as* individual: appraisal and managerial assessment. Such recognition is a necessary precursor to challenging otherwise hidden gender biases and de-individualising gendered experience. Given the ideological power of the individual in neoliberal society, quantification thereby comprises an essential tool for identifying and naming women's oppression (Westmarland 2001) and is why the history of feminist struggles for equality is littered with examples wherein quantification has proved catalytic. These range from the representation of women in school textbooks to pay differentials within a workplace.

This said, if data are consistently used to contrast men with women, even if they do so to great effect, it serves to reify the sex binary. Men and women are seen as always and essentially different. The incorporation of temporality into analysis may, however, provide a solution.[10] If gender varies historically and across social contexts, data that incorporate temporality present unique opportunities, enabling us to move from research question 1, below, to question 2.

1. **Why does it matter that I am a woman?** Within quantitative analysis this question is most frequently addressed by regression analysis. It involves finding associations between outcome variables and gender. Ideally it also involves the identification of 'intervening' variables that help to 'explain' the association. This can of course be extended to ask why it matters that I am a disabled woman or to explore other forms of intersectionality (McCall 2005), possibly through the theoretically driven inclusion of interaction terms.

2. **When does it matter that I am a woman?** This question is less often addressed. The assumption behind it is, however, fundamental to most feminist sociology: that it is unlikely that gender will always matter *in the same ways*. This being so, a key research problem is to uncover in which historical periods or countries, for which cohorts, at which times within the lifecourse, and even at which times of day, gender has explanatory power. These questions can be addressed using time-series data, cohort studies, panel studies and time-use diaries. For example, as Scott (2010) has highlighted, that by charting life-course changes in men's and women's daily time use we are able to see that single or newly partnered men and

women use time similarly to one another. With the onset of parenthood, time use becomes gendered (or to answer the question above, it starts to matter that I am a woman). The availability of time-series data has never been greater. There are therefore increasing opportunities to answer this question across diverse contexts, critically charting the variability of gender relations.

Another issue raised by the attempt to move from a study of sex to gender, is how to measure femininity and masculinity. Although sociologists tend not to study this topic quantitatively, psychologists do, and have developed numerous individual survey trait-scales to measure masculinity/femininity (Barrows and Zuckerman 1960). These are generally included as independent variables, used to 'explain' diverse outcomes, for instance aggression or health behaviour. Masculinity/femininity scales have been rightly criticised for ignoring both change in what comprises masculinity or femininity over time (societal level norms) and change in an individual's possession of masculinity or femininity over the lifecourse (Whorley and Addis 2006, 656); assuming that gender, whether as social construct or performed by an individual, is constant. This assumption is incompatible with feminist sociology. Nonetheless the suggestion in this psychological literature, that survey research can differentiate gender and sex may be worth pursuing.

Even if surveys are not the most suitable method for exploration of gender relations (as opposed to binary sex differences) quantitative methods more broadly may be useful. For instance, content analysis has long been employed in media and film studies to explore gender, including representations of sexuality or femininity. Beyond this, intriguing possibilities are seen in research from other fields of sociology. Two are discussed here. The first, the Workplace Ethnography Project,[11] comprises a collection of book-length qualitative ethnographic studies. Each ethnography has been systematically assigned quantitative codes to produce a quantitative dataset. This has then been interrogated with quantitative techniques (c.f. Hodson, Roscigno, and Lopez 2006). There are limitations in transferring this method to other fields, for instance not all ethnographic studies provide equivalent documentation or focus in equivalent detail on the same topics. There are also questions about sample validity. Where, however, a large body of research explores related topics such a project is potentially fruitful, facilitating large-scale comparison without compromising participant voice during the initial research process. This could be of relevance to feminist researchers concerned with doing gender, since this topic has been widely studied across a range of settings in the aftermath West and Zimmerman's seminal (1987) article. For instance, Google Scholar identifies 489 English language publications with the specific phrase 'doing gender' in their title (plus another couple of dozen that contain 'doing femininity' and/or 'doing masculinity'). Altogether 13,700 publications contain the phrase in the main text. As such there is a wealth of potential data that, given concerted engagement and the resources to quantify these, could be used to establish systematic patterns in the (re)production of gender. This example of 'generating quantitative indicators out of qualitative data allows researchers to create new measures for previously unmeasured variables' (Cole and Stewart 2012, 374), something essential in pushing social research forward and addressing (feminist) issues that are either omitted from or difficult to capture with mainstream surveys.

Alternatively, creative use of vignettes and experiments may enable exploration of the ways that gender is read and the consequences of this. A recent Hungarian study (Janky et al. 2014) effectively employs video vignettes. Four videos were produced. These appeared as documentary accounts of

unemployment, but each varied slightly (with variation in level of poverty shown and whether ethnic cues were provided). Respondents were each shown one video and asked standardised questions which were analysed quantitatively. Participants' responses about welfare spending varied significantly where they had watched videos in which poverty was seen to be more acute or where it was ethnicised, highlighting patterns of social stigma. Although the study did not focus on gender, its use of vignettes and intersectional approach, suggest interesting possibilities for developing feminist quantitative analysis. Related, Pedulla and Thébaud's analysis of domestic roles (discussed above) highlights the way in which an experiment, employing systematically varied sets of standardised questions can facilitate the exploration of alternative gender contexts, for example more or less comprehensive childcare provision.

Abstraction, Context and Relational Identity

Feminists, alongside Marxist and other radical critics, have argued that numbers reproduce an abstracted and commodified social reality, which facilitates domination by the powerful (capital, the ruling class, white heterosexual men). This is seen across multiple social realms, where demand for measurable criteria come to dominate and transform our lived reality: from health care (where survival rates or bed occupancy are compared and hospital funding made dependent on this) to education (where schools and universities are scored and ranked) to leisure pursuits (where pastimes and hotels are graded) to sociability (where our 'friends' or 'followers' are flattened out and summed). This abstracted sociality lies in contrast to lived experience and reflects the priorities of those who create the mechanisms for measurement. Yet abstraction is also critical for theory-building as while 'too much distance makes it hard to see the person; too close proximity is equally distorting' (Sprague and Zimmerman 1989, 80). Moreover, as suggested in the preceding section counting can be a catalyst for consciousness raising precisely *because* the process of abstracting allows subjects, as well as observers, to look anew at something and perhaps recognise patterns, including inequalities. As Sprague and Zimmerman reflect in discussing their own research, 'by quantifying their activity [participants] saw themselves in a new way' (1989, 81).

An example from classroom teaching exemplifies this: I employ an exercise in which students, working in groups, explore gender differences in (heterosexual) personal advertisements. This is a quantitative exercise primarily, involving sampling, coding and the production of cross-tabulations. Before it begins, however, the students have some time to read the advertisements and discuss what they contain, using this as the basis on which to develop preliminary hypotheses and determine a coding frame. A popular student choice is to code for 'relationship type', differentiating advertisements by whether the advertiser appears to be seeking casual sex, a long-term relationship or something else. On the basis of their (qualitative) reading of the advertisements students repeatedly hypothesise that women seek love and men seek sex. Despite sampling error across groups, they repeatedly find this hypothesis is unsupported. Usually, they find no difference; occasionally they find that men are more likely to seek love than women. Of course the explanations for this finding are complex, perhaps speaking to the ways that male and female advertisers adjust their message to fit their presumed other-sex audience. What is telling about the exercise is that when students read the adverts initially they see what they expected. In contrast, a simple quantitative exercise is able to disrupt their expectations and therefore their understandings.[12] While we, as researchers, may be more sophisticated or more critical readers than my students, the

requirement fundamental to quantification that we step back and abstract can enable us to step outside of 'common knowledge' (Thorne and Varcoe 1998, 489) and to visualise social processes and structures at the core of a problem (Sprague and Zimmerman 1989, 80. See also Byrne Chapter XX on the surprises that systematic comparison can produce).

Such advantages of abstraction notwithstanding, the widespread propensity for quantitative analysis, and especially survey methods, to treat society as a population of atomistic and ahistoricised individuals remains incompatible with a feminist agenda that focuses on the social person (Maynard 1994, 11). To the extent, however, that methodological abstraction is produced by data availability and the limitations of regression techniques it could change as new types of data and new methodological techniques become widely available. For instance much secondary data now incorporate both individual and household information, allowing people to be set within their immediate social relations; other data, such as the Workplace Employment Relations Survey (WERS), includes information at both the individual and institutional level; and increasingly data such as the European Social Survey (ESS) involve cross-country comparability, facilitating comparative research that takes account of country characteristics. The latter crucially allows us to compare the effects of different welfare state policies and economic contexts on gendered outcomes at the household or individual level and thus provides valuable ammunition for political contestation (c.f. Ruppanner 2010). This is additional to time-series data, discussed earlier, which facilitates contextualisation by period or across the life-course. In conjunction with new data, is the dissemination of new techniques of statistical and non-statistical analysis. These include multi-level modelling, which allows context-level variables (associated with a state, region, institution or family) to be considered alongside the individual and (more explorative) cluster analysis (discussed by Byrne Chapter XX). Additionally, and relying on different data structure, social network analysis specifically explores connections between people, companies, organisations or other isolates, thereby switching the focus from individual properties to relational ones. These data and techniques therefore provide new opportunities for feminists to produce historical and contextually rich analysis. They also present new barriers. Namely, the growing complexity of statistical methods diminishes the ease with which studies can be communicated and therefore, perhaps, their explanatory effectiveness within the public sphere. Concomitantly this may reduce opportunities for the production of quantitative research within an Action Research framework, wherein the researched and researcher collaborate in defining questions and using findings. Moreover, while increasingly complex technique may diminish the abstraction of individual research participants from their environment they may simultaneously increase the abstraction of the data by exacerbating its scientific 'truth-ness'. As such the incorporation of new statistical techniques and data may be in tension with a quest for greater reflexivity about the research process, discussed below.

Reflexivity

As noted above, feminists have tried to disrupt the 'truth-ness' of social research, especially in its published form. Beginning from the insight that research reflects and reproduces institutions of power and, therefore, is inherently political, feminist researchers have self-consciously interrogated the intersubjective process of doing research. This has included the researcher's role in reproducing or challenging power relations (Maynard 1994, 16; Sprague and Zimmerman 1989, 77). Consequently reflexivity has been a core element within feminist analysis; allowing 'feminists to

reflect on, examine critically, and explore analytically the nature of the research process' (Fonow and Cook 2005, 2218). In principle this has meant 'understanding the role of the (feminist) researcher in constructing knowledge' (Fonow and Cook 2005, 2219). Practically it has led to a boom in reflexive writing about the research process, encompassing discussion of decisions made with respect to interview questions or sites, through tensions experienced in interactions with participants, the researcher's personal and methodological biography and silences (c.f. Letherby 2004, 184; Wilson 2013; Parr 2015). This writing has appeared in methodological and epistemological collections, but also regularly as accompaniment to substantive qualitative research. So much so that Thorne and Varcoe suggest that it is now typical that the feminist researcher prefaces 'research with inventories of one's own location' (Thorne and Varcoe 1998, 485)[13].

In contrast, as Cohen, Hughes and Lampard's (2011) analysis of articles published in Women's Studies journals highlights, quantitative analysis, tends to lack reflexivity (see also discussion in Patulny and Pini 2013; Ryan and Golden 2006). Thus quantitative articles rarely contain reflection about the methods used, encounters with respondents, the social construction of data or categories, nor less authors' social or theoretical standpoints. As such there is an obvious misfit with the typical standards of feminist publication. It is unclear whether this is due to quantitative authors' greater acceptance of scientific 'objectivity' (and uncritical stance towards its association with power), or simply to differing publication norms or more mundane constraints (Ryan and Golden 2006), for example word length, time and the need for quantitative publications to incorporate a large amount of technical detail (concerning the sample, variable operationalisation, models used). It may also relate to the distance of secondary data analysts from the conditions in which the data were initially produced. Examples of feminist reflexivity about survey research do, however exist (c.f. Patulny and Pini 2013; Ryan and Golden 2006; Wilson 2013), demonstrating that not only is this possible, but also that there are important issues to be raised. These reflective pieces tend, however, to be published separately from the authors' main (substantive) data analysis – in specifically methodological contributions. As such they are important correctives, but comprise a relatively small step towards something that will be a necessary precursor to the widespread development of an explicitly feminist quantitative sociology: that researchers and journal editors make space for and normalise reflective consideration within quantitative sociology publications.[14]

Conclusions: Into the future

This chapter has suggested that notwithstanding an enduring stand-off (or at least public coolness) between feminist analysis and quantitative research, a more extensive attempt to develop a feminist quantitative sociology could be fruitful for both feminists and quantitative sociologists. Feminist methodological critique, epistemological position and transformative agenda continually raise new questions and require new quantitative approaches to be developed, or at least old ones rethought. For example, feminist theory should make us think twice before adopting a binary and ahistorical understanding of sex/gender. Rather, or additionally, we should ask how gender might be made into a measurable outcome, or achievement. Feminist critique reminds us of the power relations embedded in research, but also makes us appreciate the centrality of comparison and abstraction to emancipatory transformation – for researcher, participants, readers and society.

Yet, despite the foregoing optimism about the potential of a quantitative feminist sociology to address old problems in new ways and generate methodological and theoretical innovation, there

are also questions about the future sustainability of feminist quantitative sociology. The first issue relates to serious cuts to key government-funded data collection, part of austerity programmes in the UK and elsewhere. As Dorling (2013) has argued with regard to the Census, these cuts will make it more difficult to research and identify (growing) inequalities. Cancellation of longstanding longitudinal data series retards the possibilities for historically sensitive explanations of social relations, including gender. Moreover, the wider programme of public sector budget cuts, including the resources available for accurate administrative data collection, could damage to our ability to research women's lives. This is because women have higher rates of public sector employment and are heavier service users. Meanwhile, attempts by pro-business governments to 'cut red tape' and reduce the business reporting 'burden' are likely to reduce the amount of publically held administrative data available to researchers.

To suggest that data relevant to gender may become less easily available seems counterintuitive amid the clamorous enthusiasm over Big Data. Yet new forms of data are likely to introduce new gendered inequalities into quantitative sociological research, not least because these data have been subjected to less extensive feminist critique. Big Data is a catch-all term, including sources of data as diverse as social media interactions, supermarket purchase information and records of individuals' use of state welfare. Much of this comprises 'found data', notable for the low costs of collection (Harford 2014) or what was previously referred to as 'administrative data'. Ostensibly these data will obviate the need for sample surveys; instead enabling analysis of whole populations (Savage and Burrows 2007). These 'populations', however, differentially include different social classes (Byrne, Chapter XX, Burrows Chapter XX) and are likely to differentially include men and women and different sub-groups of men and women. Data included under the Big Data umbrella are gendered in other ways as well. For instance, as is true of survey research, only those things that are captured can be studied. Whole spheres of social life therefore remain beyond the purview of quantitative analysis. This is the case for much private life involving interpersonal negotiations (albeit perhaps not leisure activities, for instance drinking or hiking, insofar as these are captured by a stream of photographs posted to social media). Yet a major achievement of second wave feminism is recognition of the sociological relevance of negotiations within the private sphere and the interconnection of these with public life. Additionally the ability of Big Data to rapidly construct classifications based on our most easily visible traits may exacerbate the hardening of gendered binaries. For instance, the widely disseminated 'Profiler' produced by market research firm, YouGov,[15] enables anyone to look up the profile of people associated with 'any brand, person or thing'. These profiles report probabilistic comparisons of brands with their equivalents, but each brand profile is visibly represented as male or female. As such the profiles highlight and exaggerate the gendered nature of behaviour, while making within-sex variability invisible.

Conversely, the growing wealth of data relating to online interactions presents new opportunities. Not least, the opportunity to examine the (all too frequent) social contexts within which misogynistic talk emerges online, but also the contexts which feminist ideas gain traction or egalitarian online communities emerge, topics clearly linked to feminist emancipatory goals. Such analysis is facilitated by the transparency of online conversational threads. Since, moreover, quantitative analysis of web and transactional data rely on unobtrusive methods – content analysis or corpus linguistics – rather than survey techniques, it avoids many of the pitfalls feminists identify within the survey method.

Where, however, the rise of Big Data involves a growing concentration of data and research capacity within corporate hands it is likely to reinforce existing power relations, and orient the questions that are (or are not) asked. An example of this emerged in the study of mobile hairstylists, discussed above (Cohen 2010). A review of previous analyses of 'mobile work' revealed that a relatively high number of influential studies were produced in connection with technology companies. Not coincidentally, academic conceptualisations of work 'mobility' are dominated by ICT-enabled mobility, a type of work primarily experienced by white middle class men. Other mobile workers, like the hairdressers I was studying, were simply missing. This instance is relatively innocuous, but as research power moves from universities to private institutions (Savage and Burrows 2007) social analysis will increasingly accord with corporate interests. Even where data are produced within the public realm increased reliance on outsourced 'analytics' consultancy firms, such as Accenture, removes state, public or academic control over data and the questions asked. This cannot but concentrate social analysis on the limited set of social roles of corporate interest; primarily analysis of individuals as consumers and workers. The gendered implications of radically increased corporate control over data have received scant attention and this is unlikely to change without protracted feminist engagement in quantitative analysis and debate which forces gender onto the Big Data agenda.

References:

Barrows, Gordon A., and Marvin Zuckerman. 1960. "Construct Validity of Three Masculinity-Femininity Tests." *Journal of Consulting Psychology* 24 (5): 441–45. doi:10.1037/h0040879.

Cohen, Rachel Lara. 2010. "Rethinking 'mobile Work': Boundaries of Space, Time and Social Relation in the Working Lives of Mobile Hairstylists." *Work, Employment & Society* 24 (1): 65–84. doi:10.1177/0950017009353658.

Cohen, Rachel Lara, Christina Hughes, and Richard Lampard. 2011. "The Methodological Impact of Feminism: A Troubling Issue for Sociology?" *Sociology* 45 (4): 570–86. doi:10.1177/0038038511406599.

Cole, Elizabeth R., and Abigail J. Stewart. 2012. "Narratives and Numbers: Feminist Multiple Methods Research." In *The Handbook of Feminist Research: Theory and Praxis*, 368–87. London: SAGE.

Coltrane, Scott. 2000. "Research on Household Labor: Modeling and Measuring the Social Embeddedness of Routine Family Work." *Journal of Marriage and Family* 62 (4): 1208–33. doi:10.1111/j.1741-3737.2000.01208.x.

Craig, Lyn. 2007. "Is There Really a Second Shift, and If So, Who Does It? A Time-Diary Investigation." *Feminist Review*, no. 86 (January): 149–70.

Crocker, Diane. 2010. "Counting Woman Abuse: A Cautionary Tale of Two Surveys." *International Journal of Social Research Methodology* 13 (3): 265–75. doi:10.1080/13645579.2010.482263.

Dorling, Danny. 2013. "The 2011 Census: What Surprises Are Emerging and How They Show That Cancellation Is Stupid." *Radical Statistics*, no. 109: 4–13.

Dunn, Dana, and David B. Waller. 2000. "The Methodological Inclinations of Gender Scholarship in Mainstream Sociology Journals." *Sociological Spectrum* 20 (2): 239–57. doi:10.1080/027321700279974.

Fonow, Mary Margaret, and Judith A. Cook. 2005. "Feminist Methodology: New Applications in the Academy and Public Policy." *Signs: Journal of Women in Culture & Society* 30 (4): 2211–36.

Gerson, Kathleen. 2009. *The Unfinished Revolution : How a New Generation Is Reshaping Family, Work, and Gender in America*. Oxford: Oxford University Press, USA.

Griffin, Penny. 2015. "Crisis, Austerity and Gendered Governance: A Feminist Perspective." *Feminist Review* 109 (1): 49–72. doi:10.1057/fr.2014.44.

Harford, Tim. 2014. "Big Data: Are We Making a Big Mistake?" *Financial Times*, March 28. http://www.ft.com/cms/s/2/21a6e7d8-b479-11e3-a09a-00144feabdc0.html.

Hester, Marianne, Catherine Donovan, and Eldin Fahmy. 2010. "Feminist Epistemology and the Politics of Method: Surveying Same Sex Domestic Violence." *International Journal of Social Research Methodology* 13 (3): 251–63. doi:10.1080/13645579.2010.482260.

Hodson, Randy, Vincent J. Roscigno, and Steven H. Lopez. 2006. "Chaos and the Abuse of Power Workplace Bullying in Organizational and Interactional Context." *Work and Occupations* 33 (4): 382–416. doi:10.1177/0730888406292885.

Janky, Béla, Boglarka Bakó, Péter Szilágyi, and Adrienn Bognár. 2014. "Stigmatising the Poor Without Negative Images: Images of Extreme Poverty and the Formation of Welfare Attitudes." *Sociological Research Online* 19 (3): 4.

Kim, Marlene. 1997. "Poor Women Survey Poor Women: Feminist Perspectives in Survey Research." *Feminist Economics* 3 (2): 99–117. doi:10.1080/135457097338717.

Lambert, Paul S., and Erik Bihagen. 2014. "Using Occupation-Based Social Classifications." *Work, Employment & Society* 28 (3): 481–94. doi:10.1177/0950017013519845.

Lawson, Victoria. 1995. "The Politics of Difference: Examining the Quantitative/qualitative Dualism in Post-Structuralist..." *Professional Geographer* 47 (4): 449.

Letherby, Gayle. 2004. "Quoting and Counting An Autobiographical Response to Oakley." *Sociology* 38 (1): 175–89. doi:10.1177/0038038504039374.

Maynard, Mary. 1994. "Methods, Practice and Epistemology: The Debate about Feminism and Research." In *Researching Women's Lives from a Feminist Perspective*, 10–26. Basingstoke: Taylor and Francis.

McCall, Leslie. 2005. "The Complexity of Intersectionality." *Signs: Journal of Women in Culture & Society* 30 (3): 1771–1800.

Oakley, Ann. 1998. "Gender, Methodology and People's Ways of Knowing: Some Problems with Feminism and the Paradigm Debate in Social Science." *Sociology* 32 (4): 707–31. doi:10.1177/0038038598032004005.

Office for National Statistics. Social Survey Division and Northern Ireland Statistics and Research Agency. Central Survey Unit. 2013. *Quarterly Labour Force Survey, January - March, 2013*. Computer file SN:7277. Colchester, Essex: UK Data Archive [distributor]. http://dx.doi.org/10.5255/UKDA-SN-7277-1.

Parr, Sadie. 2015. "Integrating Critical Realist and Feminist Methodologies: Ethical and Analytical Dilemmas." *International Journal of Social Research Methodology* 18 (2): 193–207. doi:10.1080/13645579.2013.868572.

Patulny, Roger, and Barbara Pini. 2013. "Counting Men: Quantitative Approaches to the Study of Men and Masculinities." In *Men, Masculinities and Methodologies*, edited by Barbara Pini and Bob Pease, 115–28. Palgrave Macmillan.

Payne, Geoff. 2014. "Surveys, Statisticians and Sociology: A History of (a Lack Of) Quantitative Methods." *Enhancing Learning in the Social Sciences* 6 (2): 74–89. doi:10.11120/elss.2014.00028.

Payne, Geoff, Malcolm Williams, and Suzanne Chamberlain. 2004. "Methodological Pluralism in British Sociology." *Sociology* 38 (1): 153–63. doi:10.1177/0038038504039372.

Pedulla, David S., and Sarah Thébaud. 2015. "Can We Finish the Revolution? Gender, Work-Family Ideals, and Institutional Constraint." *American Sociological Review* 80 (1): 116–39. doi:10.1177/0003122414564008.

Platt, Jennifer. 2007. "The Women's Movement and British Journal Articles, 1950—2004." *Sociology* 41 (5): 961–75. doi:10.1177/0038038507080448.

Rice, R., P. Burnhill, M. Wright, and S. Townsend. 2001. *An Enquiry Into the Use of Numeric Data in Learning and Teaching: Report and Recommendations for UK Higher Education*. University of Edinburgh.

Ruppanner, Leah. 2010. "Conflict and Housework: Does Country Context Matter?" *European Sociological Review* 26 (5): 557–70. doi:10.1093/esr/jcp038.

Ryan, Louise, and Anne Golden. 2006. "'Tick the Box Please': A Reflexive Approach to Doing Quantitative Social Research." *Sociology* 40 (6): 1191–1200. doi:10.1177/0038038506072287.

Savage, Mike, and Roger Burrows. 2007. "The Coming Crisis of Empirical." *Sociology* 41 (5): 885–99. doi:10.1177/0038038507080443.

Scott, Jacqueline. 2010. "Quantitative Methods and Gender Inequalities." *International Journal of Social Research Methodology* 13 (3): 223–36. doi:10.1080/13645579.2010.482258.

Scott, Jacqueline, and Elizabeth Clery. 2013. *Gender Roles: An Incomplete Revolution*. British Social Attitudes 30. London: Natcen. http://bsa-30.natcen.ac.uk/read-the-report/gender-roles/introduction.aspx.

Simpson, Ludi, Harvey Goldstein, I.D. Hill, John Bibby, and Jeff Evans. 2013. "A Pivotal Episode for the Radical Statistics Group and the Royal Statistical Society – The Presidential Election of 1977." *Radical Statistics*, no. 108: 21–37.

Snyder, Kieran. 2014. "The Abrasiveness Trap: High-Achieving Men and Women Are Described Differently in Reviews." *Fortune*. August 26. http://fortune.com/2014/08/26/performance-review-gender-bias/.

Sprague, Joey, and Mary K. Zimmerman. 1989. "Quality and Quantity: Reconstructing Feminist Methodology." *American Sociologist* 20 (1): 71–86.

Thorne, Sally, and Colleen Varcoe. 1998. "The Tyranny of Feminist Methodology in Women's Health Research." *Health Care for Women International* 19 (6): 481–93. doi:10.1080/073993398246052.

Undurraga, Rosario. 2010. "How Quantitative Are Feminist Research Methods Textbooks?" *International Journal of Social Research Methodology* 13 (3): 277–81. doi:10.1080/13645579.2010.482265.

West, Candace, and Don H. Zimmerman. 1987. "Doing Gender." *Gender & Society* 1 (2): 125–51. doi:10.1177/0891243287001002002.

Westmarland, Nicole. 2001. "The Quantitative/Qualitative Debate and Feminist Research: A Subjective View of Objectivity." *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* 2 (1). http://www.qualitative-research.net/index.php/fqs/article/view/974.

Whorley, MySha R., and Michael E. Addis. 2006. "Ten Years of Psychological Research on Men and Masculinity in the United States: Dominant Methodological Trends." *Sex Roles* 55 (9/10): 649–58. doi:10.1007/s11199-006-9120-1.

Williams, Malcolm, Geoff Payne, Liz Hodgkinson, and Donna Poade. 2008. "Does British Sociology Count?: Sociology Students' Attitudes toward Quantitative Methods." *Sociology* 42 (5): 1003–21. doi:10.1177/0038038508094576.

Wilson, Rebekah. 2013. "Raising the Curtain on Survey Work." In *Secrecy and Silence in the Research Process: Feminist Reflections*, edited by Róisín Ryan-Flood and Rosalind Gill, 133–44. Routledge.

---

[1] Ironically, and sadly, a google search for 'Feminist Statistics' brings up, not feminists who are conducting statistical research, but reams of anti-feminist blogs 'exposing' 'specious feminist statistics', mainly but not only with respect to rape and violence against women.

[2] The insistence on feminist research being with, as well as for, women suggests that the two are necessarily interdependent, and indeed much feminist research has focused on women. Thorne and Varcoe (1998, 483) argue, however, that research focused on men (and so not 'with women) may be critical for understanding gender relations. Further, they suggest that 'focusing emancipatory intent on the participants of the research itself rather than the larger objective of the research can lead to a number of systematic errors in what gets studied and how' (Thorne and Varcoe 1998, 488).

[3] This is part of a prefigurative logic; that research reflects the society we seek. With regard to power in research interactions, Letherby, however, notes (2004), that we shouldn't presume that all respondents are less powerful than researchers.

[4] The hardening of an association of feminism and qualitative methods, and qualitative interviews specifically, has, been argued to be part of a professionalising project, wherein methodological niche aided claims of cohesion (Oakley 1998; see also Payne 2014 on the ways in which this project intersected with others within the sociological academy). This suggestion is rejected by Letherby (2004).

[5] Tremlett and Harris (XXX) similarly highlight the issue of 'unnatural' conditions in qualitative interviews.

[6] In any actual survey it is likely that only a subset of these will be used since some industrial settings are concentrated in particular countries or are relatively rare.

[7] A recent study has highlighted the importance of the ways in which occupation is coded for analysis incorporating this variable (Lambert and Bihagen 2014). None of the types of occupational classification were focused on gender, yet not only did different occupational classifications change the effect of occupation on outcome variables, but also changed the effects of gender in regression models. It would seem likely that this would be the case, perhaps even more so, with industrial and occupational classification that was more astute to variability across women's work.

[8] http://data2x.org

[9] Reflecting on the differential use of language in men's and women's appraisals she states that '[a]s a woman in tech who has been called all of these things before, there is some validation in confirming with data that the pattern is real' (Snyder 2014).

[10] This argument was influenced by an unpublished paper Jane Elliott gave at a University of Warwick Feminism and Quantitative Methods event, titled: 'Breaking down the binary divide: constructions of gender in quantitative and qualitative research'.

[11] See: http://www.sociology.ohio-state.edu/rdh/Workplace-Ethnography-Project.html

[12] A more sophisticated form of qualitative coding may similarly reveal the unexpected within textual data. The point is that quantitative abstraction can usefully produce this affect on even very unsophisticated researchers.

[13] Thorne and Varcoe (1998) are critical of this, in part because, the categories used in reflection (e.g. 'white woman') rely on the same binaries (white/black; male/female), that elsewhere feminists critique. Interpretation (whether stereotypical or critical) of how such simplified identity categories may impact the research process is then left to the reader. In contrast they suggest that quantitative researchers could more usefully account for and make explicit their frame of reference, including theoretical and historical positions, examining the particular analytic backdrop these produce (See also Sprague and Zimmerman 1989, 83, who make this point specifically with reference to quantitative research).

[14] Notably, in their chapter in this volume, Tremlett and Harris also call for increased reflexivity, but with respect to qualitative interviews' reliance on existing tropes. Thus again, while reflexivity is more common within qualitative studies, quantitative research is not uniquely deficient.

[15] See: https://yougov.co.uk/profiler

Figures and Tables

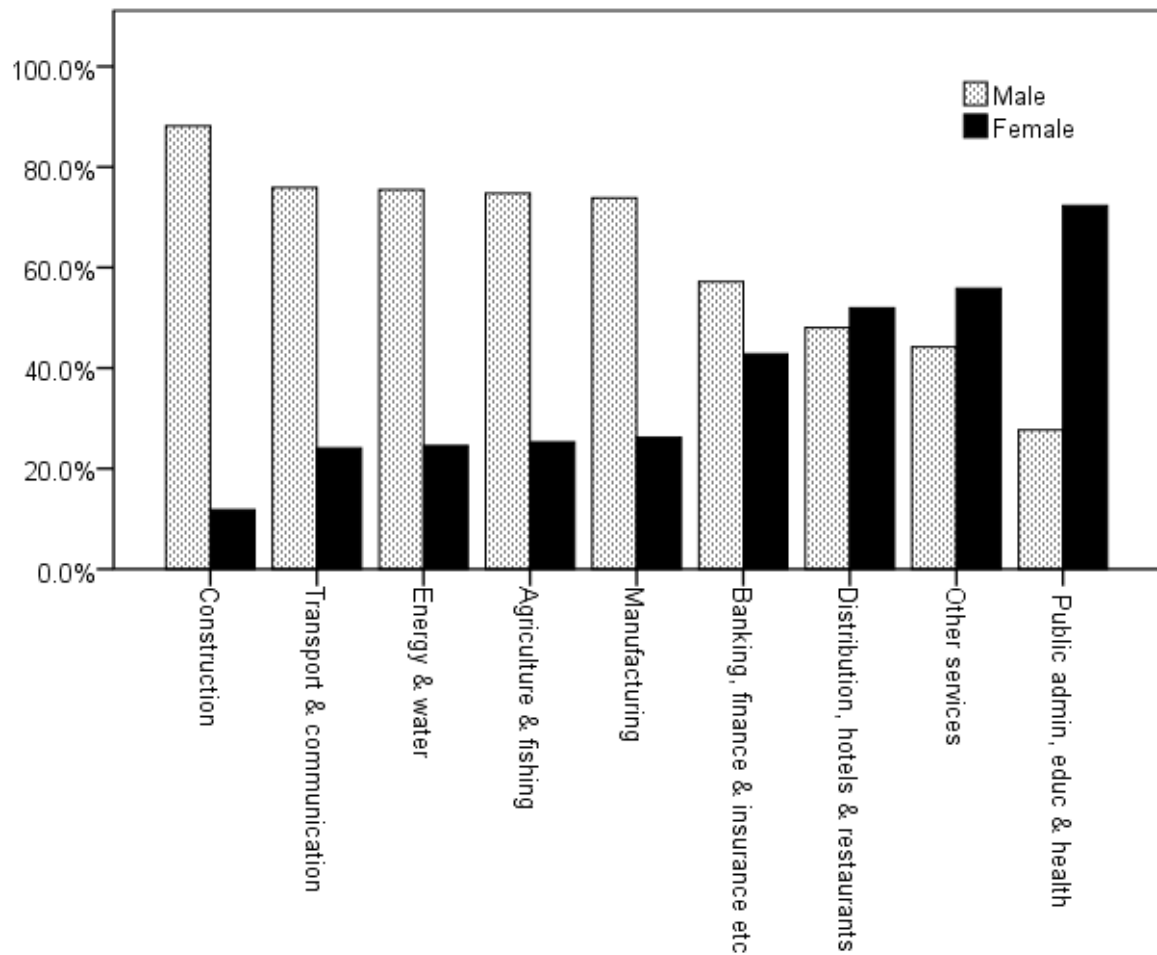**Figure 1: Percentage of male and female workers by industrial sector, LFS Jan-March 2013**

Figure 2: Agreement with a traditional division of gender roles (man's job to earn money; woman's job to look after home and family), by generation, 1984–2012
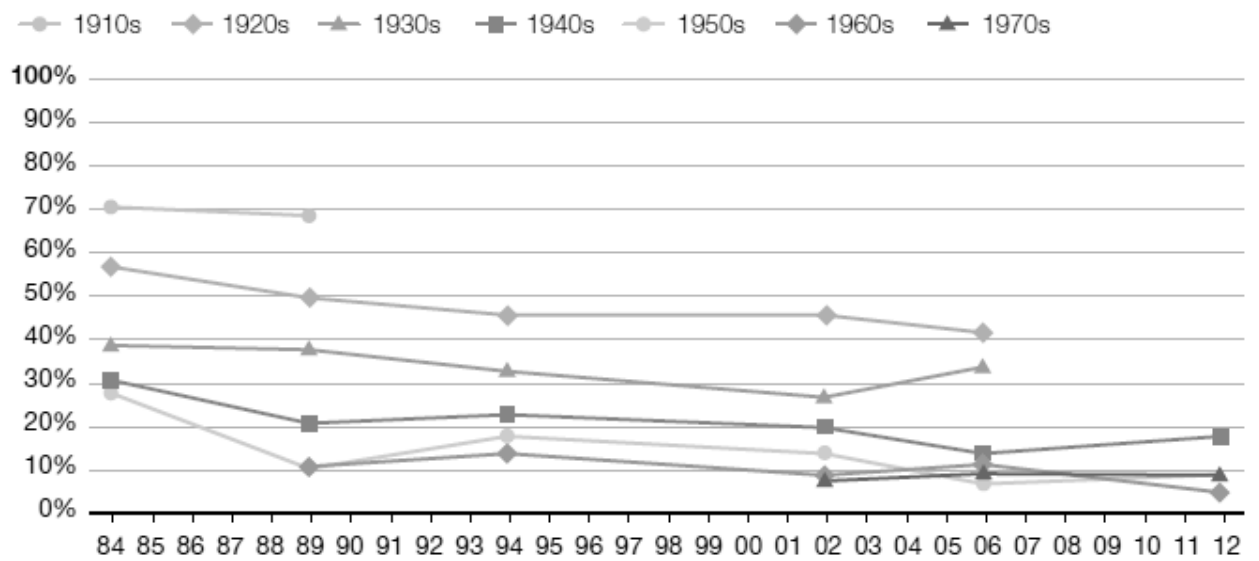

Chart reproduced from Scott and Clery (2013, p.123)

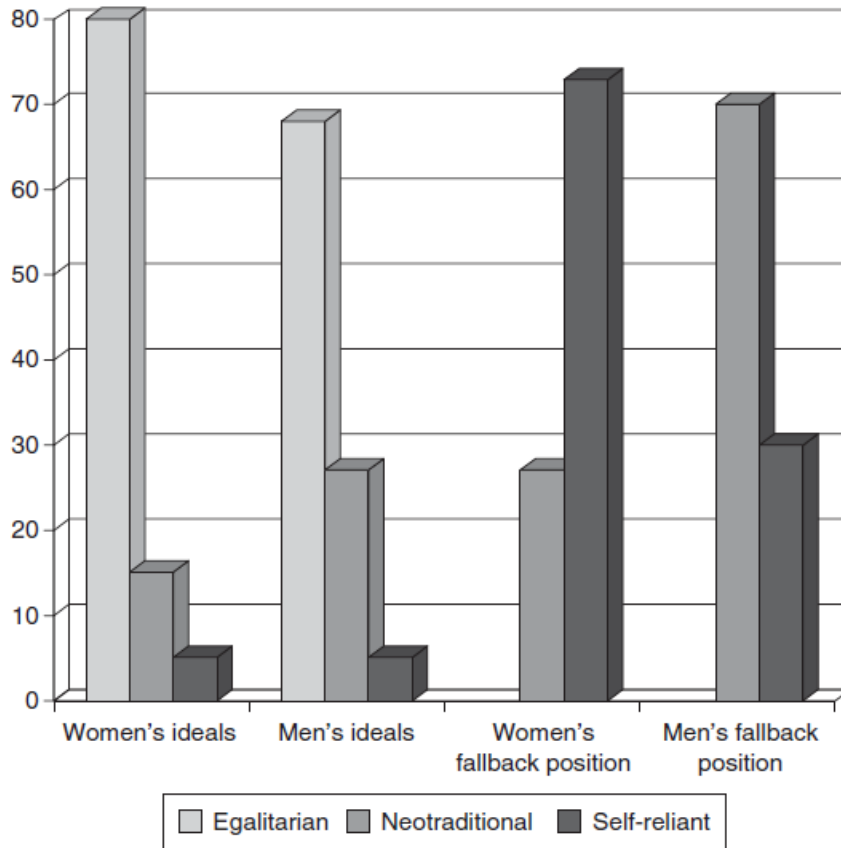**Figure 3: Ideals and fallback positions of American young women and men.**

Figure reproduced from Gerson (2009, p122).

Table 1: Industrial group size, by concentration of male and female workers, LFS Jan-March 2013

		Industrial group (3 digit) with fewer than 100 workers (raw N[b])	Industrial group (3 digit) with over 1,000 workers (raw N[b])	Percent of workers in industrial group (3 digit) with over 1,000 workers	Total number of working respondents (raw N[b])
Majority of workers in group[a]	Male	133	2	7.34	23,313
	Female	28	7	35.95	22,431

Notes:

[a] Where there is an even split the industrial category has not been counted here. This was the case for two industrial categories.

[b] By using the raw Ns no account has been taken either of differential numbers of women and men in the dataset, nor of different rates of employment by sex. Adjusting for this does not change the findings markedly and was not done because the point here is about the complexity with which men and women, who have been included and who have an industrial location, are categorised.