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2015 PSYCHOLOGY GRADUATE SURVEY (PGS): FINAL REPORT

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Table of Contents

Tables and Figures	3
EXECUTIVE SUMMARY	4
BACKGROUND	6
RESPONDENTS AND DEMOGRAPHICS	7
Respondent Demographics and Psychological Association Membership Status	7
Education	9
Educational Characteristics of PGS Respondents	9
Funding and Debt.....	11
Funding for Graduate Education and Debt Related Specifically to Graduate Education	11
EMPLOYMENT – PART 1.....	14
Location.....	14
Location of Current/Most Recent Employment, Including Rural/Northern Employment	14
Salary and Employment Status	16
Current Employment Status, with Salary Range for Current/Most Recent Employment	16
Employment and Unemployment.....	18
EMPLOYMENT – PART II.....	19
Work Settings and Tasks	19
Work Settings and Percentage of Total Time at Work Spent on Various Activities	19
Employment Satisfaction	22
Agreement with Statements About Respondents’ Current/Most Recent Primary Employment	22
Satisfaction with Specific Aspect of Respondents’ Current/Most Recent Primary Employment.....	25
CHANGES TO EDUCATION, TRAINING, AND CAREER.....	26
More (or Fewer) Courses/Experiences	26
Summary of Qualitative Responses Pertaining to the Need for More or Fewer Courses/ Experiences in Respondents’ Education, Training, and Career to Date.....	28
Summary of Qualitative Responses Pertaining to Respondents’ Desire to Have Taken a Different Education, Training, or Career Path.....	29
Different Focus/Sequence, Degree, or Field.....	30
REFERENCES.....	32
NOTES.....	34

Tables and Figures

Table 1. Respondent demographics and psychological association membership status.....	7
Table 2. Educational characteristics of PGS respondents.....	9
Figure 1. Areas of psychology study for respondents' highest degrees, showing proportion of terminal master's (red) and doctoral (blue) graduates.	10
Figure 2. Sources of funding for graduate education, showing proportions of terminal master's (red) and doctoral (blue) graduates who used each source of funding	12
Table 3. Funding for graduate education and debt related specifically to graduate education..	11
Table 4. Location of current/most recent employment, including rural/northern employment	14
Figure 3. Numbers of master's (red) and doctoral (blue) graduates with current or past employment in rural, northern, and rural and northern environments	15
Table 5. Current employment status, with salary range for current/most recent employment.	16
Figure 4. Salary range of current/most recent employment, showing proportion of master's (red) and doctoral (blue) graduates whose reported salary fell within each range	17
Table 6. Work settings and percentage of total time at work spent on various activities	19
Figure 5. Work settings, showing proportions of master's (red) and doctoral (blue) graduates.	19
Figure 6. Pie chart showing proportion of work week spent on various activities	21
Table 7. Agreement with statements about respondents' current/most recent employment...	22
Table 8. Satisfaction with specific aspects of respondents' current/most recent primary employment.....	25
Table 9. Summary of qualitative responses pertaining to the need for more or fewer courses/ experiences in respondents' education, training, and career to date	28
Table 10. Summary of qualitative responses pertaining to respondents' desire to have taken a different education, training, or career path.....	29

EXECUTIVE SUMMARY

The 2015 Canadian Psychological Association Psychology Graduate Survey (PGS) represents the first discipline-led, nation-wide survey of individuals holding a terminal master's or doctoral degree in psychology. The final sample of 4,441 respondents included 1,785 terminal master's graduates and 2,656 doctoral graduates, providing invaluable data pertaining to the needs, supply, and demand of psychology graduates in (and from) Canada.

At a demographic level, respondents were generally representative of both the discipline and the Canadian population. Responses came from psychology graduates working in all 10 provinces and three territories, as well as those working in the U.S. or internationally. As a testament to the reach of the PGS, over 50% of respondents were neither current nor past members of either the CPA or a provincial, territorial, or state psychological association.

Education data reflected the diverse paths available to psychology graduates. Specifically, respondents came from various institutions (in Canada or elsewhere; online or in-person), focused their studies on a broad range of topics within (or relevant to) psychology, and ended up with several different types of degrees (e.g., Ph.D.; M.A.; Ed.D.; M.Ps.).

Despite using numerous sources of funding for their graduate education, 44.7% of respondents finished their studies with debt related specifically to their graduate degree. Reflecting rising tuition costs in recent decades and the longer timeframe of doctoral studies, the amount of debt was significantly higher among both doctoral graduates and more recent graduates.

89.6% of respondents were currently employed in some capacity, with a median salary in the \$80,000 to \$100,000 range. Doctoral graduates earned significantly more than master's graduates and were much less likely to be unemployed. Despite the higher unemployment rate among master's than doctoral graduates, the unemployment rates observed in the PGS compare favourably to national data on individuals with a graduate degree in any field.

Respondents were typically employed in at least one of four settings: academia, independent practice, hospital/health care setting, and school/educational setting. Doctoral graduates were much more likely than master's graduates to work in academia, while master's graduates were much more likely to work in school/educational settings. While at work, respondents spent over 50% of their time on a combination of treatment, assessment, and education/teaching, with almost no time spent on public policy or program evaluation.

Overall, respondents indicated that they were generally satisfied with their employment, with doctoral graduates significantly more satisfied than master's graduates. Reflecting the minimal amount of time spent at work on public policy, both master's and doctoral graduates were least

satisfied with opportunities to influence policy at work. Although not necessarily an indicator of dissatisfaction, respondents also indicated that their current/most recent employment was only somewhat similar to what they expected to be doing when they began their studies.

Despite generally being satisfied with where their career trajectory, nearly half of all respondents (1,220 doctoral and 907 master's graduates) commented on changes they would like to have made in their education, training, and career to date. Over 1/3 of those who commented indicated the need for additional courses/experiences, with respondents typically wanting more supervised clinical experiences, mentorship, education/training on setting up a business (typically independent practice), research/statistics training, and miscellaneous courses/workshops.

In addition, nearly 1/3 of those who commented indicated a desire to have focused on a different area of psychology or taken a different path in their psychology training (e.g., Psy.D. vs. Ph.D.). Further, 244 master's graduates and 150 doctoral graduates commented on a desire to have pursued a different degree. Among master's graduates, this was largely accounted for by those who wished they had pursued a doctorate, with relatively few doctoral graduates indicating a desire not to have pursued a doctorate. An additional 172 respondents indicated that they would have pursued another field entirely (typically another health-related field) if they could change anything about their education, training, and career to date.

As a whole, the findings of the 2015 PGS paint a portrait of a discipline that is diverse, thriving, and essential to the health and education of Canadians. These findings also illustrate several areas of growth for the discipline, providing important direction for ensuring that the education, training, and employment of psychology graduates better suit the needs of graduates and the general population. The CPA will use these data to help advocate for psychology graduates with respect to need, supply and demand. The CPA intends to re-administer the PGS in 2020, and hopes that findings will reveal continued growth in the state of psychology in Canada.

BACKGROUND

The Canadian Psychological Association's 2015 Psychology Graduate Survey (PGS) was inspired by the cancellation of several nationwide data collection efforts, particularly the University and College Academic Staff System survey (UCASS)¹ and the Survey of Earned Doctorates (SED). Respectively, these surveys represented over 60 years and over 30 years of data collection pertaining to Canadians with graduate degrees. The challenge presented by the loss of these invaluable data collection efforts prompted the CPA to undertake the first ever discipline-led, nationwide survey of all Canadians with terminal graduate degrees in psychology (i.e., terminal master's or doctorate).

The PGS was modeled on the American Psychological Association's (APA) Doctorate Employment Survey (Michalski, Kohout, Wicherski, & Hart, 2011), which was used and modified with permission from the APA. The survey was designed to produce a minimal dataset relevant to the needs, supply, and demand of psychology graduates, with a limited number of questions on the survey marked as mandatory. Broadly speaking, the PGS was an attempt to obtain data reflecting the CPA's three pillars (i.e., science, practice, and education) at both the national and provincial/territorial levels. The survey went through several stages of reviews and revisions, specifically by the CPA's Education & Training Committee, Scientific Affairs Committee, and Board of Directors. Funding for the survey came from the CPA's Science Directorate, which also provided incentives for participants (e.g., gift cards; flight vouchers) by holding several draws while the survey was active.

Launched on April 24, 2015 in both official languages, the PGS remained open to respondents until December 1, 2015. The link to the survey was spread via numerous means, including: the CPA's website, electronic newsletter, and social media outlets; CPA Section Chairs, Committee Chairs, and Board of Directors; the Council of Canadian Departments of Psychology listserv; several provincial psychological associations and regulatory bodies; a paid advertisement on Facebook; various informal networks (e.g., Statistics Canada; the Tri-Council Agencies; Public Health Agency of Canada; the Canadian Council of Professional Psychology Programs); and direct emails to all faculty at Canadian institutions with graduate degrees in psychology. Although extensive, this brief list represents only a fraction of the work that went into the CPA's attempts to reach all psychology graduates in (or from) Canada.

¹ The University and College Academic Staff System Survey (UCASS) was re-instated by the Liberal Government on September 16, 2016, nine months after the PGS closed its data collection period.

RESPONDENTS AND DEMOGRAPHICS

A total of 4,812 respondents completed the full survey, with an additional 1,060 starting, but not completing the survey. Despite our goal of reaching only those who had completed either a terminal Master's or Doctorate in Psychology, 371 respondents were identified as current students after the survey had closed. These individuals were removed from all analyses to maintain focus on individuals with terminal graduate degrees, resulting in a final sample of $N = 4,441$. Given that there are over 17,000 registered psychologists in Canada (Canadian Institute for Health Information, 2013), not to mention the countless non-registered psychology graduates, our final sample size falls woefully short of our goal of reaching all Canadian psychology graduates. However, reaching nearly 5,000 psychology graduates is a considerable achievement, given the challenges of conducting a nationwide survey without access to the resources available to the federal government (e.g., for such initiatives as the UCASS, SED and Census).

Table 1

Respondent Demographics and Psychological Association Membership Status

	%	<i>N</i>		%	<i>N</i>
Gender			Primary Language of Work		
Male	25.6	1138	Only English	71.1	3159
Female	73.6	3269	Only French	11.8	526
Transgender	0.1	3	English and French	13.6	602
Prefer not to answer	0.7	31	Other	3.5	154
Age Distribution			CPA Membership		
20 – 29 years	7.6	337	Current Member/Affiliate	43.6	1920
30 – 39 years	29.2	1296	Past Member/Affiliate	18.7	823
40 – 49 years	22.8	1013	Non-Member	37.7	1662
50 – 59 years	19.7	876	Regional Membership ¹		
60 – 69 years	15.4	682	Current Member	49.5	2190
70 – 79 years	3.9	174	Past Member	16.8	741
80 + years	0.5	24	Non-Member	33.7	1490
Prefer not to answer	0.9	39			

¹Membership in a provincial, territorial, or state psychological association.

Demographically, the final sample of respondents is generally representative of the population of psychology graduates (and Canadians more broadly; Table 1). With 73.6% of respondents identifying as female, the gender makeup of this sample reflects trends typical in psychology (CIHI, 2013). As would be expected of a population with a minimum of a master's degree, there were fewer respondents in the 20-29 years age range (7.6% of PGS respondents) than seen in recent nationwide census data (13%; Statistics Canada, 2012a). Otherwise, the age distribution among PGS respondents was similar to that of the general population, with a mean and median age in the 40-49 years range¹ (median age of Canadian population: 40.6 years; Statistics Canada, 2012a). Reflecting the fact that the majority of PGS respondents were under the age of 50 years, 43.4% of respondents had completed their highest degree in the past 10 years, with an additional 26.2% completing their highest degree between 1996 and 2005 (correlation between age and end year of graduate studies: $r = -.82, p < .001$).

On the basis of their primary language of work, monolingual English speakers were slightly over-represented (71.1%) and monolingual French speakers slightly under-represented (11.8%) among PGS respondents (compared with 68.1% and 12.6% of monolingual English and French speakers, respectively, in the general population; Statistics Canada, 2012b). An additional 13.6% of PGS respondents reported working in both official languages (17.5% of Canadians report being bilingual), with 3.5% of the overall sample working in languages other than English and French. The most common other languages of work were Spanish, German, Hindi, Urdu, Italian, and Portuguese, although over 40 primary languages of work (other than English and French) were reported by PGS respondents.

As the CPA is a membership driven organization, it is interesting to note that 56.4% of PGS respondents were not current members (or affiliates) of the CPA, with 37.7% of respondents reporting that they had never been a member (or affiliate). Similarly, 50.5% of respondents were not current members of a provincial, territorial, or state psychological association, with 33.7% of respondents reporting that they had never belonged to a regional psychological association.

Education

Of the 4,441 eligible respondents who completed the full survey, 1,785 (40.2%) had completed a terminal master's and 2,656 (59.8%) had completed a doctorate. Although M.A ($n = 834$) and Ph.D. graduates ($n = 2,423$) accounted for the majority of the overall sample, the diverse educational paths taken by psychology graduates were reflected in the various other types of graduate degrees obtained by PGS respondents (Table 2

).

Table 2

Educational Characteristics of PGS Respondents

	%	<i>N</i>		%	<i>N</i>
Highest Degree			Degree Type		
Master's	40.2	1785	M.A.	18.8	834
Doctorate	59.8	2656	M.Sc.	5.8	257
Location of Study			M.Ed.	6.2	276
Canada – In Person	80.7	3584	M.Ps.	6.6	291
AB	9.1	325	Ph.D.	54.6	2423
BC	9.8	353	Psy.D.	4.3	189
MB	3.1	111	Ed.D.	0.7	30
NB	3.1	112	Other ¹	3.2	141
NL	1.5	52	Field of Psychology Study ²		
NS	3.7	133	Applied Social	4.7	210
ON	39.2	1407	Clinical	44.9	1995
QC	25.7	920	Clinical-Neuropsychology	6.2	276
SK	4.7	168	Counselling	20.2	899
Canada – Online	3.5	157	Experimental	13.3	589
US – In Person	10.2	454	Industrial/Organizational	4.0	176
US – Online	1.5	65	School/Educational	10.7	473
International – In Person	3.9	175	Developmental	9.1	403
International – Online	0.1	6	Other	9.8	434

¹Master of Counselling ($n = 61$) was the most common “Other” degree.

²Total exceeds 100% due to the option to select multiple responses.

Respondents' highest degrees typically focused on training in clinical (44.9%, with an additional 6.2% focusing specifically on clinical-neuropsychology), counselling (20.2%), and/or experimental psychology (13.3%). Doctoral graduates were much more likely than master's graduates to have received their highest degree in clinical (53.5% of doctorate vs. 32.2% of master's graduates) and/or experimental psychology (17.4% vs. 7.1%), while master's graduates

were much more likely than doctoral graduates to have earned their highest degree in counselling (37.6% vs. 8.6%) and/or school/educational psychology (16.0% vs. 7.1%; Figure 1).

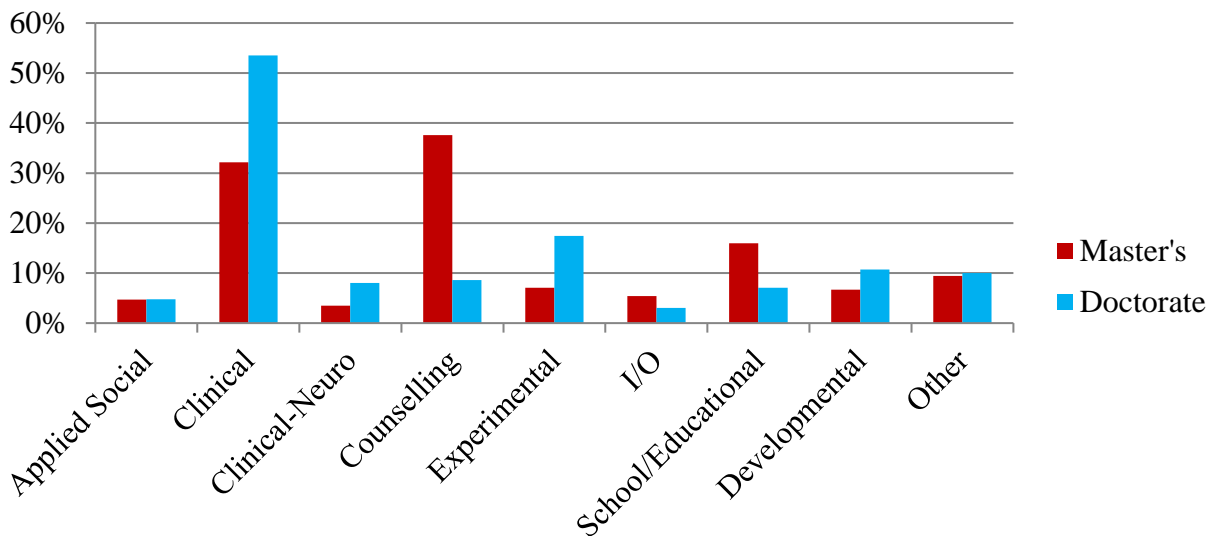


Figure 1. Areas of psychology study for respondents' highest degrees, showing proportion of terminal master's (red) and doctoral (blue) graduates. Totals exceed 100% as a result of the option to choose multiple responses.

The vast majority of respondents' highest degrees were earned at a Canadian institution, whether in person (80.7%) or online (3.5%). The four provinces employing the greatest number of psychologists (CIHI, 2013) also produced the greatest numbers of psychology graduates, led by Ontario (39.2%), Quebec (25.7%), British Columbia (9.8%), and Alberta (9.1%).² The remainder of the sample consisted primarily of those who had earned their highest degrees from an American institution (10.2% in person, 1.5% online), with a smaller proportion earning their highest degree outside of Canada or the U.S. (3.9% in person, 0.1% online).

Interestingly, 89.3% of respondents reported holding Canadian citizenship only (at the time of earning their highest degree), yet only 84.2% of respondents earned their highest degree from a Canadian institution. This may suggest that the educational pathways available in Canada may not be meeting the needs of a proportion of individuals pursuing graduate studies in psychology.

Data from the PGS show that 36.5% of respondents who completed Psy.D. programs did so outside of Canada, with numerous respondents commenting on their desire to have pursued Psy.D. programs, had they been available. For example, "Would have liked to complete a

Psy.D., not very many programs in Canada” or “I wish I would've had the opportunity to do a Psy.D., but there are no opportunities in a university near where I lived.”

Funding and Debt

To fund their education, both master’s and doctoral graduates relied on multiple sources of funding (Table 3).

Table 3

Funding for Graduate Education and Debt Related Specifically to Graduate Education

Funding Source ¹	Master’s		Doctorate	
	%	N	%	N
University RA/TAship	33.6	600	73.5	1951
Own Earnings	82.0	1464	73.3	1947
University Scholarship/Fellowship	31.6	564	62.6	1663
Family Support	42.7	763	44.5	1183
Tri-Council Grant	8.4	150	37.3	990
Government Loan	38.8	693	27.4	728
Provincial Funding	5.6	100	26.8	711
Other Loan	11.5	206	9.8	261
Foundation Funding	1.1	20	7.4	196
Other	7.2	128	7.1	189
University Loan	2.7	48	2.0	53
MITACS	0.1	1	0.3	7
Debt Level ²				
Under \$10,000	24.3	223	18.9	193
\$10,000-\$20,000	30.3	278	25.7	262
\$20,000-\$30,000	21.8	200	20.6	210
\$30,000-\$40,000	10.9	100	12.6	128
\$40,000-\$50,000	5.9	54	6.7	68
Over \$50,000	6.7	61	15.5	158

¹All respondents selected multiple responses, thus total exceeds 100%.

²Percentages above reflect only those respondents who indicated holding some amount of debt at graduation ($n = 1,036$ doctoral; $n = 943$ master’s).

In general, doctoral graduates were more likely to receive outside funding, including scholarships and fellowships (62.6% of doctorate vs. 31.6% of master’s respondents), research and/or teaching assistantships (73.5% vs. 33.6%), Tri-Council funding (37.3% vs. 8.4%), provincial funding (26.8% vs. 5.6%), and foundation funding (7.4% vs. 1.1%). In contrast,

master's graduates were more likely than doctoral graduates to rely on their own earnings (82.0% vs. 73.3%) and loans from the university (2.7% vs. 2.0%), provincial or federal government (38.8% vs. 27.4%), or other sources (11.5% vs. 9.8%; Figure 2).

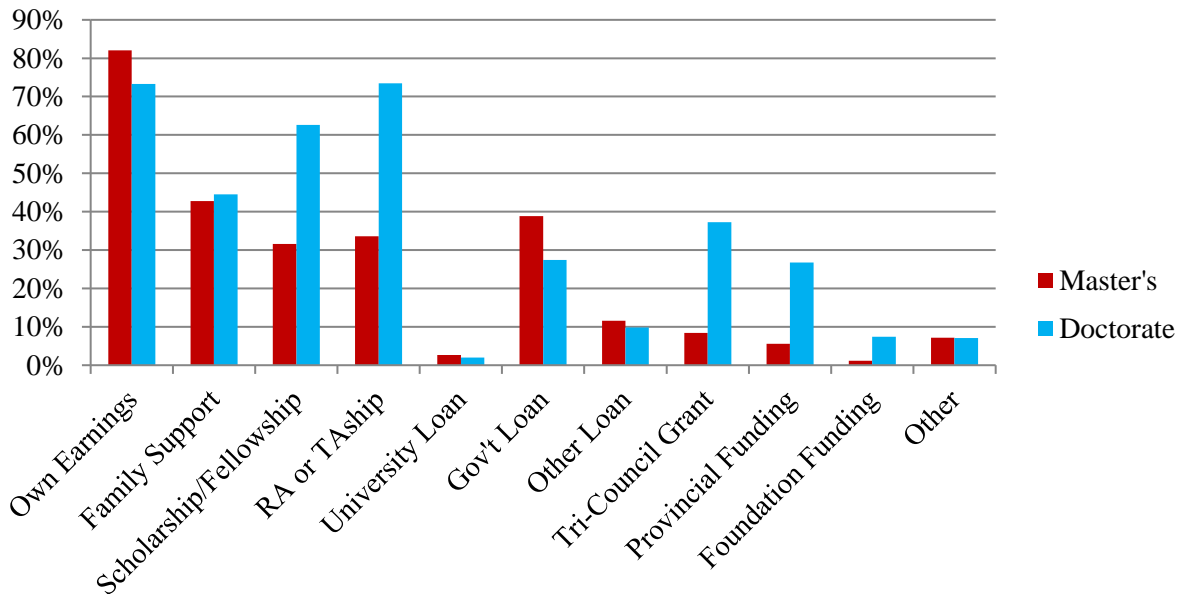


Figure 2. Sources of funding for graduate education, showing proportions of terminal master's (red) and doctoral (blue) graduates who used each source of funding. All respondents used multiple sources of funding, thus totals exceed 100%.

Perhaps in part related to this disparity in funding, doctoral graduates were less likely to graduate with debt related specifically to their graduate education; doctoral graduates accounted for 59.8% of the total sample, but only 52.3% of those graduated with debt. When looking at both master's and doctoral graduates, a total of $n = 1,036$ doctoral graduates and $n = 943$ master's graduates (combined $n = 1,979$; 44.7% of respondents) indicated that they had graduated with debt related specifically to their graduate degree. Conversely, $n = 834$ master's graduates and $n = 1,613$ doctoral graduates indicated that they graduated without any debt (combined $n = 2,447$; 55.2% of respondents).

Despite this, among those who graduated with debt, doctoral graduates ($M = \$28,338$) had significantly more debt related specifically to their graduate education than master's graduates ($M = \$21,133$), $t(1902) = 5.54$, $p < .001$. Reflecting the exponential rise of tuition in recent decades (100% increase since 1993-1994; Shaker & MacDonald, 2015), amount of debt was significantly correlated with end year of graduates studies ($r = .24$, $p < .001$). As the correlation between age and debt level was much weaker ($r = -.12$, $p < .001$), it seems that rising tuition

costs have a much greater impact on debt levels than the stage at which one is in their life and career.

EMPLOYMENT – PART 1

Location

Similar to data on the provinces from which respondents' highest degrees were obtained, Ontario, Quebec, British Columbia, and Alberta were the most common places of employment after graduation (Table 4). The relative ranking of the provinces that produced the most psychology graduates (Table 2

) – as well as proportions of the overall sample accounted for by each – was not the same as the relative ranking of provinces that employed the most psychology graduates (Table 4).

Table 4

Location of Current/Most Recent Employment, Including Rural/Northern Employment

	%	N		%	N
Location of Work			Rural/Northern Employment		
AB	13.4	546	Current Location		
BC	10.2	415	Rural	9.8	388
MB	3.0	122	Northern	2.5	100
NB	3.6	146	Rural and Northern	1.8	70
NL	2.0	81	Neither	85.9	3397
NT	0.4	18	Prior Location		
NS	4.4	178	Rural	14.9	591
NU	0.1	5	Northern	4.2	168
ON	36.6	1492	Rural and Northern	4.9	193
PE	0.4	17	Neither	75.9	3002
QC	19.5	793			
SK	3.7	152			
YK	0.4	15			
US/International	2.3	94			

The two provinces employing the greatest numbers of psychologists were Ontario (36.6%) and Quebec (19.5%), albeit with smaller proportions of the overall sample than seen in the education data. In contrast with the education data, a greater proportion of PGS respondents was employed in Alberta (13.4%) than British Columbia (10.2%). Although Alberta seems to benefit most from psychology graduates educated out-of-province – 9.1% of respondents received their highest degree there, yet 13.4% of respondents are employed in Alberta – all regions of Canada with the exception of Saskatchewan, Manitoba, Ontario, and Quebec employ a greater proportion of psychologists than they educate.³

Respondents were asked not only about the region in which they are currently (or were most recently) employed, but also to reflect on whether they were currently (or had ever been) employed in a rural and/or northern environment. The vast majority were not currently (85.9%) nor had ever (75.9%) worked in either a rural or northern environment. However, despite representing a smaller proportion of the overall sample, master's respondents made up a greater proportion of those currently (59.9%) or who had ever (56.6%) worked in a rural and/or northern environment (Figure 3).

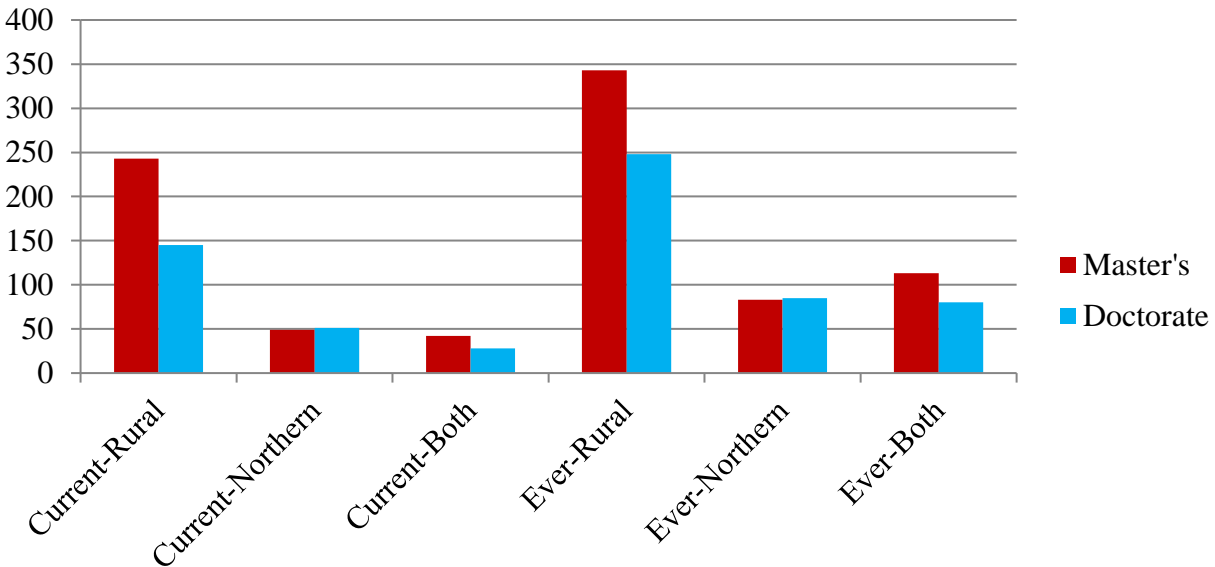


Figure 3. Numbers of master's (red) and doctoral (blue) graduates with current or past employment in rural, northern, and rural and northern environments.

Salary and Employment Status

A total of $n = 2,058$ respondents held one full-time position at the time of the survey (46.3%), with $n = 555$ respondents holding one part-time position (12.5%) and an additional $n = 1,227$ holding multiple full-time and/or part-time positions (27.6%; Table 5).

Table 5

Current Employment Status, with Salary Range for Current/Most Recent Employment

	%	<i>N</i>		%	<i>N</i>
Employment Status			Salary Range		
1 position full-time (FT)	46.3	2058	Under \$40K	10.1	395
1 position part-time (PT)	12.5	555	\$40K to \$60K	11.5	450
More than 1 position	27.6	1227	\$60K to \$80K	19.9	778
On leave	2.0	89	\$80K to \$100K	24.7	963
Unemployed, prior work in field	1.4	64	\$100K to \$150K	25.9	1012
Unemployed, never worked in field	1.2	55	\$150K to \$200K	5.4	211
Retired	5.7	254	Over \$200K	2.3	91

Those working part-time or holding multiple positions indicated that they were doing so primarily for greater variety in their work activities and responsibilities (52.8%) or to achieve greater work/life balance (36.1%).⁴

However, 15.2% indicated that they were working part-time or holding multiple positions because they could not find a full-time position that was suitable/desirable. Moreover, 14.6% of respondents indicated that they were doing so for other reasons, with their comments indicating that these reasons were overwhelmingly a result of financial needs/goals. For example:

Financial factors. I work permanent part-time in a hospital setting which provides benefits such as extended health and dental. I have a private practice where I see clients who pay me direct and also have a half time contract with the BC government.

Work full-time in academic hospital and part-time in private practice. Private practice work is done for financial reasons.

In addition to the reasons outlined above, I currently work 50-60 hours per week (40hours/week with a public organization and 10-20hours/week in private practice) in order to support my household financially.

Excluding those with no previous employment in the field and respondents who preferred not to disclose their salary (12.2% of respondents), the average salary among PGS respondents was in the \$60,000 to \$80,000 range, with a median in the \$80,000 to \$100,000 range.⁵ Doctoral graduates earned significantly more than master's graduates, with the mean and median doctoral salary being between \$80,000 and \$100,000 and the mean and median master's salary between \$60,000 and \$80,000, $t(3519) = 25.75, p < .001$ (Figure 4).

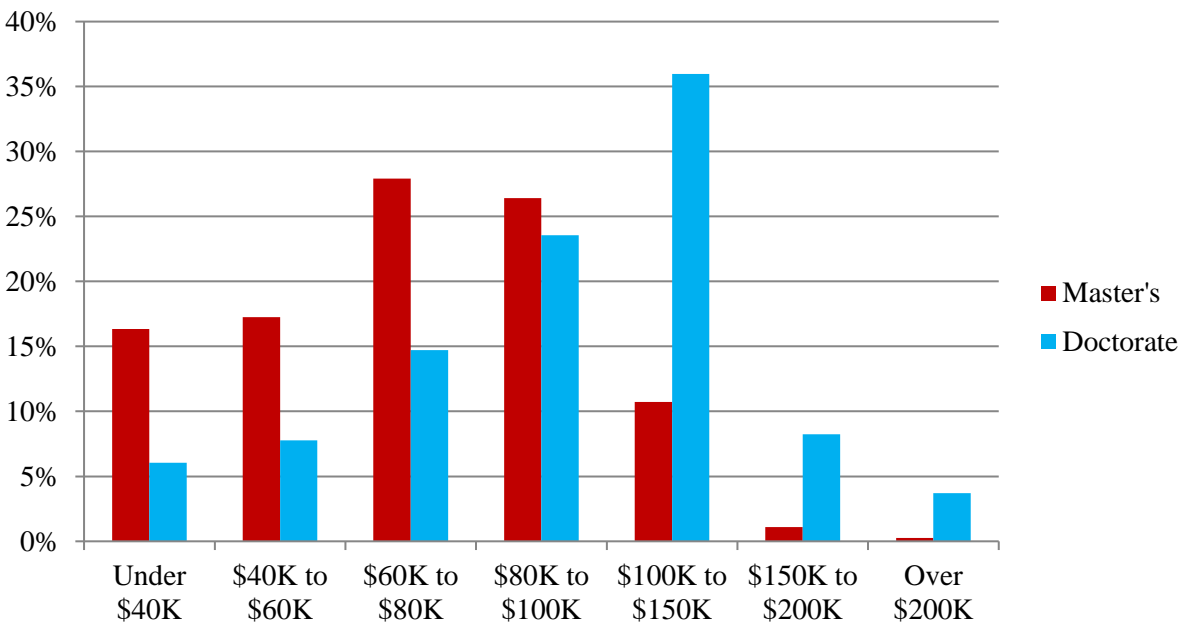


Figure 4. Salary range of current/most recent employment, showing proportion of master's (red) and doctoral (blue) graduates whose reported salary fell within each range.

Salary also decreased significantly with end year of graduate studies, with a stronger correlation among doctoral graduates ($r = -.32, p < .001$) than master's graduates ($r = -.25, p < .001$). Considering the significant relationship between end year of graduate studies and amount of student debt, such findings indicate a precarious financial situation awaiting psychology graduates upon leaving their studies and entering the field. As stated by PGS respondents:

The only comment I wish to share is how hard it is to pay off student debt even several years after becoming a fully licensed psychologist. Student debt is a huge factor in quality of life, both during the grad school years and after, and it is one that has made a definite negative impact on my personal and professional life.

I have entered a field that seems to be flooded with clinicians, and I'm finding it very difficult to earn back the tuition I invested. The work is meaningful and fulfilling, but so far I am not able to pay my bills, let alone repay my debts.

Employment and Unemployment

Despite the financial challenges of leaving graduate school with sizeable debt, 89.6% of respondents indicated that they were currently employed in some capacity, with an additional 5.7% retired and 2.0% on leave (from part-time or full-time employment). This leaves only 2.7% of the sample who were unemployed at the time of the survey, with the median length of unemployment being 10 months ($M = 25.2$ months). This compares favourably with the general unemployment rate (6.9%; Statistics Canada, 2016), as well as the unemployment rate for master's (5.1%) and doctoral graduates (4.0%) in general (Statistics Canada, 2013).

Although master's graduates in the PGS (4.7%) were more likely than doctoral graduates (1.3%) to be unemployed, such numbers still compare favourably to nationwide trends for others with similar educational attainment (i.e., 5.1% and 4.0%, respectively). Compared with data specific to psychology graduates from the previous National Household Survey (Statistics Canada, 2013), doctoral respondents in our sample were less likely to be unemployed (1.3% vs. 2.5%), whereas master's graduate respondents were slightly more likely to be unemployed (4.7% vs. 4.2%).

The PGS distinguished between those who were unemployed, but held previous employment in the field (1.4%) and those who were unemployed and had never held employment in the field (1.2%). Focusing on the latter group reveals that master's graduates were much more likely to be unemployed and never to have been employed in the field (2.6% vs. 0.3% of doctoral graduates).

Although this discrepancy is likely related to the greater employment options and employability of doctoral graduates in psychology-related fields, area of psychology study also seems to play a role. Chi-square analyses exploring the relationship between area of psychology study and the numbers of respondents who were unemployed and never employed in the field revealed a significant relationship between the two ($\chi^2 = 22.96, p < .01$). Specifically, those with a background in clinical psychology were much less likely to be unemployed and never employed in the field, while those with a background in counselling psychology were much more likely to be unemployed and never employed in the field; it is unclear if level of educational attainment or area of study (or a combination of the two) resulted in these discrepancies in relative (un)employability.

EMPLOYMENT – PART II

Work Settings and Tasks

Overall, the most common work settings for PGS respondents were independent practice (24.2% as solo practitioners; 12.5% working in group practice), academia (27.5%), and hospital/health care settings (25.4%; Table 6).

Table 6

Work Settings and Percentage of Total Time at Work Spent on Various Activities

Variable	%	N	% of Total Time at Work	
Work Settings ¹			Work Activities	
Academia	27.5	1220	Treatment	23.3
Independent Practice – Solo	24.2	1072	Assessment	15.6
Independent Practice – Group	12.5	554	Education/Teaching	11.2
Hospital/Health Care	25.4	1126	Management/Administration	10.4
School/Education	13.9	615	Research	10.0
Government	7.4	326	Consultation	8.0
Private Sector	5.6	248	Other Activities	7.5
Research	5.3	236	Supervision	5.6
Corrections	2.5	109	Development or Design	3.5
Military	0.7	32	Program Evaluation	3.0
Community	3.8	169	Public Policy	2.0
Not-for-Profit/NGO	5.5	244		
Other	4.7	209		

¹ Total exceeds 100% due to the option to select multiple responses.

This pattern was generally upheld within each level of educational attainment, with hospital/health care settings (doctorate: 26.7%; master's: 23.4%), solo independent practice (doctorate: 25.1%; master's: 22.7%), and group practice (doctorate: 14.2%; master's: 10.0%) among the top employment settings for master's and doctorate graduates (Figure 5).

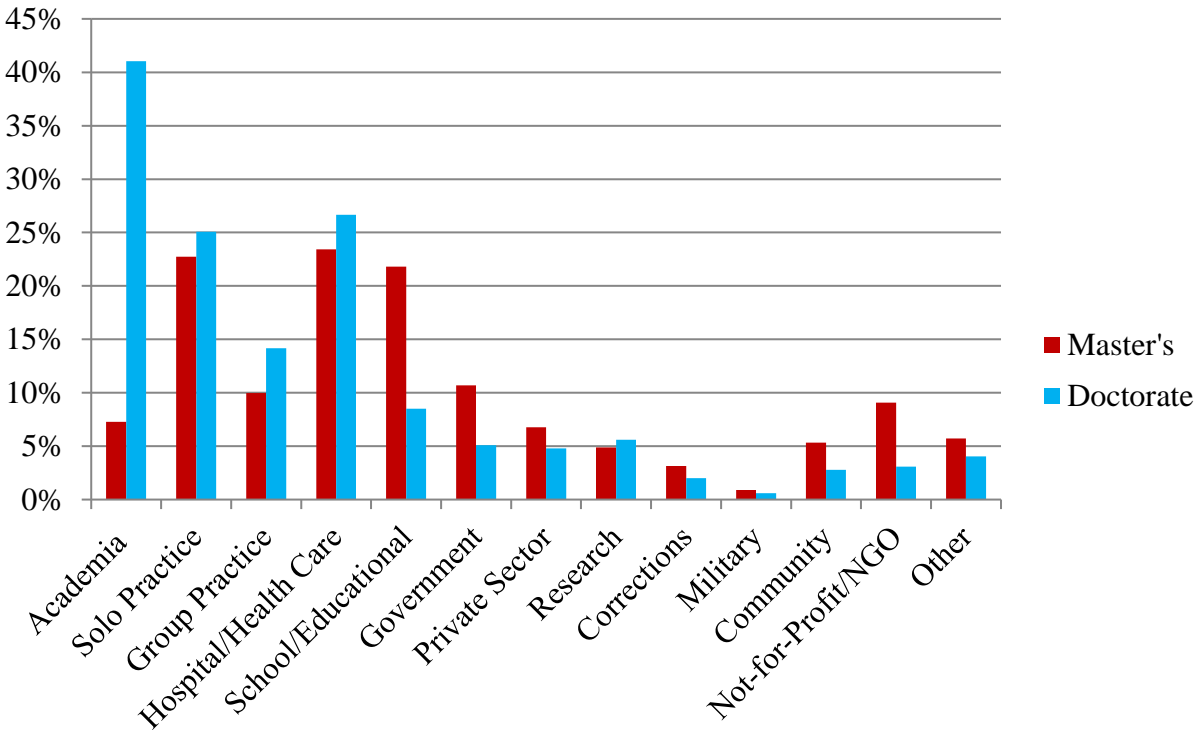


Figure 5. Work settings, showing proportions of master’s (red) and doctoral (blue) graduates. As a result of the option to select multiple settings, totals exceed 100%.

Academia was the most common employment setting for doctoral graduates (41%), whereas relatively few master’s graduates were employed in academia (7.3%). Instead, master’s graduates were more likely to work in school/educational settings (21.8% vs. 8.5% of doctorate graduates), government settings (10.7% vs 5.1%), not-for-profit/nongovernmental organizations (9.1% vs. 3.1%), and community settings (5.3% vs. 2.8%). Among those employed in academia, master’s graduates were primarily employed as lecturers/instructors (60%), whereas doctoral graduates were employed primarily as professors (23.7% associate; 21.3% full; 17.9% assistant).

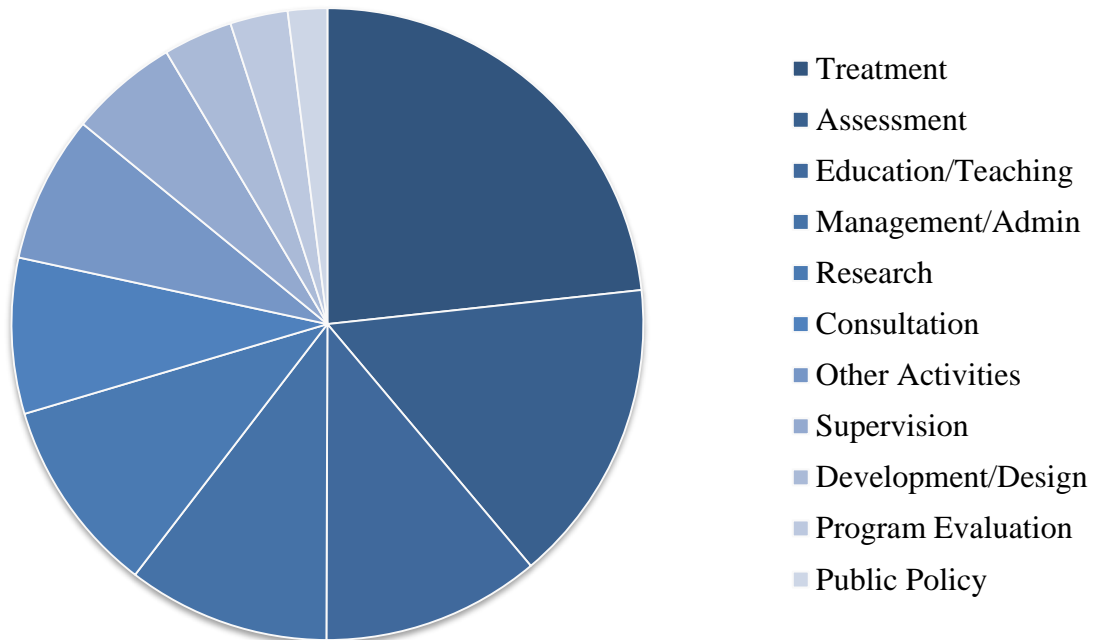


Figure 6. Pie chart showing proportion of work week spent on various activities, moving clockwise from largest proportion of time (Treatment) to smallest (Public Policy).

Respondents were asked to indicate the percentage of time allocated to various tasks while at work (Figure 6). Over 50% of respondents' time was accounted for by a combination of three activities: treatment (23.3%), assessment (15.6%), and education/teaching (11.2%). On average, respondents spent the least amount of time on development or design (3.5%), program evaluation (3.0%), and public policy (2.0%). In fact, when looking at the median percentage of total time at work spent on these tasks, respondents indicated that they spent no time on program evaluation or public policy-related tasks (both medians = 0%).

These results align with the findings of the CPA's Need, Supply, and Demand Summit (Votta-Bleeker, 2014), during which public policy and program evaluation were identified as two areas in which psychologists would benefit from greater training and employment opportunities. Findings were also supported by comments from PGS respondents, such as:

Emphasize program evaluation throughout graduate training. I did program evaluation work for my Masters and dissertation work and it has been so beneficial for me. We should all know how to evaluate our work as well as other programs.

Psychologists tend to be under-trained in public policy and legal issues that affect not only their practices but also the people who they see in their practices. Greater

emphasis on understanding public policy (e.g., with respect to healthcare, with respect to legal implications of psychological factors/conditions) would be helpful.

Employment Satisfaction

Reflecting on their current or most recent position, respondents were asked to indicate their agreement with various statements about the position in general (Table 7

).

Table 7

Agreement with Statements About Respondents' Current/Most Recent Primary Employment

	Master's <i>M</i>	Doctorate <i>M</i>	Total <i>M</i>
My current/most recent position is/was...			
Related to my field of study	4.23	4.60	4.45
Commensurate with my level of education and training	4.13	4.55	4.38
Commensurate with my level of experience	4.20	4.56	4.41
Similar to what I expected to be doing when I began my studies	3.36	3.72	3.57
Professionally stimulating	4.10	4.43	4.30
Overall I am satisfied with my position	4.03	4.32	4.20
Scale Total	4.01	4.36	4.22

Note. Items were rated on a 5 point Likert scale, with options ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Overall, five of the six items on the scale were rated an average of at least 4.20 on a 5-point scale, indicating agreement to strong agreement. Average agreement with the overall scale was significantly correlated with salary ($r = .24, p < .001$) and significantly negatively correlated with end year of graduate studies ($r = -.13, p < .001$). Although this pattern of results held for both master's and doctoral graduates, doctoral graduates had higher average agreement with all items, as well as significantly higher average agreement with the overall scale ($M = 4.36$) than master's graduates ($M = 4.01$) [$t(3080) = 12.84, p < .001$].

However, as the minimum rating for all but one item among both master's and doctoral graduates was 4.03, these findings indicate that, in general, psychology graduates are working in positions that are: related to their field of study; commensurate with their level of experience, education, and training; professionally stimulating; and satisfying overall.

Although respondents indicated that their current/most recent position was only somewhat similar to what they expected to be doing when they began their studies ($M = 3.57$, or “Neutral”/“Agree”), their general agreement with all other items on the scale indicates that this distance between expectations and reality was not necessarily experienced negatively.

Focusing on employment status, average agreement was lowest among those who were on leave from employment in the field (part-time: $M = 3.85$; full-time: $M = 3.91$) or unemployed, but previously employed in the field ($M = 3.52$). In contrast, those with current employment had higher average agreement with the overall scale (range: $M = 4.17$ for those working multiple part-time positions to $M = 4.30$ for those working multiple full-time positions).

Among those working part-time and/or holding multiple positions, average agreement was lowest for those who indicated that they could not find a full-time position that was suitable/desirable ($M = 3.72$). Coupled with the low average agreement among those on leave from employment or who were unemployed despite having held prior employment in the field, it seems as though psychology graduates are dissatisfied with their work primarily when they feel as though they have no options (i.e., no suitable/desirable positions) and tend to take action to remedy this (i.e., go on leave or become unemployed rather than stay in a less-than-fulfilling position).

Focusing on satisfaction with specific tasks/aspects of their current/most recent position reveals a similar overall pattern (

Table 8). Specifically, doctoral graduates ($M = 3.87$) were significantly more satisfied than master's graduates ($M = 3.60$), $t(3993) = 11.36$, $p < .001$; there were significant correlations with salary ($r = .32$, $p < .001$) and end year ($r = -.18$, $p < .001$); satisfaction was higher among those with current employment (range: $M = 3.59$ among those working multiple part-time positions to $M = 3.85$ among those working one full-time position); and satisfaction was lowest among those on leave (part-time: $M = 3.14$; full-time: $M = 3.31$), unemployed despite previously holding employment in the field ($M = 3.05$), and who felt that they could not find a suitable/desirable full-time position ($M = 3.16$).

Table 8*Satisfaction with Specific Aspect of Respondents' Current/Most Recent Primary Employment*

Satisfaction with...	Master's <i>M</i>	Doctorate <i>M</i>	Total <i>M</i>
Base income/salary	3.52	3.79	3.68
Benefits	3.69	3.87	3.80
Opportunities for promotion	2.97	3.38	3.22
Opportunities for professional development	3.46	3.83	3.68
Opportunities for recognition	3.31	3.64	3.51
Supervisor	3.59	3.77	3.69
Co-workers	4.09	4.21	4.16
Working conditions	3.88	4.02	3.96
Opportunity to influence policy	2.96	3.23	3.12
Opportunity to use my psychology training	4.15	4.49	4.35
Scale Total	3.60	3.87	3.76

Note. Items were rated on a 5 point Likert scale, with options ranging from 1 (Very Dissatisfied) to 5 (Very Satisfied).

Although such similarities indicate a strong correlation between the two scales, this correlation was somewhat smaller than might be expected ($r = .48, p < .001$). This likely has to do with the diverse settings in which psychologists work, as indicated by the much broader range of relative dis/satisfaction with the various aspects of respondents' current/most recent position (ranging from $M = 3.12$ [opportunity to influence policy; "Neutral"/"Satisfied"] to $M = 4.35$ [opportunity to use psychology training; "Satisfied"/"Very Satisfied"]).

CHANGES TO EDUCATION, TRAINING, AND CAREER

Near the end of the survey, respondents were asked if there was anything that they would change about their education, training, and career to date. A total of $n = 2,127$ ($n = 1,220$ doctoral; $n = 907$ master's) respondents said "yes," with their comments relating to all three aspects of the question (i.e., education, training, and career).

In comparison with those who indicated that they would not have changed anything, those who said "yes" agreed less with statements about their current position [$M = 4.06$ vs. $M = 4.37$, $t(3913) = -11.84$, $p < .001$] and were significantly more dissatisfied with specific aspects of their current position [$M = 3.59$ vs. $M = 3.93$, $t(3868) = -14.88$, $p < .001$]. Perhaps unsurprisingly given similar findings on the agreement and satisfaction scales, those who indicated that they would change something also earned significantly less, $t(3898) = -5.40$, $p < .001$, and graduated significantly more recently, $t(4435) = -5.27$, $p < .001$.

These findings lend support to the observations from the two scales relating to those who were on leave or unemployed, but previously employed in the field. Just as those individuals were either on leave from, or no longer employed at, unsatisfying positions, respondents who were less satisfied with their current/most recent position were significantly more likely to indicate that they would change something about their education, training, and career to date.

More (or Fewer) Courses/Experiences

Of those who indicated that they would change something about their education, training, and career to date, doctoral respondents (45.9%) were more likely than master's respondents (34.2%) to have commented on a need for more courses/experiences (

Table 9). Exploring the comments revealed one notable exception to this pattern: a greater proportion of master's respondents (4.5%) than doctoral respondents (1.7%) commented on the need for more assessment training.

Table 9

Summary of Qualitative Responses Pertaining to the Need for More or Fewer Courses/Experiences in Respondents' Education, Training, and Career to Date

Changes to Education, Training, and Career to Date	Master's		Doctorate	
	%	N	%	N
Additional Courses/Experiences	34.2	303	45.9	549
Miscellaneous courses/workshops	16.2	147	15.6	190
Assessment training	4.5	41	1.7	21
Intervention training	4.3	39	6.1	74
Independent practice/business	2.8	25	8.4	103
Applied skills (e.g., leadership, advocacy, policy)	2.4	22	6.4	78
Supervised clinical experiences	9.9	90	11.0	134
Research/statistics	2.1	19	8.7	106
Teaching	0.3	3	2.0	25
More funding/supports	3.0	27	4.9	60
Mentorship	9.5	86	9.7	118
Fewer Courses/Experiences	2.6	24	6.6	80

Note: Percentages based on total number who desired changes to their education, training, and career to date (i.e., $n = 907$ master's; $n = 1,220$ doctorate).

The need for more supervised clinical experiences (master's: 9.9%; doctoral: 11.0%) and more mentorship (master's: 9.5%; doctoral: 9.7%) topped the list of changes pertaining to specific additional courses/experiences. Similarly, 4.5% of doctoral graduates and 1.9% of master's graduates indicated that they would have changed their advisor (Table 10), demonstrating that psychology graduates generally need more support throughout their education, training, and careers. For example:

I would work to reform the "advisor-student" relationship - in some cases the advisor controls too much of the student life (\$\$\$, graduation timing and success). In good relationships, all goes well, in poor, causes stress, delays, debt. My personal case caused 2-3 year delays in graduation related to advisor inattention.

After completing and defending my PhD thesis, there was no support in the next steps (e.g.; EPPP exams, internship, post-doctoral training). Essentially it was "congratulations on defending your thesis, best of luck, goodbye."

The first few years post graduation were quite difficult. I felt woefully unprepared to work completely independently in a hospital where the staff were too busy to supervise me - a mentoring program post graduation would have been nice!

Table 10

Summary of Qualitative Responses Pertaining to Respondents' Desire to Have Taken a Different Education, Training, or Career Path

Changes to Education, Training, and Career to Date	Master's		Doctorate	
	%	N	%	N
Done Things Differently	40.1	364	39.5	482
Different advisor	1.9	17	4.5	55
Different steps towards provincial registration	5.7	52	2.4	29
Different psychology focus/sequence	32.5	295	32.6	398
Different degree	26.9	244	12.3	150
Different field of study altogether	7.6	69	8.4	103
Not enrolled in a doctorate	1.0	9	3.1	38
Enrolled in a doctorate (at all/sooner)	18.3	166	0.7	9

Note: Percentages based on total number who desired changes to their education, training, and career to date (i.e., $n = 907$ master's; $n = 1,220$ doctorate).

Although the disparity between master's and doctoral respondents commenting on specific additional courses/experiences was generally similar, much greater proportions of doctoral than master's respondents commented on the need for more education and training relating to setting up an independent practice/business (8.4% vs. 2.8%), research/statistics (8.7% vs. 2.1%), and applied skills, such as leadership, advocacy, and public policy (6.4% vs 2.4%).

Despite generally wanting more courses/experiences, doctoral respondents (6.6%) were also more likely than master's respondents (2.6%) to comment on the need for fewer courses/experiences, with comments generally revolving around the need for less of a focus on research and theory in their graduate education (and a greater focus on more practical matters). For example:

I would have wanted more practical training and less theory - or at least a healthy balance. My first year in private practice was stimulating but very difficult in the sense that I learned more on the job than I was prepared for.

Far more "hands on" training, such as internships, prior to graduation. Far, far less course work related to research. I was not prepared for the "real world" upon graduation, either in the 10 years I spent working in a hospital or in my school board position.

My graduate studies were very focused on technical aspects of basic research but my employment experience has shown this to be of little value. A stronger focus on project management and the business aspects of science would have been very helpful.

Different Focus/Sequence, Degree, or Field

Similar proportions of doctoral (39.5%) and master's respondents (40.1%) commented on a general desire to have done things differently (Table 10). These comments were largely related to a desire to have had a different focus, or taken a different sequence, in their education, training, and/or career, with master's (32.5%) and doctoral respondents (32.6%) equally likely to comment on this.

Such comments focused on a variety of topics, such as a desire to take a Psy.D. rather than a Ph.D., to have pursued a clinical rather than research focus (or vice versa), or to have expanded their education and training to declare additional areas of competence (e.g., adding a child, adolescent, or adult focus; focusing more on clinical neuropsychology). For example:

Improved knowledge of psychopharmacology and heavier emphasis on biology; PsyD would have been better for me than PhD but no such program in Canada at that time; my program had the internship in the middle of graduate training, which was disruptive – having it at the end would have allowed for a more natural transition to the workforce.

I would have made more of an effort to include more clinical training earlier rather than focus on research and then re-specialize.

I would have gone for licencing in neuropsychology as well, as I had taken more courses and placements involving those areas than I realized. In hindsight I was qualified but am now rusty so would likely no longer qualify.

Master's respondents (26.9%) were much more likely than doctoral respondents (12.3%) to indicate that, if they could change anything about their education, training, and career to date, they would have pursued a different degree. This was largely accounted for by those who wished they had pursued a doctorate (18.3%), with 1.0% indicating that they would not have started doctoral studies that they did not complete. Conversely, only 3.1% of doctoral

graduates indicated that they wished they hadn't pursued a doctorate, while 0.7% would have started their doctoral studies earlier.

Further, 8.4% of doctoral graduates and 7.6% of master's graduates indicated a desire not to have pursued graduate education in psychology at all, instead wishing that they had pursued another field of study altogether (generally health-related fields; e.g., medicine; psychiatry; social work). For example:

I would probably have gone through a nursing program. Where I work, with OT, shift diff and stats, nurses are making as much money as a psychologist with either a masters or doctorate degree. They end up earning more money over their career and can retire younger if they so decide. I could have specialized to become a mental health nurse and end up with lots of counseling/treatment tasks.

Would add an MD to my PhD, as there is much more opportunity, and more influence with that designation. This includes hirability, income, OHIP billing, hiring budgets, job opportunities, prescription privileges, especially status within a hospital research setting.

Looking back, if I had known at the beginning of my education what I had to do to become a registered psychologist (years and years in school, GREs, dissertation, residency, major debt, cut throat competition in the most competitive training programs in the country) compared to the compensation at the end (e.g. low pay compared to years in school with specialist training in mental health assessment, diagnosis, and treatment), I would have gone to medical school and become a psychiatrist.

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NOTES

¹ Age data were collected using a categorical variable.

² Percentages are based on total number of respondents who completed their highest degree in Canada.

³ These proportions are based on those educated or working in Canada, excluding those who were educated or are employed outside of Canada.

⁴ Responses obtained using a fixed response question. Options not listed in text are “opportunity to try new experiences” and “accommodation for personal/family responsibilities.”

⁵ Salary data were obtained using a categorical variable.