

2015 Final Year Engineering Student Survey – National Report

Conducted by Ipsos Reid on behalf of Engineers Canada



August 2015

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Research Objectives

- The primary objective of this research is to understand the reasons why graduates of CEAB accredited engineering programs at Canadian higher education institutions do or do not intend to apply for their licence.
- In order to achieve this objective, the research seeks to understand the following:
 - The future career and/or education plans of final year engineering students;
 - Motivations for pursuing their undergraduate degree in engineering;
 - The percentage of final year engineering students who intend to pursue a career in Engineering and the percentage who intend to apply for their P.Eng. licence.

Methodology

- The online survey was conducted between February 24 to April 3, 2015 with final year undergraduate engineering students.
- All higher education institutions' Faculties of Engineering with CEAB accredited programs were invited to participate in the study and were asked to send the online survey to all final year Bachelor's engineering students registered in their Engineering program.
- The link to the online survey was sent to the deans of faculties and each school was requested to send the survey link to all qualified students.
- The survey was offered in both English and French.
- A total of 35 higher education institutions' participated in the research and 2,010 students completed the survey.
- The margin of error for this study on the overall data (n=2,010) is $\pm 2.2\%$, 19 times out of 20.
- Statistically significant differences year or year are identified with arrows ▲ ▼, while statistically significant differences between subgroups are identified with letters (the letter(s) identify the subgroup the % is different from)

Methodology (cont'd)

- The following table outlines the number of completed interviews per participating province. The figures below represent final year engineering students registered in an engineering program in that given province.

Province	# of Completed Interviews	% of Total
British Columbia	321	16%
Alberta	270	13%
Saskatchewan	90	5%
Manitoba	23	1%
Ontario	968	48%
Quebec	225	11%
New Brunswick	43	2%
Newfoundland and Labrador	70	4%
TOTAL	2,010	100%

Key Highlights

While the vast majority of students intend on pursuing a career in engineering (89%) and intend to apply for licensure (76%), we continue to observe declines on these measure specifically among those definitely likely to do either.

- The vast majority of students continue to report they are likely (definitely/ probably) to pursue a career in engineering (89% vs. 93% in 2014, 95% in 2013) but the proportion of students who definitely will has declined for the second consecutive year (58% vs. 61% in 2014, 65% in 2013).
- Similarly, while three quarter of all students indicate they are likely (definitely/ probably) to apply for licensure (76% vs. 79% in 2014, 82% in 2013), the proportion who definitely will pursue their P.Eng. licence has declined for the second year in a row (46%, vs. 49% in 2014, 55% in 2013), while a greater proportion probably won't versus last year (12% vs. 9% in 2014, vs. 8% in 2013).
- However, those who intend to apply for licensure intend on doing so more quickly than in the past as we see an increase in those who intend to pursue their license within six months of graduation (53% vs. 43% in 2014), while fewer plan to apply after a year (6% vs. 21% in 2014). A greater proportion are also undecided than were last year (24% vs. 19% in 2014).
- Consistent with 2014, three quarters (76%) of final year engineering students say they intend to go into the workforce after graduating with their bachelors degree in Engineering while nearly two in ten (16%) intend to pursue more education after their undergraduate degree is complete. Overall, nearly four in ten students have already been offered a job in the engineering field (38%).

Key Highlights (cont'd)

Encouragingly, we continue to observe some positive shifts in students' knowledge about certain aspects of the engineering profession:

- More than eight in ten students are aware that a license is not required to practice engineering work under the supervision of a P.Eng. (84% vs. 77% in 2014, 73% in 2013) the second consecutive year awareness has increased on this measure.
- In terms of organizational responsibility, students are more likely to know that CEAB (Engineers Canada) is the organization that accredits engineering programs compared to previous years (87% vs. 74% in 2014, 70% in 2013).

Executive Summary

Future Intentions: Continuing Education Versus Entering Workforce

- Consistent with 2014, three quarters (76%) of final year engineering students say they intend to go into the workforce after graduating with their bachelors degree in Engineering, while nearly two in ten (16%) intend to pursue more education.
- Of those who plan to pursue more education, the two thirds intend to get their graduate degree in Engineering (66%), while around one in ten plan on a Master's degree in another area of study (9%), a PhD in engineering (7%) or another professional degree (7%).
- Among those students who intend to pursue a career in engineering, nearly half intend to in the province they are attending school (49%), followed by closer to two in ten who indicate elsewhere in Canada (16%) and fewer than one in ten who plan to work in the US (6%) or elsewhere in the world (7%)
- Four in ten students have already been offered a job in the engineering field (38%), of which the majority have been offered one job (58%), while one quarter have been offered two (25%) and one in ten (11%) three jobs.

Future Intentions: Engineering Career

- Nine in ten (89%) students say they are likely to pursue a career in engineering, of which around six in ten *definitely* will (58%) while one third *probably* will (32%). Fewer than one in ten students *probably* (5%) –or *definitely* (1%) *will not* pursue a career in engineering. For a second year in a row, the proportion who definitely will pursue a career in engineering has declined (58% vs. 61% in 2014, 65% in 2013).
- The top reason for not pursuing a career in engineering continues to be that engineering is not what they thought it would be. Other common reasons include that they never intended to pursue a career in engineering, that there are better employment opportunities elsewhere and that they are interested in other things.

Executive Summary (continued)

Future Intentions: Pursue Licensure

- Nearly half of all students (46%) indicate that they *definitely* intend to apply for licensure, while a further three in ten (30%) say they *probably* will. Around two in ten *probably/ definitely won't* apply (16%) while one in ten don't know (9%). For a second year in a row, the proportion who definitely intend to apply for licensure has declined (46% vs. 49% in 2014, 55% in 2013).
- Among those who do not intend on applying for licensure, the most commonly cited reasons are that it is not necessary for their career plans, followed by plans to work/ apply in another province, plans to work outside the country or a lack of interest.
- Once informed that a P.Eng. is required to practice engineering, one third of those who originally did not intend on pursuing their licensure indicate that they *definitely* (16%) or *probably* (16%) will apply, while two thirds *probably* (51%) or *definitely* (13%) will not and 5% don't know.
- Of those who intend to pursue their licence, seven in ten plan to do so within one year (70%), of which over half will do so within six months (53%), higher than in 2014 (43%). Less than one in ten plan to apply after a year (6%), lower than in 2014 (21%), while one quarter remain undecided (24%), higher than last year (19%).
- Once told that the fee for the first year of the Engineering-in-Training [EIT] program can be waived if they apply within six months of graduation, more than eight in ten (84%) students who originally intended on waiting more than six months to apply are *very* (49%) or *somewhat likely* (34%) to do so within that timeframe. Compared to 2014, fewer students are very likely to apply within 6 months even though the program fee can be waived (49% vs. 58% in 2014).

Executive Summary (continued)

Knowledge of Engineering Profession

- At over eight in ten, the vast majority of students know that a licence is required to perform engineering work independently (85%) or that it is not required to practice engineering work under the supervision of a P.Eng. (84%), while closer to seven in ten are correct that a licence is required to use the title 'Engineer' (72%).
 - Compared to 2014, students are more likely to know that a license is not required to work under the supervision of a P.Eng. (84% vs. 77% in 2014).
- Nine in ten students are able to correctly identify that their respective provincial engineering association is responsible for licensing engineers (90%) while slightly fewer know that CEAB is the organization that accredits higher education institutions' engineering programs (87%). Closer to eight in ten know that the respective provincial engineering association regulates the practice of professional engineers (83%), while three quarters feel they also promotes the interests of professional engineers (75%) compared to four in ten who indicate CEAB (40%).
 - Compared to 2014, students are more likely to know that CEAB accredits higher education institutions' engineering programs (87% vs. 74% in 2014).
- Students remain less certain about which organization licenses companies offering engineering services, just over half (55%) believe it is the respective provincial engineering association, while one third (32%) think it is CEAB and two in ten (19%) don't know.

Executive Summary (continued)

Undergraduate Program Motivations and Experience

- The most common reason students provided for choosing to study engineering was that it was related to their interests (65%), followed closely by the application of science and math (63%). Other common mentions include the practical, applied nature of the discipline (56%), followed by financial security (42%), job security (41%) and the challenge (41%).
- The vast majority of students indicate they choose to study engineering while in high school (70%), while fewer than one in ten decided when they were a small child (9%), during first year (7%) or while working (5%).
- Students' feel that by far the most important support for students during their engineering studies were family and friends (86%), followed by fewer than four in ten who mentioned faculty (36%) or individuals from a co-op/ internship (34%). Around one in ten mention off campus work (14%), engineering clubs (13%), athletics (11%), university clubs (9%) or on campus work (8%).
- In terms of extracurricular participation, more than half of students (52%) indicate having participated in off campus work during their degree program, followed by closer to one quarter who worked on campus (27%), participated in a discipline specific engineering organization (23%) or an off campus organization (23%).
- Students are most likely to feel that the single greatest barrier to completing their engineering degree is the workload of courses (32%), followed closely by school life balance (30%). Closer to one in ten indicate paying tuition (12%), followed by working and attending school simultaneously (7%) or completing first year (6%).

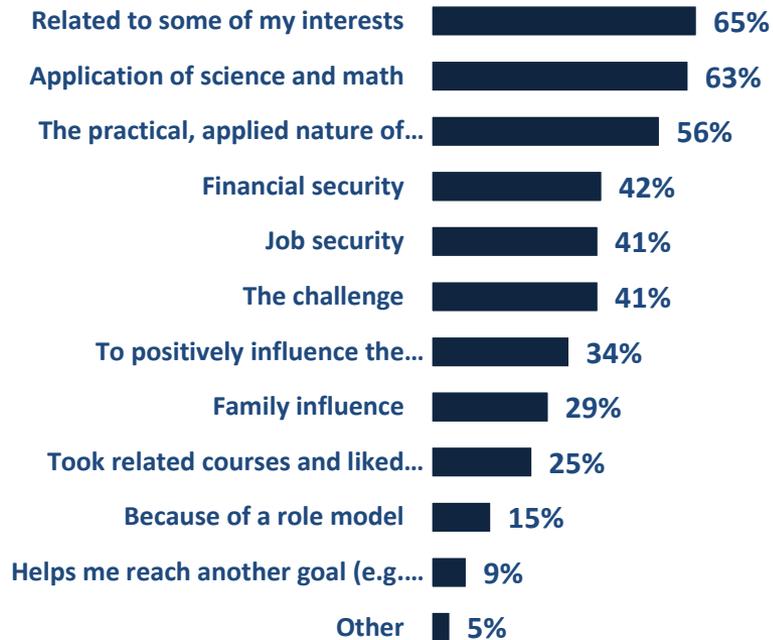
Undergraduate Motivations and Experience



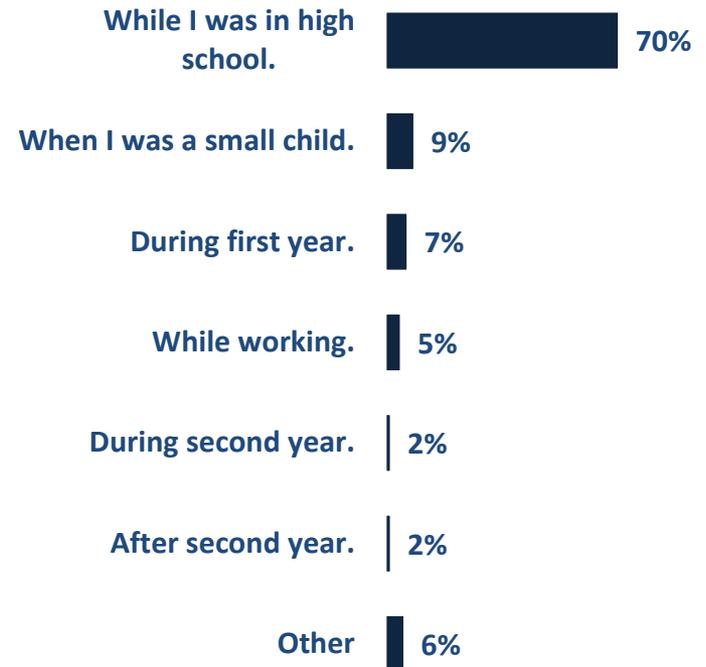
Main Reason(s) and Timing of Decision to Study Engineering

- At two-thirds, the most common reason students provided for choosing to study engineering is that it was related to their interests, followed closely by the application of science and math. Other common mentions include the practical, applied nature of the discipline, followed by financial security, job security and the challenge.
- At seven in ten, the vast majority choose to study engineering while in high school.

Main Reason(s) for studying engineering



When did you make your decision?



Q4a. Thinking back to when you decided to pursue engineering, what was the main reason you choose to study this discipline? Please select all that apply

Q4b. When did you make your decision to pursue the discipline of engineering? Please select the one option which applies most to your situation.

Base: All respondents, 2015 (n=2010)

Main Reason(s) and Timing of Decision to Study Engineering

- Continued

- Male students are more likely to have decided to study engineering because of the practical, applied nature of the discipline or because of the financial security, while female students are more likely to have done so because of the application of science and math, due to family influence or because they took related courses and liked them.
- Male students are more likely to have decided to study engineering when they were a small child or while working.

Main Reason(s) for studying engineering

	Total	Gender	
		Male	Female
Base: All respondents	(n=2010)	A (n=1497)	B (n=513)
Related to some of my interests	65%	67%	59%
Application of science and math	63%	61%	68%A
The practical, applied nature of engineering	56%	59%B	48%
Financial security	42%	44%B	36%
Job security	41%	41%	42%
The challenge	41%	40%	42%
To positively influence the world/my community	34%	33%	36%
Family influence	29%	27%	34%A
Took related courses and liked them	25%	24%	29%A
Because of a role model	15%	14%	17%
Helps me reach another goal (e.g. becoming a doctor, etc.)	9%	9%	9%
Other	5%	4%	5%

When did you make your decision?

	Total	Gender	
		Male	Female
Base: All respondents	(n=2010)	A (n=1497)	B (n=513)
While I was in high school.	70%	69%	73%
When I was a small child.	9%	10%B	6%
During first year.	7%	7%	9%
While working.	5%	6%B	2%
During second year.	2%	2%	2%
After second year.	2%	2%	2%
Other	6%	6%	6%

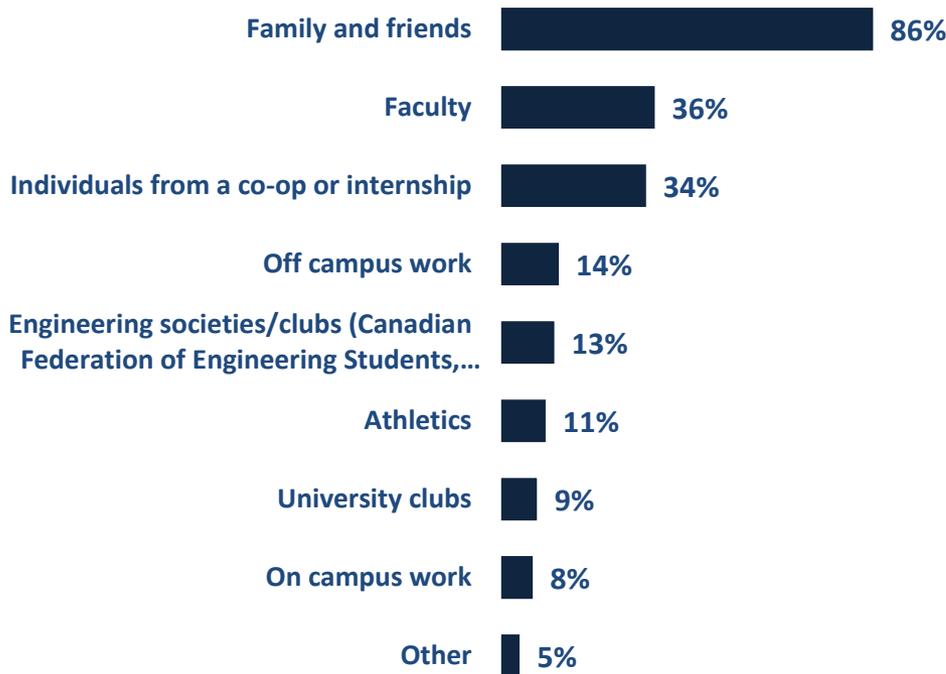
Q4a. Thinking back to when you decided to pursue engineering, what was the main reason you choose to study this discipline? Please select all that apply

Q4b. When did you make your decision to pursue the discipline of engineering? Please select the one option which applies most to your situation.

Base: All respondents, 2015 (n=2010)

Most Important Support During Engineering Studies

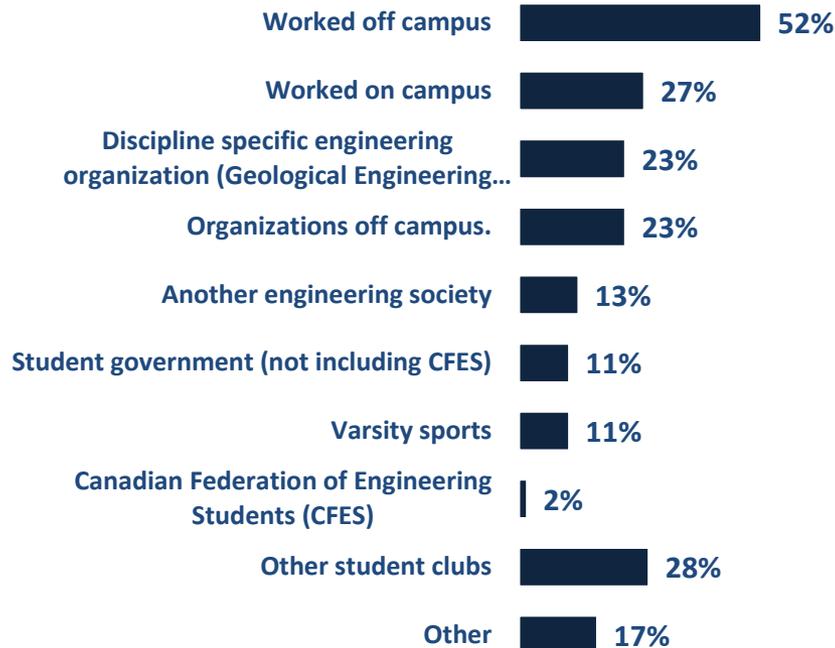
- At nearly nine in ten, by far the most important support for students during their engineering studies were family and friends, followed by fewer than four in ten who mentioned faculty or individuals from a co-op/ internship. Around one in ten mention off campus work, engineering clubs, athletics, university clubs or on campus work.
- Younger students are more likely to reference family and friends, engineering or university clubs, while older students place more importance on off campus work. Male students found off campus work more influential, while female students are more likely to reference family and friends, engineering or university clubs.



Age			Gender	
Under 23	24-26	27+	Male	Female
A (n=1198)	B (n=592)	C (n=220)	D (n=1497)	E (n=513)
88%BC	84%	82%	84%	92%D
37%	35%	41%	37%	36%
33%	38%A	31%	35%	31%
12%	14%	22%AB	15%E	11%
15%C	12%	9%	12%	18%D
11%	12%	8%	12%	9%
11%C	9%C	4%	8%	12%D
8%	7%	7%	8%	6%
5%	6%	8%	6%	4%

Extracurricular Participation During Degree Program

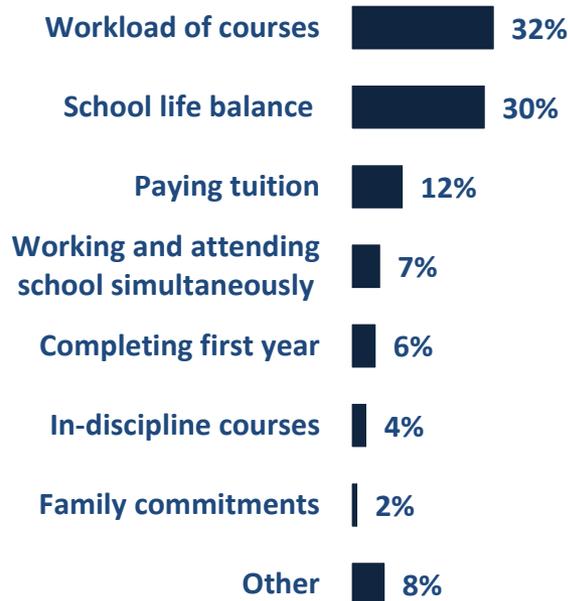
- At just over half, students are most likely to indicate having participated in off campus work during their degree program, followed by closer to one quarter who worked on campus, participated in discipline specific engineering organizations or participated in other off campus organizations.
- Younger students are more likely to have worked on campus or to be involved in discipline specific organizations or other student clubs, while older students are more likely to have worked off campus. Male students are more likely to have been involved in athletics, while female students are more likely to have worked on campus or to have been involved in discipline specific engineering organizations, student government, another engineering society or other student clubs.



Age			Gender	
Under 23	24-26	27+	Male	Female
A (n=1198)	B (n=592)	C (n=220)	D (n=1497)	E (n=513)
49%	56%A	60%A	53%	51%
30%BC	25%	20%	26%	32%D
25%B	20%	19%	21%	30%D
22%	22%	25%	22%	24%
12%	13%	16%	12%	16%D
13%C	10%	6%	10%	15%D
10%	14%C	6%	12%E	8%
2%	2%	3%	2%	3%
31%BC	25%C	16%	25%	37%D
18%	17%	14%	17%	16%

Single Greatest Barrier to Completing Engineering Degree

- At one-third, students are most likely to feel that the single greatest barrier to completing their engineering degree is the workload of courses, followed closely by school life balance. Closer to one in ten indicate paying tuition, followed by working and attending school simultaneously or completing first year.
- Younger students are more likely to feel the school life balance or workload of courses is the greatest barrier to completing their degree, while older students are more likely to reference paying tuition, working and attending school simultaneously or family commitments.



Age		
Under 23	24-26	27+
A (n=1198)	B (n=592)	C (n=220)
34%C	31%	24%
33%BC	26%	20%
11%	12%	21%AB
5%	8%A	14%AB
6%	7%	2%
4%	5%	3%
1%	2%	11%AB
7%	9%	6%

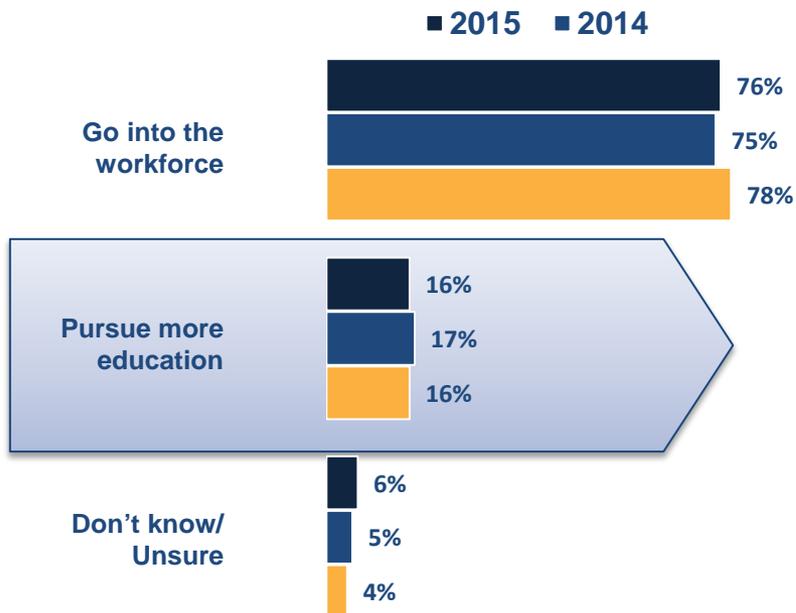
Future Plans



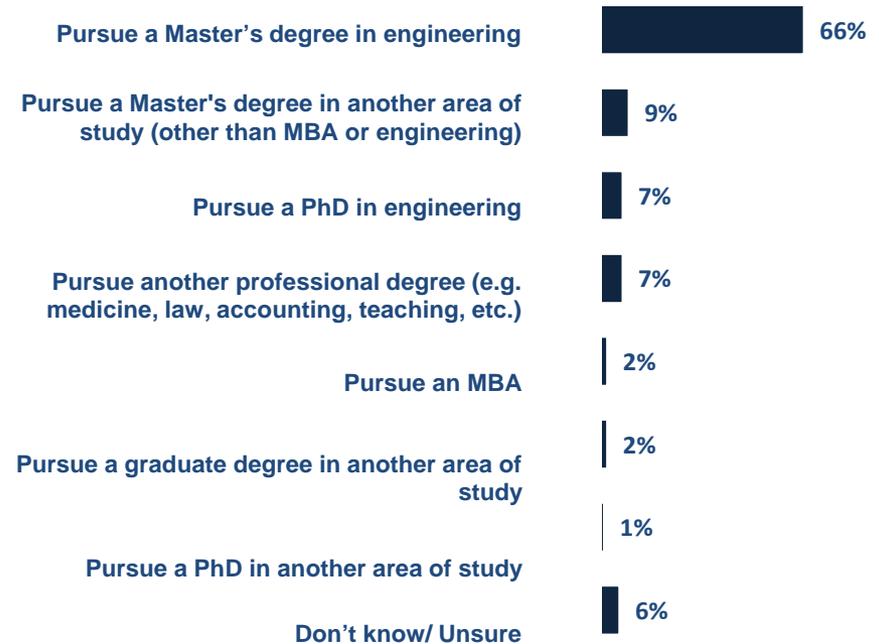
Plans After Graduation

- Consistent with 2014, the vast majority of students intend on going into the workforce after graduation, while around two in ten plan to pursue more education.
- Among those who plan to further their education, two-thirds plan to pursue a graduate degree in engineering, while around one in ten plan a Master's degree in another area of study, a PhD in engineering or another professional degree.

Current Plans After Graduation



Educational Intentions



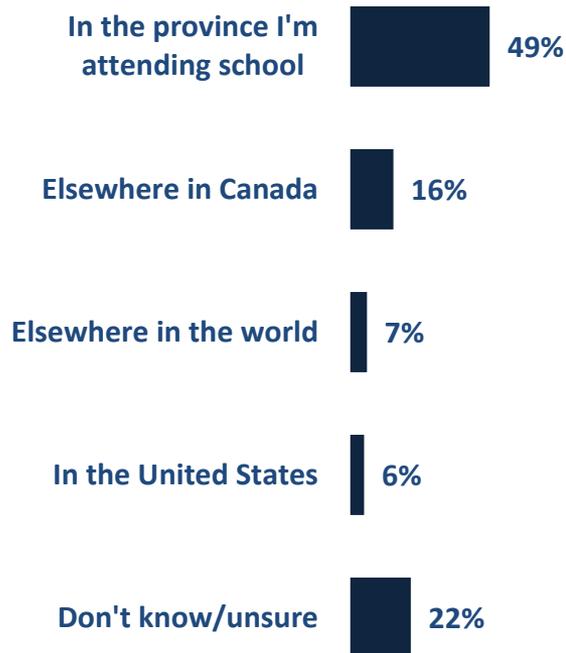
Q12. Which of the following best describes your current plans after you graduate? Base: All respondents 2013 (n=2501); 2014 (n=2046); 2015 (n=2010)

Q13. Which of the following best describes the education you plan to pursue? Base: respondents who said "more education" in Q12, 2013 (n=398); 2014 (n=355); 2015 (n=307)

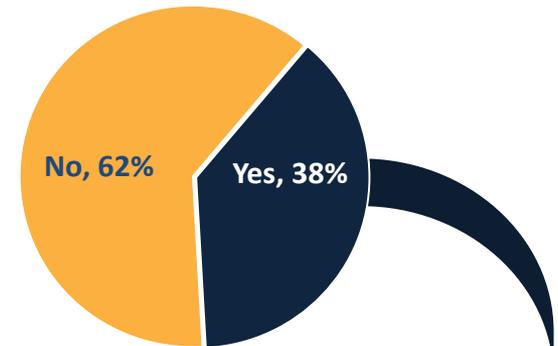
Plans for Work After Graduation

- At nearly half, students are most likely to intend on working in the province they are attending school, followed by closer to two in ten who indicate elsewhere in Canada.
- Four in ten students have already been offered a job in the engineering field, of which nearly six in ten indicate they have been offered one job, while one quarter have been offered two jobs and one in ten have been offered three.

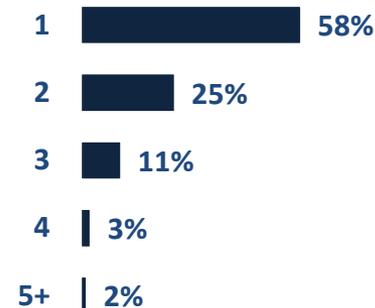
Where do you plan to work?



Have you already been offered a job(s) in the engineering?



How many jobs?



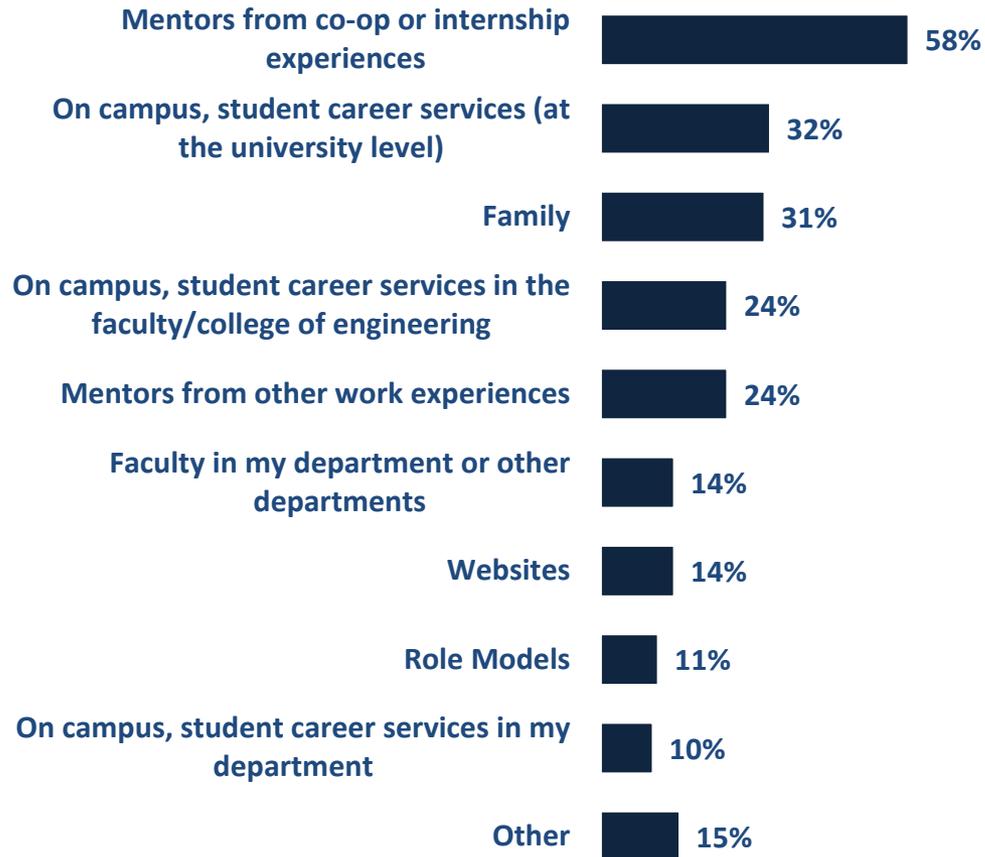
Q17d. Where do you plan to work? Base: All respondents, 2015 (n=2010)

Q17e. Have you already been offered a job(s) in the field of engineering? Base: All respondents, 2015 (n=2010)

Q17f. How many jobs have you been offered in the field of engineering? Base: Have been offered job in engineering (n=688)

Useful Resources in Finding Engineering Work

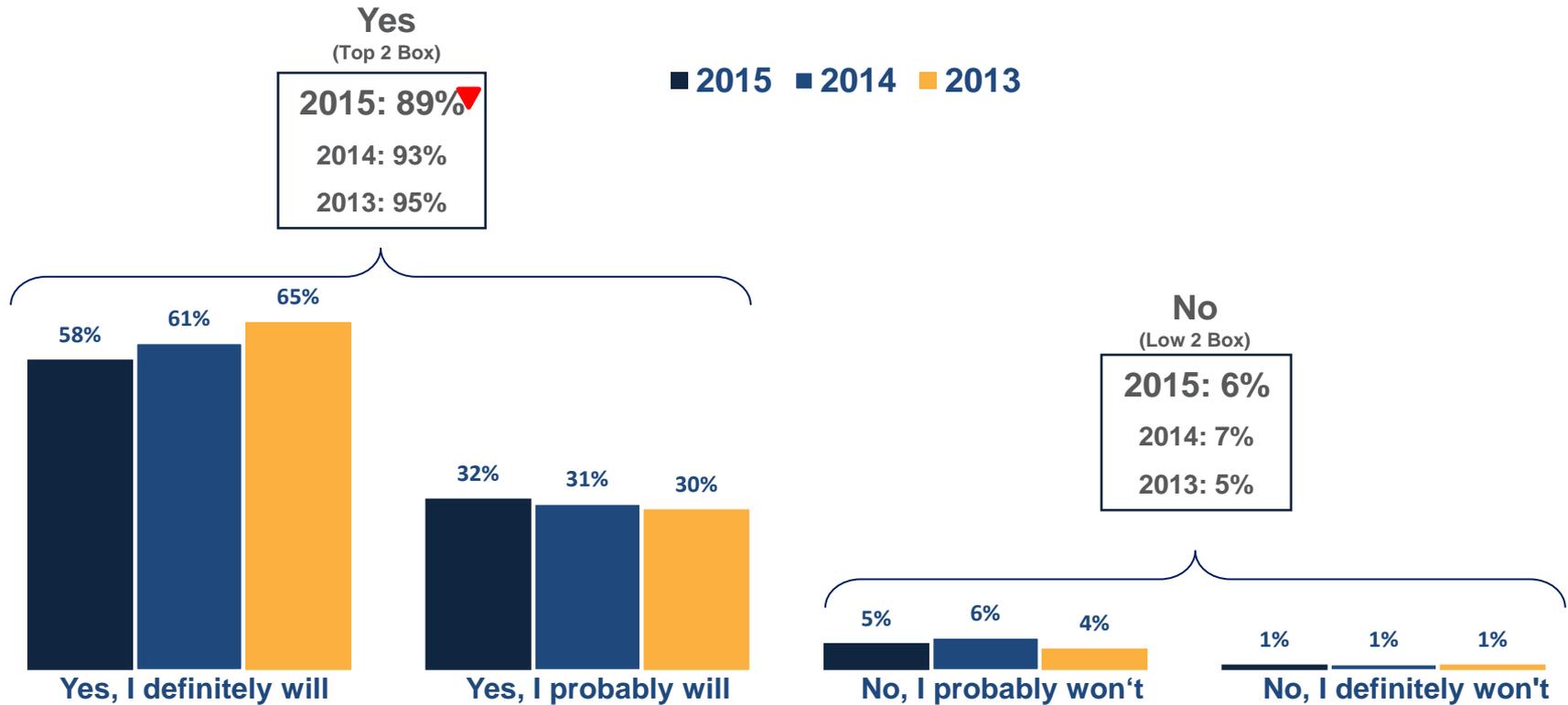
Those who have been offered a job in the engineering field are by far most likely to feel that mentors from co-op/ internship experiences were most useful to finding work. Other common mentions include on campus student career services (university level), family, faculty specific on campus student career or mentors from other work experiences.



Intention to Pursue Engineering Career

- Nine in ten students intend on pursuing a career in the engineering field after completing their education.
- For a second year in a row, the proportion who definitely will pursue a career in engineering has declined, but remains high at nearly six in ten.

Do You Plan to Pursue a Career in the Engineering Field?



Intention to Pursue Engineering Career (cont'd)

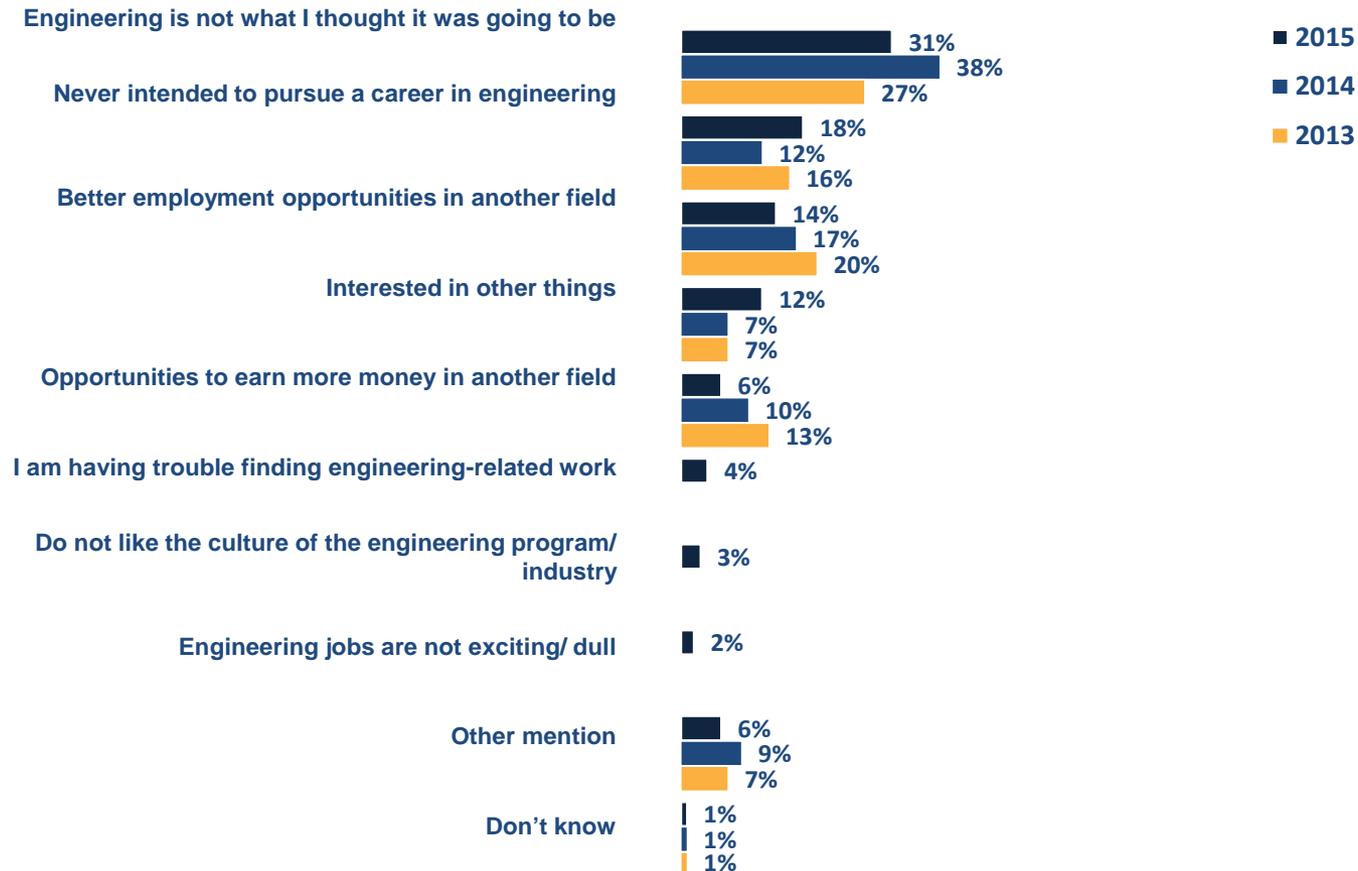
Older students, males and permanent residents of the province they are studying are more likely to *definitely* intend on pursuing a career in engineering.

		Age			Gender		Resident Status		
	Total	Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
Base: All respondents	(n=2010)	A (n=1198)	B (n=592)	C (n=220)	D (n=1497)	E (n=513)	F (n=1641)	G (n=199)	H (n=170)
Yes, I definitely will	58%	54%	61%A	70%AB	60%E	52%	58%G	50%	59%
Yes, I probably will	32%	34%C	30%	24%	30%	36%D	31%	36%	28%
No, I probably won't	5%	6%C	4%	2%	4%	6%	4%	8%F	7%
No, I definitely won't	1%	1%	1%	1%	1%	1%	1%	2%	1%

Reasons for Not Pursuing Engineering

- The top reason for not pursuing a career in engineering continues to be that engineering is not what they thought it would be, but directionally less so than in previous years. Other common mentions include that they never intended to pursue a career in engineering, that there are better employment opportunities elsewhere and that they are interested in other things.

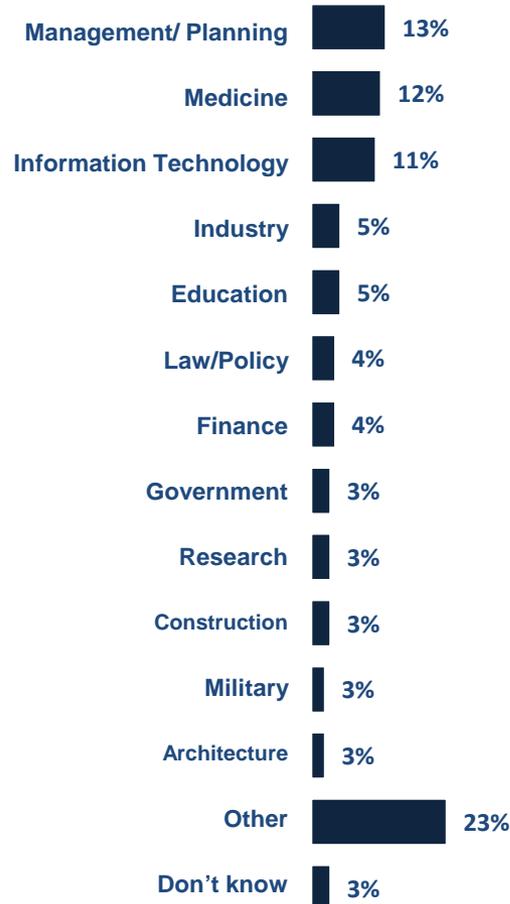
Reasons for Not Pursuing Engineering



Intended Career Outside of Engineering

- Among those who do not intend to pursue a career in engineering, a wide variety of career options are mentioned of which management/ planning, medicine and IT are most common.

Intended Career Outside of Engineering (Does Not Plan to Pursue Engineering Career)



**mentions of 2% or less not shown*

Q17. What type of career do you plan to pursue?

Base: Respondents who said No (definitely /probably) in Q14,2013 (n=135); 2014 (n=146) ; 2015 (n=118)

Mentions may add to more than 100% as respondents were able to provide more than one response

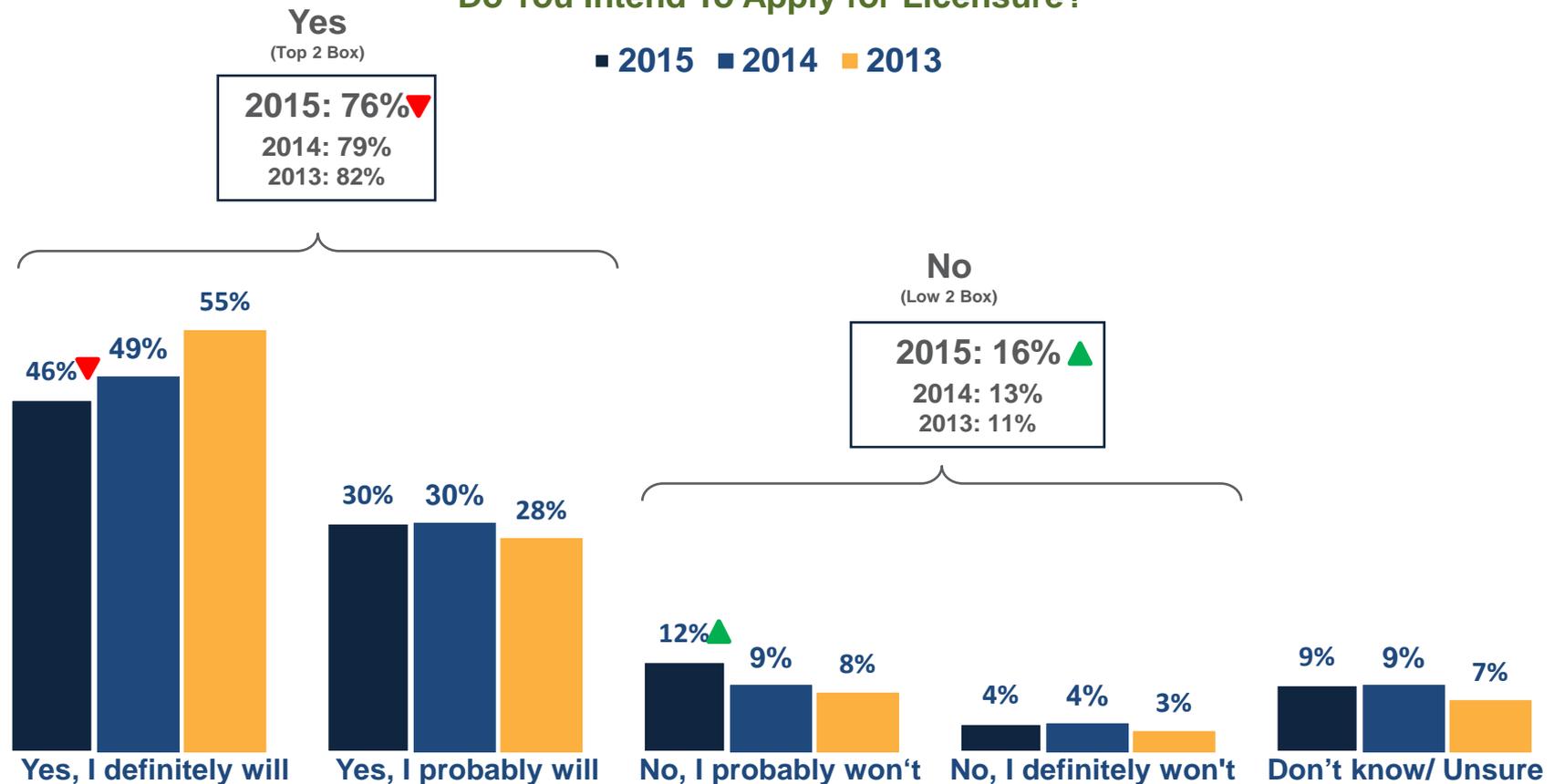
Application Intentions for Professional Engineering Licensure



Intention to Apply for Licensure

- Three quarters of students intend on applying for licensure, of which nearly half definitely will, lower than in 2014 and the second decline in two years, while three in ten probably will. Around two in ten do not intend on applying for their P.Eng., while one in ten don't know.
- Compared to 2014, students are statistically less likely to indicate that they definitely intend on applying for licensure and statistically more likely to indicate they probably won't apply.

Do You Intend To Apply for Licensure?



Intention to Apply for Licensure

- Older students and specifically those over 27 years old and permanent residents of the province they are studying are much more likely to definitely intend on pursuing their licensure.

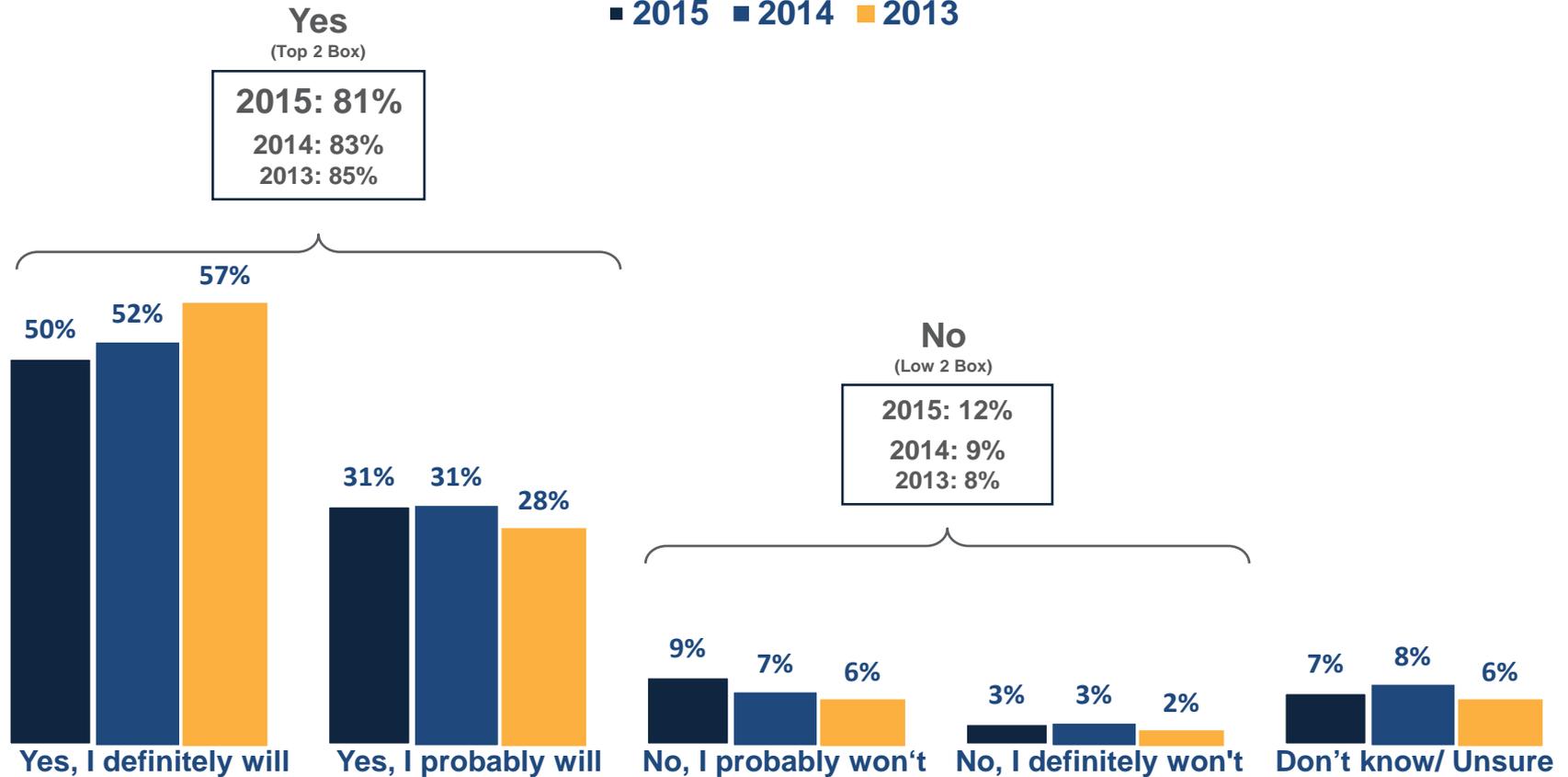
	Total	Age			Gender		Resident Status		
		Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
Base: All respondents	(n=2010)	A (n=1198)	B (n=592)	C (n=220)	D (n=1497)	E (n=513)	F (n=1641)	G (n=199)	H (n=170)
Yes, I definitely will	46%	43%	47%	57%AB	47%	43%	50%GH	24%	33%
Yes, I probably will	30%	31%	31%	25%	30%	32%	31%	23%	28%
No, I probably won't	12%	13%C	10%	7%	11%	12%	9%	28%FH	18%F
No, I definitely won't	4%	4%	3%	4%	4%	4%	3%	12%FH	6%F
Don't know/ unsure	9%	9%	9%	7%	9%	9%	7%	14%F	15%F

Intention to Apply for Licensure -Pursuing Engineering Career

- Among those students who intend to pursue a career in engineering, half definitely intend to apply for licensure while three in ten probably will. Around one in ten probably/ definitely won't apply, while 7% don't know.

Do You Intend To Apply for Licensure?

■ 2015 ■ 2014 ■ 2013



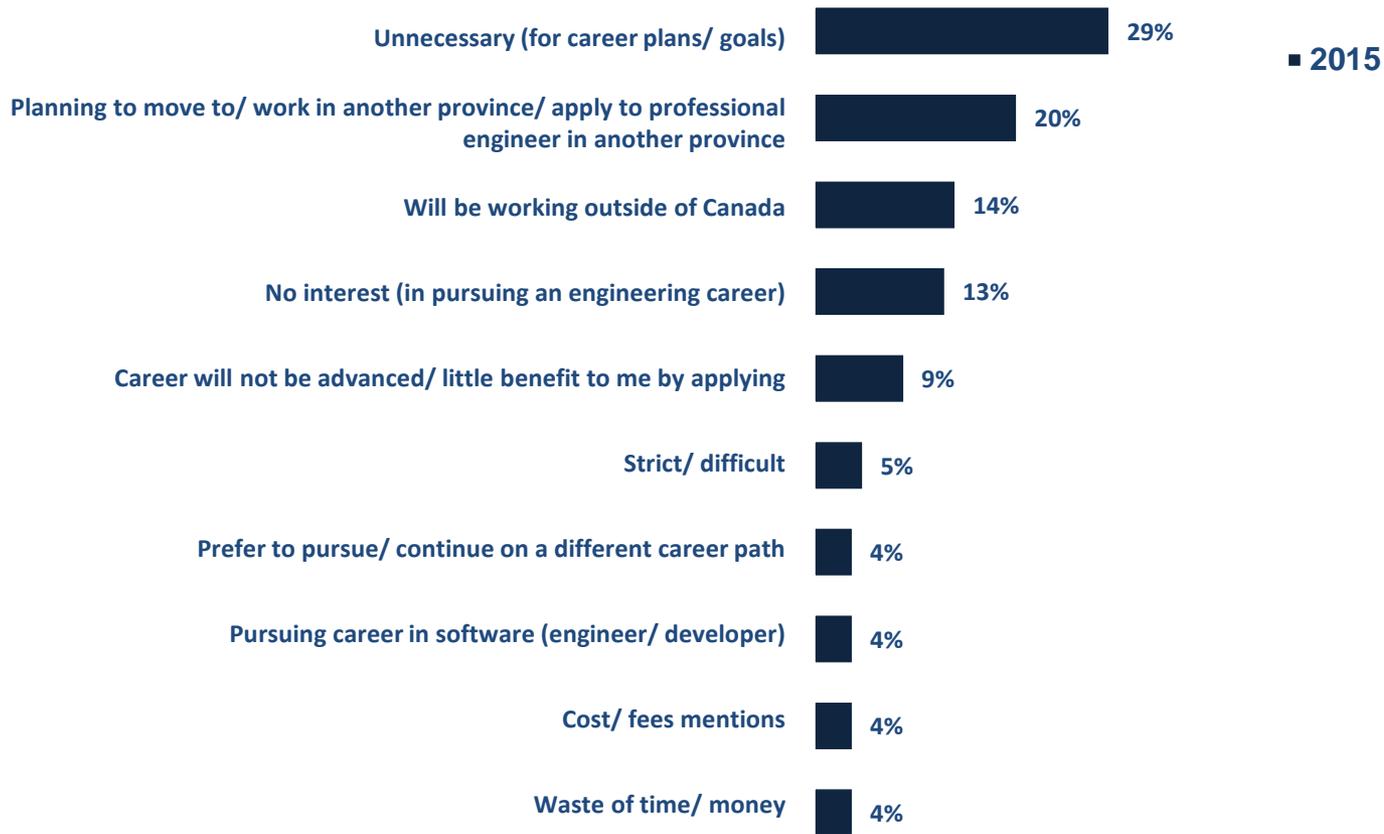
Q21. Do you intend to apply for licensure as a Professional Engineer (P.Eng.)?

Base: Respondents who intend to pursue a career in the engineering field 2013 (n=2366); 2014 (n=1900); 2015 (n=1795)

Reasons for Not Applying for Licensure

- Among those who do not intend on applying for licensure, the most cited reasons are that it is not necessary for their career plans, followed by plans to work/ apply in another province, plans to work outside the country or a lack of interest.

Why do you not intend to pursue the P.Eng. Licence?

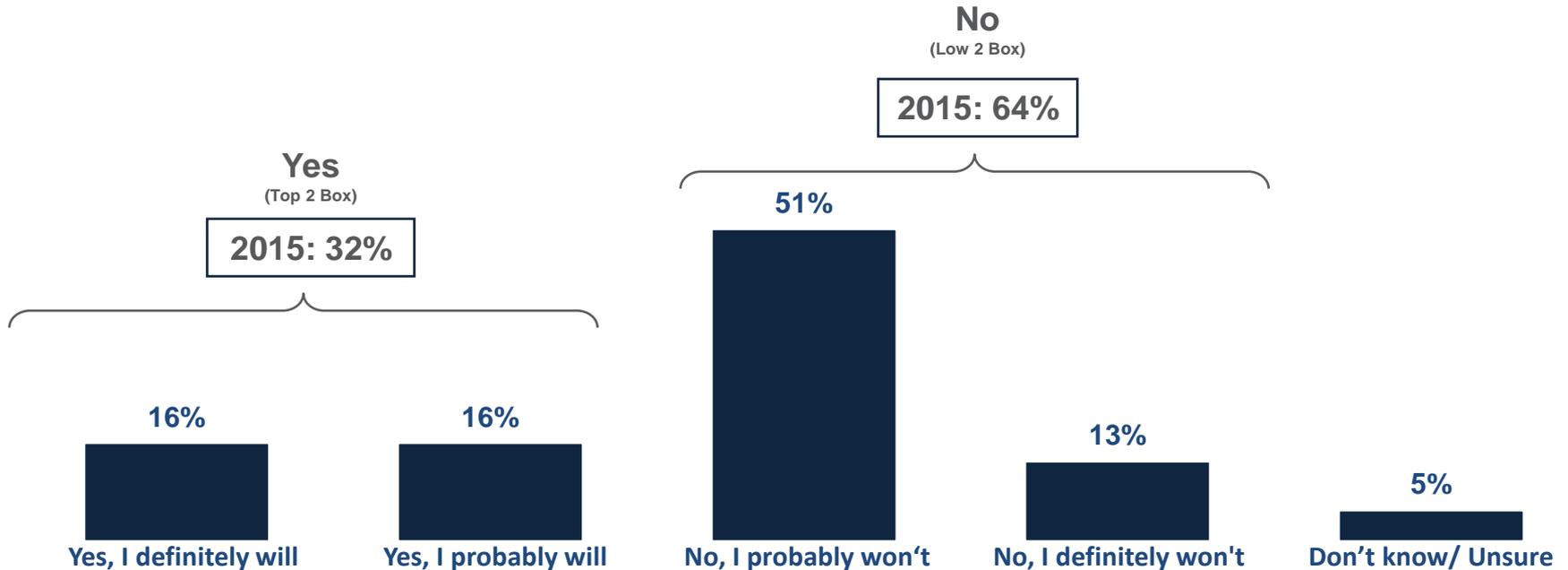


Mentions <4% are not shown

Interest Once Told P.Eng. Licence is Required to Practice

- Once informed that a P.Eng. is required to practice engineering, one third indicate that they definitely or probably will apply, while two thirds definitely or probably will not and 5% don't know.

Given that a Licence is Required to Practice Engineering, Do You Intend to Apply?



Interest Once Told P.Eng. Licence is Required to Practice

- After being told that a P.Eng. is required to practice engineering, older students and permanent residents of another province than that they are studying are much more likely to definitely intend on pursuing their licensure.

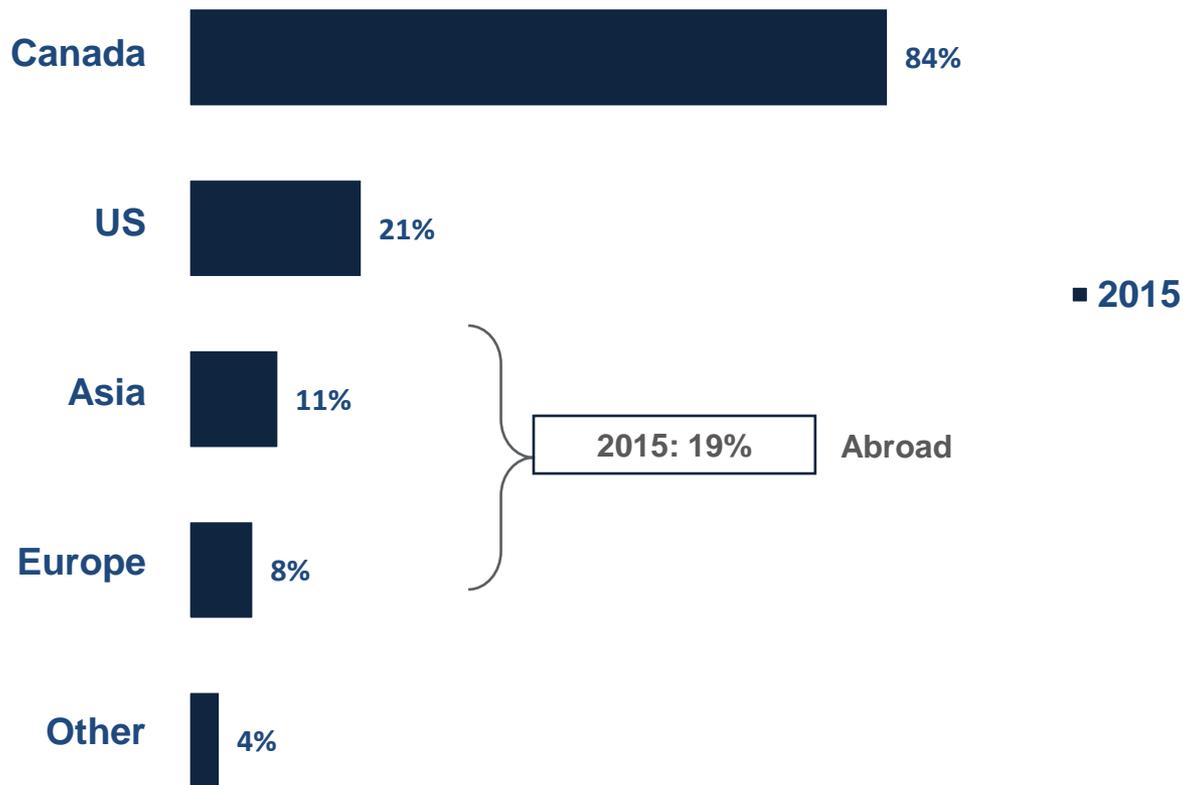
		Age			Gender		Resident Status		
	Total	Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
		A	B	C	D	E	F	G	H
Base: Respondents who do not intend to apply for a licensure or are not sure	(n=312)	(n=208)	(n=80)	(n=24)	(n=229)	(n=83)	(n=193)	(n=79)	(n=40)
Yes, I definitely will	16%	11%	21%	38%A	17%	13%	9%	37%FG	5%
Yes, I probably will	16%	16%	20%	4%	14%	23%	9%	24%F	35%F
No, I probably won't	51%	55%	44%	38%	52%	46%	60%GH	32%	43%
No, I definitely won't	13%	14%	10%	21%	12%	16%	16%	8%	13%
Don't know/ unsure	5%	5%	5%	-	5%	2%	6%	-	5%

Intended Country of Application

- Among those who intend on applying because it is required to practice

- Among those students who intend on applying for licensure after being told it is required to practice, the vast majority intend on doing so in Canada, while two in ten plan to apply in the US or abroad.

Where Do You Intend to Apply for Licensure?



Mentions may add to more than 100% as respondents were able to select more than one response

Application Timeframe

- At just over half, the majority of those who plan to apply for licensure intend to do within 6 months of graduation, while fewer than two in ten plan to apply within a year of graduating. Less than one in ten plan on applying for than a year after graduation and one quarter don't know.
- Compared to 2014, students are significantly more likely to indicate they plan to apply for licensure within six months of graduation or don't know, while fewer intend on applying more than a year after graduation.

When Do You Plan to Apply for Licensure?

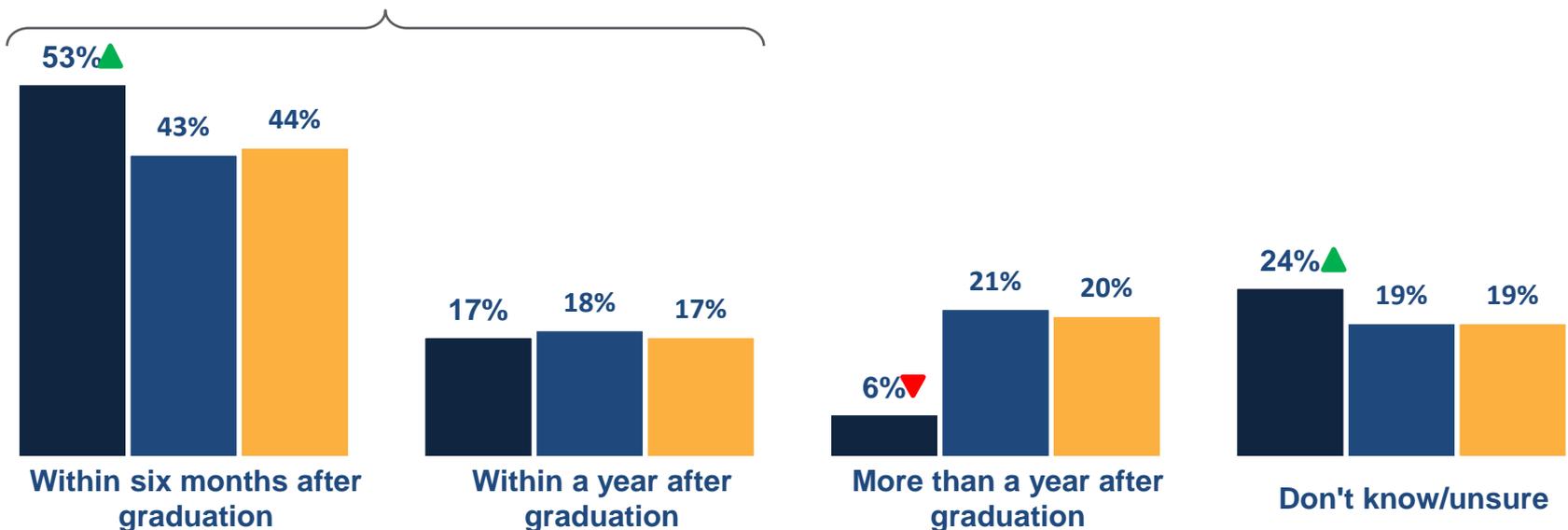
■ 2015 ■ 2014 ■ 2013

Apply Within 1 Year (Top 2 Box)

2015: 70%▲

2014: 60%

2013: 61%



Q27. Do you intend to apply for licensure...?

Base: Respondents who plan to apply for licensure, 2013 (n=2288); 2014 (n=1815); 2015 (n=1797)

Application Timeframe

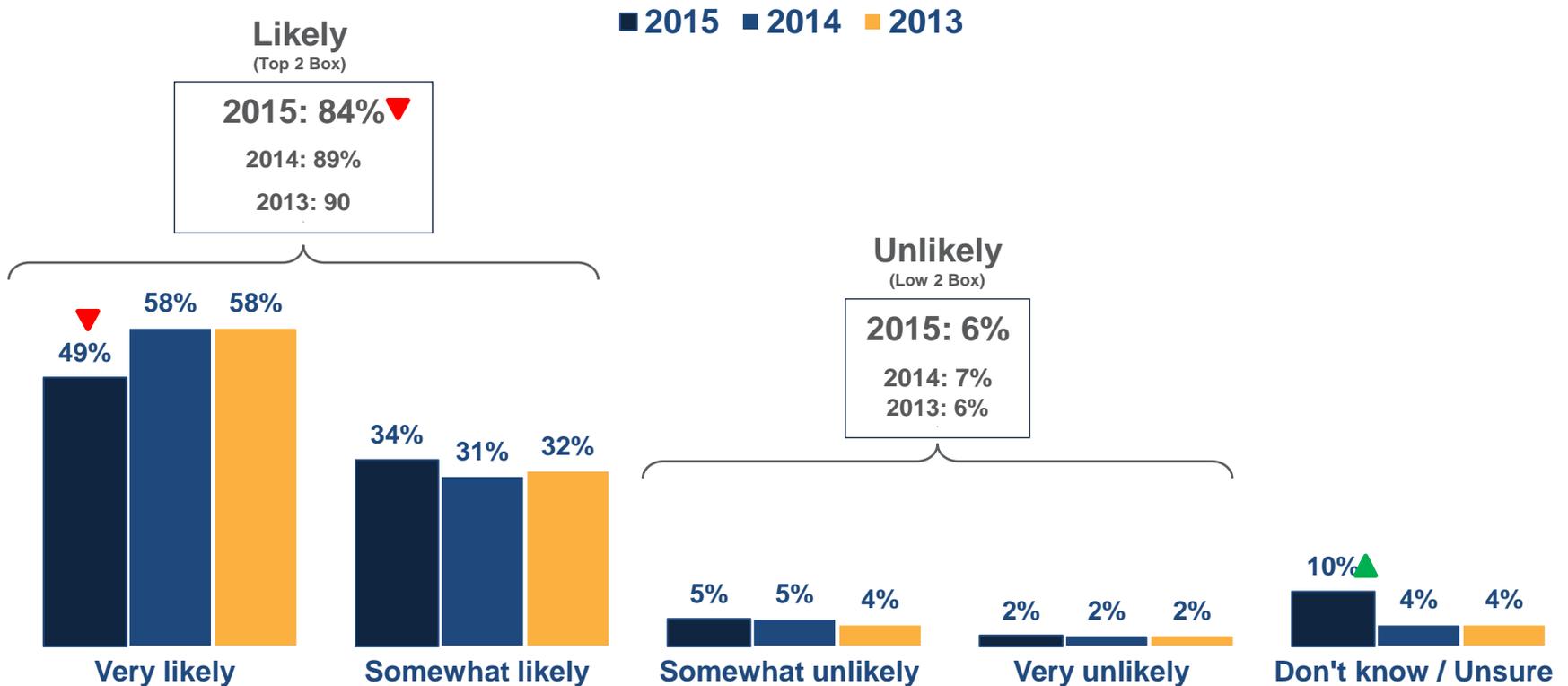
- Older students and specifically those over 27 years old and permanent residents of Canada are more likely to plan on applying for licensure within six months of graduation. Younger students are more likely to be unsure, while international students are more likely to intend on applying within a year of graduation.

		Age			Gender		Resident Status		
	Total	Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
		A	B	C	D	E	F	G	H
Base: Respondents who plan to apply for licensure	(n=1797)	(n=1044)	(n=545)	(n=206)	(n=1337)	(n=460)	(n=1483)	(n=168)	(n=146)
Within six months after graduation	53%	51%	51%	67%BC	54%	50%	54%H	55%H	40%
Within a year after graduation	17%	17%	17%	15%	17%	17%	16%	15%	25%FG
More than a year after graduation	6%	7%	6%	3%	6%	7%	6%	8%	5%
Don't know/ unsure	24%	25%C	25%C	15%	23%	27%	24%	23%	30%

Impact of Waiving EIT Fees on Likelihood to Apply within Six Months

- Once told that EIT fees are waived for those applying within six months of graduation, more than eight in ten students who originally intended on waiting more than six months to apply are now very or somewhat likely to do so within that timeframe.
- Compared to 2014, students are statistically less likely to feel they would be very likely to apply within six months of graduation, while a greater proportion indicate they don't know.

Would you Apply Within 6 Month if Eligible to Have 1st Year EIT Fees Waived?



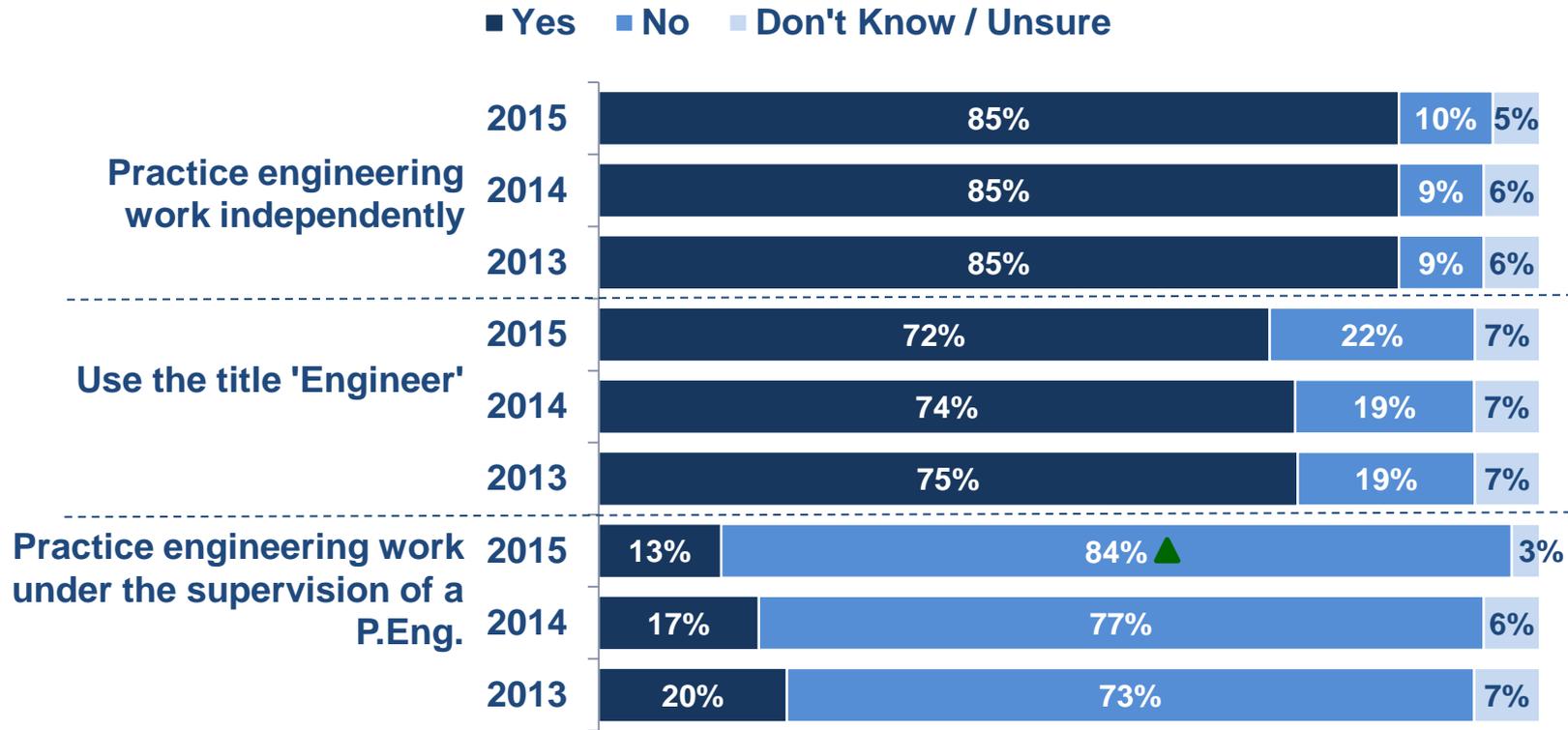
Licensing Knowledge



Licensing for Roles within Engineering

- At over eight in ten, the vast majority of students know that a licence is required to perform engineering work independently or that it is not required to practice engineering work under the supervision of a P.Eng., while closer to seven in ten know that a licence is required to use the title 'Engineer'
- Compared to 2014, students are more likely to know that a license is not required to work under the supervision of a P.Eng.

Is a Licence Required Before Being Able to Do the Following?



Licensing for Roles within Engineering

- Younger students, and specifically those under 23, are more likely to know that a license is required to practice engineering work independently, while permanent residents of the province they are studying are more likely to know it is required to use the title 'Engineer'. International students are less likely to know that a license is not required to work under the supervision of a P.Eng.

% Yes	Total	Age			Gender		Resident Status		
		Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
Base: All respondents	(n=2010)	A (n=1198)	B (n=592)	C (n=220)	D (n=1497)	E (n=513)	F (n=1641)	G (n=199)	H (n=170)
Practice engineering work independently	72%	74%BC	68%	67%	72%	70%	71%	75%	68%
Use the title 'Engineer'	85%	85%	83%	83%	85%	83%	85%H	83%	79%
Practice engineering work under the supervision of a P.Eng.	13%	11%	15%A	15%	13%	13%	11%	12%	27%FG

Knowledge of Licensing and Roles

- Nine in ten final year engineering students have at least a moderate level of knowledge of when a licence is required to legally perform actions/ duties within the engineering profession and more than half were correct in all three areas. One in ten have either little or no knowledge on the subject.
- Compared to 2014, students are less likely to have a moderate level of knowledge and directionally more likely to have a high level of knowledge.

Knowledge Level of Engineering Practices Requiring a Licence

■ 2015 ■ 2014 ■ 2013

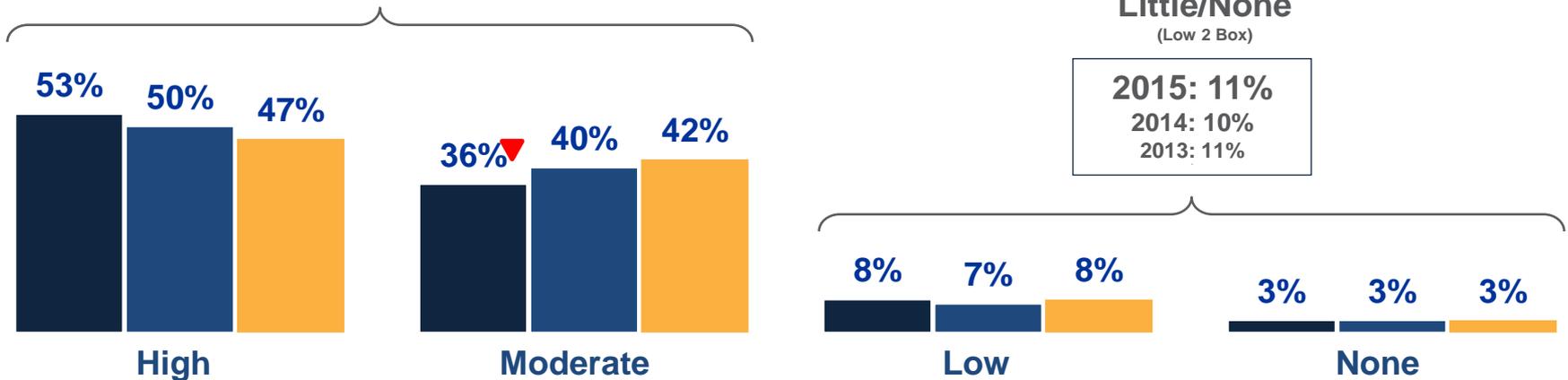
High/Moderate (Top 2 Box)

2015: 89%
2014: 90%
2013: 89%

*Knowledge Levels Defined

Defined

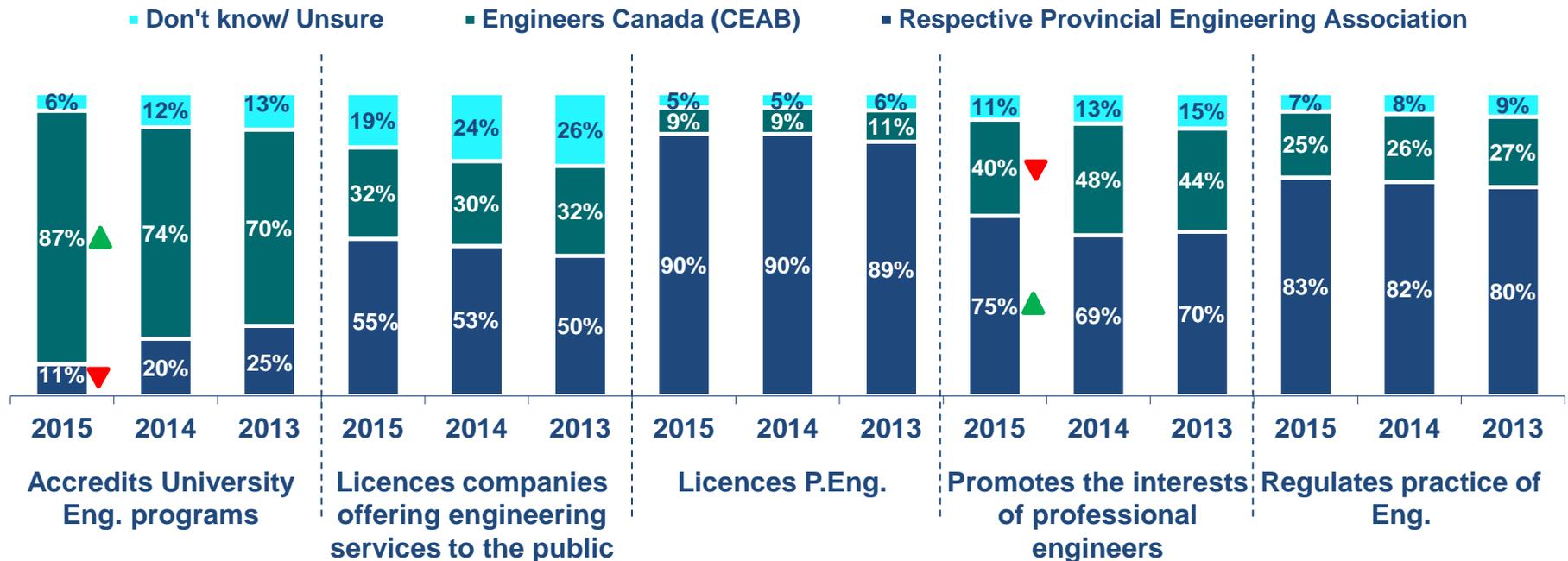
High: All Correct (3) in Q8
Moderate: 2 Correct in Q8
Low: 1 Correct in Q8
None: Zero (0) Correct in Q8



Organizational Responsibilities

- At nine in ten, the vast majority of students are able to correctly identify that the respective provincial engineering association is the organization responsible for licensing engineers, while slightly fewer know that CEAB is the organization that accredits university engineering programs. Closer to eight in ten know that the respective provincial engineering association regulates the practice of professional engineers, while three quarters feel they also promote the interests of professional engineers compared to four in ten who indicate CEAB.
- Students remain less certain about which organization licenses companies offering engineering services, just over half believe it is the respective provincial engineering association, while one third think it is CEAB and two in ten don't know.
- Compared to 2014, students are more likely to know that CEAB accredits university engineering programs.

Which Organization is Responsible for Each of the Follow Activities?



Mentions may add to more than 100% as respondents were able to select more than one response

Knowledge of Organizational Responsibility

- Over nine in ten students have at least a moderate level of knowledge concerning organizational responsibilities relating to the engineering profession. More than four in ten have perfect knowledge, statistically higher than in 2014, while around half have a moderate level of knowledge, lower than in the previous year. Fewer than one in ten have either a low level or no knowledge.

Knowledge Level of Organizational Responsibility within the Engineering Profession

■ 2015 ■ 2014 ■ 2013

Knowledge Levels Defined

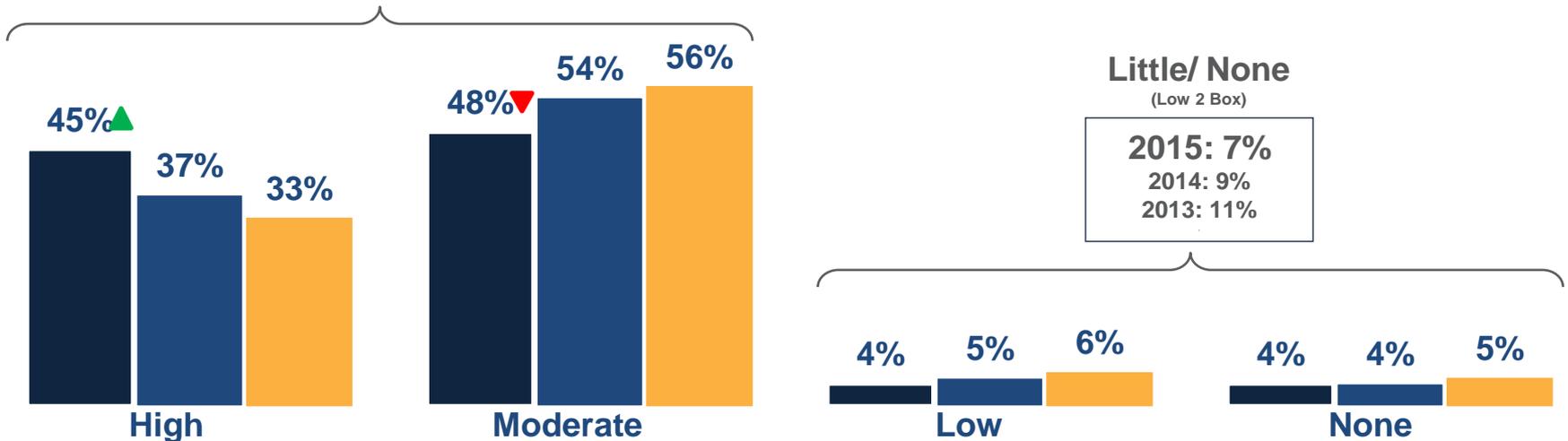
High: All Correct in Q9 (4)
Moderate: 2 or 3 Correct in Q9
Low: 1 Correct in Q9
None: All Incorrect (0) in Q9

High/ Moderate (Top 2 Box)

2015: 93%
 2014: 91%
 2013: 89%

Little/ None (Low 2 Box)

2015: 7%
 2014: 9%
 2013: 11%

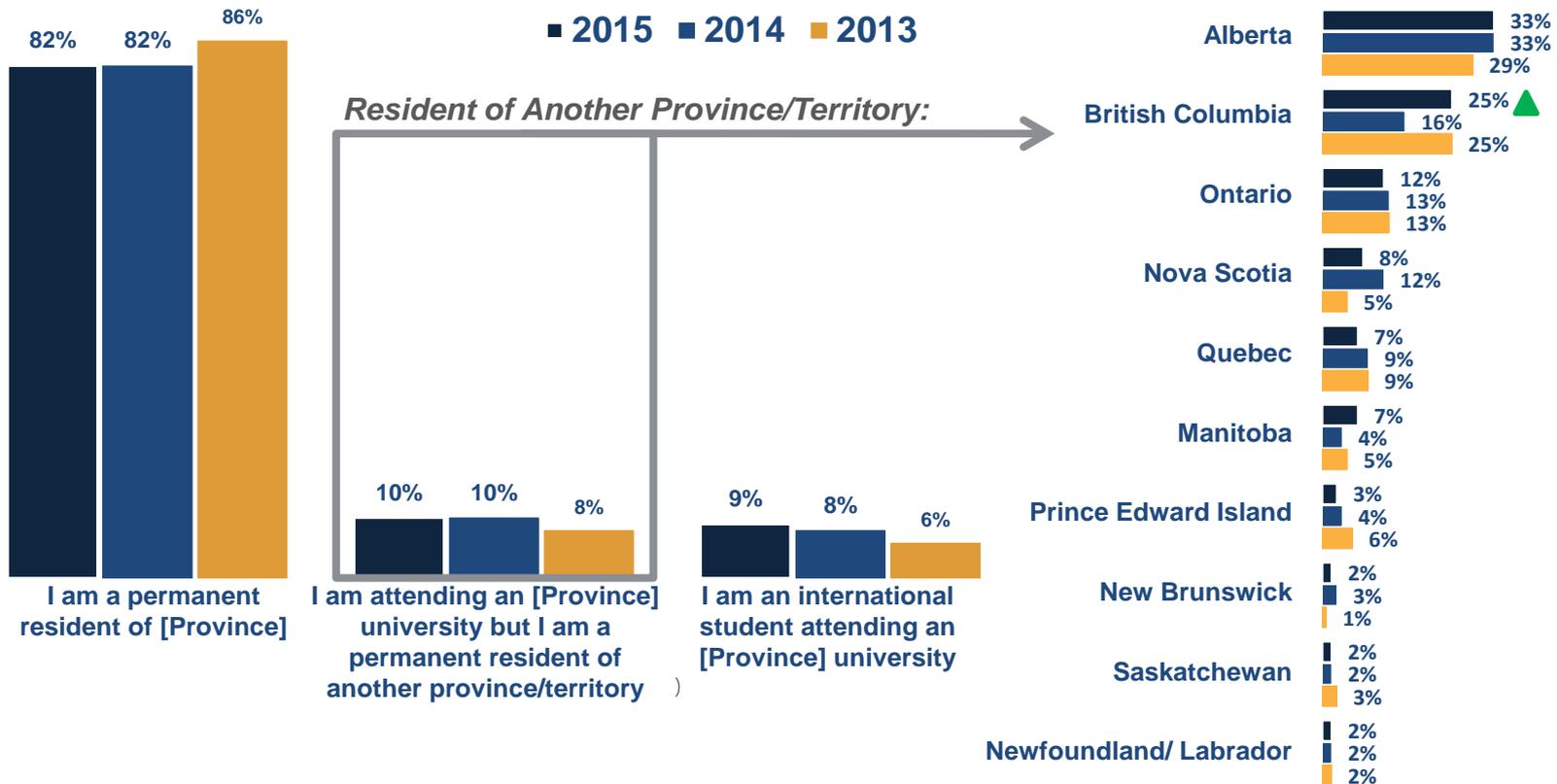


Demographics



Permanent Residency

- Eight in ten students are permanent residents of the province they are studying in, while one in ten are a resident of another province/ territory or are an international student.
- Of those who are a permanent resident of another province, one third are from Alberta, one quarter from British Columbia and one in ten from Ontario. Compared to 2014, students attending school in another province/territory are more likely to be from BC.



Mentions <2% are not shown

Q34. For statistical purposes, we would like to know the location of your permanent residence. Please select the statement that most appropriately describes your current residency status: ?

Base: All respondents, 2013 n=2501; 2014 (n=2046); 2015 (n=2010)

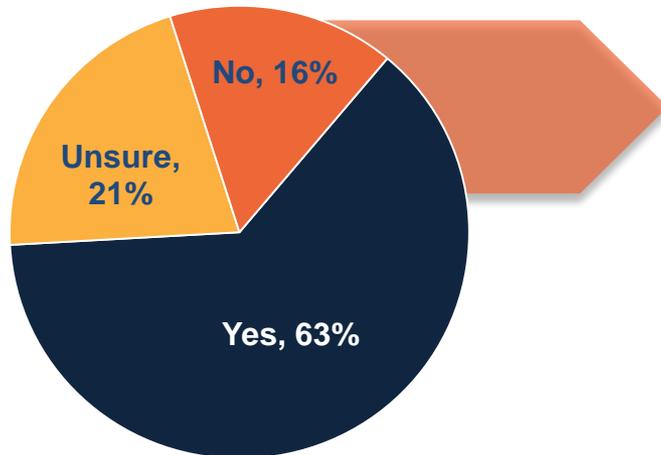
Q35. You indicated that you are attending university in but are a permanent resident of another province/territory. Please select the province or territory in which you are a permanent resident.

Base: Respondents who are not permanent residents of , 2013 (n=195); 2014 (n=202); 2015 (n=199)

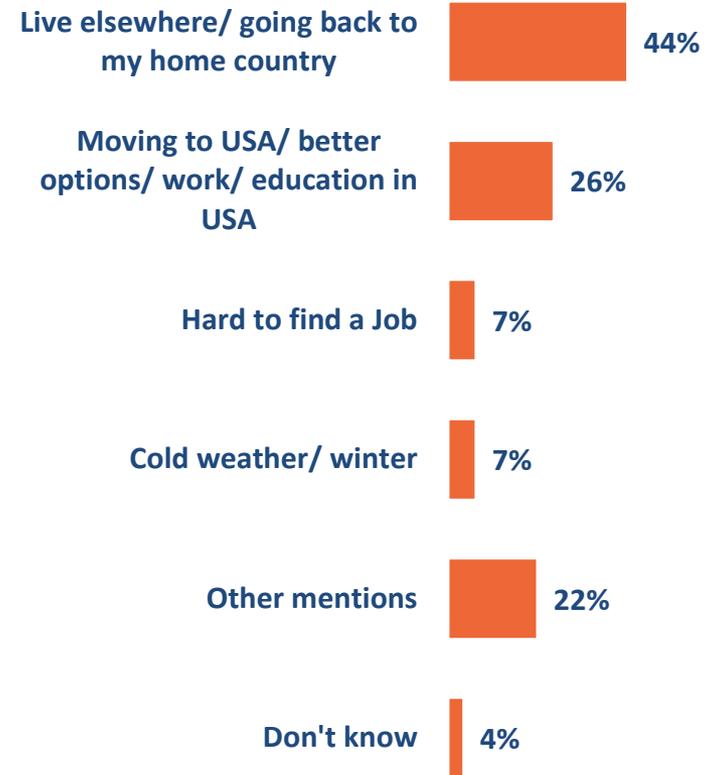
International Students' Plans After Graduation

- Nearly two thirds of international students plan on staying in Canada after graduation, while two in ten are unsure and slightly fewer do not plan on staying.
- Among those who do not plan on staying in Canada, the most common reason is to go back to their home country, followed by plans to move to the US for better education/ work options.

Do you plan on staying in Canada after your bachelor's degree is complete?

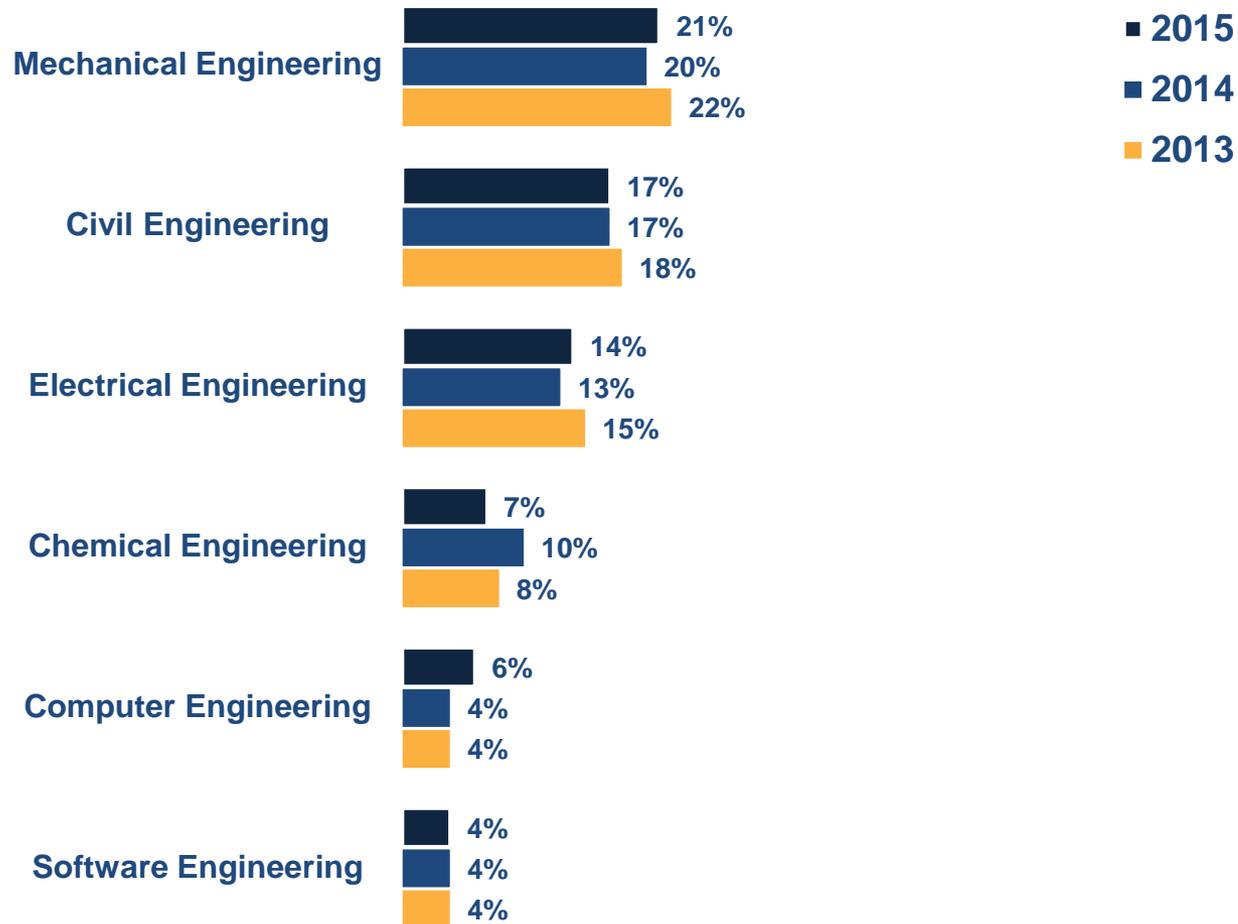


Why do you not intend on staying in Canada?



Engineering Disciplines

- The most popular disciplines continue to be mechanical engineering, civil engineering, electrical engineering, chemical engineering and computer engineering.



Mentions <3% are not shown

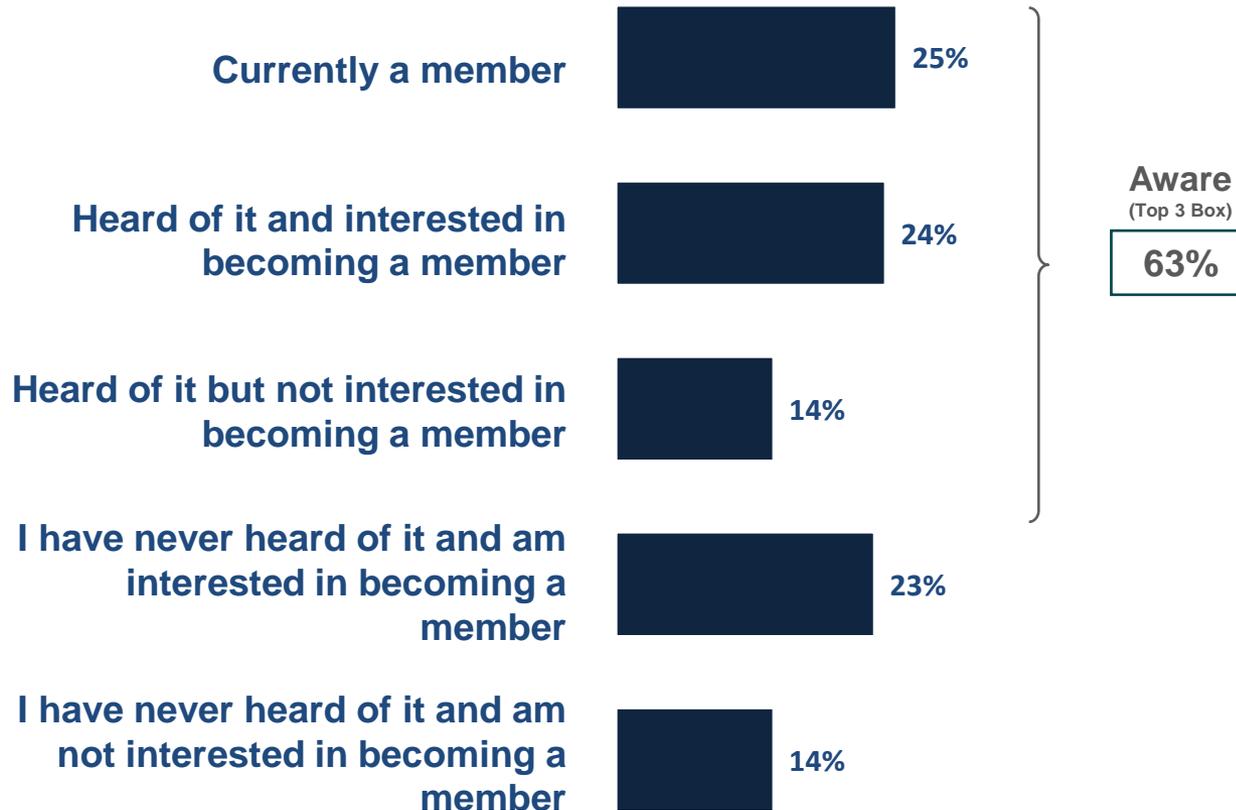
Engineering Disciplines

- Older students are more likely to indicate studying computer engineering, while younger students are more to be mention chemical engineering. Male students are more likely to be studying mechanical engineering or electrical engineering, while female students are more likely to be studying chemical engineering.

		Age			Gender	
	Total	Under 23	24-26	27+	Male	Female
Base: All respondents	(n=2010)	(n=1198)	(n=592)	(n=220)	(n=1497)	(n=513)
Mechanical Engineering	21%	22%	22%	19%	23%E	17%
Civil Engineering	17%	17%	18%	15%	17%	17%
Electrical Engineering	14%	12%	15%	17%	15%E	10%
Chemical Engineering	7%	8%C	6%	3%	5%	11%D
Computer Engineering	6%	6%	4%	11%AB	6%	5%
Software Engineering	4%	4%	4%	4%	4%	2%

Association with Provincial Engineering Association's SMP

- The majority of students are aware of provincial engineering association Student Membership Programs (SMP), of which one quarter are current members or heard of it and are interested in becoming a member while around one in ten have heard of it but are not interested. Further, nearly one quarter have never heard of Student Membership Programs but are interested in becoming a member while around one in ten have never heard of the programs and are not interested in becoming a member.



Demographics- Gender, Age, Ethnicity

Gender	
Male	75%
Female	26%

Ethnicity	
British	31%
Western European	24%
East Asian	17%
Southern or Eastern European	16%
South Asian	9%
West Asian or Middle Eastern	5%
Southeast Asian	4%
African or African American	4%
Aboriginal/First Nations/Métis	2%
Central/South American	2%
Caribbean	1%
Other	7%
Prefer not to say	3%

Age	
21-23	60%
24-26	30%
27+	11%

Impact of Knowledge of Licensing and Roles



Knowledge of Licensing and Roles & Intention to Pursue Engineering Career

- At the overall level, knowledge in terms of roles and licensing requirements does not influence intent to pursue a career in the engineering field.
- Compared to 2014, those with a moderate level of knowledge are less likely to be definitely likely to pursue a career in engineering, while those with a low level of knowledge are less likely to probably do so.

**Knowledge Levels Defined*
High: All Correct (3) in Q8
Moderate: 2 Correct in Q8
Low: 1 Correct in Q8
None: Zero (0) Correct in Q8

	HIGH KNOWLEDGE			MODERATE KNOWLEDGE			LOW KNOWLEDGE			NO KNOWLEDGE		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
	D			E			F			G		
	n=1183	n=1017	n=1073	n=1043	n=825	n=717	n=196	n=147	n=168	n=79	n=57	n=52
Yes, Definitely	66% F	61%	58%	66% F	63%	58% ▼	56%	56%	62%	57%	63%	48%
	780	623	618	690	516	413	110	82	104	45	36	25
Yes, Probably	29%	32%	32%	28%	30%	32%	38% DE	39% E	27% ▼	39% E	35%	46% DE F
	346	320	340	290	246	226	74	57	45	31	20	24
No, Probably	4%	6%	5%	5%	7%	5%	6%	5%	3%	4%	2%	4%
	47	64	50	49	56	39	11	8	5	3	1	2
No, Definitely	1%	1%	1%	1%	1%	1%	1%	-	2%	-	-	2%
	10	10	12	14	7	5	1	0	4	0	0	1
Top 2 Box Yes	95%	93%	89%	94%	92%	89%	94%	95%	89%	96%	98%	94%
	1126	943	958	980	762	639	184	139	149	76	56	49
Low 2 Box No	5%	7%	6%	6%	8%	6%	7%	5%	5%	4%	2%	6%
	57	74	62	63	63	44	12	8	9	3	1	3

Knowledge of Licensing and Roles & Intention to Apply for Licensure

- Students with a high or moderate degree of knowledge of roles and licensing requirements are significantly more likely than those with a low level of knowledge/ no knowledge to intend to apply for licensure.
- Compared to 2014, those with a moderate level of knowledge or no knowledge are less likely to be definitely likely to apply for licensure and more likely to probably not apply.

*Knowledge Levels Defined
High: All Correct (3) in Q8
Moderate: 2 Correct in Q8
Low: 1 Correct in Q8
None: Zero (0) Correct in Q8

	HIGH KNOWLEDGE			MODERATE KNOWLEDGE			LOW KNOWLEDGE			NO KNOWLEDGE		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
	D			E			F			G		
	n=1183	n=1017	n=1073	n=1043	n=825	n=717	n=196	n=147	n=168	n=79	n=57	n=52
Yes, Definitely	57%	49% F	49% ^E _F G	55%	50% F	44% ^G ▼	41%	38%	36%	43%	46%	29% ▼
	674	497	529	577	416	313	80	56	61	34	26	15
Yes, Probably	27%	29%	29%	27%	32%	31%	35%	34%	32%	32%	32%	29%
	320	294	311	283	260	225	68	50	54	25	18	15
No, Probably	7%	10% E	10%	8%	7%	13% ▲	10%	13% EG	14%	8%	4%	21% ^D ▲
	86	106	108	86	57	90	20	19	24	6	2	11
No, Definitely	3%	4%	4%	2%	3%	4%	4%	4%	5%	-	4%	8%
	36	38	41	26	26	25	8	6	9	0	2	4
Top 2 Box Yes	84%	78%	78% ^F _G	82%	82%	75% ^G ▼	76%	72%	69%	75%	77%	58% ▼
	994	791	840	860	676	538	148	106	115	59	44	30
Low 2 Box No	10%	14% E ▲	14%	11%	10%	16%	14%	17% E	20%	8%	7%	29% ^D _E
	122	144	149	112	83	115	28	25	33	6	4	15

Impact of Knowledge of Organizational Responsibility



Knowledge of Organizational Responsibility & Intention to Pursue Engineering Career

- Overall, knowledge of organizational responsibility has no significant impact on intention to pursue an engineering career. However, students with a high degree of knowledge are significantly more likely than those with a moderate level to be definitely likely to pursue a career in engineering.
- Compared to 2014, students with a moderate level of knowledge are less likely to be definitely likely to pursue a career in engineering while those with a high level of knowledge are less likely to probably not do so.

Knowledge Levels Defined

High: All Correct in Q9 (4)

Moderate: 2 or 3 Correct in Q9

Low: 1 Correct in Q9

None: All Incorrect (0) in Q9

	HIGH KNOWLEDGE			MODERATE KNOWLEDGE			LOW KNOWLEDGE			NO KNOWLEDGE		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
	H			I			J			K		
	n=832	n=766	n=906	n=1408	n=1098	n=954	n=143	n=111	n=77	n=118	n=71	n=73
Yes, Definitely	69% JK	62% K	60% I	65% K	62% K	56% ▼	57%	58%	53%	52%	48%	56%
	571	476	547	911	683	531	82	64	41	61	34	41
Yes, Probably	26%	28%	30%	29%	32%	33%	38% HI	37%	36%	43% HI	41% H	30%
	220	217	272	415	356	313	55	41	28	51	29	22
No, Probably	4%	9%	5% ▼	5%	5%	5%	3%	5%	1%	4%	9%	8%
	30	67	44	70	51	45	5	5	1	5	6	6
No, Definitely	1%	1%	1%	1%	1%	1%	1%	1%	3%	1%	3%	1%
	11	6	7	12	8	12	1	1	2	1	2	1
Top 2 Box Yes	95%	91%	90%	94%	95%	89% ▼	95%	95%	90%	95%	89%	86%
	791	693	819	1326	1039	844	137	105	69	112	63	63
Low 2 Box No	5%	10% I	6%	6%	5%	6%	4%	5%	4%	5%	11% I	10%
	41	73	51	82	59	57	6	6	3	6	8	7

Knowledge of Organizational Responsibility & Intention to Apply for Licensure

- Students with a high degree of knowledge are significantly more likely to intend to apply for licensure than those with less knowledge.
- Compared to 2014, those with a moderate degree of knowledge are less likely to definitely intend to apply for licensure and more likely to probably not.

Knowledge Levels Defined

High: All Correct in Q9 (4)
Moderate: 2 or 3 Correct in Q9
Low: 1 Correct in Q9
None: All Incorrect (0) in Q9

	HIGH KNOWLEDGE			MODERATE KNOWLEDGE			LOW KNOWLEDGE			NO KNOWLEDGE		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
	H			I			J			K		
	n=832	n=766	n=906	n=1408	n=1098	n=954	n=143	n=111	n=77	n=118	n=71	n=73
Yes, Definitely	57% K	50% JK	52% IJK	55% K	50% JK	42% K ▼	54% K	40%	36%	38%	31%	25%
	473	386	468	770	543	404	77	44	28	45	22	18
Yes, Probably	27%	30%	28%	27%	30%	32%	31%	39% I	26%	31%	34%	32%
	228	231	256	387	324	306	45	43	20	36	24	23
No, Probably	8%	9%	10%	8%	8%	13% ▲	5%	9%	14%	8%	17% HI	14%
	67	70	91	114	92	121	7	10	11	10	12	10
No, Definitely	3%	3%	2%	3%	4%	4%	1%	4%	9% H	3%	4%	14% HI
	22	25	21	42	40	41	2	4	7	4	3	10
Top 2 Box Yes	84% K	81% K	80% IKL	82% K	79% K	74% JK ▼	85% K	78% K	62%	69%	65%	56%
	701	617	724	1157	867	710	112	87	48	81	46	41
Low 2 Box No	11%	13%	12%	11%	13%	17% H ▲	6%	14%	23% H	12%	25%	27% HI
	89	95	112	156	132	162	9	14	18	14	15	20

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