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Does How You Measure Representation Matter?: Assessing the Persistence of Canadian Universities' Gendered and Colour Coded Vertical Mosaic

Howard Ramos

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Does How You Measure Representation Matter?: Assessing the Persistence of Canadian Universities’ Gendered and Colour Coded Vertical Mosaic

Abstract

This paper engages recent debates over equity group representation among university professors. Since at least the time of John Porter’s publication of *The Vertical Mosaic*, the correlation between ethnicity, education, and employment success has been shown. The most troubling of Porter’s research findings was the persistence of a stratified Canadian workforce and society. Using data from the 1991, 1996, 2001, and 2006 Canadian censuses, three questions are engaged: 1) How well are different equity groups represented among university professors? 2) Is their representation improving over time? and 3) Does looking at the pool of earned doctorates matter in the analysis of equity group representation among university professors? The paper shows that when looking at crude comparisons of the proportion of equity groups in the general population to the proportion of equity groups in the professorate, visible minorities have moved from being overrepresented to underrepresented, Aboriginal peoples are consistently underrepresented by a small amount, and women are significantly underrepresented, although the gap is narrowing over time. When additional analysis is done by looking at comparisons of the proportion of equity groups who work as university professors compared to the national average of all people working as university professors, similar conclusions are made; however, Aboriginal peoples are more severely underrepresented when making this comparison. When the proportion of equity groups with earned doctorates is examined and compared against the proportion working as university professors, we see surprising differences: women appear to be overrepresented or at parity depending on the calculation used, Aboriginal peoples are almost at parity or slightly underrepresented, and visible minorities are underrepresented irrespective of measurement or method used to assess their representation in the professoriate.

Résumé

Cet article traite des débats récents qui ont eu lieu sur la représentation de groupes visés par l’équité parmi les professeurs d’université. Au moins depuis l’époque de la publication de *La mosaïque verticale* de John Porter, la corrélation entre ethnicité, éducation et réussite professionnelle est reconnue. Ce qui est le plus troublant dans les résultats de la recherche de Porter, c’est la persistance d’une force de travail et d’une société stratifiées au Canada. À partir de données des recensements canadiens de 1991, 1996, 2001 et 2006, trois questions sont posées : 1) À quel point les divers groupes visés par l’équité sont-ils représentés parmi les professeurs d’université? 2) Le sont-ils mieux avec le temps? et 3) dans quelle mesure le fait de consulter le bassin de titulaires d’un doctorat joue-t-il dans l’analyse de cette représentation? Dans cet article nous montrons qu’en examinant des comparaisons approximatives de la proportion des groupes visés par l’équité dans la population en général et au sein du professorat, de surreprésentées, les minorités visibles sont devenues sous-représentées, ce que les autochtones sont légèrement, mais systématiquement, et les femmes largement, bien que l’écart aille en diminuant peu à peu. Une analyse complémentaire comparant, parmi tous ceux qui travaillent comme professeurs d’université, la proportion des

groupes visés par l'équité avec la moyenne nationale, on arrive à des conclusions semblables; cependant, lorsqu'on opère cette comparaison, les autochtones sont sérieusement plus sous-représentés. Lorsqu'on examine la proportion de titulaires d'un doctorat dans les groupes visés par l'équité et qu'on les compare à ceux qui travaillent comme professeurs d'université, on découvre des différences surprenantes : les femmes semblent surreprésentées ou à parité selon la méthode de calcul utilisée. Les autochtones, eux, sont presque à parité ou légèrement sous-représentés, une sous-représentation que subissent les minorités visibles, quelle que soit la méthode ou la mesure utilisée pour évaluer la représentation en question dans le professorat.



Although Canada's population has become increasingly ethnically and racially diverse and although the country introduced equity legislation in both its Constitution (s. 15) and through the Employment Equity Act, the country continues to see underrepresentation of women, visible minorities, and Aboriginal peoples in almost all its most prominent and powerful institutions. The degree of underrepresentation of these groups in universities, especially among the professorate, remains highly contested among policy makers, academics and pundits (Duchesne 2010; Eisenkraft 2010).

In part, debate exists because underrepresentation and the inequality that is associated with it fly in the face of the ethos of academic and scientific traditions that prize inclusiveness and exchange of diverse ideas. Professors and administrators are often quick to note that most Canadian university job ads include an equity statement that invites applicants from a range of underrepresented groups, and universities are bound by equity policies. Others argue that underrepresentation of different groups in the professorate is not because of inequity but instead is a result of a series of other factors such as a lack of people with the right credentials, more specifically earned doctorates, a lack of people with advanced scholarship, such as an "adequate" number of "quality" publications, or because aggressive policies aimed to remedy past inequities are seen as inequitable themselves.¹

At the same time the debate continues because of a lack of systematic Canadian data on the representation of women, visible minorities, and Aboriginal peoples in academia in general and working as university professors more specifically (CAUT 2007; James 2011; Dua 2012). Of the data that are available, obstacles and trade-offs hinder fully engaging questions of representation. In this special issue, Ena Dua offers a detailed account of these issues. Briefly, the National Graduate Survey is one option for analysis but it only captures those who graduate in given cohorts and tracks their rate of employment and does not enumerate those employed as university professors with degrees from other countries or other cohorts. The University and College Academic Staff Survey is another option, often used to assess salary scales. It, however, does not distinguish among groups of people nor does it distin-

guish among disciplines and faculties. The census presents yet another option, but it too fails to distinguish among disciplines and faculties. It does, however, track different equity groups² and it does so fairly consistently over time—at least until 2006. It is unclear what will be the case after that (James 2011). The Conservative federal government eliminated the long form census and replaced it with an optional National Household Survey in 2011 and it remains undetermined whether or not the new survey will be comparable to earlier censuses.

Despite the obstacles the census presents for analysing the representation of equity groups among university professors, such as failing to account for differences among disciplines or ranks of professors, its data from 1991, 1996, 2001, and 2006 are used in this paper to offer a preliminary engagement of their representation and whether it is changing over time. This is analysed in order to offer large-scale empirical evidence to the ongoing debate.

Canada's concern with ethnic and racial representation and stratification is far from new (Bakan and Kobayashi 2002). Since at least the time of John Porter's (1965) publication of *The Vertical Mosaic*, the correlation between ethnicity, education, and employment success has been shown. The most troubling among Porter's research findings was the persistence of a stratified workforce and society based on differences between Anglo- and Francophone charter groups, who filled the ranks of the country's elite, and people of other ethnic and racial groups, who were largely relegated to an entrance status that limited their social and economic opportunities. He showed this using census data from 1931 through 1961.

During the 1990s his work was extended to race (e.g., Helmes-Hayes and Curtis 1998; Gosine 2000; Galabuzi 2006). In the 2000s a number of researchers began tackling questions dealing with hiring, promotion and salary inequalities among racialized groups in Canadian universities (Samuel and Wane 2005; Stewart 2009; Henry and Tator [eds] 2009), finding evidence of underrepresentation and inequality. Others during the same period have shown the link between race, gender and inequality (Mahtani 2004) and yet others have shown persistence of gender inequalities in university professors' salaries (Doucet, Smith, and Durand 2012). With respect to representation, reports continue to show that women are underrepresented among Canadian professors, but the degree of their underrepresentation is changing over time (Lin 2008).

Despite some exceptions (e.g., Nakhaie 2004, 2007; Lin 2008) most scholarship is based on qualitative findings and small samples, which may account for some of the skepticism associated with this research (e.g., Duchesne 2010). In fact, much research on equity and discrimination in universities is met with hostility and even backlash (Eisenkraft 2010). As Bakan and Kobayashi (2002) have shown, this broader trend is found not only in universities but also in Canadian society more generally.

Of the research that does use quantitative data, much is based on a cross-section of time, usually bounded by a single census or other survey. As a result, these analyses are unable to gauge whether or not representation of equity groups is improving or worsening over time. Most of the analyses also compare those in a given profession to attributes of the overall population (e.g., Bakan and Kobayashi 2002; Nakhaie 2004). These studies look at the proportion of equity groups in a profession compared to their proportion in the general population. Critics argue that such an approach fails to engage the potential pool of people, or a cohort, that can be hired into different professions.³ In other words, if equity groups do not earn doctorates, which are demanded by most university professor job ads, then their exclusion from the professorate is justifiable and underrepresentation is not discriminatory. By contrast, if underrepresentation in the profession exists not only in comparison to the proportion of equity groups in the general population but also in comparison to their proportion of people with skills needed, the pool of available labour, then there is strong evidence of persistent stratification and discrimination. It is thus important to look at underrepresentation from many vantage points and not just crude comparisons to the general population. To this end, an additional goal of the paper is to ask if time and the pool of earned doctorates matter in the analysis of equity group representation among Canadian university professors. That is, does how you measure representation matter?

DATA AND METHODS

To examine the degree to which equity groups are underrepresented in universities, data from the 1991, 1996, 2001, and 2006 Canadian Censuses are used. Full census data were accessed through Statistics Canada's Atlantic Research Data Centre and include a count of all people living in Canada at the time of each census. For the purposes of this paper, only those aged 18 years and older are included in the analysis. This will allow for analysis of a broad portrait of Canada's adult population to be compared against those who earn doctorates and those who work as university professors.⁴ Six variables were analysed, including sex, visible minority status,⁵ race, Aboriginal status, highest level of education, and occupation based on the 1991 standard occupational classification. These variables were chosen in order to examine equity groups that are commonly highlighted in university job ads and which correspond to Employment Equity policy⁶ and to also examine the population with earned doctorates and the population working as university professors. Education and occupation were recoded into bivariate variables: earned doctorate and university professor. Unfortunately censuses offer only crude measures of university professors, failing to account for what disciplines they work in or their rank, and thus allow for only general analysis of equity group representation. Simple cross tabulations, percentage

point differences, analysis of probability and odds, as well as line graphs are used to illustrate their representation and document trends in the profession.

A general portrait of the population is presented first in order to set a benchmark of comparison followed by looking at the proportion of the population with earned doctorates and then those who work as university professors. The decision to focus on those with earned doctorates is based on the increasing demand by universities and faculties to hire people with advanced degrees. It is becoming more difficult, even in professional faculties such as Law or Social Work, to land an academic job without one. With respect to university professors, it is important to note that the category of “university professor” used in in the 1991 standard occupational classification does not distinguish among those working full- or part-time, nor whether professors are tenure-track or contract or whether they have an earned doctorate. As a result, the figures on university professors are inflated compared to data that can account for these differences.

The last component of the analysis looks at differences in representation of equity groups among university professors by different means of comparison over time. Comparison is made first by looking at commonly used crude differences in the proportions of equity groups in the general population compared to the proportion of those working as university professors. This is followed by comparing equity groups to national averages and then by looking at the pool of available earned doctorates compared to the proportion of university professors. By looking at different means of comparison over time we can robustly infer whether or not Employment Equity policies have had an impact in the 1991 to 2006 period and we can also see whether or not a gendered and colour coded vertical mosaic among Canadian professors continues to persist.

ANALYSIS

What is the demographic portrait of equity groups in the Canadian population? Tables 1 through 4 show that there has been very little change in the gender composition of the population with about 51 to 52 percent women and 48 to 49 percent men through the 1991 to 2006 censuses. During the same period, however, the population has become more racially and ethnically diverse as a result of immigration (Boyd and Vickers 2000, 8). It has also been changing because of high fertility rates among Aboriginal peoples (Human Resources and Skills Development Canada 2012). Tables 1 through 4 illustrate some of these changes. For example, visible minorities, in 1991, were just under 9 percent of the population compared to about 18 percent in 2006. Looking at specific racialized groups, we see almost a doubling of the proportion of Chinese, Filipino,⁷ and South-Asian Canadians in this period.

The adult Aboriginal population increased from just under 3 percent to just over it during this period. In part the growth in the Aboriginal population is masked because of the focus on adults 18 years and older. Almost 30 percent of the Aboriginal population in 2006 was 14 years old and younger (*ibid.*). When we examine the proportion of Canadians with an earned doctorate, we see that only 0.41 percent of the population had this level of education in 1991. By 2006 this figure increased slightly to 0.73 percent. The number of people whose occupation is a university professor remained almost unchanged from only 0.23 percent in 1991 to 0.26 percent in 2006.

A number of studies use these demographic proportions as benchmarks of comparison to gauge the representation of each group in different positions (e.g., Bakan and Kobayashi 2002; Nakhaie 2004; Stewart 2009). For example, scholarship in this vein looks at the proportion of women who earn doctorates or the proportion of visible minorities who work as university professors. When such comparisons are made in Tables 1 through 4, we find an interesting story. Although women comprised between 51 percent and 52 percent of the population in 1991 and 2006, they accounted for just 20 percent of adults with earned doctorates in 1991 and by 2006, the proportion increased to 32 percent. When we examine those whose occupation is university professor, we see that in 1991 women accounted for about 30 percent of university professors and by 2006 they accounted for almost 40 percent. Both sets of comparison show that women are underrepresented in academia relative to their proportion in the general population.

When we look at the broad category of visible minority Canadians, Tables 1 through 4 show us that they accounted for almost 9 percent of the adult population in 1991 and 18 percent in 2006. By contrast they made up about 18 percent of adults with earned doctorates in 1991 and 24 percent in 2006. At both points in time, visible minorities appear to be overrepresented among earned doctorates relative to their proportion in the general population, yet the degree of overrepresentation decreased dramatically over time. When we look at the population of university professors, we find that visible minorities accounted for approximately 12 percent of them in 1991 and 16 percent in 2006. Interestingly, as Tables 2 through 4 illustrate, although visible minorities were slightly overrepresented among university professors in 1991 compared to their proportion in the general population, they became underrepresented in 1996 and the degree of their underrepresentation increased with each census. This is particularly striking given equity policies became more entrenched during this period, yet they appear to be negatively correlated with racial diversification of Canadian university professors.

If we examine race in more detail, we find that in 1991 all visible minority groups were overrepresented among earned doctorates when compared to their pro-

TABLE I. 1991 Census, Education and Occupation

Variable	Population		Education			Occupation				Occupation by Education			
	N=	% of population	Doctorate	% of Doctorate	Percent point diff. % doc. - % pop	% with Doctorate	Percent point diff. from doc. national avg.	University professor	% of University professor	Percent point diff. % uni. prof. - % pop.	% Working as uni. Prof. as uni. Prof.	Percent point diff. from prof.national avg.	Percent point diff. % of uni. prof. - % of doc.
N=	20,179,808	100%	83,536	100%	0%	0.41%		46,373	100%	0%	0.23%		0.00%
Sex													
Female	10,336,846	51.27%	16,739	20.04%	-31.19%	0.16%	-0.25%	13,690	29.52%	-21.70%	0.13%	-0.10%	9.48%
Male	9,842,962	48.75%	66,797	79.96%	31.19%	0.68%	0.26%	32,682	70.48%	21.70%	0.33%	0.10%	-9.48%
Visible minority	1,841,626	9.12%	68,824	82.39%	-8.87%	0.37%	-0.04%	40,898	88.19%	-3.07%	0.22%	-0.01%	5.81%
Visible minority	1,763,382	8.74%	34,712	17.61%	8.87%	0.83%	0.47%	5,475	11.81%	3.07%	0.31%	0.08%	-5.81%
Race													
Black	342,180	1.70%	1,527	1.83%	0.13%	0.45%	0.03%	655	1.41%	-0.28%	0.19%	-0.04%	-0.42%
South Asian	349,694	1.73%	4,033	4.83%	3.10%	1.15%	0.74%	1,451	3.13%	1.40%	0.41%	0.19%	-1.70%
Chinese	461,404	2.29%	3,804	4.55%	2.27%	0.82%	0.41%	1,266	2.73%	0.44%	0.27%	0.04%	-1.82%
Korean	31,397	0.15%	369	0.44%	0.29%	1.18%	0.76%	114	0.25%	0.09%	0.36%	0.13%	-0.20%
Japanese	47,838	0.24%	461	0.55%	0.32%	0.96%	0.55%	231	0.50%	0.26%	0.48%	0.25%	-0.05%
South East Asian	87,024	0.43%	481	0.58%	0.14%	0.55%	0.14%	159	0.34%	-0.09%	0.18%	-0.05%	-0.23%
Filipino**	126,426	0.63%	160	0.19%	-0.44%	0.13%	-0.29%	93	0.20%	-0.43%	0.07%	-0.16%	0.01%
West Asian or Arab	199,159	0.99%	3,197	3.83%	2.84%	1.61%	1.19%	1,247	2.69%	1.70%	0.63%	0.40%	-1.14%
Latin American	89,223	0.44%	574	0.69%	0.24%	0.64%	0.23%	211	0.46%	0.01%	0.24%	0.01%	-0.23%
Multiple Vis. Min.	29,037	0.14%	106	0.13%	-0.02%	0.36%	-0.05%	49	0.11%	-0.04%	0.17%	-0.06%	-0.02%
Dominant group	18,416,426	91.26%	68,824	82.39%	-8.87%	0.37%	-0.04%	40,898	88.19%	-3.07%	0.22%	-0.01%	5.81%
Aboriginal	590,469	2.93%	764	0.91%	-2.01%	0.13%	-0.28%	562	1.21%	-1.71%	0.10%	-0.13%	0.30%
Non-Aboriginal	19,589,339	97.07%	82,772	99.09%	2.01%	0.42%	0.01%	45,811	98.79%	1.71%	0.23%	0.00%	-0.30%
Doctorate													
Other education	20,096,272	99.59%											
Doctorate	83,536	0.41%											
Occupation													
Other occupation	20,133,435	99.77%	57,438	68.76%									
University professor	46,373	0.23%	26,098	31.24%									

Table compiled by author from Statistics Canada 1991 Census.

*The order of "race" categories changes according to the ordering offered in each Census.

**Filipino includes "Other Pacific Islander" because of low cell counts and RDC release requirements.

TABLE 2. 1996 Census, Education and Occupation

Variable	Population		Education				Occupation				Occupation by Education		
	N=	% of population	Doctorate	% of Doctorate	Percent point dif. % doc. - % pop	% with Doctorate	Percent point dif. from doc. national avg.	University professor	% of University professor	Percent point dif. % uni. prof. - % pop.	% Working as uni. prof.	Percent point dif. from prof. national avg.	Percent point dif. % of uni. prof. - % of doc.
N=	21,436,883	100%	103,809	100.00%	0.00%	0.48%	-0.26%	54,800	100%	0%	0.26%	0.00%	0.00%
Sex													
Female	11,029,237	51.45%	24,281	23.39%	-28.06%	0.22%	-0.26%	18,808	34.41%	-17.04%	0.17%	-0.08%	11.02%
Male	10,407,646	48.55%	79,528	76.61%	28.06%	0.76%	0.28%	35,942	65.59%	17.04%	0.35%	0.09%	-11.02%
Immigrant	16,735,775	78.07%	50,130	48.29%	-29.78%	0.30%	-0.18%	32,638	59.56%	-18.51%	0.20%	-0.06%	-11.27%
Immigrant	4,701,108	21.93%	53,678	51.71%	29.78%	1.14%	0.66%	22,162	40.44%	18.51%	0.47%	0.22%	-11.27%
Visible minority	18,715,814	87.31%	84,140	81.05%	-6.25%	0.45%	-0.03%	47,966	87.53%	0.22%	0.26%	0.00%	6.48%
Visible Minority	2,721,069	12.69%	19,669	18.95%	6.25%	0.72%	0.24%	6,894	12.47%	-0.22%	0.25%	0.00%	-6.48%
Race*													
Chinese	648,423	3.02%	6,679	6.43%	3.41%	1.03%	0.55%	1,691	3.09%	0.06%	0.26%	0.01%	-3.35%
South Asian	470,647	2.20%	4,794	4.62%	2.42%	1.02%	0.53%	1,644	3.00%	0.80%	0.35%	0.09%	-1.62%
Black	372,890	1.74%	1,864	1.80%	0.06%	0.50%	0.02%	805	1.47%	-0.27%	0.22%	-0.04%	-0.33%
West Asian or Arab	172,546	0.80%	3,268	3.15%	2.34%	1.89%	1.41%	1,153	2.10%	1.30%	0.67%	0.41%	-1.04%
Filipino**	177,847	0.83%	323	0.31%	-0.52%	0.18%	-0.30%	121	0.22%	-0.61%	0.07%	-0.19%	-0.09%
South East Asian	114,500	0.53%	529	0.51%	-0.02%	0.46%	-0.02%	209	0.38%	-0.15%	0.18%	-0.07%	-0.13%
Latin American	120,524	0.56%	497	0.48%	-0.08%	0.41%	-0.07%	289	0.53%	-0.03%	0.24%	0.00%	0.05%
Japanese	52,968	0.25%	585	0.56%	0.32%	1.10%	0.62%	308	0.56%	0.31%	0.58%	0.33%	0.00%
Korean	48,249	0.23%	453	0.44%	0.21%	0.94%	0.45%	169	0.31%	0.08%	0.35%	0.10%	-0.13%
VW NIE	45,989	0.21%	127	0.12%	-0.09%	0.28%	-0.21%	71	0.13%	-0.09%	0.15%	-0.10%	0.01%
Multiple Vis. Min.	37,596	0.18%	259	0.25%	0.07%	0.69%	0.20%	98	0.18%	0.00%	0.26%	0.00%	-0.07%
Dominant group	18,715,814	87.31%	84,140	81.05%	-6.25%	0.45%	-0.03%	47,966	87.53%	0.22%	0.26%	0.00%	6.48%
Aboriginal	458,889	2.14%	291	0.28%	-1.86%	0.06%	-0.42%	276	0.50%	-1.64%	0.06%	-0.20%	0.22%
Aboriginal***	472,177	2.20%	312	0.30%	-1.90%	0.07%	-0.42%	290	0.53%	-1.67%	0.06%	-0.19%	0.23%
Non-Aboriginal	20,964,706	97.80%	103,497	99.70%	1.90%	0.49%	0.01%	54,509	99.47%	1.67%	0.26%	0.00%	-0.23%
Doctorate													
Other education	21,333,074	99.52%											
Doctorate	103,809	0.48%											
Occupation													
Other occupation	21,382,083	99.74%											
University professor	54,800	0.26%											

Table compiled by author from Statistics Canada 1996 Census.

*The order of "race" categories changes according to the ordering offered in each Census.

**Filipino includes "Other Pacific Islander" because of low cell counts and RDC release requirements.

***Numbers for Aboriginal under "race" and Aboriginal do not correspond. This is because Aboriginal in race is self-reported and in the Aboriginal variable it is derived by Statistics Canada.

TABLE 3. 2001 Census, Education and Occupation

Variable	Population			Education			Occupation			Occupation by Education		
	N=	% of population	Doctorate	% of Doctorate	Percent point diff. % doc. - % pop	% with Doctorate	Percent point diff. from doc. national avg.	University professor	% of University professor	Percent point diff. % prof. - % pop.	% Working as as uni. Prof.	Percent point diff. from prof. national avg.
N=	22,658,190	100%	128,604	100%	0%	0.57%	52,156	100%	0%	0.23%	0.03%	0%
Sex												
Female	11,674,786	51.53%	34,676	26.96%	-24.56%	0.30%	18,863	36.17%	-15.36%	0.16%	-0.07%	9.20%
Male	10,983,404	48.47%	93,928	73.04%	24.56%	0.86%	33,293	63.83%	15.36%	0.30%	0.07%	-9.20%
Viable minority	19,225,503	84.85%	59,135	77.09%	-7.76%	0.52%	44,912	86.11%	1.26%	0.23%	0.00%	9.02%
Viable minority	3,432,688	15.15%	29,469	22.91%	7.76%	0.86%	7,245	13.89%	-1.26%	0.21%	-0.02%	-9.02%
Race*												
Chinese	789,517	3.48%	11,326	8.81%	5.32%	1.43%	2,080	3.99%	0.50%	0.26%	0.03%	-4.82%
South Asian	648,741	2.86%	6,499	5.05%	2.19%	1.00%	1,785	3.42%	0.43%	0.28%	0.05%	-1.63%
Black	431,655	1.91%	2,730	2.12%	0.22%	0.63%	837	1.60%	-0.30%	0.19%	-0.04%	-0.52%
Filipino	227,236	1.00%	389	0.30%	-0.70%	0.17%	125	0.24%	-0.76%	0.05%	-0.18%	-0.66%
Latin American	156,827	0.69%	789	0.61%	-0.08%	0.50%	372	0.71%	0.02%	0.24%	0.01%	0.10%
South East Asian	138,666	0.61%	717	0.56%	-0.05%	0.52%	167	0.32%	-0.29%	0.12%	-0.11%	-0.24%
Arab	132,608	0.59%	2,752	2.14%	1.55%	2.08%	650	1.25%	0.66%	0.49%	0.26%	-0.89%
West Asian	79,591	0.35%	1,717	1.34%	0.98%	2.16%	344	0.65%	0.31%	0.43%	0.20%	-0.68%
Korean	74,961	0.33%	754	0.59%	0.26%	1.01%	171	0.33%	0.00%	0.23%	0.00%	-0.26%
Japanese	57,629	0.25%	563	0.44%	0.18%	0.98%	271	0.52%	0.26%	0.47%	0.24%	0.08%
VM NIE**	117,427	0.52%	747	0.58%	0.06%	1.30%	124	0.24%	-0.28%	0.11%	-0.12%	-0.94%
Dominant group	19,225,503	84.85%	99,135	77.09%	-7.76%	0.52%	44,912	86.11%	1.26%	0.23%	0.00%	9.02%
Aboriginal	578,130	2.55%	487	0.38%	-2.17%	0.08%	320	0.61%	-1.94%	0.06%	0.06%	-0.17%
Aboriginal	594,171	2.62%	524	0.41%	-2.21%	0.09%	338	0.63%	-1.97%	0.06%	-0.17%	0.24%
Non-Aboriginal	22,064,019	97.38%	128,080	99.59%	2.21%	0.58%	51,818	99.35%	1.97%	0.23%	0.00%	-0.24%
Doctorate												
Other education	22,529,586	99.43%										
Doctorate	128,604	0.57%										
Occupation												
Other occupation	22,606,034	99.77%	57,604	75.90%								
University professor	52,156	0.23%	31,000	24.10%								

Table compiled by author from Statistics Canada 2001 Census.

* The order of "race" categories changes according to the ordering offered in each Census.

** Multiple Coloured was captured in this variable but due to a low cell count and for RDC release requirements it has been merged to VM NIE.

*** Numbers for Aboriginal under "race" and Aboriginal do not correspond. This is because Aboriginal in race is self-reported and in the Aboriginal variable it is derived by Statistics Canada.

TABLE 4. 2006 Census, Education and Occupation

Variable	Population		Education				Occupation				Occupation by Education		
	N=	% of population	Doctorate	% of Doctorate	Percent point diff. % doc. - % pop	% with Doctorate	Percent point diff. from doc. national avg.	University professor	% of University professor	Percent point diff. % uni. prof. - % pop.	% Working as uni. Prof.	Percent point diff. from prof. national avg.	Percent point diff. % of uni. prof. - % of doc.
N=	24,344,204	100%	176,944	100%	0%	0.73%		64,220	100%	0%	0.26%	0.00%	
Sex													
Female	12,556,994	51.58%	55,853	31.57%	-20.02%	0.44%	-0.28%	25,405	39.56%	-12.02%	0.20%	-0.06%	7.99%
Male	11,787,210	48.42%	121,091	68.43%	20.02%	1.03%	0.30%	38,815	60.44%	12.02%	0.33%	0.07%	-7.99%
Visible minority	19,925,243	81.85%	133,671	75.54%	-6.30%	0.67%	-0.06%	53,929	83.98%	-2.13%	0.23%	-0.03%	8.43%
Visible Minority	4,418,960	18.15%	43,273	24.46%	6.30%	0.89%	0.25%	10,291	16.02%	2.13%	0.23%	-0.03%	-8.43%
Race*													
Chinese	953,017	3.91%	14,879	8.41%	4.49%	1.56%	0.83%	2,726	4.25%	0.33%	0.29%	0.02%	-4.16%
South Asian	904,544	3.72%	9,499	5.37%	1.65%	1.05%	0.32%	2,120	3.30%	-0.41%	0.23%	-0.03%	-2.07%
Black	520,454	2.14%	4,061	2.30%	0.16%	0.78%	0.05%	1,062	1.65%	-0.48%	0.20%	-0.06%	-0.64%
Filipino	304,938	1.25%	787	0.44%	-0.81%	0.26%	-0.47%	151	0.24%	-1.02%	0.05%	-0.21%	-0.21%
Latin American	228,765	0.94%	1,493	0.84%	-0.10%	0.65%	-0.07%	585	0.91%	-0.03%	0.26%	-0.01%	0.07%
South East Asian	173,457	0.71%	1,011	0.57%	-0.14%	0.58%	-0.14%	218	0.34%	-0.37%	0.13%	-0.14%	-0.23%
Arab	186,142	0.76%	4,048	2.29%	1.53%	2.20%	1.47%	1,202	1.87%	1.11%	0.65%	0.39%	-0.42%
West Asian	117,650	0.48%	2,794	1.58%	1.10%	2.37%	1.65%	616	0.95%	0.48%	0.52%	0.26%	-0.62%
Korean	105,322	0.43%	1,562	0.88%	0.45%	1.48%	0.76%	303	0.47%	0.04%	0.29%	0.02%	-0.41%
Japanese	63,679	0.26%	1,097	0.62%	0.36%	1.72%	1.00%	345	0.54%	0.28%	0.54%	0.28%	-0.08%
VM NIE	53,882	0.22%	207	0.12%	-0.10%	0.38%	-0.34%	87	0.14%	-0.09%	0.16%	-0.10%	0.02%
Multiple Vis. Min.	80,435	0.33%	687	0.39%	0.06%	0.85%	0.13%	294	0.46%	0.13%	0.36%	0.10%	0.07%
Dominant group	19,925,243	81.85%	133,671	75.54%	-6.30%	0.67%	-0.06%	53,929	83.98%	-2.13%	0.23%	0.01%	8.43%
Aboriginal	728,676	2.99%	1,419	0.65%	-2.34%	0.16%	-0.57%	582	0.91%	-2.09%	0.08%	-0.18%	0.25%
Aboriginal**	748,409	3.07%	1,218	0.62%	-2.39%	0.16%	-0.56%	600	0.93%	-2.14%	0.08%	-0.18%	0.25%
Non-Aboriginal	23,595,795	96.93%	175,725	99.31%	2.39%	0.74%	0.02%	63,620	99.07%	2.14%	0.27%	0.01%	-0.25%
Doctorate	24,167,260	99.27%											
Doctorate	176,944	0.73%											
Other occupation	24,279,984	99.74%	138,997	78.55%									
University professor	64,220	0.26%	37,947	21.45%									

Table compiled by author from Statistics Canada 2006 Census.

*The order of "race" categories changes according to the ordering offered in each Census.

**Numbers for Aboriginal under "race" and Aboriginal do not correspond. This is because Aboriginal in race is self-reported and in the Aboriginal variable it is derived by Statistics Canada.

portion in the general population, save Filipinos and people of multiple visible minority categories. In 2006 more visible minority groups, including Filipinos, Latin Americans, South East Asians, and multiple visible minorities, were underrepresented among the ranks of those with earned doctorates. When the proportion of university professors is examined in relation to the proportion of racialized groups in the general population, in 1991 we see underrepresentation of Blacks, South East Asians, Filipinos, and people of multiple visible minority groups. By 2006 more groups were underrepresented including South Asians, Blacks, Filipinos, Latin Americans, South East Asians, and people of multiple visible minority backgrounds. The degree of overrepresentation, moreover, for other racial groups like Chinese-Canadians is relatively low and constant across censuses. As a result, as with the broad category of visible minority, an examination of finer distinctions paints a picture of increasing underrepresentation of visible minority groups relative to their proportion in the general population.

The last comparison made between the distribution of the Canadian population and the distributions of adults with earned doctorates and the distribution of adults working as university professors is with the Aboriginal population. It should be noted that slight differences are found in Tables 1 through 4 between figures for Aboriginals under the race variable and the Aboriginal variable. This is because the former is self-reported, whereas the latter is derived by Statistics Canada. For our purposes we will look at the latter when examining Aboriginal peoples. In 1991 and 2006 the adult Aboriginal population was about 3 percent of the general population. In contrast, in 1991, Aboriginal peoples consisted of less than 1 percent of those with earned doctorates and this remained the case in 2006. With respect to university professors, just over 1 percent were Aboriginal in 1991 and in 2006 this decreased to under 1 percent. As with visible minorities, these comparisons show evidence of underrepresentation compared to their proportion in the general population, despite the introduction and development of federal equity policies in the late 1980s and early 1990s.

Overall, comparison of proportions of equity groups in the adult Canadian population to proportions among earned doctorates and university professors show interesting trends of inequality in the academy. As Figure 1 illustrates, visible minorities have consistently been overrepresented among Canadians with earned doctorates compared to their proportion in the general population. For visible minorities their degree of overrepresentation has been between 6 and 9 percentage points. By contrast, Aboriginal peoples and women have been consistently underrepresented. During the 1991 to 2006 period, Aboriginal peoples were consistently underrepresented by about 2 percentage points and women were underrepresented by 20 to 31 percentage points. With respect to women, the degree of underrepresentation decreased over time.

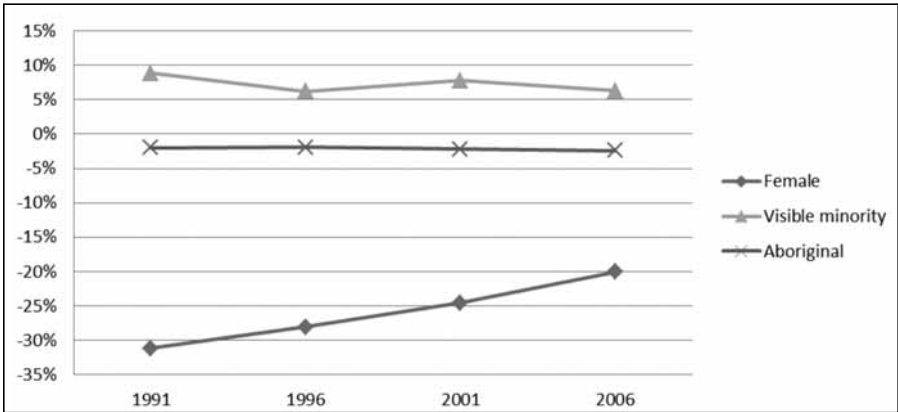


Fig. 1. Comparison Across Censuses (1991, 1996, 2001, 2006) of Percentage Point difference of % Doctorates and % of Population

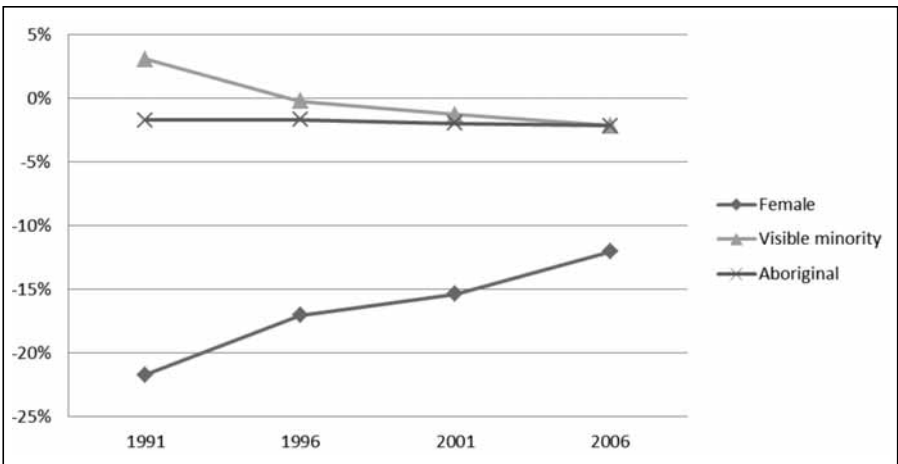


Fig. 2. Comparison Across Censuses (1991, 1996, 2001, 2006) of Percentage Point difference of % University Professors and % of Population

When we examine university professors in Figure 2, we see that visible minorities were initially overrepresented by about 3 percentage points, compared to their proportion in the general population, but by 1996 they began to be underrepresented by less than 1 percentage point to 2 percentage points. During the same period Aboriginal peoples were underrepresented by about 2 percentage points and women were underrepresented by 12 to 22 percentage points. As with earned doctorates, the degree of women's underrepresentation decreases over time. Both figures show that when comparing the proportion of the population to earned doctorates and university professors, underrepresentation of equity groups is persistent. Comparison between the two figures, moreover, shows that although visible minori-

ties are overrepresented among earned doctorates, they are not among university professors from 1996 onward.

Some might counter, however, that looking at such crude comparisons of proportions in the population to proportions among earned doctorates or proportions of university professors is inaccurate because it does not account for the relatively small population that earns a doctorate or who works as a university professor. Others might also contend that comparing the general population to university professors fails to account for the pool of available people with the human capital needed to work in such professions. For these reasons, additional comparisons are made. The first looks at rates of earning a doctorate and rates of working as a university professor for the general population and then for equity groups. The second compares the proportion of adults with earned doctorates to the proportion working as university professors. The last examines the actual number of people with earned doctorates and working as professors compared to the pool of available people with earned doctorates.

If we return to Tables 1 through 4, we see that only 0.41 percent of adults earned a doctorate in 1991 and 0.73 percent did so in 2006. By comparison just 0.16 percent of women earned a doctorate in 1991 and 0.44 percent in 2006. In other words, women earn doctorates at a rate below the national average. When we look at visible minorities we see that they earn doctorates at a rate above the national average. In 1991 this was the case for all racialized groups except Filipinos and people of multiple visible minority categories. By 2006 the list of exceptions grew to include Latin Americans and South East Asians. When we look at Aboriginal peoples, we see that very few earn doctorate degrees, just 0.13 percent in 1991 and 0.16 percent in 2006. They consistently earned doctorates at a lower rate than the national average.

When we compare rates of being a university professor to the national average, we see that in 1991 0.23 percent of adult Canadians had this as their occupation. By 2006 little had changed with 0.26 percent reporting university professor as their occupation. When we compare equity groups to this rate, we see again that women fall below the national average. In 1991 only 0.13 percent had this occupation and in 2006 0.20 percent did. The rate of visible minorities working in this occupation was higher than the national average in 1991, with 0.31 percent reporting university professor as their occupation, but by 2006 they were below the national average with 0.23 percent. The change began in 1996 when there was little discernible difference and then fell off in 2001. As noted above, the shift is surprising given the rise and solidification of equity policies during that period. As Tables 1 through 4 illustrate, the number of different racialized groups below the national average increases over time. With respect to Aboriginal peoples, in 1991 0.10 percent of them worked as university professors, and in 2006 0.08 percent had this occupation. They consistently worked as professors below the rate of the national average.

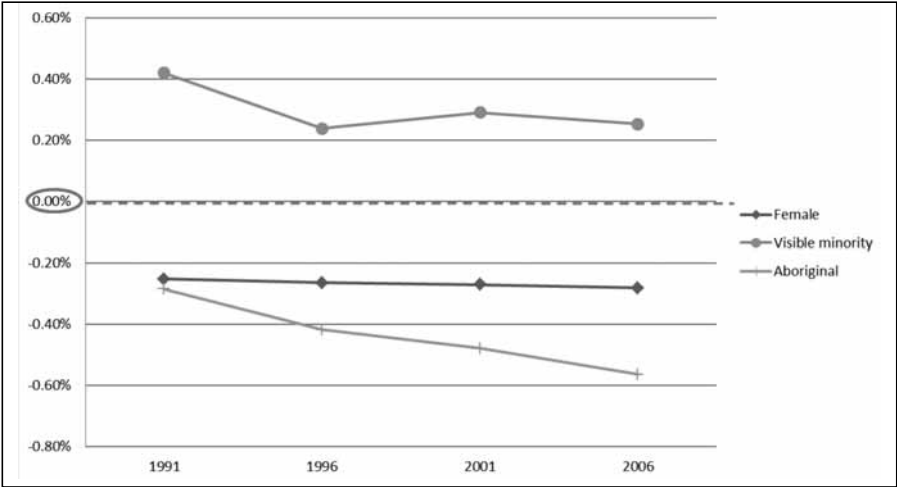


Fig. 3. Comparison Across Censuses (1991, 1996, 2001, 2006) of Percentage Point difference for Doctorates from the National Rate

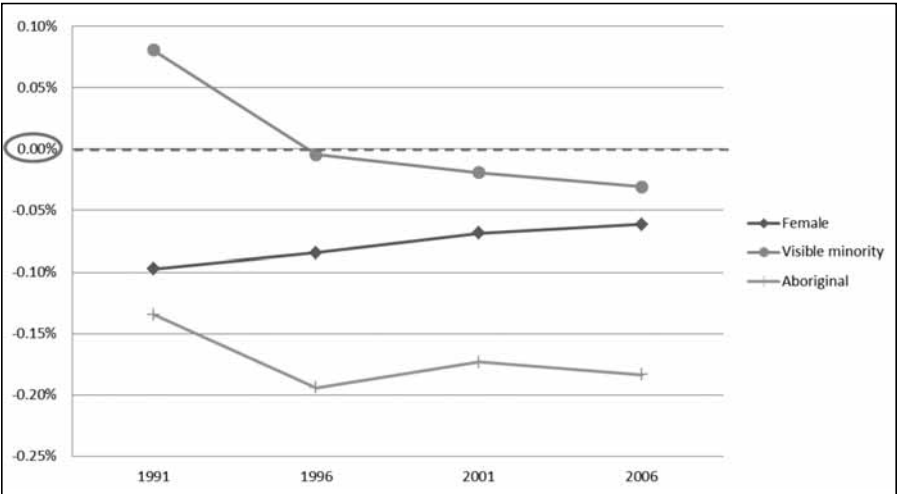


Fig. 4. Comparison Across Censuses (1991, 1996, 2001, 2006) of Percentage Point difference for University Professors from the National Rate

Overall, when we look at comparison of differences of the rate of equity groups earning doctorates from the national average in Figure 3, we see that, in general, visible minorities earn doctorates at rates above the national average. By contrast, women and Aboriginal peoples earn doctorates at rates below the national average and the rate decreases over time for Aboriginal peoples.

When we look at the differences in rates of being a university professor as an occupation for equity groups compared to the national average in Figure 4, we see that visible minorities begin above the average in 1991 but then fall below it in later years, and women and Aboriginal peoples consistently fall below it. The plight of visible minorities is especially striking when compared against results in Figure 3 and the fact that equity policies were in place and increasingly solidified during the 1991 to 2006 period. Although visible minorities earn doctorates at rates above the national average, over time they were less likely than the average to be a university professor.

To respond to critics that argue that one needs to look at the pool of people with adequate human capital rather than at the general population to assess representation, one more comparison is made. This time, the proportion of equity groups that have earned doctorates is compared to the proportion of the same groups whose profession is university professor. When this is done in Table 5 and Figure 5, we see surprising changes in findings and persistent differences in the representation of equity groups because of the change in the denominator. By looking at the pool of people with the credentials to work as a university professor—a doctoral degree—we examine a better measure that looks at the representation of those who should have the option to work in that profession, if they so desire, rather than all people in the population, irrespective of their human capital.

When we look at the percentage point difference between the proportion of equity groups with earned doctorates compared to the proportion whose occupation is a university professor, we see that in 1991 women were overrepresented. About 20 percent in that year had an earned doctorate and almost 30 percent were university professors. This trend can also be seen in subsequent censuses. In 2006 the overrepresentation of women as university professors compared to earned doctorates was about 8 percentage points.⁸ This point is striking because previous comparisons showed that women were underrepresented among earned doctorates and university professors when comparing the population to each. The findings reported in Table 5 suggest that although women do not earn doctorates at the same rate as men and do not work as university professors at the same rate, there appears to be a payoff for those that do have doctorates. When we compare the proportion of visible minorities with earned doctorates to the proportion of visible minorities working as professors, we see that in 1991 about 18 percent earned doctorates compared to 12 percent whose occupation was university professor, showing an underrepresentation of about 6 percentage points in that year. More surprisingly, the underrepresentation of visible minorities increased in later censuses. These findings only compound the ironies already identified with earlier comparisons and show the robustness of the obstacles visible minorities face. When we look at Aboriginal peoples, we see that approximately 1 percent earned doctorates in 1991 compared to just

TABLE 5. Comparison Across Censuses (1991, 1996, 2001, 2006) of % of Doctorates and % of University Professors

Doctorates			University professor				Percent point dif. % of uni. prof. - % of doc.			
1991 Cohort with Doctorates			1991	1996	2001	2006	1991	1996	2001	2006
Sex	Female	20.04%	29.52%	34.41%	36.17%	39.56%	9.48%	14.37%	16.13%	19.52%
	Male	79.96%	70.48%	65.59%	63.83%	60.44%	-9.48%	-14.37%	-16.13%	-19.52%
Race	Dominant group	82.39%	88.19%	87.53%	86.11%	83.98%	5.81%	5.14%	3.72%	1.59%
	Visible minority	17.61%	11.81%	12.47%	13.89%	16.02%	-5.81%	-5.14%	-3.72%	-1.59%
Aboriginal	Aboriginal	0.91%	1.21%	0.53%	0.65%	0.93%	0.30%	-0.39%	-0.27%	0.02%
	Non-Aboriginal	99.09%	98.79%	99.47%	99.35%	99.07%	-0.30%	0.39%	0.27%	-0.02%
1996 Cohort with Doctorates			1991	1996	2001	2006	1991	1996	2001	2006
Sex	Female	23.39%		34.41%	36.17%	39.56%		11.02%	12.78%	16.17%
	Male	76.61%		65.59%	63.83%	60.44%		-11.02%	-12.78%	-16.17%
Race	Dominant group	81.05%		87.53%	86.11%	83.98%		6.48%	5.06%	2.92%
	Visible minority	18.95%		12.47%	13.89%	16.02%		-6.48%	-5.06%	-2.92%
Aboriginal	Aboriginal	0.30%		0.53%	0.65%	0.93%		0.23%	0.35%	0.63%
	Non-Aboriginal	99.70%		99.47%	99.35%	99.07%		-0.23%	-0.35%	-0.63%
2001 Cohort with Doctorates			1991	1996	2001	2006	1991	1996	2001	2006
Sex	Female	26.96%			36.17%	39.56%			9.20%	12.60%
	Male	73.04%			63.83%	60.44%			-9.20%	-12.60%
Race	Dominant group	77.09%			86.11%	83.98%			9.02%	6.89%
	Visible minority	22.91%			13.89%	16.02%			-9.02%	-6.89%
Aboriginal	Aboriginal	0.41%			0.65%	0.93%			0.24%	0.53%
	Non-Aboriginal	99.59%			99.35%	99.07%			-0.24%	-0.53%
2006 Cohort with Doctorates			1991	1996	2001	2006	1991	1996	2001	2006
Sex	Female	31.57%				39.56%				7.99%
	Male	68.43%				60.44%				-7.99%
Race	Dominant group	75.54%				83.98%				8.43%
	Visible minority	24.46%				16.02%				-8.43%
Aboriginal	Aboriginal	0.69%				0.93%				0.25%
	Non-Aboriginal	99.31%				99.07%				-0.25%

Table compiled by author from Statistics Canada 1991, 1996, 2001, and 2006 Censuses.

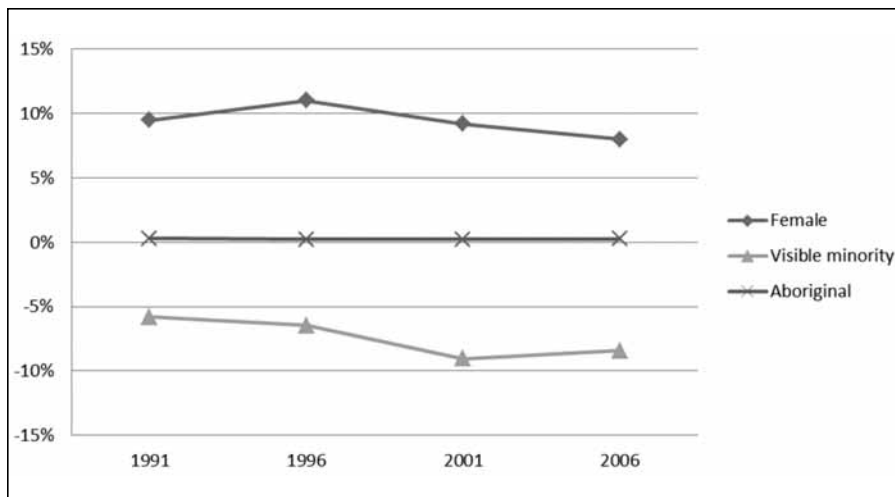


Fig. 5. Comparison Across Censuses (1991, 1996, 2001, 2006) of Percentage Point difference of % University Professors and % Doctorates

over 1 percent whose occupation was a university professor. The slight overrepresentation persists across censuses showing a marginal payoff for Aboriginal peoples who earn doctorates. Like with women these findings are the opposite of what is found when comparing to the overall population.

As a result, when considering the pool of equity groups with the highest skills needed to work as university professors, we see that women have an apparent overrepresentation among those whose occupation is university professor when compared to those with a doctorate, Aboriginal peoples are almost at parity, however, visible minorities as a whole are considerably underrepresented and the degree of underrepresentation between those with earned doctorates compared to those whose occupation is university professor increases over time.

Some might contend, however, that in some professions, such as engineering or architecture, working outside of the academy holds more weight and prestige than working inside it and hence underrepresentation when comparing university professors to earned doctorates overlooks this. That may indeed be the case, however, census data do not offer a meaningful opportunity to examine this and the issue is beyond the scope of this paper. Yet, at the same time, it is important to remember that the census data look at all university professors irrespective of discipline or professional school, meaning they include the arts and social sciences too, where being a professor is likely the highest occupational achievement one can accomplish with an earned doctorate.

If we return to Table 5, we can also examine comparisons of the proportion of people with earned doctorates in a given census year to later census years. That is, looking at the proportion of earned doctorates in 1991 for instance, versus the proportion working as university professors in 1996, 2001 or 2006. This is done in order to partially account for delays in hiring and increasing opportunities for people with doctorates over time and to further engage the robustness of earlier findings. When this is examined we see that women become increasingly represented as university professors, visible minorities with earned doctorates in all censuses are more represented in later years, and trends are mixed for Aboriginal peoples.

To explore this finding further and to offer another robustness check, Tables 6 and 7 report on the number of people in given equity groups who both have an earned doctorate and work as a university professor. This means that only the population with an earned doctorate is now considered and, unlike Table 5, a direct link is made between human capital and occupation. When this is done, we see in Table 6 that all equity groups appear to be underrepresented when compared to their proportion in the general population (see Table 1 through 4) and this is the case across all censuses—except for visible minorities in 1991 and 1996. When those results are compared against the proportions of people with earned doctorates in Table 7 and across censuses,

TABLE 6. Comparison Across Censuses Doctorates Working as University Professors

Variable		1991		1996		2001		2006	
		N=	%	N=	%	N=	%	N=	%
Sex	Female	4,776	18.30%	6,848	23.40%	8,359	26.97%	12,042	31.73%
	Male	21,322	81.70%	22,412	76.60%	22,640	73.03%	25,905	68.27%
Race	Dominant group	22,776	87.27%	25,478	87.07%	26,748	86.28%	32,051	84.46%
	Visible minority	3,322	12.73%	3,783	12.93%	4,252	13.72%	5,896	15.54%
Aboriginal	Aboriginal	266	1.02%	79	0.27%	107	0.34%	168	0.44%
	Non-Aboriginal	25,831	98.98%	29,182	99.73%	30,893	99.66%	37,778	99.56%
Total N=		26,098	100%	29,261	100%	31,000	100%	37,947	100%

Table compiled by author from Statistics Canada 1991, 1996, 2001, and 2006 Censuses.

TABLE 7. Comparison Across Censuses (1991, 1996, 2001, 2006) of % of Doctorates and % of Doctorates Working as University Professors

Doctorates		% Doctorates working as University Professors				Percent point dif. % of doc. as uni. prof. - % of doc.				
		1991	1996	2001	2006	1991	1996	2001	2006	
1991 Cohort with Doctorates										
Sex	Female	20.04%	18.30%	23.40%	26.97%	31.73%	-1.74%	3.37%	6.93%	11.70%
	Male	79.96%	81.70%	76.60%	73.03%	68.27%	1.74%	-3.37%	-6.93%	-11.70%
Race	Dominant group	82.39%	87.27%	87.07%	86.28%	84.46%	4.88%	4.68%	3.90%	2.07%
	Visible minority	17.61%	12.73%	12.93%	13.72%	15.54%	-4.88%	-4.68%	-3.90%	-2.07%
Aboriginal	Aboriginal	0.91%	1.02%	0.27%	0.34%	0.44%	0.11%	-0.65%	-0.57%	-0.47%
	Non-Aboriginal	99.09%	98.98%	99.73%	99.66%	99.56%	-0.11%	0.65%	0.57%	0.47%
1996 Cohort with Doctorates										
Sex	Female	23.39%	23.40%	26.97%	31.73%	0.01%	3.58%	8.34%		
	Male	76.61%	76.60%	73.03%	68.27%	-0.01%	-3.58%	-8.34%		
Race	Dominant group	81.05%	87.07%	86.28%	84.46%	6.02%	5.23%	3.41%		
	Visible minority	18.95%	12.93%	13.72%	15.54%	-6.02%	-5.23%	-3.41%		
Aboriginal	Aboriginal	0.30%	0.27%	0.34%	0.44%		-0.03%	0.04%	0.14%	
	Non-Aboriginal	99.70%	99.73%	99.66%	99.56%		0.03%	-0.04%	-0.14%	
2001 Cohort with Doctorates										
Sex	Female	26.96%		26.97%	31.73%			0.00%	4.77%	
	Male	73.04%		73.03%	68.27%			0.00%	-4.77%	
Race	Dominant group	77.09%		86.28%	84.46%			9.20%	7.38%	
	Visible minority	22.91%		13.72%	15.54%			-9.20%	-7.38%	
Aboriginal	Aboriginal	0.41%		0.34%	0.44%			-0.06%	0.04%	
	Non-Aboriginal	99.59%		99.66%	99.56%			0.06%	-0.04%	
2006 Cohort with Doctorates										
Sex	Female	31.57%			31.73%				0.17%	
	Male	68.43%			68.27%				-0.17%	
Race	Dominant group	75.54%			84.46%				8.92%	
	Visible minority	24.46%			15.54%				-8.92%	
Aboriginal	Aboriginal	0.69%			0.44%				-0.25%	
	Non-Aboriginal	99.31%			99.56%				0.25%	

Table compiled by author from Statistics Canada 1991, 1996, 2001, and 2006 Censuses.

we find that in 1991 all equity groups are underrepresented when compared to those with earned doctorates. As seen in Figure 6, this changes, however, for women in subsequent censuses with increasing representation compared to the pool of people with earned doctorates. By 2006 they are 0.17 percentage points more represented as professors. The case is opposite for visible minorities, whose percentage point difference of underrepresentation increased from 4.88 percentage points in 1991 to 8.92 percentage points difference in 2006. For Aboriginals, the difference fluctuated from 0.03 percent-

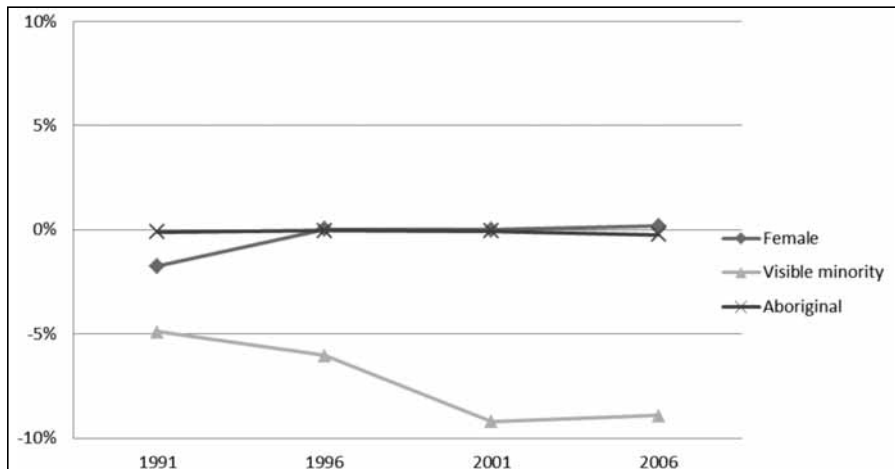


Fig. 6. Comparison Across Censuses (1991, 1996, 2001, 2006) of Percentage Point Difference of % Doctorates Working as University Professors and % Doctorates

age points of underrepresentation to 0.25 percentage points of underrepresentation when comparing to the pool of earned doctorates as a whole.

Similar to Table 5, when a direct link is made between an earned doctorate and working as a university professor compared against the pool of people with an earned doctorate, we see that women have moved from underrepresentation to a marginal overrepresentation among those whose occupation is university professor, Aboriginal peoples are almost at parity but are slightly underrepresented across censuses, however, visible minorities are considerably underrepresented and the degree of underrepresentation between those with earned doctorates compared to those who have a doctorate and whose occupation is university professor increases over time.

Table 8 and Figure 7 offer a final robustness check and consider the probability and odds of different equity groups with earned doctorates working as university professors. Calculations are based on the pool of people belonging to an equity group with an earned doctorate versus those that have an earned doctorate and work as a university professor. By looking at probability, we estimate the likelihood of different equity groups with earned doctorates working as a university professor, and by looking at the odds, we standardize the probability to allow for more accurate comparison.

When this is done, we see that in 1991 women and visible minorities had a lower probability of working as a university professor compared to the probability of the general Canadian population. This changes for women in 1996 and continues in subsequent censuses where they have about the same probability as the general population to work as a university professor. In 2006 they have a marginally higher probability. The opposite is the case for Aboriginals who had a higher probability than

TABLE 8. Comparison of Odds Across Censuses of Doctorates Working as University Professors

Year		1991				1996			
Variable		Doc	Doc. + Uni Prof	Probability	Odds	Doc	Doc. + Uni Prof	Probability	Odds
Sex	Female	16,739	4,776	29%	0.40	24,281	6,848	28%	0.39
	Male	66,797	21,322	32%	0.47	79,528	22,412	28%	0.39
Race	Dominant group	68,824	22,776	33%	0.49	84,140	25,478	30%	0.43
	Visible minority	14,712	3,322	23%	0.29	19,669	3,783	19%	0.24
Aboriginal	Aboriginal	764	266	35%	0.54	312	79	25%	0.34
	Non-Aboriginal	82,772	25,831	31%	0.45	103,497	29,182	28%	0.39
Total N=		83,536	26,098	31%	0.45	103,809	29,261	28%	0.39

Year		2001				2006			
Variable		Doc	Doc. + Uni Prof	Probability	Odds	Doc	Doc. + Uni Prof	Probability	Odds
Sex	Female	34,676	8,359	24%	0.32	55,853	12,042	22%	0.27
	Male	93,928	22,640	24%	0.32	121,091	25,905	21%	0.27
Race	Dominant group	99,135	26,748	27%	0.37	133,671	32,051	24%	0.32
	Visible minority	29,469	4,252	14%	0.17	43,273	5,896	14%	0.16
Aboriginal	Aboriginal	524	107	20%	0.26	1,218	168	14%	0.16
	Non-Aboriginal	128,080	30,893	24%	0.32	175,725	37,778	21%	0.27
Total N=		128,604	31,000	24%	0.32	176,944	37,947	21%	0.27

Table compiled by author for Statistics Canada 1991, 1996, 2001, and 2006 Censuses.

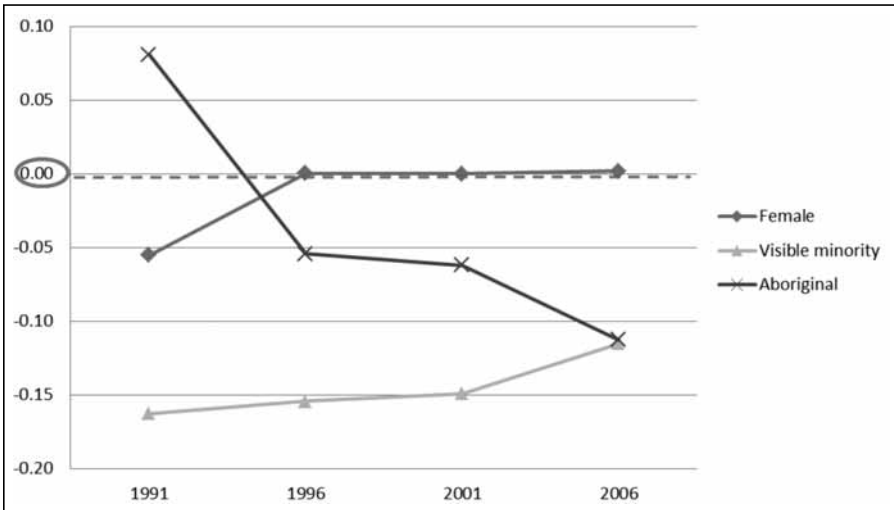


Fig. 7. Differences in Odds from the National Odds by 1991, 1996, 2001, 2006 Censuses

the general population in 1991, but from 1996 onward had a lower and decreasing probability. For visible minorities they had a lower probability of having an earned doctorate and working as a university professor. When the odds are considered in Table 8 and compared over time to the general population in Figure 7, we see that the odds for women with earned doctorates working as university professors

increases to about parity with men and the general population. The odds for Aboriginals drops considerably and worsens over time, and the odds for visible minorities are consistently lower than the general population but improve slightly across censuses.

Overall it is clear that how you examine representation matters for women. It is less clear for Aboriginal peoples. However, no matter how you measure visible minority representation in the university professorate, they are consistently underrepresented.

DISCUSSION AND CONCLUSION

This paper set out to engage three related questions: 1) How well are different equity groups represented among university professors? 2) Is their representation improving over time? and 3) Does looking at the pool of earned doctorates matter in the analysis of equity group representation among Canadian university professors? Analyses of the 1991, 1996, 2001, and 2006 censuses was used to address these questions, and, in general, the findings show that when looking at crude comparisons of the proportion of equity groups in the general population to the proportion of equity groups in the professorate, visible minorities have moved from being overrepresented to underrepresented, Aboriginal peoples are consistently underrepresented by a small amount and women are significantly underrepresented, although the gap is narrowing over time. When additional analysis is done by looking at comparisons of the proportion of equity groups working as university professors compared to the national average, similar conclusions are made; however, Aboriginal peoples appear to be more severely underrepresented when making this comparison. When the proportion of equity groups with earned doctorates is examined and compared against the proportion working as university professors, we see surprising differences. When this comparison is made, women appear to be overrepresented, Aboriginal peoples are almost at parity, but visible minorities continue to be underrepresented. Last, when we look directly at people with earned doctorates and who are working as university professors and compare this against the pool of people with earned doctorates, we see that women move from being underrepresented to about parity, Aboriginal peoples are slightly underrepresented, and visible minorities are consistently underrepresented and that the degree increases over time. When this is examined by standardizing the findings into odds, women move from having lower odds to even odds of becoming a university professor if they have a doctorate, Aboriginals move from higher odds to lower odds, and visible minorities have consistently lower odds of earning a doctorate and working as a professor. What do these findings mean?

In general they show, as Duchesne (2010) criticized, that how you measure representations matters—especially for women. Crude comparison to proportions of the general population hides progress made by this equity group. By looking at different comparisons, moreover, we get a better triangulation of where barriers still persist and where barriers are coming down. Clearly women still do not earn doctorates at a level equal to their proportion in the general population. Yet, for those with that human capital, there appears to be no direct barrier to their working as a university professor. As a result, equity efforts are likely working with respect to their employment, in relation to their human capital, and should be redirected for that group toward gaining the human capital that might be needed to gain employment.

As a general rule of thumb, it appears that accounting for education or human capital, in comparisons of representation, offers more meaningful and accurate comparisons, and this should be the standard to which future research strives. At the same time, the need for systematic data that matches human capital to occupations is needed to be able to make these kinds of comparisons. Unfortunately, the future on this front looks bleak. The 2011 Census is scaled down, asking less questions, and not even asking questions about ethnicity or race. The National Household Survey which replaced the long form census, moreover, remains untested and highly criticized. It is unclear whether it will allow for the type of analysis needed to gauge representation of equity groups in any occupation, not to mention the professorate. For these reasons, it is important for equity-seeking groups, such as the Canadian Association of University Teachers or unions and faculty associations, as well as social scientists, to collect these data. If the federal government won't, those seeking equity should.

The most striking finding of this paper, however, is that no matter what comparison is made, visible minorities are underrepresented among university professors. Perhaps more concerning, their underrepresentation has increased at the same time they have begun to comprise a greater proportion of the population. This is surprising given that Employment Equity policies were introduced in the mid-1980s and solidified in the 1990s. Clearly such policies have not benefited racialized Canadians.

This trend should be of concern to policy makers. Despite over twenty years of equity policies, racialized Canadians still face barriers to accessing the university professorate. This is despite their higher than average rates of earning doctorates. Their hard work does not appear to be paying off and their discontent is already seen in analyses of feelings of belonging to Canada. As Reitz and Banerjee (2007) warn, “racial inequality is a significant issue in Canada, and that the extent of discrimination is a point of dispute between racial groups. This creates a potentially significant racial divide and prompts us to ask whether existing policy responses are adequate to bridge the gap” (1). This is a sentiment echoed by Stewart (2009) and James (2007) who argue that if anything else, the failure of existing equity policies to address systemic and

entrenched underrepresentation of visible minorities necessitates the need to adopt more aggressive and innovative policies. Clearly new initiatives toward equity for racialized Canadians can be no worse or less effective than what currently exists.

Yet, adoption of more aggressive policies to hire visible minorities into the professorate is likely to meet harsh resistance, as has been the case with previous equity policies, and much of the resistance will likely stem from justifications based on academic and scientific tradition outlined above. In order to justify a change toward such policies, more data are needed to examine why equity groups that are overrepresented among earned doctorates do not face the same overrepresentation among university professors. Longitudinal data on earned doctorates and the merit of their work are needed to pinpoint fully why underrepresentation among university professors persists. If such underrepresentation is not systematically engaged, Canada and Canadian universities face the entrenchment of a racialized vertical mosaic.

NOTES

1. Anthony Stewart (2009) offers a detailed engagement of how equity policies, especially for visible minority groups, are contested.

2. Throughout the paper the term equity groups is used to refer to women, visible minorities, and Aboriginal people as a whole. The term is based on the recognition of these groups in s. 15 of the Constitution's equality clause and the Employment Equity Act as well as frequent mention of all of these groups in equity statements for job ads for university professors.

3. As Duchesne (2010) laments, most analysis is "... devoid of any meaning unless one offers a system-wide, representative set of statistical indicators on all the positions held by all ethnic groups, on all the PhD-holders, on all the academic openings in the last few decades (rather than merely looking at the ethnicity of academics who were employed decades ago), on all the number of actual applicants for jobs, and on all the respective qualifications of the applicants." It is the hope of this paper to engage these criticisms, as best as possible, with census data from 1991 to 2006.

4. By including people as young as 18, figures for earned doctorates are as wide as possible. At the same time, including people over 65 years old in the sample also means that estimates of underrepresentation of given groups in the professorate are likely conservative, especially when accounting for the human capital of an earned doctorate.

5. The "non-visible minority" category was re-labelled "dominant group" to better reflect the imbalance of power existing between visible minorities and this group. This approach follows language adopted by Fleras and Elliott (2003).

6. As Harriet Eisenkraft (2010) notes, "In 1984, the Report of the Royal Commission on Equality in Employment, headed by Rosalie Abella, called for Canada to adopt policies and practices for four designated groups—women, non-whites ('visible minorities' in the report), aboriginal people and persons with disabilities. It called for 'interventions' so that these groups could overcome 'formidable obstacles.'" In 1986 the Employment Equity Act was implemented and out of it "...followed, the federal contractors program mandates that any provincially regulated entity doing \$200,000 or more of contracts with the federal government must promote workplace diversity and document those efforts." In 1995 the Employment Equity Act was amended. Generally speaking, over the last 30 years universities have shaped their hiring based on the principles of this act. For a full discussion of Employment Equity policies, see: Bakan and Kobayashi (2000; 2002).

7. It should be noted that figures on Filipino includes "Other Pacific Islander" because of low cell counts and RDC release requirements for the 1991 and 1996 Censuses.

8. The comparisons presented in Table 5 and Figure 5 overestimate the differences between those with earned doctorates and those whose occupation is university professor because the occupation variable does not distinguish between those with and without a doctorate. Census data for the 1991 to 2006 period show that between about 41% and 47% of university professors during this period did not have an earned doctorate. Although this seems high, it is important to remember that the degree requirements for professors have increased of time and that a number of professional schools do not require doctorates of their professors. The occupation variable also does not distinguish among those who are teaching ABD as sessionals or other more marginal positions in the university professorate.

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HOWARD RAMOS is Associate Professor of Sociology at Dalhousie University. With Karen Stanbridge, he has recently published *Seeing Politics Differently: A Brief Introduction to Political Sociology* (Oxford University Press, 2012). He researches issues of social justice, social movements, immigration, Indigenous mobilization, and human rights.