Unstable Ethnicities: Impacts of Question Wording and Respondent Characteristics

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Abstract

In this paper we compare responses to the ethnic origin question appearing in the 2001 census of Canada to responses provided by the same individuals to a different question appearing in a post-censual survey, the 2002 Ethnic Diversity Survey (EDS). Our results show that approximately three-quarters of the EDS respondents who answered the 2001 census gave ethnic responses that contained at least one match to the responses to the ethnic origin EDS question. Matching also varies by socio-demographic characteristics of respondents, and whether census responses were single or multiple origin. Matching is particularly low for those respondents who indicated a national ethnic origin of "Canadian/Canadien" on the census. However, the survey design of the EDS, a questionnaire designed to diminish a Canadian national response, had the intended effect of cutting the Canadian response by half. The analysis shows that question wording in survey influences ethnic responses and creates ethnic volatility in how respondents label their ethnic origins.

Paper presented in the session on "Structural Influences on Race/Ethnic Identification" at the 2009 annual meeting of the Population Association of America, April 30-May1, Detroit. Funding for this project comes from the Social Science and Humanities Research Council of Canada award of the Canada Research Chair in Immigration, Inequality and Public Policy to Monica Boyd. The analysis is made possible by the joint university-SSHRC-Statistics Canada funding of the Research Data Centres and the availability of the 2002 Ethnic Diversity Survey at the University of Toronto Research Data Centre. Comments and questions on the paper are welcome and should be sent to Monica Boyd at the above address or via email, monica.boyd@utoronto.ca

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Introduction

In the field of ethnicity today, most scholars reject conceptualizing ethnicity as primordial or "natural" traits and behaviours, unalterable over time. Instead, ethnic origins and identities are human creations; far from being fixed and unchangeable, they are socially constructed through social interaction, including interpersonal contact, participation in dominant social institutions (families, schools, politics and the workplace) and exposure to ideas and ideologies (Cornell and Hartman, 1998; Lieberson, 1985; Nagel, 1994, 2000). As a result, people may select from many possible ethnicities and they may change their selections over time or in various settings.

In addition to the social forces that influence ethnic options, ethnic flux is also created by variations in questionnaire design and question wording. Focus groups and questionnaires with open-ended questions may provide more nuanced and more layered ethnic options for respondents compared to highly structured questionnaires with limited questions on ethnicity. Not coincidently, governments are extremely important agents influencing ethnic selections and ethnic change; central governments develop and utilize ethnic classification systems. Because they carry the imprimatur of the state, such classifications signal the importance to the public of ethnicity (Nagel, 1994). These specific ethnic categories used in these official classifications along with examples influence the responses of individuals who are asked to categorize themselves (Boyd, 1999).

Other types of survey protocols also can shape responses. Studies on survey design show that survey responses are affected by the wording of questions, the location of questions in a

questionnaire, and by data collection methods (Kalton and Schuman, 1982; Leeuw, 1996; Leigh and Martin, 1987; Rasinski, 1989). To date, however, the absence of appropriate data has hampered investigations into the impacts of question wording on ethnic origin responses and thus curbed greater understanding of the volatility in ethnic selections. To address the core question, "does question wording affect respondents' selection of ethnic origin" ideally requires an experimental design format where one survey asks ethnic origin questions of respondents and a second survey asks the same respondents a different question about their ethnic origins[1].

By analyzing data from a survey which probes ethnic origins of respondents but which also appends their previous ethnic origin responses in an earlier survey , our research confirms that ethnic origin responses are highly sensitive to the way in which questions are phrased. Specifically responses to the ethnic origin question appearing in the 2001 census of Canada are compared to responses provided by the same individuals to a different question appearing in a post-censual survey, the 2002 Ethnic Diversity Survey (EDS). Our results show that approximately three-quarters of the EDS respondents who answered the 2001 census gave ethnic responses that contained at least one match to the responses to ethnic origin EDS question. However, the incidence of matching was lower for persons who gave only one ethnic response and lower still for those who indicated a national ethnic origin of "Canadian/Canadien" on the census. Our findings confirm the well understood social research observation that how the question is phrased influences the answers. As a result, our findings also have broad implications in the public policy areas with respect to the collection of ethnic origin data.

[1] Another topic, inter-survey reliability, can be determined when both surveys ask respondents the same questions.

Constructing Ethnicity

With rising ethnic diversity and intermarriage in traditional immigrant-receiving countries such as Canada and the Unites States, survey creators increasingly ask respondents to state their complex ethnic identities as fully and accurately as possible. This is evident in the opening up of multiple racial responses in the 2000 U.S. Census, in response to lobbying by the multiracial movement (Rockquemore 2004). At the same time, it is widely acknowledge that such ethnic responses often are unstable; this fluidity of ethnic response reflects its continual construction by respondents through social interactions and questionnaire design. Ethnic flux, as it is sometimes called, is important to academics and policymakers alike, since measurement of ethnicity changes research results (Hallett et al. 2007; Harris 2002; Sugarman et al. 1993) as well as policy decisions by government departments mandated to deal with ethnic diversity and or immigrant populations.

Ethnicity as Socially Constructed and Situational

The selection of ethnic labels by individuals reflects both their own ethnic origin repertoires (real or imagined), the social significance of these repertoires as revealed through social interaction, and the influences of demographic characteristics on propensities to remember or choose ethnicities. The social construction of ethnicity is most obvious in the case of multiracial individuals, who are often of ambiguous ethnic origin. “What are you?” is a question multiracial individuals are frequently asked (Williams 1996). Depending on the location, situation, or time, these individuals can emphasize one aspect of their race/ethnicity over another (Jimenez 2004; Mahtani 2002). However, not all multiracial people identify themselves as mixed race, and some single origin individuals also change their identities over time and place.

Single origin racial minorities or even multiracial individuals who "look" like a minority are of course not as free to shift ethnic identities as Europeans or ambiguous multiracial individuals (Khanna 2004), but there is ample evidence that the ethnic identities of whites is very fluid (Lieberson 1985; Waters 1990). In a study that compared ethnic responses in three surveys in the 1970s, Lieberson (1985) found that slightly under two-thirds (64.7%) of people indicated the same ethnicity as the year previously, and of these inconsistent responders, most were white. The older European immigrants from North-western Europe have much lower levels of ethnic identification consistency than recent European immigrant groups such as Italians and Poles, or blacks (Lieberson 1985). Thirty to sixty percent of European American groups label their children's ethnicities as something other than the logical combination of both parents (Waters 1990). This is due to simplification, or the relative popularity of ethnic groups like Italian and English over others.

In 1980, Americans were allowed for the first time to indicate multiple ancestries on a more or less open-ended questionnaire. Inconsistencies in children's ancestries reported by parents were found. In addition, many whites identified simply as American or they did not identify any ethnic ancestry (Lieberson 1985). One explanation for the emergence of this new group of whites that are unwilling or unable to specify any ethnic origin is that ethnic origins become fuzzy or irrelevant as temporal distance from origin increases for European Americans (Lieberson and Waters 1986). Despite efforts by subsequent surveyors to explicitly discourage an American response to the ancestry question, many respondents continue to provide this answer in the census. The emergence of this group of "unhyphenated whites" suggests that a new ethnic population may be arising in the US (Lieberson and Waters 1993).

Similarly, in 1986, Canadians were first given the option of checking off 'Canadian' ethnic origin on the Canadian census as a multiple response category (Boyd 1999). Only 0.5 percent of the population declared themselves Canadian on this census, but on the 1991 census, almost 4 percent of the population declared themselves 'Canadian', making this the fastest growing 'new' ethnic category. Most of these respondents indicated French, or particularly British, as their ancestry (Boyd and Norris, 2001). This makes sense, as both groups have a long history of settlement in Canada so ethnic origin is more temporally distant; further for Canada's francophone population (Canada has two official languages of English and French) "Canadien" – the French translation of Canadian – carries an evocative meaning harking back to France's settlements in Quebec during the 1600s and first half of the 1700s.

Ethnic responses are not only influenced by ethnic ancestry repertoires and their social significance as determined through social interaction; they also are patterned by other demographic and human capital characteristics of individuals. Children living at home are more likely to be consistently labeled than young adults, since young adulthood is a time when many people move away from home, gaining new social experiences and jobs, and getting married (Waters 1990). Men are more likely to be identified in simplistic ethnic terms, both by their parents and by themselves (Lieberson and Waters 1993). Highly educated people are most likely to provide full and complex responses (Campbell 2007).

Ethnicity as Constructed Due to Survey Measurement

Apart from variations due to individual characteristics, and shifts that reflect self-selection (or eternal assignment) within particular social contexts, ethnicity can also fluctuate due to differences in survey measurement of ethnicity such as the type of survey used, who answers the survey, and question wording (De Leeuw, Mellenbergh and Hox 1996; Kalton and

Schuman 1982; Saperstein 2006). Studies indicate that survey responses are sensitive to wording, format, and placement of the questions asked (Kalton and Schuman 1982). Asking Latinos about their race and ethnicity separately on one survey and then asking a combined ethnicity/race question on another survey, for instance, results in more respondents answering Latino in separate questioning and fewer providing Latino labels in combined questioning. Combined questioning apparently prompts respondents to think about the salience of labels such as white, black, and Latino (Campbell and Rogalin 2006). Asking respondents their race, ethnicity, or ancestry also yields different responses among Hispanic, Asian, Middle Eastern, and Black individuals (Lee and Tafoya 2006). In some sub-populations such as Europeans and Africans, ancestry and race overlap to a high degree, but for others, answers differed, pointing to the need to ask all of these questions.

Similarly, alternations to the question wording, format, guidelines, and examples provided for the ancestry question between the 1986 and 2001 Australian Censuses led to changes in size of ethnic populations such as the British, Irish, Jewish, and Aboriginals, beyond migration or other actual changes in their populations. The explicit listing of Australian as an ancestry option in the 2001 Census question seems to have led to a decline in respondents identifying as Aboriginal, because they switched their identification to Australian (Lee and Tafoya 2006). Although this last study provides the most convincing evidence of the effect of question wording on ethnic origin response, the validity of these findings are still limited because they do not ask the same pool of respondents the question, and because there is a five year time lapse between the two surveys.

Why Does Ethnic Change Matter?

Ethnic flux over the life course and in general reflects the social construction of ethnicity, but ethnic flux due to survey measurement of ethnicity is more problematic because how scholars and policymakers define ethnicity influences research results, and thus policy. Apart from the clear implications that the enumeration of ethnic and racial groups has on racial statistics and civil rights legislation in Canada and the Uniteds States (Boyd, 1996, 1997; Goldstein and Morning 2002), different results about ethnic origins temper research findings, from the demographic and socioeconomic profile of groups, to the degree of economic inequality certain groups face, drop-out rates among high school students, and on the job injury rates (Boyd, 1999; Hallett et al. 2007; Harris 2002; Sugarman, et al. 1993).

The increasing trend in North American statistical agencies is to measure ethnicity as accurately and fully as possible. In the United States, this means acknowledging the possibility of more than one racial origin per person as seen in the 2000 United States census questionnaire. Surveys that do not allow respondents to check more than one race forces individuals to simplify their race, some of whom vaguely answer that they are "some other race" (Campbell 2007). In Canada, emphasis on the principles of sound collection methodologies that tap the complex realities of ethnicity can be seen in temporal changes in the collection of ethnic origin data by Statistics Canada. Over time, instructions that only the ancestry of the father be reported have been replaced by instructions to report ancestry from both sides of the family of origin. Further, previous restrictions to declare only one ethnic origin have been replaced by instructions to report as many ethnic origins that apply. The final change was the establishment of a protocol in which the top ethnic origin responses given in the previous census as examples on the subsequent census question on ancestry (Boyd, 1999) in order to assist recall on an open ended

question. However, this latter procedure has created considerable temporal flux in the proportion of the population giving an "indigenous" response of Canadian or Canadien. After the 1991 census where almost 4 percent of the population gave a Canadian response, the percentages reporting Canadian/Canadien soared. In the 1996 census, where "Canadian" (or "Canadien") was listed as an example for the first time, 19 percent of the total population reported Canadian as their only ethnic origin and another twelve percent reported Canadian and at least one other origin, for a total of 31 percent of the entire Canadian population. Percentages declaring "Canadian" or "Canadien" rose to 39 percent in the 2001 census before dropping slightly to 32 percent in the 2006 census.

Increased "Canadian/Canadien" responses in the census generates intense debate over how best to measure ethnicity, involving ethnic-immigrant organizations and government departments (see: Boyd, 1999). Although tapping the existing reality is the underlying raison d'etat for Statistics Canada inclusion of Canadian in the list of examples listed on the census questionnaire, other organizations argue that the Canadian reference should be excluded in order to tap a "pure" non-Canadian ancestry. At the center of the debate is a more generic issue, notably how ethnic responses to government surveys are influenced by questionnaire design and wording. By analyzing responses to a post-censual survey that appends the original census responses to the ethnic origin question, our paper is unique in that it allows us to examine flux in the ethnic origin identification of the same respondents, due to differences in question wording. Unlike previous research which has assessed changes in ethnic response over time, or studied the consistency between respondents' ethnic response and racial response, we are able to test the effect of question wording on individual responses to the same concept: ethnic origin. While a few previous studies have examined the general effect of survey design on ethnic responses,

none that we are aware of have been able to pinpoint the effect of ethnic question wording on ethnic responses by the same individuals, around the same point in time.

The Politics of Ethnic Responses and the Ethnic Diversity Survey

Our analysis uses data collected by the 2002 Ethnic Diversity Survey (EDS). This survey was carried out jointly by Statistics Canada and the Department of Canadian Heritage as a post-censal survey, using the census as the sampling frame. The purpose of the Ethnic Diversity Survey was fourfold: 1) to explore various ways of measuring ethnicity to assist in future data collection; 2) to better understand how Canadians of different ethnic backgrounds interpret and report their ethnicity; 3) to provide information about ethnic diversity in Canada; and 4) to examine how people's background affect their participation in the social, economic and cultural life of Canada (Bizer, Kaddatz and Laroche, 2004). Despite extensive use of the survey by analysts interested in topics ranging from intermarriage, social cohesion to language retention across generations, principal motivators for the survey were "to measure ethnicity more effectively and to fill statistical gaps related to ethnicity" (Bizer, Kaddatz and Laroche, 2004).

This interest in measuring ethnicity rested on earlier developments that fuelled the growth of national ethnic responses and undermined attempts to collect information on the non-Canadian origins of the population. As noted earlier, in the May 2001 census, 39 % of respondents gave a Canadian ethnic response. It appears that the increase reflected two factors: 1) a desire, especially among groups with a long history in Canada, to select an ethnic label that reflected their long term settlement, and 2) protocols for the wording the ethnic origin question in the census form which caused "Canadian" to be listed as one of the examples on the census questionnaire starting in 1996 (Boyd 1991; Boyd and Norris, 2001).

Growing percentages of respondents answering "Canadian" raised serious concerns among academics, government, and policymakers about the ability to enumerate ethnic origins as representing ancestral origins outside Canada. How to best measure ethnic origins in the census became a subject of dialogue during the 1990s between Statistics Canada and Heritage Canada. As noted elsewhere (Boyd, 1999), declining capacity to enumerate the non-Canadian origin population impacts directly on Heritage Canada, which requires ethnic origin data in order to fulfill its mandate and to achieve its policy objectives. And, a shrinking ethnic population that is not "Canadian" has the capacity to undermine the *raison d'etre* of the Multiculturalism unit within Heritage Canada and possibly to negatively affect the size of the departmental budget. The inter-departmental agreement to undertake a survey such as EDS represented a way to test the effects of changing the ethnic origin question used in the census. Additionally, the collection of data on dimensions of ethnic origins, ethnic identities and related behaviours promised to stimulate research that would reaffirm the importance of ethnicity in Canada.

Research Design and Methods

The Ethnicity Diversity Survey (EDS) was fielded in between April 2002 and August 2002, with first analytical results released September 29th, 2003. The target population consisted of persons aged 15 years or over living in private households in Canada's ten provinces, and not declaring Aboriginal ethnic origins or identity. In total, 42,476 respondents participated in the survey, representing a population of 23,092,643 and achieving a response rate of 75.6 percent. Subsequently Statistics Canada prepared a public use microdata file for non-Statistics Canada personnel to analyse and also placed the master database in the Research Data Centres (RDCs). The Research Data Centres (RDC) Program is part of an initiative by Statistics Canada, the

Social Sciences and Humanities Research Council (SSHRC) and university consortia to help strengthen Canada's social research capacity and to support the policy research community. Upon the approval of a short research proposal, researchers may analyze highly confidential data that otherwise would not be available except to employees of Statistics Canada. Strict guidelines ensuring the meeting of confidentiality requirements are applied to all analytical output before release.

The 2002 Ethnic Diversity Survey database available in the RDCs includes a selection of respondent characteristics enumerated in the 2001 census, which were subsequently matched to the respondents in the EDS sample and appended to the file. This merging makes it possible to compare person specific responses to the census ethnic origin question with responses to the questions asked in the Ethnic Diversity Survey. The questions offered in the census and the EDS differ (Chart 1 and 2), most importantly in terms of the explicit mention of ethnic origin examples in the census question but not the EDS question. Further, in the EDS if the first answer was "Canadian," the respondent was probed for additional non-Canadian responses. In all, the EDS question probed ethnic origin responses without a Canadian origin stimulus while the 2001 census listed Canadian as the first among 25 examples.

Charts 1 and 2 here

Information on ethnic origins collected by the 2001 census and by EDS permits a "before" and "after" comparison with the stimulus being the presence and absence of references to "Canadian" as an option. However, although this comparison approximates an experimental design, there are other factors that could lead the same individuals to provide different answers to the 2001 census and to the EDS. First, there is a time lag between the fielding of the 2001 census

in May and the collection of EDS data in April-August 2002. During this time, responses could change as a result of social factors, including actual changes in ethnic identification. Second, the method of data collection differs between the two surveys. Although there was modest use of data collection via web based questionnaires and by telephone, the 2001 census predominantly was a drop-off questionnaire that respondents mailed back. In contrast, the Ethnic Diversity Survey was fielded as a telephone computer assisted interview. Third, respondents to the EDS were selected using the 2001 census as the sampling frame; however not all of these respondents would have answered the census themselves. Typically the census questionnaire is filled out by one person who provides all requested information for themselves and for other members of the household. Under this model, some household members may have answered the form themselves, but other may have been queried about their characteristics by the person filling out the questionnaire or the they simply could have their characteristics assigned to them.

There is no way of knowing what impact the time lag between the date of the 2001 census (May 2001) and the Ethnic Diversity Survey (April- August 2002) had on changing ethnic responses between the two surveys. The same can be said for the different methods of data collection although one study that used mail, telephone, and face-to-face-surveys on loneliness and well-being found that the data collection did not substantially change the results (Leeuw, 1996). As well, type of collection method used is more of a problem when assessing response rates or dealing with sensitive or controversial issues, not in asking factual questions like ethnic origin (De Leeuw, Mellenbergh and Hox 1996). The third issue, proxy reporting on the census, definitely is problematic since studies indicate that respondents who answer ethnic origin questions for other people are more likely to provide simplistic single origin responses for others (Campbell and Rogalin 2006). Fortunately, because data appended to the EDS indicates if

respondents answered the census, adjustments can be made for the possibility that census responses to the ethnic origin question were proxy responses.

Surprisingly, as shown in Table 1 only about half of the EDS sample said they answered the 2001 census questionnaire, with the remainder saying they had not or they did not know. Women were more likely than men to have answered the census; the very young - many of whom probably are still living in the parental home - and the elderly are least likely to have answered the census questionnaire themselves. There also are noticeable variations by marital status, province of residence and education. In particular, a very sharp educational gradient exists; the higher the education of the respondents, the more likely they indicated that they had answered the 2001 census. Variations also exist by ethno-cultural characteristics although some of these variations appear to be related to nativity and recent arrival. In general, members of the second and third generations, those whose first language(s) was English and/or French, those declaring Protestant, Catholic or no religion, and those who are not member of visible minorities are more likely than other groups to have answered the census questionnaire themselves.

Table 1 here

In order to minimize the possibility that differences in ethnic responses between the 2001 census and the 2002 EDS simply reflect proxy assignments in the census and respondent ethnic selections in the EDS, the population under analysis is restricted to EDS respondents who indicated that they filled out the census questionnaire. As indicated by the socio-cultural variations in Table 1, this is not a random group of Canadians – it includes higher percentages of females and the better educated and it slightly over-represents the Canadian born, those who are not members of visible minority groups, those who are Protestant and those who can converse in

one of both of Canada's official languages. It also over-represents middle-age respondents between the ages of 35 to 64, and married or common-law Canadians. However, although our results presented below cannot be said to be representative of the entire Canadian population, they are accurate for those who answered the census questionnaire.

The empirical question is whether or not ethnic origin responses are sensitive to question wording, as indicated by the inter-survey extent of matching or slippage. Accordingly the dependent variable in our analysis is the matching or non-matching of the ethnic response(s) given by respondents in the 2001 census with that given by the same respondents in the 2002 Ethnic Diversity Survey. This is coded as a binary variable (0 or 1 representing non-match or match). It should be noted that a "match" is defined when one or more of the ethnic origin responses given in the 2001 census is the same as one or more ethnic origin responses given in the EDS (although many respondents to the census and the EDS gave one or two responses, up to 6 ethnic origins were recorded by the census and up to 8 responses were captured in the EDS). This procedure is analogous to an "or" function in which a match is defined as occurring when a respondent gives ethnic origins "X, Y, Z" on the census but gives "X, P, Q" or "X,Y, P" on the EDS. A more restrictive measure employing an "and" function could have been used to define a match as occurring when a respondent gives ethnic origins on the census as "X, Y, Z" and gives the exact same "X, Y, Z" to the EDS question. However, to do so requires a maximum of 2,126,538,280,581 possible coding combinations[2] based on 342 detailed ethnic labels in the EDS.

We also consider the influence of respondent characteristics on the matching or non-matching of responses between surveys, using the data on characteristics collected by the Ethnic

[2] This estimates rests on the formula for combinations in which the upper limit is defined as a maximum of 6 ethnic origin responses to the 2001 census question using 342 ethnic options; under these circumstances, the formula is: (342*341*340*339*338*337)/(6*5*4*3*2*1).

Diversity Survey. The selection of characteristics rests on previous studies that show the influence of these variables on ethnic origin responses (Boyd, 1996; Boyd and Norris, 2001; Lieberson and Waters, 1988). Men and women are considered, as are six age ranges from 15-24 years of age to 65 years and over. Marital status is examined, and province of residence is also considered. Religion and first language are controlled for, and educational differences in matching are investigated. Importantly, thirty-six ethnic groups (Canadian, Jewish, American, English, Irish, Scottish, Welsh, British not included elsewhere (nie), French, Austrian, Dutch, German, Danish, Czech, Polish, Russian, Ukrainian, Serbian, Yugoslavian nie, Italian, Spanish, Arab nie, Lebanese, East Indian, Punjabi, Sri Lankan, Chinese, African Black nie, Black, Barbadian, Guyanese, Haitian, Jamaican, West Indian, Trinidadian/Tobagonian, and all other ethnicities) are compared, to test the differences in ethnic matching. Since many of the language, religion, and ethnic differentials reflect nativity, generational differences among respondents are taken into consideration. Finally, our analysis includes whether or not respondents gave single or multiple ethnic origin responses.

We begin with descriptive results, then move to a multivariate analysis that assesses the role of socio-demographic and ethno cultural characteristics in determining the propensity of respondents to provide matching ethnic origin responses. We also consider the influence of single and multiple responses in the 2001 census on the propensity to match. Because of the binary dependent variable, logistic regression is used in the multivariate analysis. The EDS's stratified sampling design means that all analyses must be subjected to a technique known as bootstrapping, in order to obtain accurate variance estimates (Statistics Canada, 2005a). Essentially, this technique involves drawing repeated random sub-samples (in this case, 500) from the full sample. The variability among the estimates in the sub-samples provides the

variance estimate used to determine significance levels for model coefficients (Statistics Canada, 2005b). Bootstrapping estimates are obtained using Statistics Canada SAS macro designed to apply this technique to EDS data. Statistical estimates for the analysis are based on using weights to inflate the sample to population estimates, and then downweighting by a factor that produces significance levels appropriate for the sample size.

The Stability of Ethnic Origin Responses

In total, approximately three quarters (74.5%) of the EDS respondents who answered the 2001 census themselves have at least one match between their census and EDS ethnic responses. However, percentages vary considerably, depending on what was the specific ethnic response on the census and on whether the census response was for only one ethnic origin group or for two or more. Table 2 shows the percentages of matches for the largest groups on the EDS, for which data could be released according to confidentiality guidelines. Chart 3 shows the pattern with origin groups in Table 1 rearranged by the proclivity to have ethnic matches across the census and the EDS.

Table 2 and Chart 3 here

Among the total responses (combining single and multiple responses) to the 2001 census, over nine out of ten who declared Irish, Scottish, Dutch, German, Polish, Ukrainian, Russian, Italian, and Chinese also repeated these labels in response to the EDS. Only about half of Guyanese respondents reported Guyanese on both the 2001 census and the 2002 EDS, and this was also true of Trinidadian/Tobagonian and Sri Lankan respondents. Further, a mere one-fourth (26.5%) of West Indians matched, and an astounding low percentage (12.7%) of Blacks matched

on both the census and the EDS. Tabulations not published in this paper suggest that this is mostly a methodological issue of low numbers in these ethnic groups, not a substantive issue of these groups being less likely to match than other groups. All of these groups (Guyanese through Black) have unweighted sample numbers of less than 50 cases. Few cases increase the risk of statistical anomalies.

However, it is interesting to note that respondents who indicated Black or West Indian origins on the census only mismatched to such a large extent because they were more specific about their ethnic origins on the EDS than they were on the census. Blacks were most likely to call themselves African Black not included elsewhere (nie), Haitian, or Caribbean nie, and to a lesser extent Canadian, Irish, British, or specific African national groups. West Indians on the census shifted largely to an East Indian origin on the EDS, and to a lesser degree into Barbadian, Guyanese, or English. This indicates that using panethnic labels like 'Black' or 'West Indian' on surveys can be too broad to capture the ethnicities of some respondents. Panethnic labels amalgamate diverse ethnic groups into pan-ethnic races (Lee 1993). When encouraged to be more specific, respondents in panethnic labels will choose more details national origin markers .

Percentages are also relatively low for those reporting Jewish in the census; only half of this group indicated Jewish to the Ethnic Diversity Survey question. It appears from unpublished tabulations that many of those who did not select Jewish in EDS gave themselves an Eastern European origin, a fact noted decades ago by Anderson and Silver (1987) with respect to U.S. census results. Specifically, they identified themselves as Russian or Polish, and to a lesser extent Other European, English, Canadian, or a host of other specific European groups. The fluctuation in Jewish responses may well reflect Norm Ryder's (1955) observation of over half a century ago – that the Canadian ethnic question incorporated religion and race and was not a

pure measure of membership in an *ethnos*. Certainly it would appear that when it is not singled out as an example, religious based ethnic affiliation is replaced with national origin labels.

Also striking are the very low percentages of ethnic response matching for those who reported "Canadian" or the French equivalent "Canadien" in the census. Less than one-third (32 percent) of those who indicated only a Canadian response in the census indicated a Canadian ethnic origin in EDS. Unpublished tabulations showed that most Canadian respondents in the census specified in the EDS that they were French, English, Quebecois, Scottish, or Irish, supporting earlier research by Boyd (1999) and Boyd and Norris (2001).

In all, when those giving "Canadian/Canadien" on the census are excluded, about one in seven (14.6%) of the EDS population gave census responses that did not match those provided on the Ethnic Diversity Survey. The baseline results presented in Table 2 for specific ethnic origins indicate variability in the stability of ethnic origin responses, with changes particularly evident for Canadian ethnic origins. Much of this variability appears to be attributable to the absence of any examples used in the EDS ethnic origin questions (see Charts 1 and 2). Furthermore, the precipitous drop in "Canadian" ethnic selections between the 2001 census and the 2002 EDS indicates that the Canadian label is quite sensitive to the inclusions of examples, particularly as it is listed as the first ethnic origin example in the 2001 census form (and again in the 2006 census).

What happens to these patterns when the total responses are differentiated between single and multiple ethnic responses? Table 2 and Chart 4 show data on single and multiple responses for those ethnic origin groups that had numbers and distributions sufficient to meet the data release criteria imposed by Statistics Canada for RDC analysts (refusal to release univariate data are governed not just by small numbers which make for unreliable estimates; if a distribution is

highly skewed, release also is likely to be suppressed because of the enhanced risk that individuals in specific cells may be identified). For almost all ethnic groups with released data, single responses yield lower proportions of matching on ethnic responses than do multiple responses, which increases matching on ethnic responses. This makes sense, as allowing multiple ethnic responses on the census heighten the chances of matching on ethnic responses on the EDS. The only exception is the Chinese, for whom allowing multiple responses decreases the propensity of matching, from 96.9% for single response to 86.9% for multiple responses. However, as Appendix A shows, Chinese multiple response participants only compose 9.1% of the Chinese sample and the overall impact of this decline on the total percentage that match census and EDS responses is small (Table 2, column 1).

Chart 4 here

Multivariate results

In order to adjust for the intercorrelations between many social and ethnocultural variables, logistic regression with bootstrapped standard error estimates is performed. The deviation method is used, which means that both the logits and the odds ratios are calculated in relationship to the overall unweighted mean, or percentage, for the population that answered the census ethnic questionnaire themselves.

For each specific category of the demographic, social or ethnocultural characteristic, the logits and odds ratios represent the impact on the matching of at least one ethnic origin across the census and the EDS, controlling for the impact of other variables. Logits that are negative indicate that the propensity (or more accurately, the logged odds) of respondents to match at least one ethnic response on the census with that on the Ethnic Diversity Survey is below the overall

average for the population; positive logits indicate that the propensity is higher than average, adjusting for other characteristics. Similarly, odds ratios which are below 1.0 for a given category indicate that the odds of having a match is below the unweighted group average, net of other variables. For example, in Table 3, the logits and odds ratios and probabilities in columns 1 - 6 show the impact of being female or male on having a match between surveys, adjusting for the propensity to given single or multiple responses, and adjusting for the impacts of other demographic social and ethnocultural characteristics. Being male or female has a significant impact on the propensities to match for those who gave a single ethnic response, but has no significant effect on those who offered multiple ethnic responses.

Table 3

From the logits, probabilities can be calculated; when multiplied by 100 they represent the hypothetical chances out of 100 that a match will occur, taking into account the impacts of other variables in the model. Because a straight transformation is used ($(\exp^{(a + \text{logit } x)}/(1+ \exp^{(a + \text{logit } x)})$), the hypothetical chances are those that would occur for at the unweighted mean value of the other variables Table 3 show the results for the population of interest, with analyses performed separately for those who indicated a single or multiple ethnic response on the census.

We begin with an examination of the impact of socio-demographic characteristics on the propensity to match census ethnic origin responses with ethnic ancestry labels selected by the same individuals in the Ethnic Diversity Survey. In general, characteristics of the respondents do influence the likelihood of matching ethnic origin responses between surveys. When expressed as deviations from the overall mean matching, variations by respondent characteristics are most evident for those who gave single ethnic responses on the census. Women who give single ethnic

responses on the census are slightly more likely to match than men (70.9% vs 68.5%), and matching roughly increases with age. Nearly three fourths (72.9%) of married respondents match, compared to two thirds (66.8%) of those in common-law relationships. Education also increases the propensity for matching. Living in the Atlantic provinces (59.3%) reduces matching, but living in Ontario (75.0%) or Alberta (73.6%) increases matching. Among single responders, those whose mother tongue is English (60.2%) are less likely to match than those whose mother tongue is French (73.9%) or an unofficial language (75.1%). Those professing a Catholic religion (73.45) are the most likely to have at least one ethnic response that matches among religious groups. Other ethnocultural variations also exist. Percentages for at least one match between the census and EDS responses are higher for the second generation (77.5) compared to the first (64.05) and third-plus generation (63.8%) (Canadian born with two Canadian born parents).

As is the case for the ethnic origin variable, the probability of at least one match on ethnic responses is lower across all other independent variables for single responses compared to multiple responses on the census. However, when we examine multiple ethnic responses on the census , Table 3 shows that many of the independent variables produce effects that are statistically insignificant from the overall propensity to match. Of the significant variables, living in Quebec (80.8%) is now associated with a low probability of matching, but living in Manitoba or Saskatchewan (93.1%) increases the probability of matching on ethnic responses. Being Catholic remains associated with a high 91.5% probability of matching. Not having completed high school is linked to a low 82.6% probability of matching. Further, speaking French is now negative and speaking an unofficial language is positive in terms of ethnic response matching. Matching now increases with generation. These variations in part reflect the association between

birthplace (foreign-born and Canadian born) and the incidence of single or multiple ethnic responses. In general, the foreign born are more likely than the third-plus generation to respond to the census question with only one ethnic origin.

How do ethnic origin responses on the census compare with those given on the Ethnic Diversity Survey where the question was differently worded? As evident in Table 3, for single response givers, census respondents who selected Canadians, Jews, Arab nie, Punjabi, African Black nie, Black, and West Indian ethnic origins are least likely to match on both the census and EDS. In fact, there is at least a 50% probability that they will not match. This is strikingly the case for Canadians (34.0%) in particular. Blacks (11.3%) and West Indians (9.9%) are the least likely to match, but as noted earlier, this is due to the low number of cases in these ethnic categories, which often leads to statistical anomalies. Scottish, Dutch, Ukrainian, Italian, and Chinese have the highest probability of matching on ethnic responses between responses given in the 2001 census and in the Ethnic Diversity Survey. These groups have a 90% probability of matching on both surveys, adjusting for the influence of composition differences in socio-demographic characteristics.

The influence of single and multiple responses is evident in Table 4 and Chart 5, which shows ethnic specific differences in matching EDS according to single and multiple responses (Table 4, column 3). Giving only one census response is associated with a lower probability or "hypothetical chance out of 100" of matching the response on EDS than is true for those who gave two or more ethnic origins on the census. As mentioned in the descriptive results, one exception is for Chinese respondents. Even after controls, they are 5.5% less likely to match on multiple responses. In addition, Scottish multiple response givers are 6.6% less likely to match than single respond givers, and multiple response Scottish respondents make up the majority

(81%) of Scottish respondents (see Appendix A). Similar trends hold for the Dutch, of whom about half gave multiple responses. Multiple response Barbadians are 11% less likely to match than single response Barbadians.

Table 4 and Chart 5

In all other cases, especially for Canadian (53.3%), Czech (50.4%), Arab nie (54.4%), Punjabi (49.4%), and West Indian (49.7%) responses, multiple response giving increases the probability of matching. Although Canadian respondents are still one of the least likely ethnic response groups to match, multiple responses raise the hypothetical percentage of matching from 34.0% to 87.3%, which is similar to hypothetical chances observed for many other ethnic groups. In other words, giving multiple ethnic responses on the census raises the percentage of matching on the 2001 census and the 2002 EDS in general, but especially for the Canadian ethnic origin respondents.

Conclusion

Our research compares and contrasts ethnic origin responses for the same individuals, obtained by two different instruments that use different questions to measure ethnic origins. Our main empirical question is: are there differences in ethnic responses for those who filled out both the 2001 Canadian census and the post-censual survey, the Ethnic Diversity Survey? The answer is a resounding "yes." Using a measure of "matching," defined as having at least one match between responses given in the census and those given in the EDS, we find that variations exist by sex, age, marital status, region of residence, education, generational status, first language, and religion and by ethnic origin assignment. On average about one-quarter of the population that answered the census provided census ethnic origins that did not match those provided on the

Ethnic Diversity Survey, and larger differences were observed for specific ethnic choices. For ethnic origins, allowing multiple responses increases the propensity that respondents will provide at least one matching response, for all groups but the Barbadians, Chinese, Scottish, and Dutch. This is especially the case for those who answered "Canadian" on the census.

Most importantly, in terms of existing debates on how to best measure ethnic origins, matching ethnic responses across surveys is severely diminished for those respondents who indicated "Canadian/Canadien" in the 2001 census. Our results suggest that the Ethnic Diversity Survey question worked exactly as intended. By not providing any examples to respondents, the EDS question produced a much-reduced propensity to exercise the Canadian option, which had been captured by the 2001 census question that had listed "Canadian/Canadian" as the first of 25 specific ethnic labels. Slightly less than one-third of the respondents who gave a Canadian response on the 2001 census and who answered the census questionnaire themselves gave a Canadian response for the EDS. At the same time, there was also some slippage (i.e. not-matching) for about one in seven (15 percent) of the respondents who indicated ethnic origins other than Canadian in the census. This too may be related to the absence of explicit examples on the EDS question.

The implications of our findings are twofold. First, it is clear that question wording matters. Within the larger area of social science research, this is well known. However, our research is unusual in the area of race and ethnic studies in that it shows variations in ethnic labeling by the same respondents to two surveys using different questions. More generally, declaring a specific ethnicity, particularly declaring Canadian, is enhanced in questionnaires that use specific examples compared to questionnaires that have no examples. This fact generates a second implication: it is likely that earlier debates on how ethnic origins of respondents should

be tapped will be regenerated, and that the academic adage that “different questions produce different answers” will move into the public and political arena for resolution. Our study illustrates how fluid ethnicity can be.

Chart 1: Ethnic Origin Question on the 2001 Census

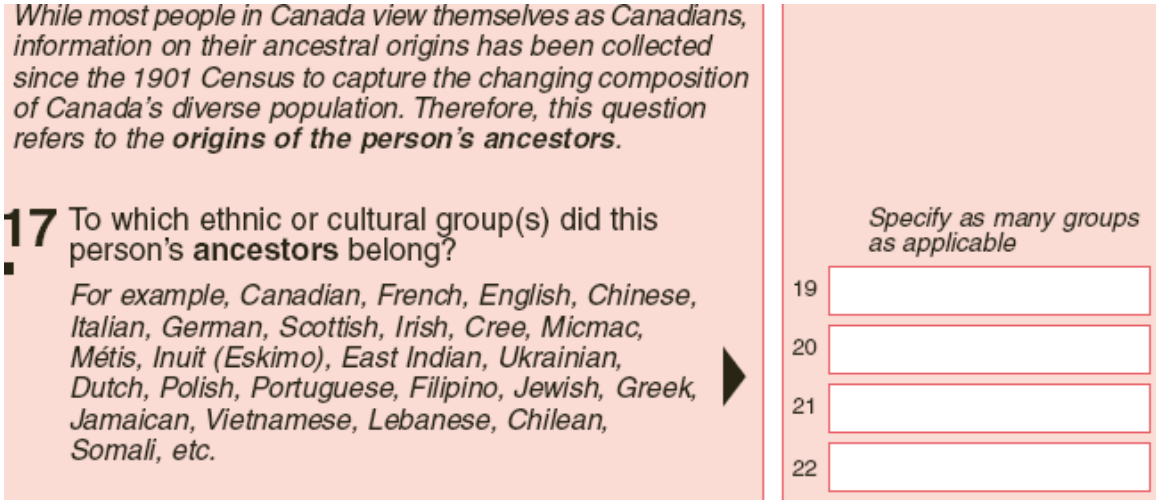

Chart 2: Ethnic Origin Questions on the 2002 Ethnic Diversity Survey.

ID_Q010

I would now like to ask you about your ethnic ancestry, heritage or background.

@/@/What were the ethnic or cultural origins of your @Uancestors@U?

INTERVIEWER: Specify up to 8 responses.

@/@/DO NOT provide examples.

@/@/This question refers to the ethnic or cultural origins of your ancestors, including ancestors from both sides of your family. An @Uancestor@U is someone from whom you have descended and is usually more distant than a grandparent. Ethnic or cultural ancestry refers to your "roots" or cultural background and should not be confused with citizenship or nationality. Other than Aboriginal persons, most people can trace their origins to their ancestors on first coming to this continent.

(If "Canadian was a response to ID_Q010)

ID_Q020

In addition to "Canadian", what were the other ethnic or cultural origins of your ancestors on @Ufirst coming to North America@U?

INTERVIEWER: Specify up to 4 responses.

@/@/DO NOT provide examples.

Chart 3: Percentage with Census Ethnic Response(s) Matching Response(s) in the EDS, Canada 2001-2002

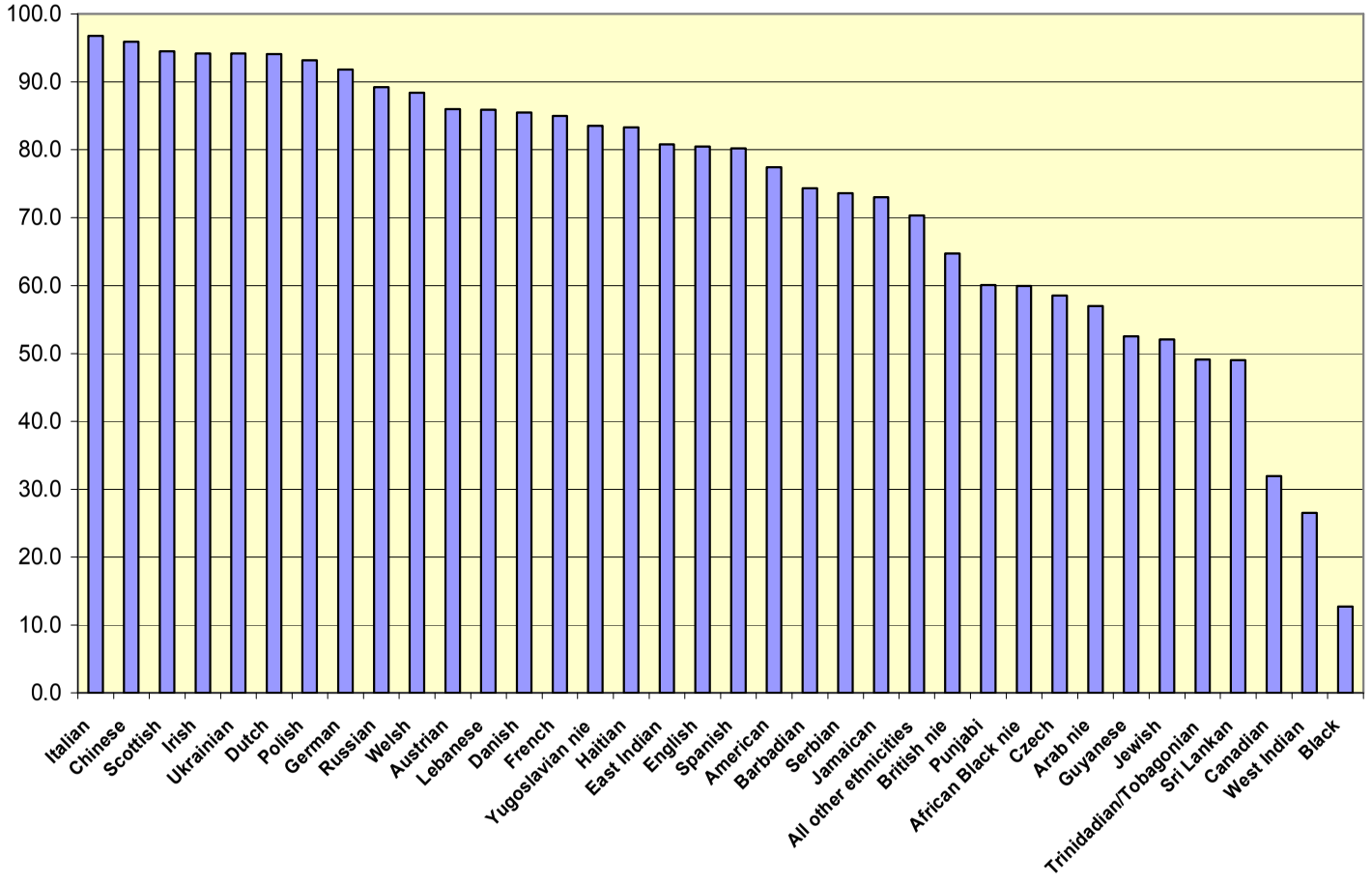

Chart 4: Percentage with Census Ethnic Response(s) Matching Response(s) in the EDS,by Single and Multiple Ethnic Origin Responses in the Census, Canada 2001-2002

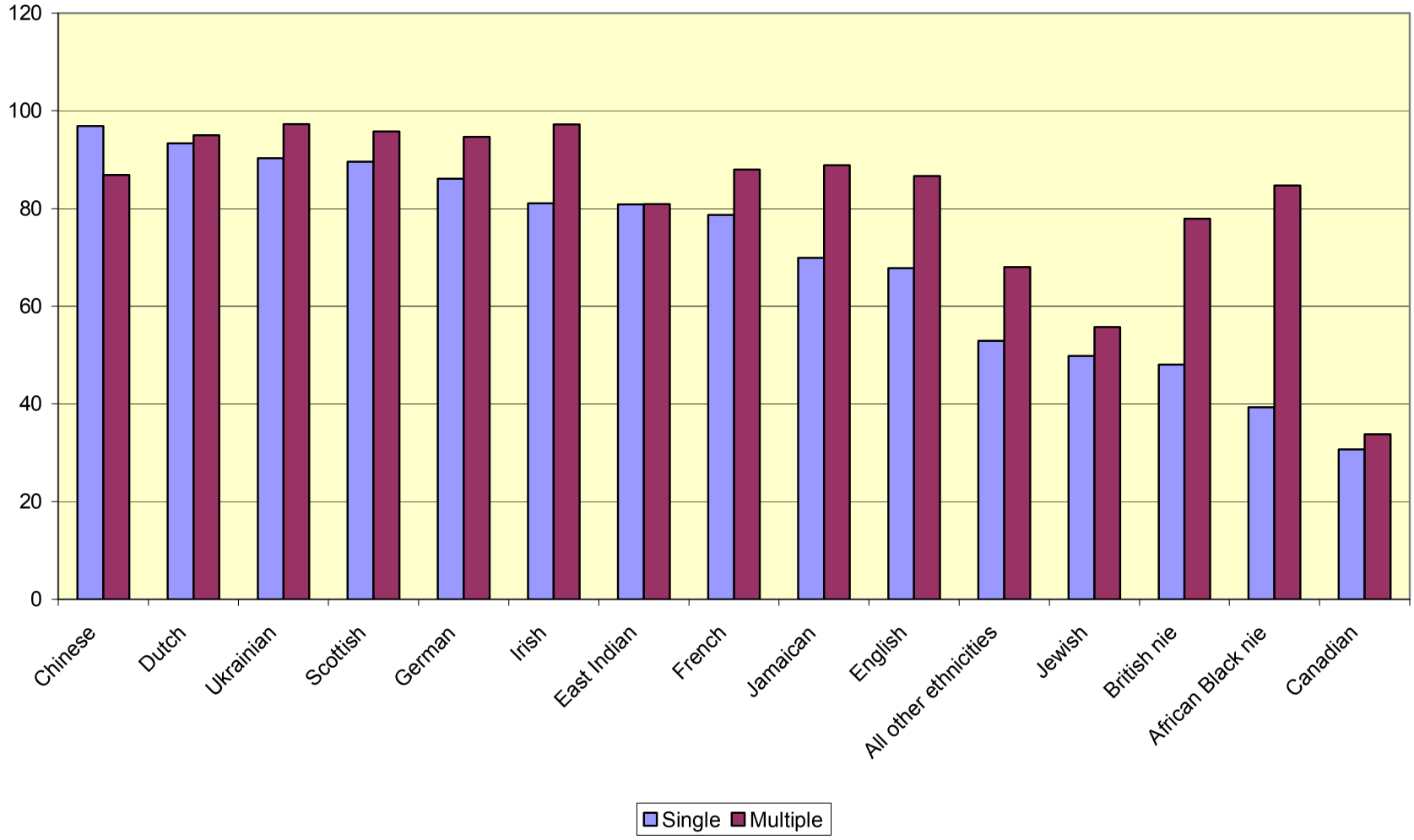

Chart 5: Gap between Multiple and Single Responses to the 2001 Census Matching EDS Response(s), Canada 2001-2002

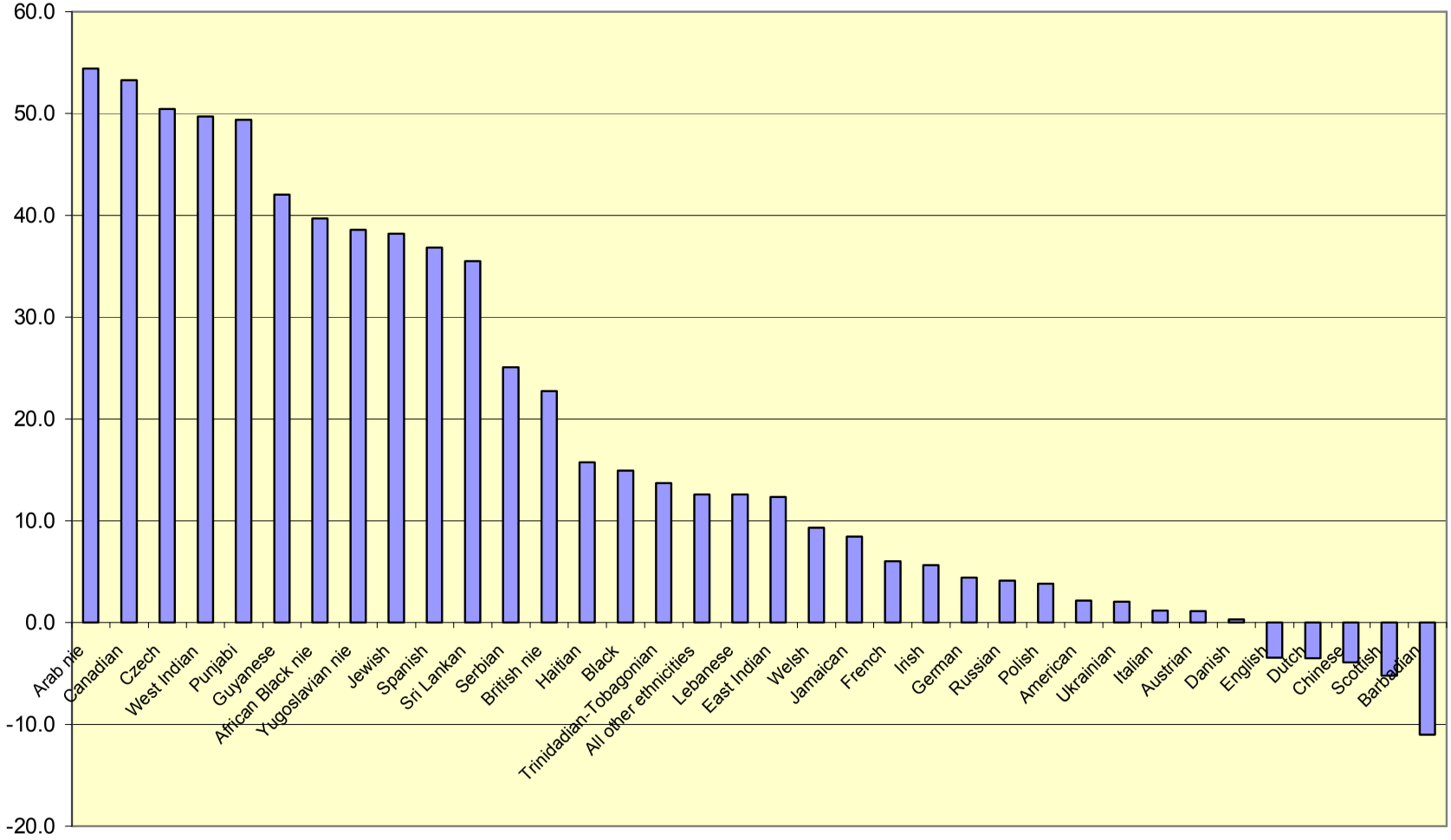

Table 1: EDS Respondents by Whether They Answered the 2001 Census or Not and by Demographic Characteristics, Canada 2002

	Total (1)	Self answer (2)	Other answer (3)	Do not know (4)
Ethnicity				
Canadian	100.0	52.0	33.6	14.4
Jewish	100.0	54.3	28.5	17.2
American	100.0	59.0	30.7	10.3
English	100.0	56.8	30.4	12.8
Irish	100.0	58.5	28.5	13.0
Scottish	100.0	59.7	28.6	11.7
Welsh	100.0	64.0	28.8	7.1
British nie	100.0	54.8	36.5	8.8
French	100.0	55.4	31.5	13.1
Austrian	100.0	57.5	27.6	14.9
Dutch	100.0	57.2	30.1	12.7
German	100.0	56.8	29.6	13.7
Danish	100.0	64.6	25.1	10.3
Czech	100.0	57.9	26.3	15.8
Polish	100.0	53.4	30.4	16.2
Russian	100.0	59.1	25.9	15.0
Ukrainian	100.0	56.5	28.1	15.4
Serbian	100.0	48.4	36.8	14.8
Yugoslavian nie	100.0	55.2	28.5	16.3
Italian	100.0	49.2	32.3	18.5
Spanish	100.0	48.7	37.6	13.7
Arab nie	100.0	39.8	28.9	31.3
Lebanese	100.0	49.6	35.7	14.8
East Indian	100.0	43.4	34.1	22.5
Punjabi	100.0	41.2	35.2	23.5
Sri Lankan	100.0	36.4	47.1	16.5
Chinese	100.0	41.4	34.3	24.3
African Black nie	100.0	50.3	35.2	14.6
Black	100.0	58.0	25.2	16.9
Barbadian	100.0	54.7	25.7	19.7
Guyanese	100.0	47.7	32.0	20.3
Haitian	100.0	50.5	35.5	14.0
Jamaican	100.0	41.4	31.6	27.0
West Indian	100.0	45.9	30.2	23.9
Trinidadian/Tobagonian	100.0	38.3	48.2	13.5
All other ethnicities	100.0	50.1	28.9	21.0
Sex				
Male	100.0	46.5	36.1	17.4
Female	100.0	60.7	26.4	12.9
Age				
15-24	100.0	16.7	59.1	24.3
25-34	100.0	57.8	28.2	14.0
35-44	100.0	63.0	26.5	10.5
45-54	100.0	64.6	24.6	10.8
55-64	100.0	63.2	24.4	12.4
65+	100.0	54.1	25.2	20.7

Table 1 continues

Table 1 continues

	Total (1)	Self answer (2)	Other answer (3)	Do not know (4)
Marital Status				
Married	100.0	57.5	30.0	12.5
Common law	100.0	59.3	31.7	9.0
Not Married	100.0	48.0	32.5	19.5
Region				
Atlantic Provinces	100.0	53.8	33.2	13.1
Quebec	100.0	53.3	33.4	13.3
Ontario	100.0	52.8	30.5	16.7
Manitoba & Saskatchewan	100.0	56.2	27.2	16.6
Alberta	100.0	52.7	30.2	17.1
British Columbia	100.0	57.0	29.8	13.2
Visible Minority Status				
Chinese	100.0	41.8	33.9	24.2
South Asian	100.0	42.3	34.0	23.7
Black	100.0	49.5	30.8	19.7
Filipino	100.0	42.5	35.1	22.4
Latin American	100.0	43.6	36.5	19.9
Other Southeast Asian	100.0	49.4	26.7	23.9
Arab	100.0	42.4	35.4	22.3
Other Visible Minorities	100.0	40.4	37.7	21.9
Not a Visible Mintority	100.0	55.5	30.6	13.8
Religion				
Protestant	100.0	58.6	27.8	13.6
Catholic	100.0	53.2	32.7	14.2
Muslim	100.0	45.7	34.3	20.0
Hindu	100.0	42.6	35.3	22.1
Jewish	100.0	55.0	27.5	17.5
Other	100.0	48.4	32.6	19.1
No religious affiliation	100.0	52.9	30.8	16.3
First Language				
English	100.0	55.4	30.5	14.1
French	100.0	54.4	33.5	12.3
English and French	100.0	56.7	29.8	13.5
Other	100.0	49.2	29.5	21.3
Generation				
1 generation	100.0	50.1	28.1	21.7
1.5 generation	100.0	51.3	33.7	15.1
1 or 1.5 unknown generation	100.0	49.5	28.2	22.4
2 generation	100.0	53.2	29.9	16.9
2.5 generation	100.0	58.4	29.7	11.9
3+ generation	100.0	55.1	31.9	13.0
Education				
More than bachelors degree	100.0	70.3	21.2	8.6
Bachelors degree	100.0	65.7	24.0	10.3
Postsecondary degree less than bachelors	100.0	63.7	25.4	10.9
Some postsecondary	100.0	53.3	33.1	13.6
High school diploma	100.0	53.4	32.5	14.1
Less than a high school diploma	100.0	38.4	38.4	23.2

Source: Statistics Canada, 2002 Ethnic Diversity Survey Master File, Research Data Centres

Table 2: Percents of Ethnic Response Matching for Those Who Answered Census Themselves by Ethnic Origin given in the Census, Canada 2002

	Total	Single Response	Multiple Response
Ethnic Origins, Total	74.5	63.8	91.3
Canadian	31.9	30.7	33.8
Jewish	52.1	49.8	55.7
American	77.4	(na)	(na)
English	80.5	67.8	86.7
Irish	94.2	81.1	97.2
Scottish	94.5	89.6	95.8
Welsh	88.4	(na)	(na)
British nie	64.7	48.0	77.9
French	85.0	78.7	88.0
Austrian	86.0	(na)	(na)
Dutch	94.1	93.3	95.0
German	91.8	86.1	94.7
Danish	85.5	(na)	(na)
Czech	58.5	(na)	(na)
Polish	93.2	(na)	(na)
Russian	89.2	(na)	(na)
Ukrainian	94.2	90.3	97.3
Serbian	73.6	(na)	(na)
Yugoslavian nie	83.5	(na)	(na)
Italian	96.8	(na)	(na)
Spanish	80.2	(na)	(na)
Arab nie	57.0	(na)	(na)
Lebanese	85.9	(na)	(na)
East Indian	80.8	80.8	80.9
Punjabi	60.1	(na)	(na)
Sri Lankan	49.0	(na)	(na)
Chinese	95.9	96.9	86.9
African Black nie	59.9	39.3	84.7
Black	12.7	(na)	(na)
Barbadian	74.3	(na)	(na)
Guyanese	52.5	(na)	(na)
Haitian	83.3	(na)	(na)
Jamaican	73.0	69.9	88.9
West Indian	26.5	(na)	(na)
Trinidadian/Tobagonian	49.1	(na)	(na)
All other ethnicities	70.3	52.9	68.0

(na) Not available due to RDC disclosure restrictions.

Source: Statistics Canada, 2002 Ethnic Diversity Survey MasterFile.

Table 3: Logits, Odd Ratios, and Probabilities of Matching on Ethnic Response, for Respondents Who Answered Census Themselves, by Number of Ethnic Responses on the 2001 Census, Canada

	Logits		Odds		Hypothetical Chances out of 100	
	Single Response (1)	Multiple Response (2)	Single Response (3)	Multiple Response (4)	Single Response (5)	Multiple Response (6)
Ethnicity						
Canadian	-1.495 ***	-.068 (ns)	.224	.934	34.0	87.3
Jewish	-.927 *	-.193 (ns)	.396	.824	47.7	85.8
American	-.790 (ns)	-1.867 ***	.454	.155	51.1	53.2
English	.276 **	-1.064 ***	1.318	.345	75.2	71.7
Irish	.929 ***	.317 (ns)	2.532	1.373	85.3	91.0
Scottish	1.656 ***	-.085 (ns)	5.238	.919	92.3	87.1
Welsh	-.392 (ns)	-1.141 ***	.676	.320	60.9	70.2
British nie	-.747 *	-.904 (ns)	.474	.405	52.1	74.9
French	.538 ***	-.199 (ns)	1.713	.819	79.8	85.8
Austrian	.643 (ns)	-.446 (ns)	1.901	.640	81.4	82.5
Dutch	1.658 ***	.078 (ns)	5.250	1.081	92.4	88.8
German	.974 ***	.235 (ns)	2.648	1.265	85.9	90.3
Danish	1.283 *	.150 (ns)	3.607	1.162	89.2	89.5
Czech	-1.316 *	.054 (ns)	.268	1.056	38.2	88.6
Polish	1.296 ***	.619 (ns)	3.656	1.857	89.4	93.2
Russian	.827 *	.008 (ns)	2.286	1.008	84.0	88.1
Ukrainian	1.369 ***	.458 (ns)	3.931	1.581	90.0	92.1
Serbian	-.370 (ns)	-.143 (ns)	.691	.867	61.4	86.4
Yugoslavian nie	-.379 (ns)	3.959 (ns)	.684	52.399	61.2	99.7
Italian	1.866 ***	.922 *	6.462	2.514	93.7	94.9
Spanish	-.670 (ns)	.304 (ns)	.512	1.355	54.1	90.9
Arab nie	-1.081 *	2.023 (ns)	.339	7.563	43.8	98.2
Lebanese	.783 *	1.181 (ns)	2.189	3.259	83.4	96.0
East Indian	.457 **	.290 (ns)	1.580	1.336	78.4	90.8
Punjabi	-1.061 *	.709 (ns)	.346	2.033	44.3	93.7
Sri Lankan	-.844 (ns)	-.244 (ns)	.430	.784	49.7	85.2
Chinese	2.394 ***	.479 (ns)	10.956	1.615	96.2	92.2
African Black nie	-1.349 **	-.784 (ns)	.260	.457	37.4	77.1
Black	-2.894 ***	-3.030 **	.055	.048	11.3	26.2
Barbadian	.505 (ns)	-1.232 (ns)	1.657	.292	79.2	68.2
Guyanese	-.827 *	.472 (ns)	.438	1.604	50.2	92.2
Haitian	.724 (ns)	2.070 (ns)	2.062	7.925	82.6	98.3
Jamaican	.346 (ns)	-.267 (ns)	1.413	.766	76.5	84.9
West Indian	-3.041 **	-1.606 **	.048	.201	9.9	59.6
Trinidadian/Tobagonian	-.820 (ns)	-1.419 (ns)	.440	.242	50.3	64.0
All other ethnicities	.478 ***	.362 (ns)	1.613	1.436	78.8	91.4
Sex						
Male	-.058 *	-.071 (ns)	.944	.932	68.5	87.3
Female	.058 *	.071 (ns)	1.060	1.073	70.9	88.8
Age						
15-24	-.459 ***	-.227 (ns)	.632	.797	59.3	85.4
25-34	-.007 (ns)	-.126 (ns)	.993	.881	69.5	86.6
35-44	-.148 **	.087 (ns)	.862	1.091	66.5	88.9
45-54	.089 (ns)	-.067 (ns)	1.093	.936	71.6	87.3
55-64	.161 **	.112 (ns)	1.174	1.119	73.0	89.2
65+	.364 ***	.221 (ns)	1.439	1.248	76.8	90.2

Table 3 continues

Table 3 continues

	Logits		Odds		Hypothetical Chances out	
	Single Response (1)	Multiple Response (2)	Single Response (3)	Multiple Response (4)	Single Response (5)	Multiple Response (6)
Marital Status						
Married	.158 ***	.008 (ns)	1.171	1.008	72.9	88.1
Common law	-.135 *	.062 (ns)	.874	1.064	66.8	88.7
Not Married	-.024 (ns)	-.070 (ns)	.977	.932	69.2	87.3
Region						
Atlantic Provinces	-.457 ***	-.210 (ns)	.633	.810	59.3	85.6
Quebec	-.115 (ns)	-.562 ***	.891	.570	67.2	80.8
Ontario	.264 ***	.071 (ns)	1.303	1.073	75.0	88.8
Manitoba & Saskatchewan	.017 (ns)	.605 **	1.017	1.831	70.0	93.1
Alberta	.194 *	.172 (ns)	1.214	1.188	73.6	89.7
British Columbia	.097 (ns)	-.076 (ns)	1.102	.927	71.7	87.2
Religion						
Protestant	-.140 (ns)	.330 (ns)	.869	1.392	66.7	91.1
Catholic	.182 *	.517 **	1.199	1.677	73.4	92.5
Muslim	-.266 (ns)	-.466 (ns)	.766	.628	63.8	82.2
Hindu	.225 (ns)	-.169 (ns)	1.252	.845	74.2	86.1
Jewish	.080 (ns)	-.498 (ns)	1.083	.608	71.4	81.7
Other	.044 (ns)	.032 (ns)	1.045	1.032	70.6	88.4
No religious affiliation	-.124 (ns)	.254 (ns)	.883	1.289	67.0	90.5
First Language						
English	-.417 ***	.328 *	.659	1.388	60.2	91.1
French	.206 *	-.644 ***	1.228	.525	73.9	79.4
English and French	-.057 (ns)	-.007 (ns)	.945	.993	68.5	88.0
Other	.268 ***	.323 (ns)	1.308	1.382	75.1	91.0
Generation						
1 generation	-.256 ***	-.605 ***	.774	.546	64.0	80.1
1.5 generation	-.047 (ns)	-.319 (ns)	.954	.727	68.7	84.2
1 or 1.5 unknown generation	.302 (ns)	.450 (ns)	1.353	1.568	75.7	92.0
2 generation	.402 ***	-.190 (ns)	1.495	.827	77.5	85.9
2.5 generation	-.133 (ns)	.380 **	.875	1.462	66.8	91.5
3+ generation	-.268 ***	.284 *	.765	1.328	63.8	90.7
Education						
More than bachelors degree	.103 (ns)	.274 (ns)	1.108	1.315	71.8	90.6
Bachelors degree	.025 (ns)	.134 (ns)	1.025	1.144	70.2	89.4
Postsecondary degree less than bachelors	.050 (ns)	-.049 (ns)	1.052	.952	70.8	87.5
Some postsecondary	-.144 *	.057 (ns)	.866	1.059	66.6	88.6
High school diploma	.065 (ns)	.024 (ns)	1.067	1.024	71.1	88.3
Less than a high school diploma	-.100 *	-.440 ***	.905	.644	67.6	82.6
Constant	.833 ***	1.996 ***	2.300	7.358	84.1	98.2
-2 Log likelihood	-12023.300	4130.316				

(ns) Not significant at p=.05 level; *p<.05; **p<.01; ***p<.001

(na) Not available due to RDC disclosure restrictions.

Source: Statistics Canada, 2002 Ethnic Diversity Survey Master File.

Table 4: Difference in Probabilities of Matching on Ethnic Response, for Respondents Who Answered Census Themselves, by Number of Ethnic Responses, Canada, 2002*

	Prob		
	Single Response (1)	Multiple Response (2)	Difference (3)
Ethnicity			
Canadian	34.0	87.3	53.3
Jewish	47.7	85.8	38.2
American	51.1	53.2	2.1
English	75.2	71.7	-3.5
Irish	85.3	91.0	5.6
Scottish	92.3	87.1	-5.2
Welsh	60.9	70.2	9.3
British nie	52.1	74.9	22.7
French	79.8	85.8	6.0
Austrian	81.4	82.5	1.1
Dutch	92.4	88.8	-3.5
German	85.9	90.3	4.4
Danish	89.2	89.5	0.3
Czech	38.2	88.6	50.4
Polish	89.4	93.2	3.8
Russian	84.0	88.1	4.1
Ukrainian	90.0	92.1	2.0
Serbian	61.4	86.4	25.1
Yugoslavian nie	61.2	99.7	38.6
Italian	93.7	94.9	1.2
Spanish	54.1	90.9	36.8
Arab nie	43.8	98.2	54.4
Lebanese	83.4	96.0	12.6
East Indian	78.4	90.8	12.3
Punjabi	44.3	93.7	49.4
Sri Lankan	49.7	85.2	35.5
Chinese	96.2	92.2	-3.9
African Black nie	37.4	77.1	39.7
Black	11.3	26.2	14.9
Barbadian	79.2	68.2	-11.0
Guyanese	50.2	92.2	42.0
Haitian	82.6	98.3	15.7
Jamaican	76.5	84.9	8.4
West Indian	9.9	59.6	49.7
Trinidadian/Tobagonian	50.3	64.0	13.7
All other ethnicities	78.8	91.4	12.6

*Controls not shown in this table.

Source: Statistics Canada, 2002 Ethnic Diversity Survey Master File.

Appendix A: Percents of Ethnic Response Matching by Number of Responses for Those Who Answered the Census Themselves within Ethnic Origin Given in the Census, Canada 2002

	Total	Single Response	Multiple Response
Canadian	100.0	60.4	39.6
Jewish	100.0	58.3	41.7
American	100.0	20.1	79.9
English	100.0	27.5	72.5
Irish	100.0	16.1	83.9
Scottish	100.0	19.0	81.0
Welsh	100.0	(na)	(na)
British nie	100.0	32.7	67.3
French	100.0	30.1	69.9
Austrian	100.0	(na)	(na)
Dutch	100.0	50.8	49.2
German	100.0	31.5	68.5
Danish	100.0	(na)	(na)
Czech	100.0	(na)	(na)
Polish	100.0	(na)	(na)
Russian	100.0	(na)	(na)
Ukrainian	100.0	41.9	58.1
Serbian	100.0	(na)	(na)
Yugoslavian nie	100.0	(na)	(na)
Italian	100.0	(na)	(na)
Spanish	100.0	(na)	(na)
Arab nie	100.0	(na)	(na)
Lebanese	100.0	(na)	(na)
East Indian	100.0	83.8	16.2
Punjabi	100.0	(na)	(na)
Sri Lankan	100.0	(na)	(na)
Chinese	100.0	90.9	9.1
African Black nie	100.0	35.8	64.2
Black	100.0	(na)	(na)
Barbadian	100.0	(na)	(na)
Guyanese	100.0	(na)	(na)
Haitian	100.0	(na)	(na)
Jamaican	100.0	80.5	19.5
West Indian	100.0	(na)	(na)
Trinidadian/Tobagonian	100.0	(na)	(na)
All other ethnicities	100.0	(na)	(na)

(na) Not available due to RDC disclosure restrictions.

Source: Statistics Canada, 2002 Ethnic Diversity Survey Master File.

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