

## **Self-regulating Professionals and Experts in the "Knowledge Economy": Autonomy and Authority Compared**

**Tracey L. Adams and D.W. Livingstone**

**Preliminary Report, November 24, 2020.**

**Working Paper for the Changing Workplaces in a Knowledge Economy Project**

**Available at:** [www.oise.utoronto.ca/clsew/research/changing\\_work\\_in\\_a\\_knowledge\\_economy](http://www.oise.utoronto.ca/clsew/research/changing_work_in_a_knowledge_economy)

### **Abstract**

Professionals have long-been characterized as privileged workers in the labour market, enjoying more status, autonomy, and higher incomes than most other workers. These privileges, however, appear to have waned over time, to the extent that professional workers may be largely indistinguishable from other expert workers in Western knowledge economies. In this brief report, we compare the autonomy, authority and incomes of workers in self-regulating professions, and those in other expert occupations. We find no significant differences in terms of autonomy and authority, and only marginal differences in terms of income. Including managers in supplementary analyses reveals that they enjoy work privileges that expert non-managerial workers lack.

### **Introduction**

Workers in self-regulating professions – including most notably medicine, dentistry and law – have long been regarded as privileged. These workers have enjoyed social and cultural authority, workplace autonomy, and higher incomes, as well as the privilege of applying complex knowledge to solve individual and societal problems (Freidson, 1970, 1986; Goode, 1966; Saks, 2012; Starr 1982; Weeden, 2002). Several scholars, however, suggest that this professional ‘golden age’ has been waning since the 1960s, to the extent that autonomous professionals are increasingly indistinguishable from bureaucratic experts across the economy (Brint 1994; Gorman and Sandefur 2011; Evetts 2002). The extent to which we now live in ‘knowledge economies’ remains disputed.<sup>1</sup> It is widely agreed that specialized knowledge work

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has become an increasingly central aspect of the development of modern economies. But a confluence of social trends – including regulatory changes, patients’ and consumer rights movements, new public management, and rationalization – appear to have undermined professionals’ working conditions (Abel, 1986; Dent, 1993; Saks, 2015). Research, thus, suggests that self-regulating professionals may not be the privileged workers they once were.

The backlash against expertise — or what Eyal (2019) labels the ‘crisis of expertise’ — is also a factor negatively impacting regulated and non-regulated experts alike. Influenced by populism and neo-liberalism, members of the public and politicians portray experts as elites who benefit at the expense of the common people, and hence need to be more closely monitored and controlled (Eyal 2019). Such attitudes lead to job loss, muzzling, and closer supervision of expert workers and regulated professionals, reducing their autonomy and authority (Brennan Center 2019). Thus, there is reason to believe that both professionals and experts may experience limited opportunities to exercise authority and autonomy on the job.

This is likely particularly the case for those working as *employees*. Professionals can be identified as either employers, self-employed, managers or non-managerial employees. Professionals who are employers, self-employed or who have become managers are likely to exercise greater autonomy and authority on the job than professional employees (Livingstone and Watts 2018). Trends like rationalization and closer supervision of professionals’ work likely affects those professionals and experts working as employees, especially in larger organizations. In contrast, organizational change appears to have encouraged the rise of management (Leicht and Fennell 2001; Goldstein 2012; Livingstone 2021). The power of high-level managers is approaching that of owners (Livingstone 2021). Thus, at least some managers may enjoy considerable autonomy and authority, which the employees they manage, increasingly lack.

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In light of this literature, we report the findings of a recent national survey exploring whether self-regulating professionals enjoy more autonomy, authority and income compared to other expert workers.

### **Methods and data**

To determine if self-regulating professionals exercise more autonomy on the job, and have different work characteristics than other workers, we analyse data from the *Changing Workplaces in a Knowledge Economy* national survey conducted by Leger Research Intelligence Group ([www. https://leger360.com](http://www.leger360.com)), one of the largest survey research firms in Canada.

The national survey focused on respondents' work and education, with particular attention to workplace autonomy, authority, and other working conditions, knowledge use and underemployment, learning activities, and attitudes. Detailed data on occupation and employment as well as standard demographic measures were obtained.

This representative survey of the employed labour force occurred between January and March 2016 using both telephone interviews through random-digit dialling, and online surveys. There were 1248 interviews conducted over the phone, with a response rate of 33%. There were 1779 surveys completed by members of Leger's large online panel, selected at random; the online survey response rate was 65%. The overall response rate was 52%. To be eligible for participation, respondents had to be employed residents of one of Canada's 10 provinces, 18 years of age and over. They also had to speak English or French and reside in a private home. The final total employed sample size was 2,979 respondents. Data were weighted according to census population estimates for gender, age, educational attainment and regional distribution. We have excluded owners and the self-employed because, as noted above, the nature of their work

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typically confers more autonomy and authority. Our analytic sample is therefore reduced to 2,471 cases. The focus is on *employees* to determine if self-regulating professional employees differ from other types of employees in terms of their autonomy and working conditions.

### *Independent and dependent variables*

Our main independent variable was constructed to distinguish self-regulating professions, and compare them with other occupations with credible claims to expert status. Occupations of all respondents were first coded according to the National Occupational Classification (NOC) of the Canada Census. NOC identified all those with professional titles as well as expert technicians and technologists, those in skilled trades and those with managerial job titles. Those in occupations with less skilled designations as well as skilled trades were omitted from the following analysis. Those in managerial jobs were retained for later supplementary analyses. The skilled expert occupations were then further classified based on whether there was legislation granting them the privileges of self-regulation (Adams 2010, 2018), and drawing on the Directory of Occupational Profiles available from the Canadian Information Centre for International Credentials

([https://www.cicic.ca/934/search\\_the\\_directory\\_of\\_occupational\\_profiles.canada](https://www.cicic.ca/934/search_the_directory_of_occupational_profiles.canada)).

Other established experts without status as self-regulating professions in most provinces – including for example, university and college teachers, scientists and ministers of religion – were classified as experts. Newer aspiring expert occupations providing specialized services based on complex skill sets were designated as technicians and technologists. This category includes engineering technologists and computer systems analysts. Workers in these categories currently comprise about one third of the Canadian labour force.

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To assess how expert workers differ in terms of autonomy and authority we draw on several survey variables. First, the survey asked respondents if they had opportunities to participate in policy-making at their workplace (for instance, with respect to hiring, firing, budgets etc.). Respondents could respond yes or no to this question assessing workplace authority. Second, respondents were asked to what extent they could plan their own work. Answers were given on a five-point scale, ranging from ‘all the time’ to ‘never’. Respondents with autonomy should report a greater ability to plan their working day than others. Respondents were also asked to what extent they could plan others’ work, with responses arrayed on the same five-point scale. In decades past, scholars argued that self-regulating professionals were distinguished from other workers not only by their ability to shape the content of their own work, but also to shape the work of support workers (Freidson, 1970, 1986). In addition, we constructed an index of the extent of decision authority and design autonomy workers had by combining the measures of participation in policy-making and planning own work. Those who indicated a policy-making role and planning their own work most of the time were considered to have “high” authority-autonomy.

With regard to the often-assumed financial advantages of self-regulating professionals, we collected data on income through a categorical variable. To calculate means, we used the mid-point of respondent-selected categories.

Our analysis began by comparing the general educational attainments and requirements of self-regulating professionals and other experts to assess restrictiveness of entry to the job.

In addition to comparing self-regulating professionals and other experts on these working conditions, we conducted a supplementary analysis of other possible correlates of job control. These included employment class (expert employees versus managers); experience in job,

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organizational size, gender and visible minority status. This supplementary analysis appears in the appendix.

Cross-tabular analyses with Pearson Chi-square measures were used in the main text and bivariate correlation and logistic regression analyses were conducted in the supplementary appendix.<sup>ii</sup>

## **Findings**

### *Educational Entry Requirements*

The employed Canadian labour force has one of the highest levels of formal educational attainment in the world (OECD, 2020). About two-thirds of this labour force has now completed either a post-secondary university degree or a college diploma. As Table 1 summarizes, professionals and technical experts are more likely than other workers to have post-secondary credentials. Virtually all self-regulating professions and established experts have completed post-secondary programs and majorities have university degrees. Technicians have somewhat lower post-secondary completion and are more likely to hold college diplomas as the primary attainment for entry to their jobs. While there are still some older workers in some professions who qualified through other practical pathways and a few newer practitioners still completing training, a form of post-secondary completion is now a virtually universal attainment for their jobs and clearly distinguishes professionals and technical experts from many of those in most other jobs.

**Table 1 Regulatory Status by Post-secondary Education Completion**

<b>Regulatory Status</b>	<b>% completing any post-secondary*</b>	<b>% completing university degree**</b>	<b>% requiring university degree***</b>	<b>N</b>
Self-regulating professions	94	63	59	252
Experts	94	57	43	249
Technicians	75	32	24	327
Total	87	49	41	828

\*Pearson Chi-Square= 61.9, p = .000; \*\* Pearson Chi-Square= 61.3; p = .000; \*\*\* Pearson Chi-Square = 71.4; p = .000

But it is also clear that we now live in a “credential society” with an educational arms race whereby many job seekers bring higher educational attainments than their jobs actually need (Collins 1979). Table 1 also summarizes the level of formal education respondents indicate is actually required for their job. Those in the self-regulating professions do have significantly higher requirements, with the vast majority requiring some post-secondary completion and nearly 60 percent indicating a university degree is needed to do their job. About two-thirds of experts need post-secondary completion but only a plurality (43 percent) need a university degree. Two-thirds of technicians also need post-secondary completion but only about a quarter require a university degree.

The proportions of self-regulating professions requiring post-secondary completion generally and university degrees in particular are very close to their overall educational attainments. Both experts and technicians indicate larger gaps between their actual educational

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attainments and the educational requirements of their jobs. The education-jobs gaps for the rest of the labour force with less skilled jobs are much greater (Livingstone, 2009). The closer apparent correspondence between attainments and requirements for self-regulating professionals appears to be consistent with their greater statutory control over entry and practice.

### *Workplace Authority and Autonomy*

Table 2 summarizes responses by self-regulating professionals, experts, and technicians on participation in organizational decision-making. This includes involvement in making decisions about such things as the types of products or services delivered, employee hiring and firing, budgets, workload, and change in procedure. Only about a third of self-regulating professionals indicated they were involved in any of these decisions. Similar proportions are found among both experts and technicians. This finding is in contrast to the notion that members of self-regulating professions are able to exercise greater authority on the job.

**Table 2 Regulatory Status by Participation in Organizational Policy-making**

<b>Regulatory Status</b>	<b>% who participate</b>	<b>N</b>
Self-regulating professions	30	241
Other experts	34	243
Technicians and technologists	33	318
Total	33	802

Pearson Chi-Square=.928, p. 629



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Table 3 summarizes the findings on the extent to which respondents are able to design their own work. A little over half of all self-regulating professionals indicate that they can plan or design their own work at least most of the time. Once again, there is no significant difference between self-regulating professionals and other experts.

**Table 3 Regulatory Status by Design Own Work**

<b>Regulatory Status</b>	<b>% who design own work most of the time*</b>	<b>% who design others work most of the time**</b>	<b>N</b>
Self-regulating professions	56	11	248 (248)
Unregulated professions	55	17	245 (236)
Technical experts	53	21	324 (320)
Total	54	17	817 (804)

\*Pearson Chi-Square=3.8,  $p = .873$ ; \*\* Pearson Chi-Square = 19.1;  $p = .014$

In addition, respondents were asked about the extent to which they can plan the work of others. As Table 3 also shows, quite small proportions of most professional and expert employees can exercise such control, with only around 15 percent able to design the work of others most of the time. Self-regulating professionals are no more likely than other expert workers to do so.

When the measures of decision-making authority and personal design autonomy are combined into a summary index, the proportion of those who are both decision-makers and exercise design autonomy are predictably low. As Table 4 indicates, only about a quarter of self-regulating

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professionals have high scores on this index. Once more, there is no significant difference with other experts and technicians.

**Table 4 Regulatory Status by Authority-Autonomy Index**

<b>Regulatory Status</b>	<b>% with high authority-autonomy</b>	<b>N</b>
Self-regulating professions	24	237
Other experts	25	240
Technicians & Technologists	27	312
Total	25	789

Pearson Chi-Square=10.758<sup>a</sup>, p .824

Self-regulating professionals may still retain somewhat greater control over occupational entry through their statutory registration processes. But when it comes to exercising decision-making authority in their workplaces and autonomy in designing their own jobs, or influencing the design of others' jobs, self-regulating professionals are now no different from other expert workers.

### *Income Differences*

The acid test for employment advantage in advanced capitalist economies is often assumed to be higher income. It is also one of the most sensitive questions and respondents are more reluctant

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to answer. But over 85 percent of professionals and experts did answer our income question. The results appear in Table 5.

**Table 5 Regulatory Status by Mean Income**

<b>Regulatory Status</b>	<b>Mean Income</b>	<b>N</b>
Self-regulating professions	\$62,581 <sup>a</sup>	213
Experts	59,084 <sup>a</sup>	205
Technicians	58,597 <sup>a</sup>	292
Total	\$59,932	710

<sup>a</sup> Difference in Means Tested with Independent Samples T-Test (No significant differences)

The difference between the mean incomes of self-regulating professionals and technical experts in 2015 according to our estimates was about \$4,000, a difference of about 7 percent. While the mean incomes for self-regulating professionals were slightly higher and the standard deviations between their incomes were slightly lower, these differences do not appear to represent a major advantage for them.

Overall, it is clear that self-regulating professionals hold no advantage over other expert workers in terms of pay, authority or autonomy.

## Discussion

Until recently, in the sociological literature, workers in self-regulating professions have been regarded as privileged — possessing more autonomy, authority, and enjoying higher incomes than other workers (Friedson, 1970, 1986). Recent studies have suggested that self-regulating professionals' special status has declined since the late twentieth century (Abel, 2003; Evetts,

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2002, 2006; Saks, 2015). The literature on experts and expertise points to another significant trend: the rise of a slew of experts in many different fields (Eyal, 2013). These expert workers resemble professionals, as they are educated knowledge workers, with credentials and certifications, applying expertise in service to others. The result of these changes, some claim, is that there may be little to distinguish professionals and other experts (Gorman and Sandefur, 2011). Moreover, the social influence of both regulated professionals and experts has been waning due to the crisis of expertise (Eyal, 2019).

The present study analysed data from a national survey of Canadian workers to explore whether there is empirical evidence to support the above arguments. We find that self-regulating professional employees may still retain somewhat greater control than other experts over educational credentials giving access to the profession. But they do not differ from other expert workers in terms of their autonomy, authority or income. In contrast, as partially documented in the following appendix and more fully in the related book<sup>iii</sup>, managers do stand out as privileged: they have more autonomy, authority, as well as higher incomes than professional and expert workers. This finding is consistent with those reported by Wheatley (2017) for European managers and professionals. Status as a self-regulating profession does not confer workplace privileges. Managerial status, however, does. Class status, therefore, appears to matter more than regulatory status in shaping work-related privileges and rewards.

## Appendix

### **Correlates of Job Control: Class, Job Experience, Organization Size**

If variations between self-regulating professionals and other experts in job accessibility are not now significantly related to differences in job control, this raises the question of what other factors might be. The conflation of different professional classes has been commonplace and our

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primary purpose in this report has been to assess the extent of job control among non-managerial self-regulating professional *employees* and other expert *employees* without confounding class differences. But for this further analysis, self-regulating professionals, experts and technicians are aggregated into “all expert” employees and compared with managers.

The most evident difference in job control in most workplaces is by employment class (Livingstone and Scholtz 2016). Employers have overarching control accruing to their property ownership rights. Owners and boards of directors delegate prerogatives to managers to coordinate and control other hired employees. At the outset, we noted the exclusion of professional employers from our empirical investigation because of their superordinate control over their workplaces and their small numbers in most professional associations. Managers, however, including professionals who have official managerial job titles have been retained in our sample. All expert employees will be compared here to all managers, with managers posited to exercise greater discretion in all aspects of job control.

Secondly, greater experience in given workplaces tends to generate more competence with work processes. It is now quite widely recognized that more familiarity with work tasks is at the foundation of productivity growth (Pankhurst and Livingstone, 2006). Assuming that these expert employees all have relatively high levels of initial technical knowledge, longevity and seniority may be associated with greater job control. The measure used here is the number of years the respondents have been doing the kind of work they do in their current main job.

Thirdly, increasing organizational size has been mentioned in the above review as a likely factor on professional job control. Those in smaller organizations may have greater opportunities to exercise discretion in their work than those embedded in the hierarchies of larger bureaucracies. The measure used here is the number of people who are employed in the organization in which one works.

Fourthly, gender differences in organizational power are now widely recognized (Williams, Muller and Kilanski, 2012). Women professionals and experts have increased their numbers significantly in recent decades, but much of their gain in organizational power has been

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workplaces in which woman employees predominate (Livingstone, Pollock and Raykov, 2016). We can posit that women professionals still experience job control deficits in the general labour force.

Finally, visible minorities and especially recent immigrants are known to experience discrimination in terms of job opportunities and underemployment (Boateng and Adams, 2016; Galabuzi, 2006). We can posit that they also experience deficits in job control in relation to their qualifications. The measure here is whether the respondent consider they are a member of a visible minority.

For all of these possible factors (all expert employee/manager employment classes, time in the job, organizational size, gender and visible minority status), we conducted bivariate correlation and logistic regression analyses for job control with our sample of professional and other expert employees as well as managers in the national sample. The findings are summarized below for job autonomy, the extent to which respondents are able to plan or design their own work. We take this to be the central dimension in professional and expert job control.

The bivariate correlations of each of these factors with design autonomy are noted in Table A.

**Table A Bivariate Correlations of Factors with Design Own Work (% plan most of time)**

Factor	%/%	Pearson R	Pearson Chi-square	Significance
Expert/manager	54/69	.14	21.629	.000
Time in Job (<10/>10+yrs)	52/65	.13	18.688	.000
Organization Size ((500+/<500)	56/65	.09	8.874	.003
Gender (F/M)	57/61	.03	1.154	.283
Visible Minority (VM/non-VM)	56/60	.03	.921	.338

N=1134.

In summary, those who are managers, those who have spent over 10 years in the job and those who work in organizations of under 500 people are significantly more likely to be able to plan their own work most or all of the time. All three of these bivariate correlations are as posited. Differences by gender and visible minority status are also in the predicted direction. But neither appears to have significant bivariate effects on this particular measure of job autonomy. It should be noted here that all of these measures are simple dichotomies and only provide rough approximations of actual variations on all of these variables.

The findings for logistic regressions with the statistically significant bivariate correlates with job autonomy are summarized in Table B. The regressions offer estimates of the respective effects of employment class, time on job and organizational size on job autonomy when the others are controlled for.

**Table B Logistic Regression of Significant Correlates with Job Autonomy**

Predictor	$\beta$	SE $\beta$	Wald's $\chi^2$	<i>df</i>	<i>p</i>	$e^\beta$ (odds ratio)
Expert/Manager 1 = Expert 0 = Manager	-.58	.15	16.28	1	.00	.56
Years of Experience in Job 1 = 10 or More 0 = Less than 10	.45	.13	12.38	1	.00	1.57
Number of People in Work Organization 1 = 500 or more 0 = 499 or fewer	-.33	.13	6.50	1	.01	.72
Constant	.75	.15	25.28	1	.00	2.12
Test			$\chi^2$	<i>df</i>	<i>p</i>	
Overall Model			39.57	3	.00	
Hosmer & Lemeshow			3.02	6	.81	
Note: Nagelkerke $R^2 = .049$ ; Percentage Correct = 60.6						

According to the regression runs, all three of these variables retain significant effects on job autonomy when the others are controlled. Expert employees are only about half as likely as managers to be able to design their own work most of the time. Those with more than 10 years of experience in their job are over 50 percent more likely to design their own work than those with less time. Those in organizations over 500 people are about 70 percent as likely to design their own work as those in smaller organizations. Once again, these estimates are mere approximations of actual variations in effects on job autonomy. Class effects are greater for both job authority and the authority-autonomy index, as might be expected given the greater formal authority delegated to managers. But these estimates do suggest that employment class position, job experience and organizational scale should all be taken into account in assessing the extent of job autonomy and other aspects of job control for professionals and other experts in knowledge economies.



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**Endnotes**

<sup>i</sup> Livingstone and Guile, *The Knowledge Economy and Lifelong Learning: A Critical Reader*.

<sup>ii</sup> We are grateful to Brendan Watts for conducting the statistical analyses presented in this paper.

<sup>iii</sup> Livingstone, Adams and Sawchuk. *Professional power and skill use in the 'Knowledge Economy': A class analysis*.

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