

2015 Final Year Engineering Student Survey – Western* Canada Report

Conducted by Ipsos Reid on behalf of Engineers Canada



August 2015

*British Columbia, Alberta, Saskatchewan, and Manitoba

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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 Western Canadian higher education institutions do or do not intend to apply for their license. For the purpose of this report, Western Canada includes British Columbia, Alberta, Saskatchewan, and Manitoba.
- 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 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 engineering students registered in their Engineering program.
- The link to the online survey was sent to the higher education institutions and each school was requested to send the survey link to all qualified students.
- The survey was offered in both English and French.
- Nationally, a total of 35 higher education institutions participated in the research and 2,010 students completed the survey. Within Western provinces specifically, 11 schools participated and a total of n=704 students completed the survey.
- The margin of error for Western Canadian participants (n=704) is $\pm 3.7\%$, 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).

Key Highlights

While the vast majority of students intend on pursuing a career in engineering (92%), we observe a decline in those *definitely* likely to do so for the second consecutive year (64% vs. 70% in 2014, vs 75% in 2013). The proportion of students who intend to apply for licensure (82%) remains strong and consistent with 2014 (83%).

- As noted, the vast majority of students continue to report they are likely (definitely/ probably) to pursue a career in engineering (92% vs. 94% in 2014, 97% in 2013) but the proportion of students who *definitely will* has declined for the second consecutive year (64% vs. 70% in 2014, vs 75% in 2013).
- More than eight in ten of all students indicate they are likely (definitely/ probably) to apply for licensure (82% vs. 83% in 2014, 90% in 2013), consistent with last year, of which more than half *definitely* will pursue their P.Eng. Licence (54%) and three in ten *probably* will (28%). One in ten (11%) do not intend on applying for their P.Eng. or don't know (7%).
- 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 (68% vs. 42% in 2014), while fewer plan to apply more than a year after (4% vs. 20% in 2014). Fewer are also undecided than were last year (15% vs. 21% in 2014).
- Consistent with 2014, the vast majority (84%) of final year engineering students intend to go into the workforce after graduating with their bachelors degree in Engineering, while one in ten (10%) intend to pursue more education after their undergraduate degree is complete.
- Overall, four in ten students have already been offered a job in the engineering field (39%).

Key Highlights (cont'd)

- Encouragingly, we observe some positive shifts in students' knowledge about certain aspects of the engineering profession compared to last year:
- Nearly nine in ten students are aware that a license is not required to practice engineering work under the supervision of a P.Eng. (85% vs. 78% in 2014, 81% in 2013), statistically higher than in 2014.
- In terms of organizational responsibility, students are more likely to know that CEAB (Engineers Canada) is the organization that accredits higher education institutions' engineering programs than last year (85% vs. 69% in 2014, 73% in 2013).

Executive Summary

Undergraduate Program Motivations and Experience

- The most common reason students provided for choosing to study engineering is 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 (55%), job security (42%) and the challenge (41%).
- Two thirds of students (67%) indicate having decided to study engineering while in high school, while one in ten did so during first year (10%) or when they were a small child (10%). Fewer than one in ten did so while working (6%), after second year (2%) or during second year (2%).
- Students' feel that by far the most important support for students during their engineering studies were family and friends (86%), followed by one third who mentioned individuals from a co-op/ internship (36%) and slightly fewer who said faculty (34%). Fewer than two in ten mention off campus work (16%) while closer to one in ten said engineer societies/ clubs (13%), university clubs (12%) or athletics (9%).
- In terms of extracurricular participation, two thirds of students (64%) indicate having worked off campus during their degree program, followed by three in ten who participated in an off campus organization (31%). Closer to one quarter participated in a discipline specific engineering organizations (27%), an other student club (26%) or worked off campus (23%).
- Students are most likely to feel that the single greatest barrier to completing their engineering degree is the workload of courses (35%), followed closely by school life balance (28%). Closer to one in ten indicate paying tuition (11%), followed by working and attending school simultaneously (7%) and completing first year (6%).

Executive Summary (continued)

Future Intentions: Continuing Education Versus Entering Workforce

- More than eight in ten (84%) final year engineering students say they intend to go into the workforce after graduating with their bachelor's degree in engineering, while one in ten (10%) intend to pursue more education.
- Of those who plan to pursue more education, nearly two thirds (63%) intend to pursue their master's degree in engineering, while fewer than one in ten plan to pursue a PhD in engineering (8%), another professional degree (8%) or a master's degree in another area of study (6%).
- Among those students who intend to pursue a career in engineering, more than half intend to in the province they are attending school (56%), while closer to one in ten (13%) indicate elsewhere in Canada, 5% elsewhere in the world and 4% in the US.
- Four in ten students have already been offered a job in the engineering field (39%), of which six in ten have been offered one job (59%), while by nearly one quarter have been offered two jobs (23%) and one in ten have been offered three (13%).

Future Intentions: Engineering Career

- Over nine in ten (92%) students say they are likely to pursue a career in engineering, of which two thirds *definitely* will (64%), while three in ten *probably* will (28%). Only 4% of students *probably* (3%) –or – *definitely* (1%) *will not* pursue a career in engineering while 5% don't know. Compared to 2014, the proportion who definitely will pursue a career in engineering has declined (64% vs. 70% in 2014, 75% in 2013) and the proportion who don't know has increased (this option wasn't provided in previous years).
- 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 mentions include that they never intended to pursue a career in engineering, that there are better employment opportunities elsewhere, they are interested in other things or that there are opportunities to earn more money elsewhere.

Executive Summary (continued)

Future Intentions: Pursue Licensure

- More than half of all students (54%) indicate that they *definitely* intend to apply for licensure, while nearly three in ten (28%) *probably* will. One in ten *probably/ definitely won't* apply (11%) while fewer don't know (7%). There have been no statistically significant shifts in intention to pursue licensure.
- Among those who do not intend to pursue licensure, the most commonly cited reasons are that it is not necessary for their career plans, followed by plans to move to another province, a lack of interest or that they will be working outside of Canada.
- Once told that a licence is required to legally refer to yourself as an engineer and practice as an engineer, three in ten students (31%) who originally did not plan or were unsure of their intentions now indicate they are definitely (22%) or probably likely (9%) to apply for licensure. Six in ten (62%) however still indicate that they do not intend to apply, while one in ten (8%) are unsure.
- Of those who intend to pursue their licence, nine in ten plan to do so within one year (81%), of which nearly seven in ten will do so within six months (68%), significantly higher than in 2014 (42%), the remaining one in ten plan to apply within a year of graduating (13%). Only 4% plan to apply more than a year after graduating, while just over one in ten don't know (15%).
- 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, nine in ten (89%) students who originally intended on waiting more than six months to apply are *very* (58%) or *somewhat likely* (31%) to do so within that timeframe. Compared to 2014, students are significantly less likely to be *very likely* to apply within that timeframe (58% vs. 64% in 2014).

Executive Summary (continued)

Knowledge of Engineering Profession

- At nearly nine in ten, the vast majority of students know that a license is required to perform engineering work independently (86%) or that a license is not required to practice engineering work under the supervision of a P.Eng. (85%), statistically higher than in 2014 (78%). Two thirds know that it is required to use the title 'Engineer' (65%).
- Nine in ten students are able to correctly identify that the respective provincial engineering association is the organization responsible for licensing engineers (92%) and that it also regulates the practice of professional engineers (89%), while slightly fewer know that Engineers Canada is the organization that accredits higher education institutions' engineering programs (85%), significantly higher than in 2014 (69% in 2014).
- Students are less certain about which organization licenses companies offering engineering services, nearly six in ten believe it is the respective provincial engineering association (58%), while one third (32%) think it is Engineers Canada and two in ten don't know (18%), lower than last year (23% in 2014).

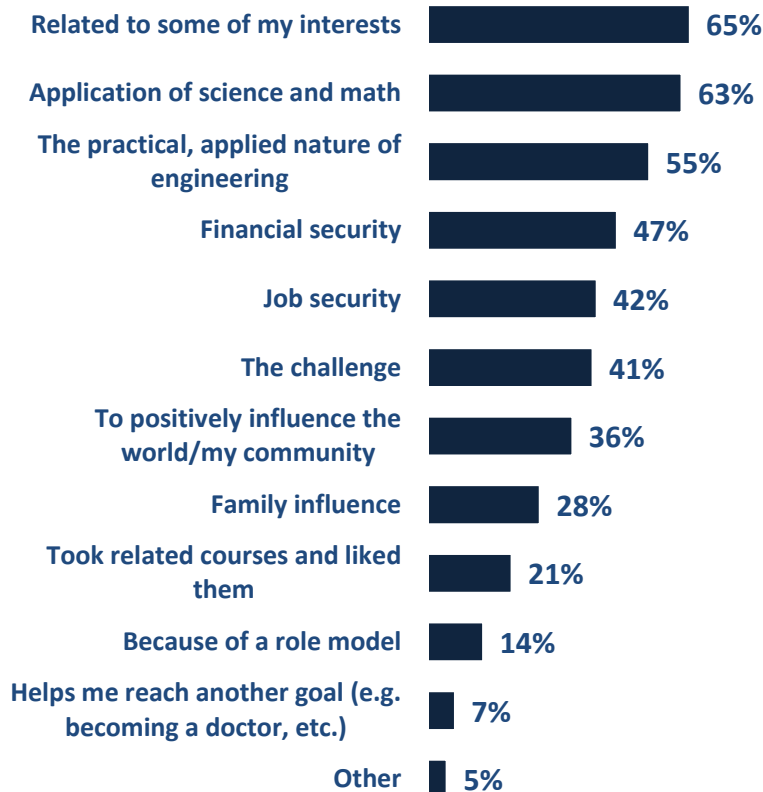
Undergraduate Motivations and Experience



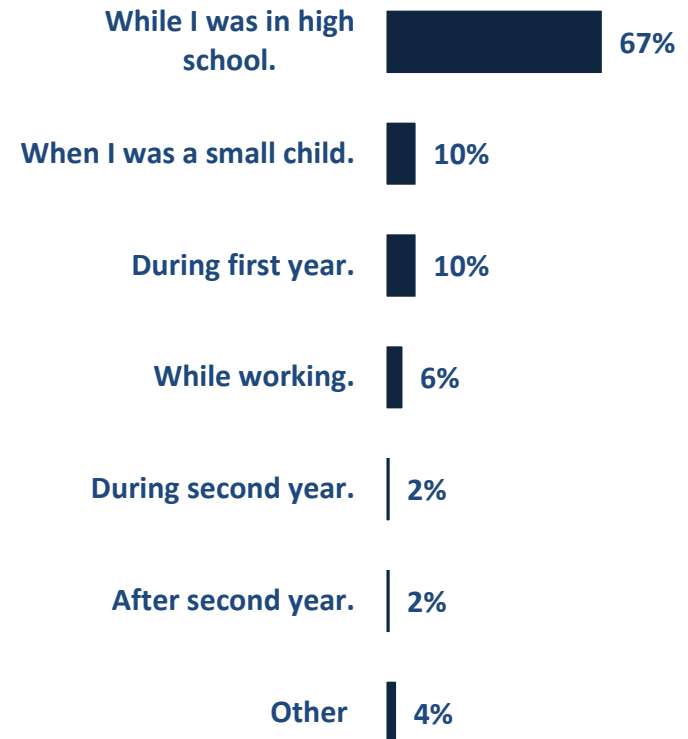
Main Reason(s) and Timing of Decision to Study Engineering

- At two-thirds, the most common reason students offered 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, financial security, job security and the challenge.
- Two thirds of students decided to study engineering while in high school, while one in ten did so during first year or when they were a small child. Fewer did so while working, after second year or during second year.

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=703)

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

- Continued

- Younger students are statistically more likely to have taken engineering because of the application of science and math or because of family influence while older students are more likely to say it is because of the challenge.
- Male students are more likely to have taken engineering because of the practical, applied nature of engineering.

Main Reason(s) for studying engineering

	Total	Age			Gender	
		Under 23	24-26	27+	Male	Female
		G	H	I	J	K
Base: All Respondents	n=703	n=367	n=230	n=106	n=525	n=178
Related to some of my interests	65%	67%	60%	69%	65%	63%
Application of science and math	63%	72% _{HI}	57% _I	45%	61%	69%
The practical, applied nature of engineering	55%	57%	51%	57%	58% _K	46%
Financial security	47%	50%	43%	42%	49%	40%
Job security	42%	43%	41%	40%	41%	45%
The challenge	41%	41%	36%	49% _H	41%	40%
To positively influence the world/my community	36%	34%	35%	42%	34%	39%
Family influence	28%	33% _I	28% _I	11%	27%	32%
Took related courses and liked them	21%	21%	20%	22%	19%	26%
Because of a role model	14%	15%	14%	11%	14%	14%
Helps me reach another goal (e.g. becoming a doctor, etc.)	7%	8%	7%	6%	7%	8%
Other	5%	5%	5%	4%	4%	7%

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

- Continued

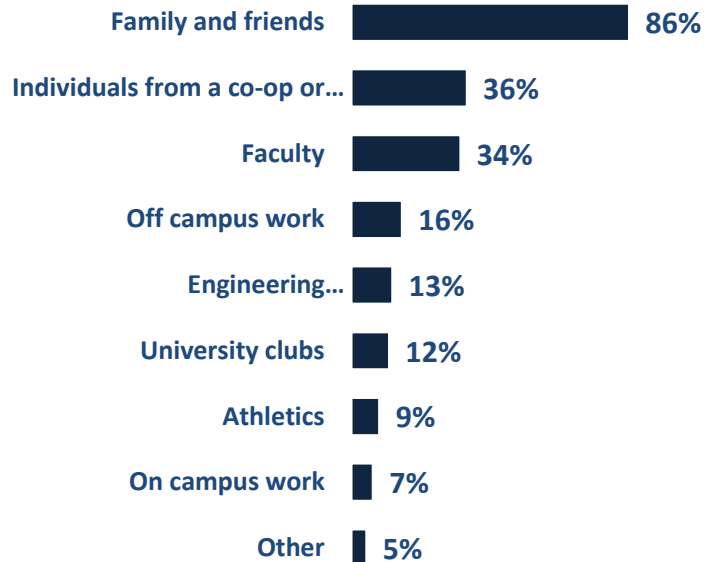
- Younger students are more likely to have made their decision to study engineering while in high school, while older students are more likely to have done so while working, during first year, during second year or after second year.
- Male students are more likely to have decided when they were a small child, while female students are more likely to have done so while in high school.

When did you make your decision?

	Total	Age			Gender	
		Under 23	24-26	27+	Male	Female
		G	H	I	J	K
Base: All Respondents	n=703	n=367	n=230	n=106	n=525	n=178
While I was in high school.	67%	83% HI	58% I	28%	64%	74% J
When I was a small child.	10%	9%	13%	8%	12% K	5%
During first year.	10%	7%	15% G	9%	9%	11%
While working.	6%	-	4% G	33% GH	7%	3%
During second year.	2%	0%	5% G	1%	2%	3%
After second year.	2%	-	4% G	5% G	2%	1%
Other (specify)	4%	1%	2%	17% GH	3%	4%

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 around four in ten who mentioned individuals from a co-op/ internship and slightly fewer who said faculty. Fewer than two in ten mention off campus work while closer to one in ten said engineer societies/ clubs, university clubs or athletics.
- Younger students place more importance on family and friends or university clubs, while older students are more likely to indicate off campus work or individuals from a co-op or internship. Female students place more importance on family and friends or engineering societies/ clubs, while male students are more likely to mention on campus work.



Age			Gender	
Under 23	24-26	27+	Male	Female
G	H	I	J	K
n=367	n=230	n=106	n=525	n=178
89% H	83%	84%	84%	92% J
32%	42% G	32%	36%	34%
31%	38%	35%	35%	31%
14%	15%	23% G	17%	13%
16%	11%	9%	12%	16% J
14% I	10%	5%	10%	16%
11%	7%	7%	10%	6%
7%	8%	8%	9% K	2%
4%	5%	9% G	6%	3%

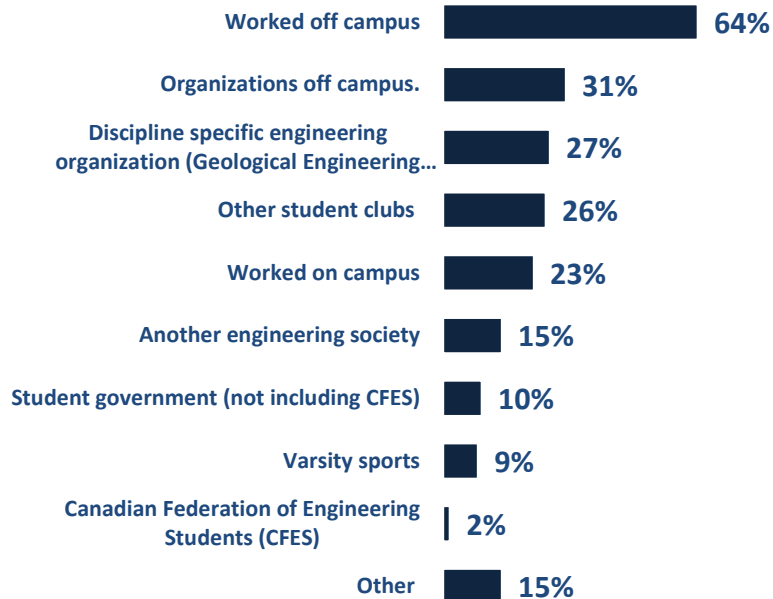
Q4c. Thinking of all those who have helped support you during your engineering studies, who has been the most important to you? Please select up to 3 options

Q4d. Did you participate in any of the following extracurricular activities during your degree program? Please select all that apply

Base: All respondents, 2015 (n=703)

Extracurricular Participation During Degree Program

- At two thirds, students are most likely to indicate having participated in off campus work during their degree program, followed by three in ten who participated in an off campus organization while closer to one quarter participated in a discipline specific engineering organizations, an other student club or worked off campus.
- Younger students are more likely to have participated in a discipline specific engineering organization than older students. Female students are more likely to have participated in other student clubs while male students are more likely to have participated in varsity athletics.



Age			Gender	
Under 23	24-26	27+	Male	Female
G	H	I	J	K
n=367	n=230	n=106	n=525	n=178
65%	65%	61%	63%	67%
33%	27%	33%	30%	34%
31% H	23%	25%	26%	32%
29%	24%	21%	23%	33% J
24%	23%	20%	24%	21%
13%	16%	17%	13%	19%
12%	8%	7%	9%	12%
8%	12%	7%	10% K	5%
3%	1%	2%	2%	4%
15%	16%	10%	15%	16%

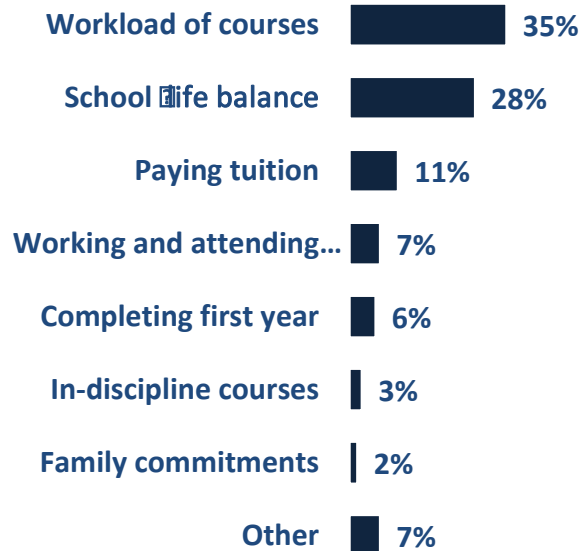
Q4c. Thinking of all those who have helped support you during your engineering studies, who has been the most important to you? Please select up to 3 options

Q4d. Did you participate in any of the following extracurricular activities during your degree program? Please select all that apply

Base: All respondents, 2015 (n=703)

Single Greatest Barrier to Completing Engineering Degree

- At one third, students are most likely to feel that the workload of courses is the single greatest barrier to completing their engineering degree, followed closely by the work life balance. Closer to one in ten indicate paying tuition, working and attending school simultaneously or completing first year.
- Younger students are more likely to mention the workload of courses, while older students are more likely to say paying tuition or family commitments. There are no statistically significant differences by gender.



Age			Gender	
Under 23	24-26	27+	Male	Female
G	H	I	J	K
n=367	n=230	n=106	n=525	n=178
38% I	35% I	21%	35%	33%
31%	26%	25%	27%	33%
7%	12% G	26% GH	13%	7%
7%	7%	9%	7%	7%
7%	7%	2%	6%	7%
3%	4%	2%	3%	4%
0%	1%	9% GH	2%	2%
7%	7%	8%	7%	8%

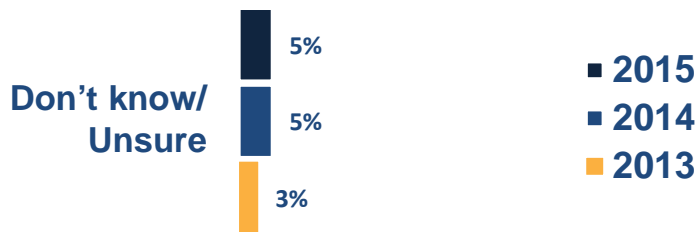
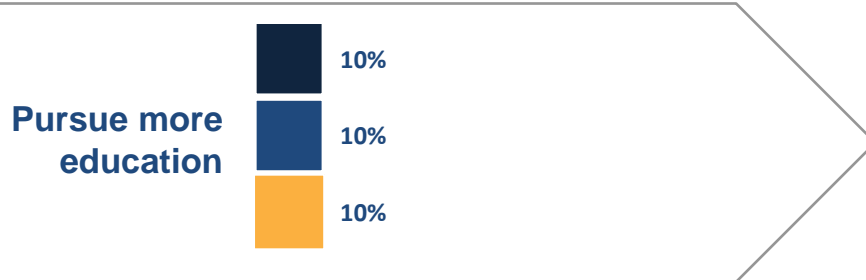
Future Plans



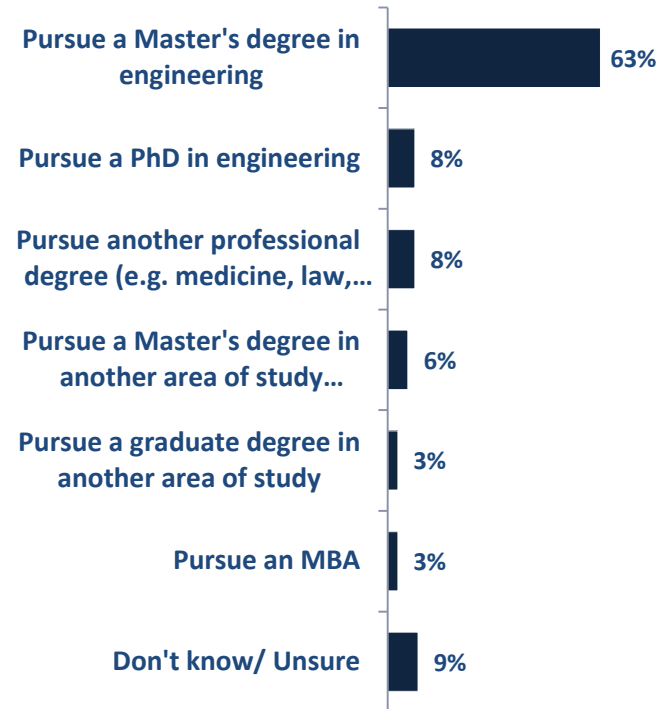
Plans After Graduation

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

Current Plans After Graduation



Educational Intentions

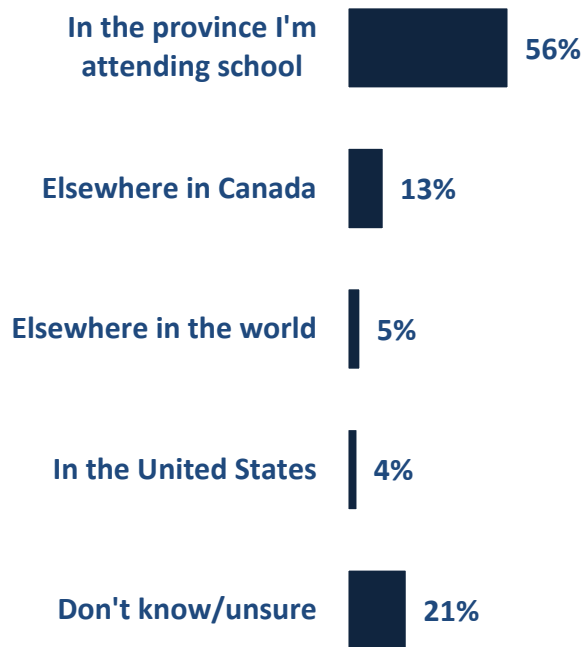


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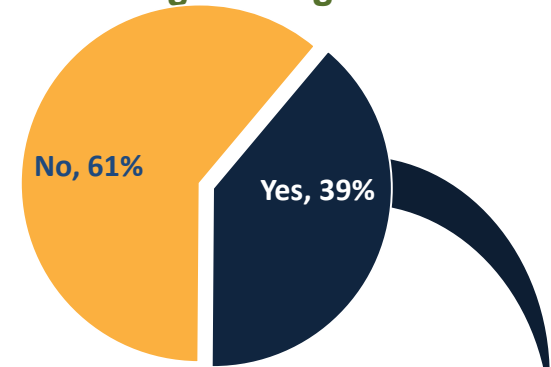
Plans for Work After Graduation

- More than half of students intend on working in the province they are attending school, while closer to one in ten indicate elsewhere in Canada, 5% elsewhere in the world and 4% in the US.
- 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 around one quarter have been offered two jobs and one in ten have been offered three.

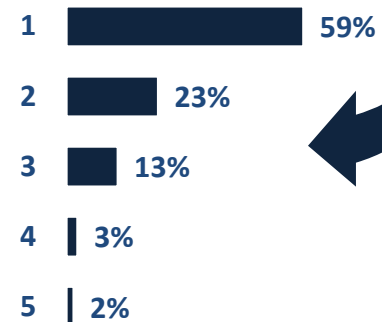
Where do you plan to work?



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

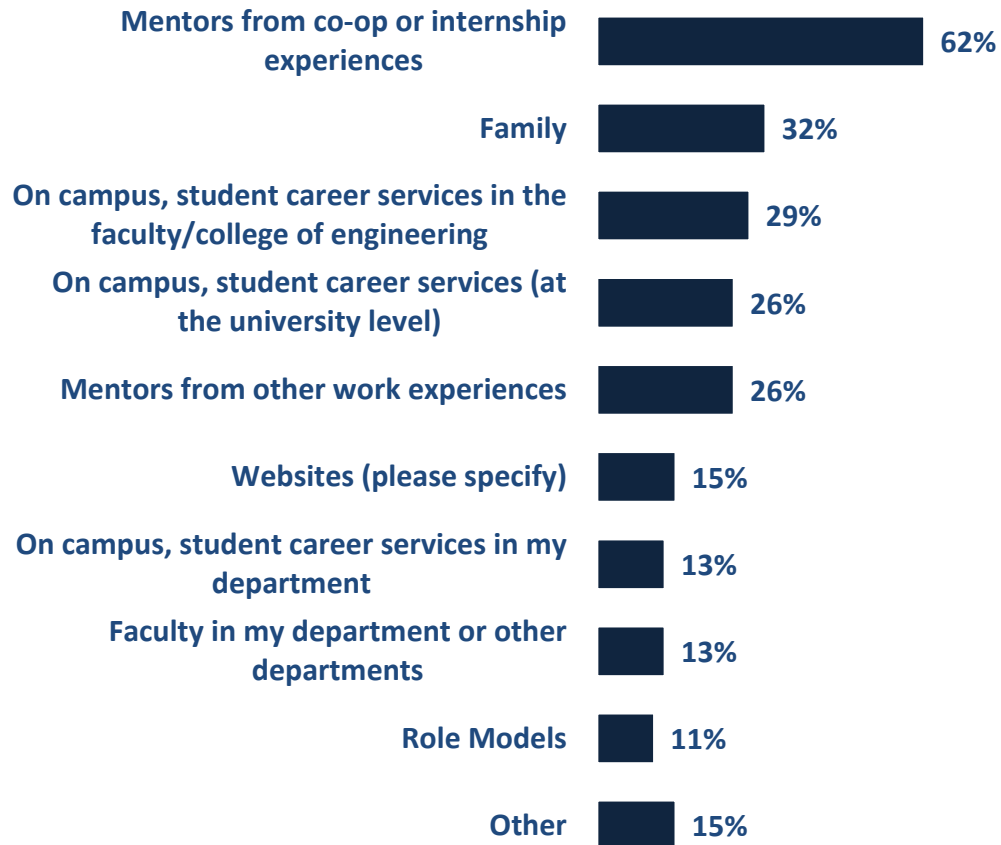


How many jobs?



Useful Resources in Finding Engineering Work

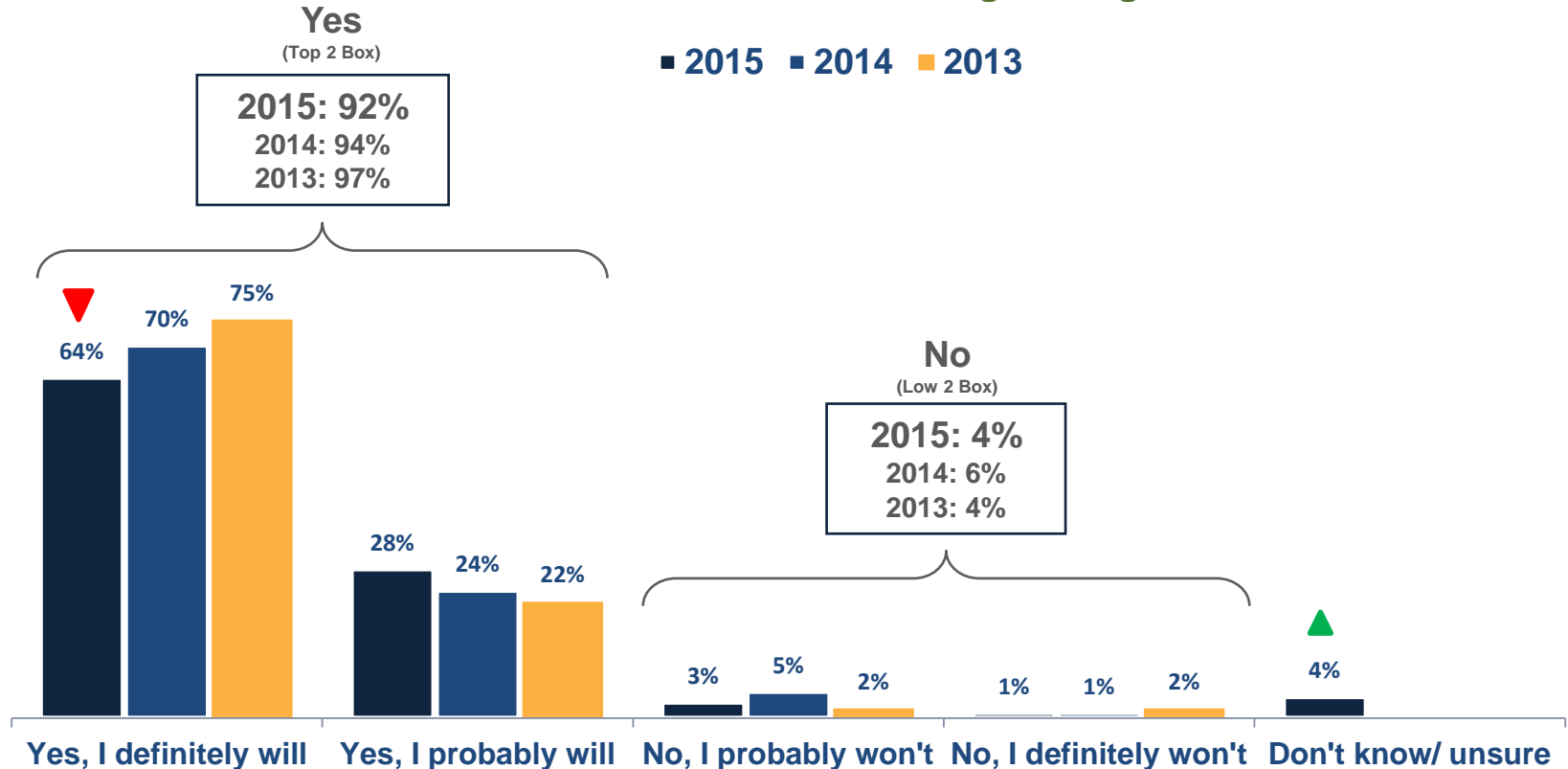
- Those who have been offered a job in the engineering field are by far most likely to feel that mentors from co-op/ internship experiences were most useful to finding work. Other common mentions include family, on campus student career services (in engineering faculty or at the university level) and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



Intention to Pursue Engineering Career

- Over nine in ten students intend on pursuing a career in the engineering field after completing their education, consistent with 2014. Only 4% probably or definitely won't or don't know (4%)
- Compared to 2014, the proportion who definitely will pursue a career in engineering has declined (for the second consecutive year) and the proportion who don't know has increased (this option wasn't provided in previous years).

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



Intention to Pursue Engineering Career

- Permanent resides of another province are more likely to indicate they definitely won't pursue a career in engineering.
- There are no statistically significant differences by age or gender.

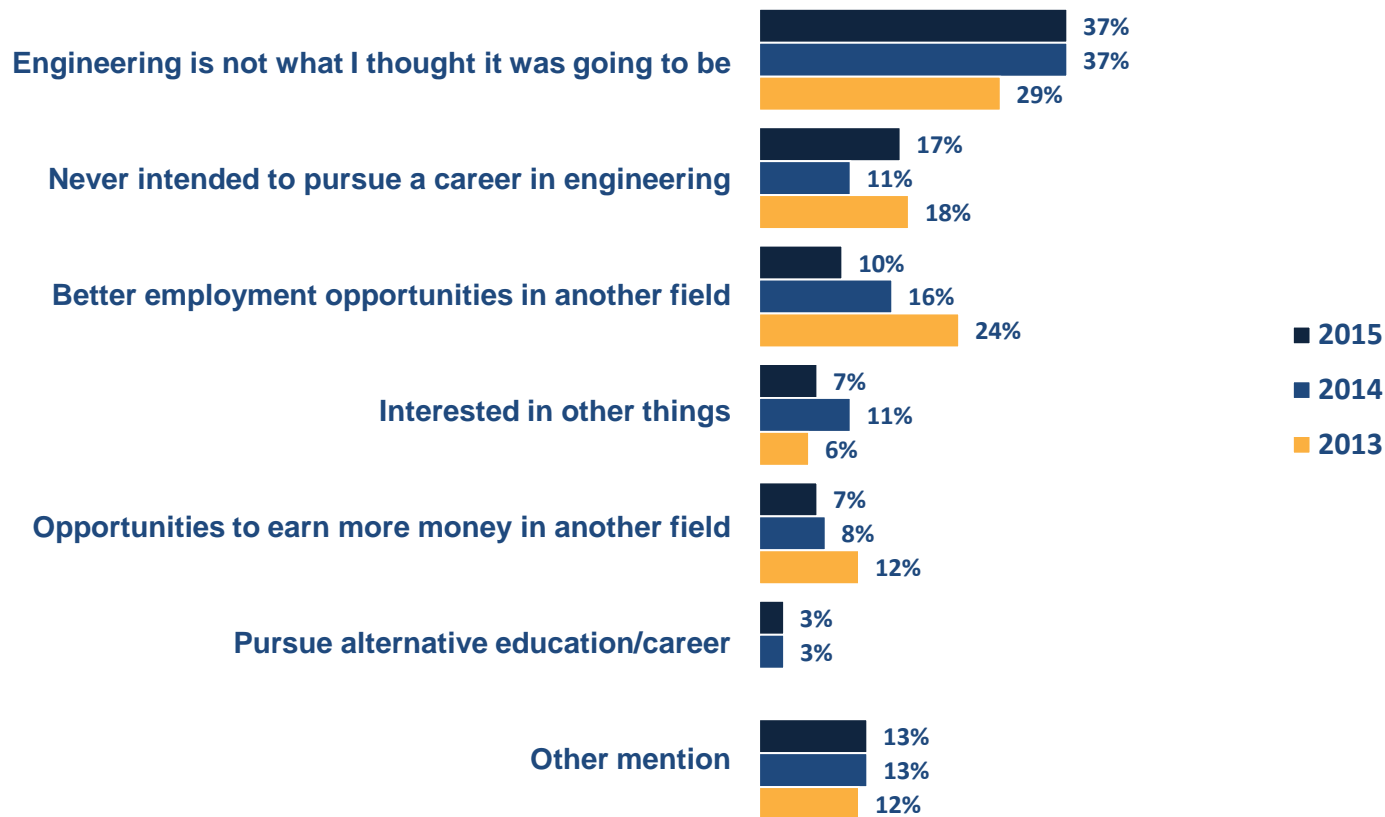
		Age			Gender		Resident Status		
	Total	Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
		G	H	I	J	K	N	O	P
Base: All Respondents	n=703	n=367	n=230	n=106	n=525	n=178	n=609	n=43*	n=51*
Yes, I definitely will	64%	62%	64%	72%	66%	60%	65%	58%	69%
Yes, I probably will	28%	29%	28%	22%	26%	32%	28%	30%	24%
No, I probably won't	3%	4%	3%	2%	3%	4%	3%	2%	4%
No, I definitely won't	1%	1%	0%	2%	1%	2%	1%	5% N	2%
Don't know/ Unsure	4%	4%	4%	3%	4%	3%	4%	5%	2%

*small base size **very small base size

Reasons for Not Pursuing Engineering

- The top reason for not pursuing a career in engineering is that engineering is not what they thought it would be. Other common mentions include that they never intended to pursue a career in engineering, that there are better employment opportunities elsewhere, they are interested in other things or that there are opportunities to earn more money elsewhere.

Reasons for Not Pursuing Engineering

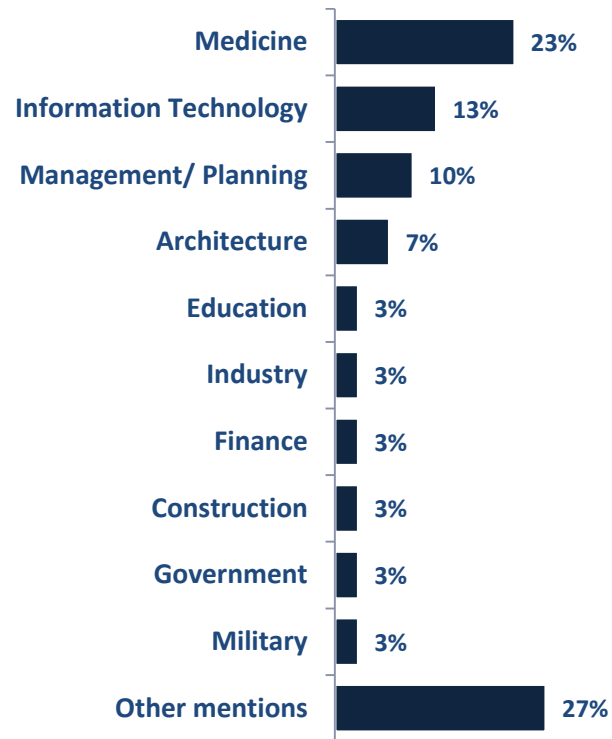


*small base size **very small base size

Intended Career Outside of Engineering

- Among those who do not intend to pursue a career in Engineering, medicine, IT, management/ planning and architecture represent the top career options. *Due to small base sizes, results should be interpreted with caution.*

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



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

*small base size **very small base size

Application Intentions for Professional Engineering Licensure

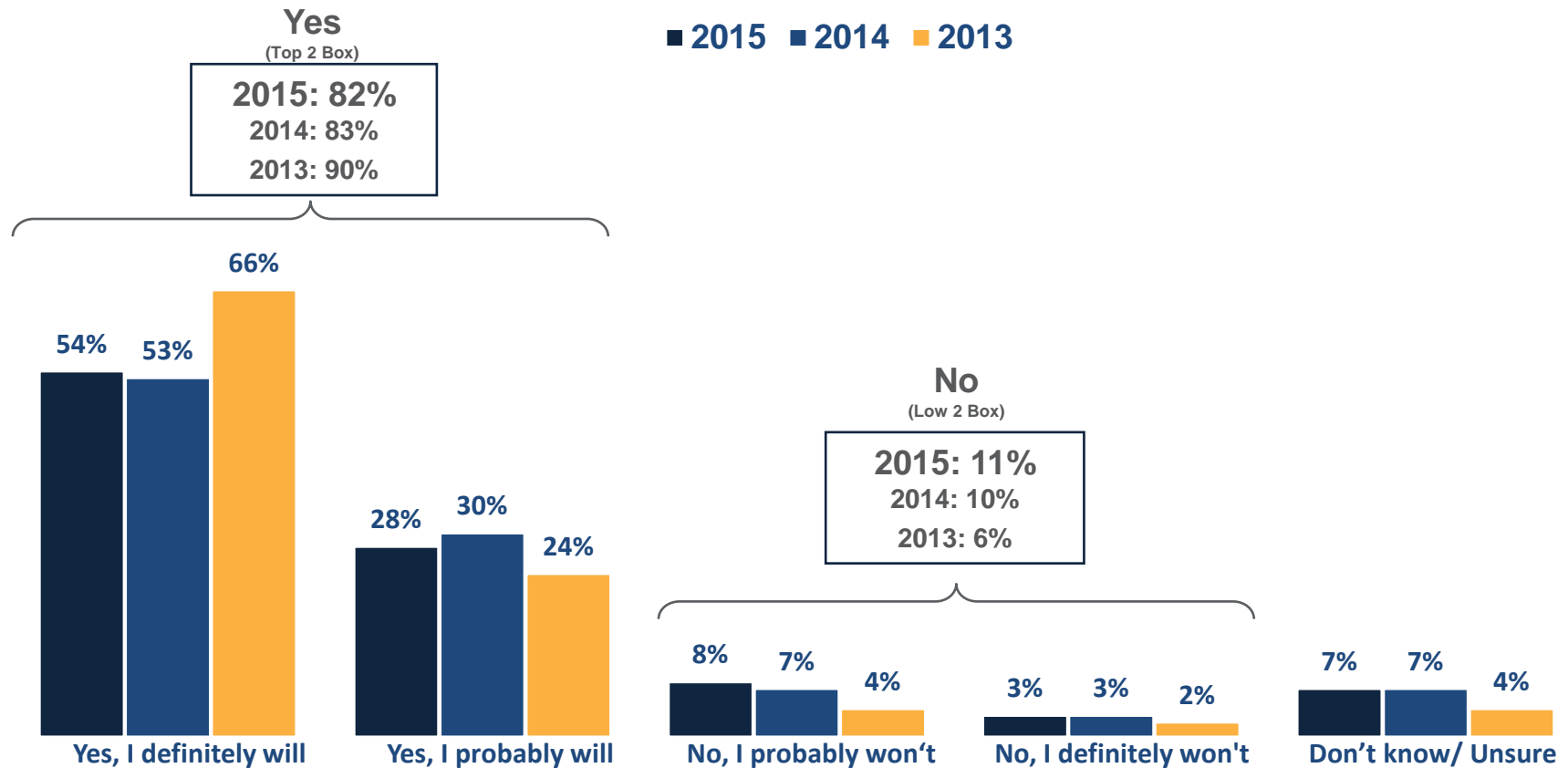


Intention to Apply for Licensure

- At more than eight in ten, the vast majority of students intend on applying for licensure, consistent with 2014, of which more than half definitely will and three in ten probably will. About one in ten do not intend on applying for their P.Eng. or don't know.

Do You Intend To Apply for Licensure?

■ 2015 ■ 2014 ■ 2013



Intention to Apply for Licensure (cont'd)

- Permanent residents of the province they are studying in are more likely to be definitely likely to apply for licensure, while permanent residents of another province are more likely to probably not apply and international students are more likely to be unsure.
- There are no statistically significant differences by age or gender

		Age			Gender		Resident Status		
	Total	Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
		G	H	I	J	K	N	O	P
Base: All Respondents	n=703	n=367	n=230	n=106	n=525	n=178	n=609	n=43*	n=51*
Yes, I definitely will	54%	52%	55%	57%	54%	54%	56% OP	40%	35%
Yes, I probably will	28%	28%	29%	23%	27%	29%	28%	19%	31%
No, I probably won't	8%	9%	7%	8%	9%	6%	6%	28% N	12%
No, I definitely won't	3%	3%	3%	5%	3%	5%	3%	5%	6%
Don't know/ Unsure	7%	8%	7%	9%	8%	6%	7%	9%	16% N

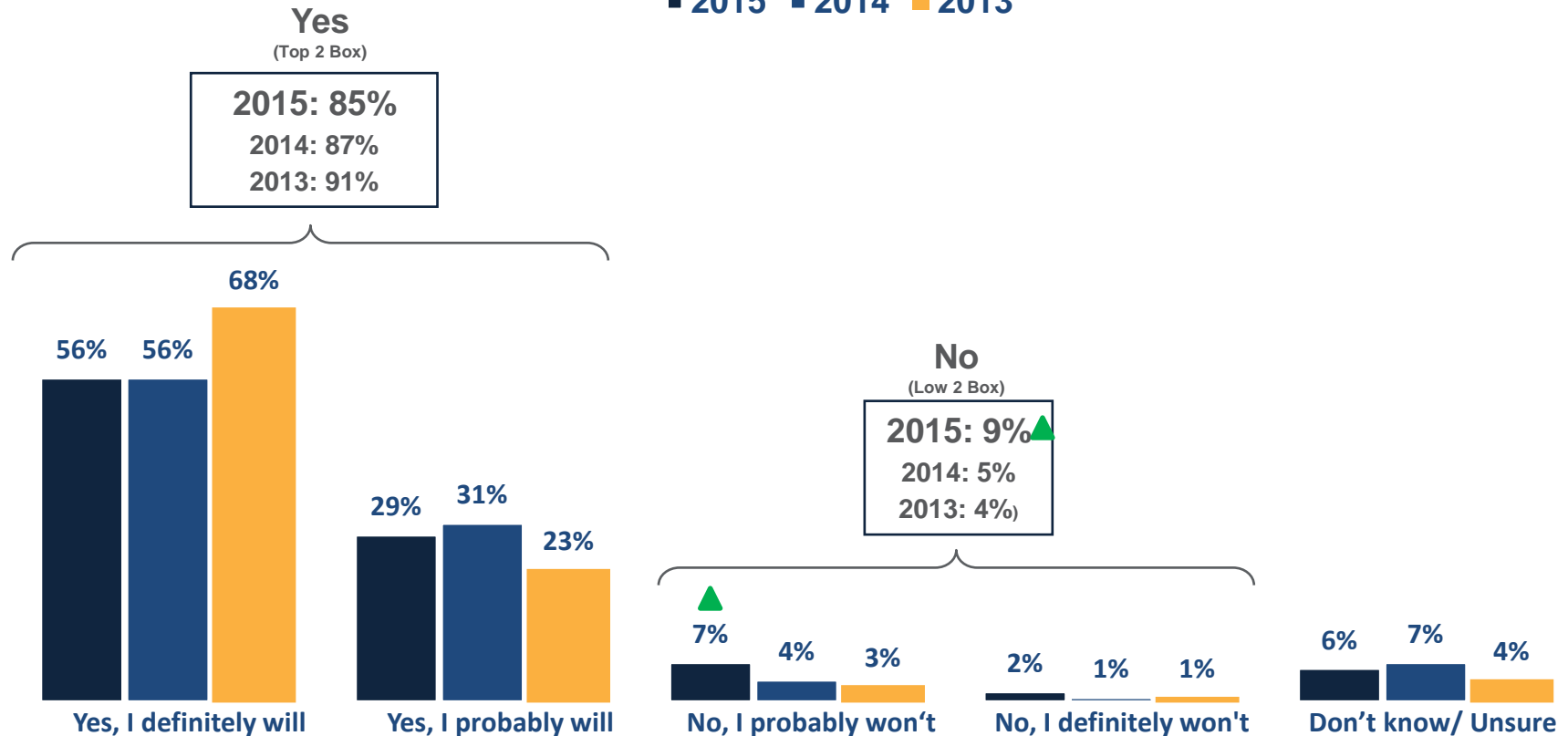
*small base size

Intention to Apply for Licensure - Pursuing Engineering Career

- Among those students who intend to pursue a career in engineering, nearly six in ten definitely intend to apply for licensure, while a further three in ten probably will, consistent with 2014. One in ten probably/definitely won't apply, higher than last year, while fewer than one in ten don't know.

Do You Intend To Apply for Licensure?

■ 2015 ■ 2014 ■ 2013



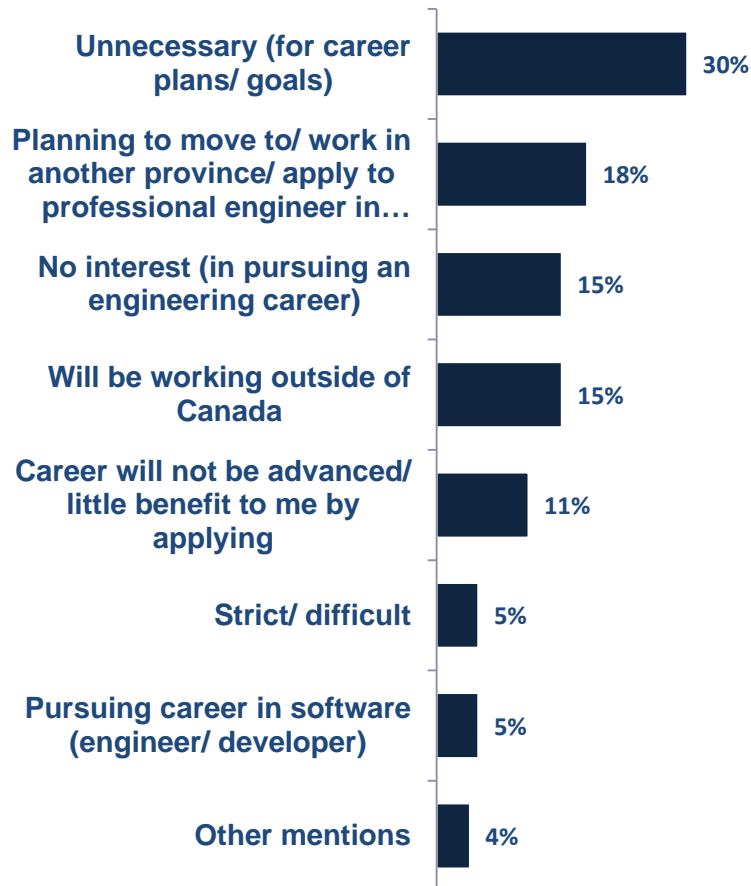
Q21. Do you intend to apply for licensure as a Professional Engineer (P.Eng.)?

Base: Respondents who intend to pursue a career in the engineering field 2013 (n=467); 2014 (n=568); 2015 (n=651)

Reasons for Not Applying for Licensure

- Among those who do not intend to pursue licensure, the most cited reasons are that it is not necessary for their career plans, followed by plans to move to another province, a lack of interest or that they will be working outside of Canada.

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



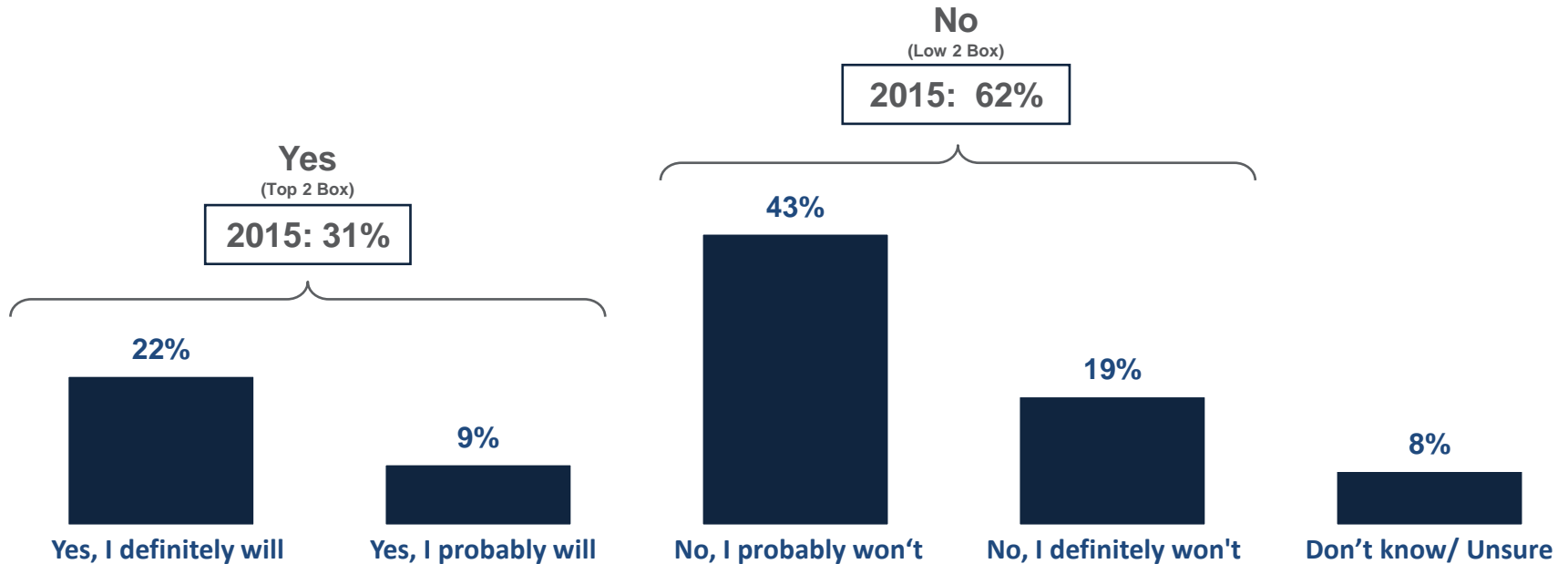
*small base size

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, three in ten indicate that they definitely or probably will apply, while six in ten definitely or probably will not and one in ten don't know.

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



*small base size

Interest Once Told P.Eng. Licence is Required to Practice (cont'd)

- Interpret with caution, very small base sizes

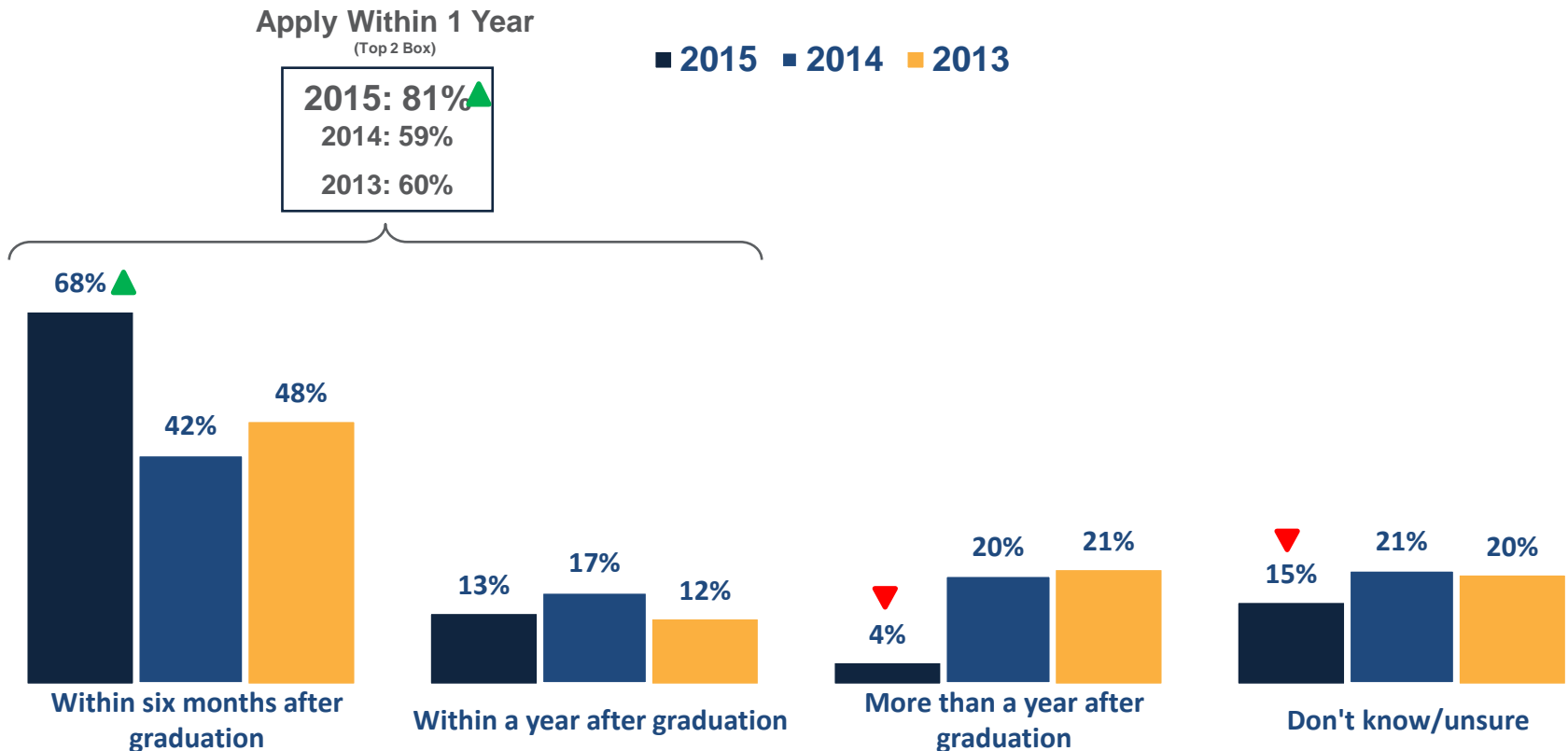
		Age			Gender		Resident Status		
	Total	Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
		G	H	I	J	K	N	O	P
Base: All Respondents	n=79*	n=44*	n=22**	n=13**	n=59*	n=20**	n=56*	n=14**	n=9**
Yes, I definitely will	22%	14%	27%	39%	24%	15%	16%	50%	11%
Yes, I probably will	9%	9%	9%	8%	10%	5%	4%	7%	44%
No, I probably won't	43%	46%	46%	31%	44%	40%	48%	36%	22%
No, I definitely won't	19%	23%	9%	23%	14%	35%	23%	7%	11%
Don't know/ Unsure	8%	9%	9%	-	9%	5%	9%	-	11%

*small base size **very small base size

Application Timeframe

- Seven in ten of those who plan to apply for licensure intend to do within six months of graduation, significantly higher than in 2014, while around one in ten plan to apply within a year of graduating. Only 4% intend on applying more than a year after graduating, lower than in 2014, while just over one in ten are unsure also lower than last year.

When Do You Plan to Apply for Licensure?



Application Timeframe (cont'd)

- International students are less likely to intend on applying for licensure within six months of graduation.

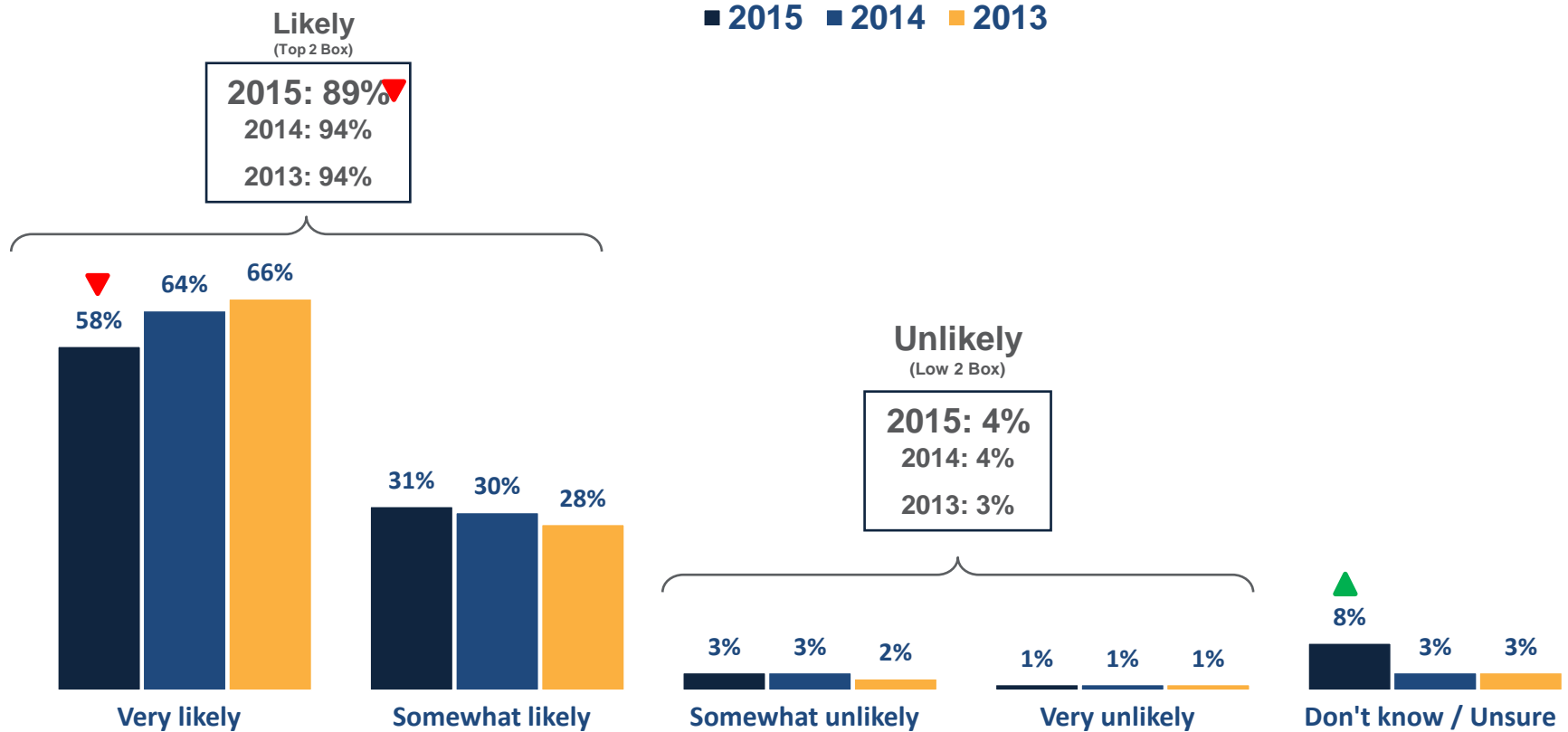
	Total	Age			Gender		Resident Status		
		Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
		G	H	I	J	K	N	O	P
Base: All Respondents	n=648	n=333	n=216	n=99*	n=486	n=162	n=564	n=37*	n=47*
Within six months after graduation	68%	69%	65%	68%	68%	67%	69% P	70%	49%
Within a year after graduation	13%	12%	13%	17%	14%	12%	13%	11%	21%
More than a year after graduation	4%	3%	6%	2%	4%	4%	3%	3%	6%
Don't know/unsure	15%	16%	16%	13%	15%	17%	15%	16%	23%

*small base size

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, nine 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, lower than in 2014.
- Compared to 2014, fewer students are very likely to apply within six months and more are unsure.

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

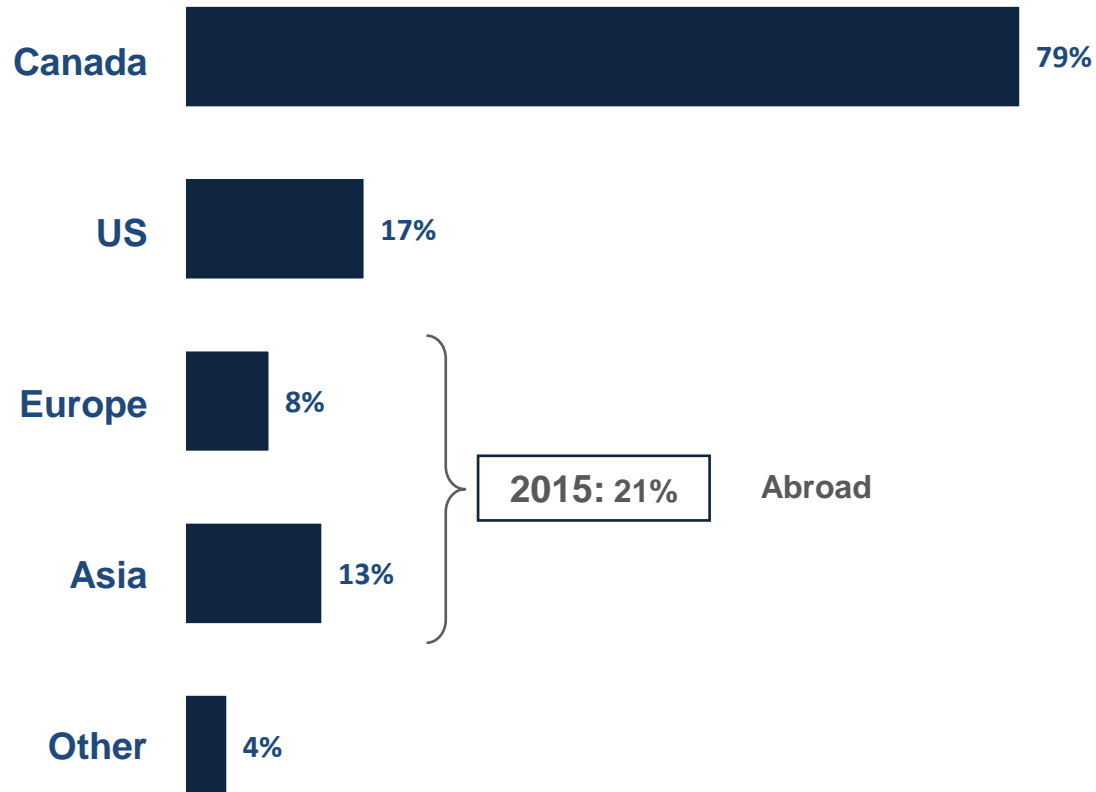


Q29. If you knew that by applying for licensure in Ontario within 6 months of graduation you could be eligible to have the application and first year EIT program fees waived, how likely would you be to apply for licensure within that time frame? Base: Respondents who do not know or intend to apply for licensure in Ontario >6mths after graduation, 2013 (n=240); 2014 (n=312); 2015 (n=209)

Intended Country of Application

- 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 nearly two in ten plan to apply in the US or abroad.

Where Do You Intend to Apply for Licensure?



*small base size

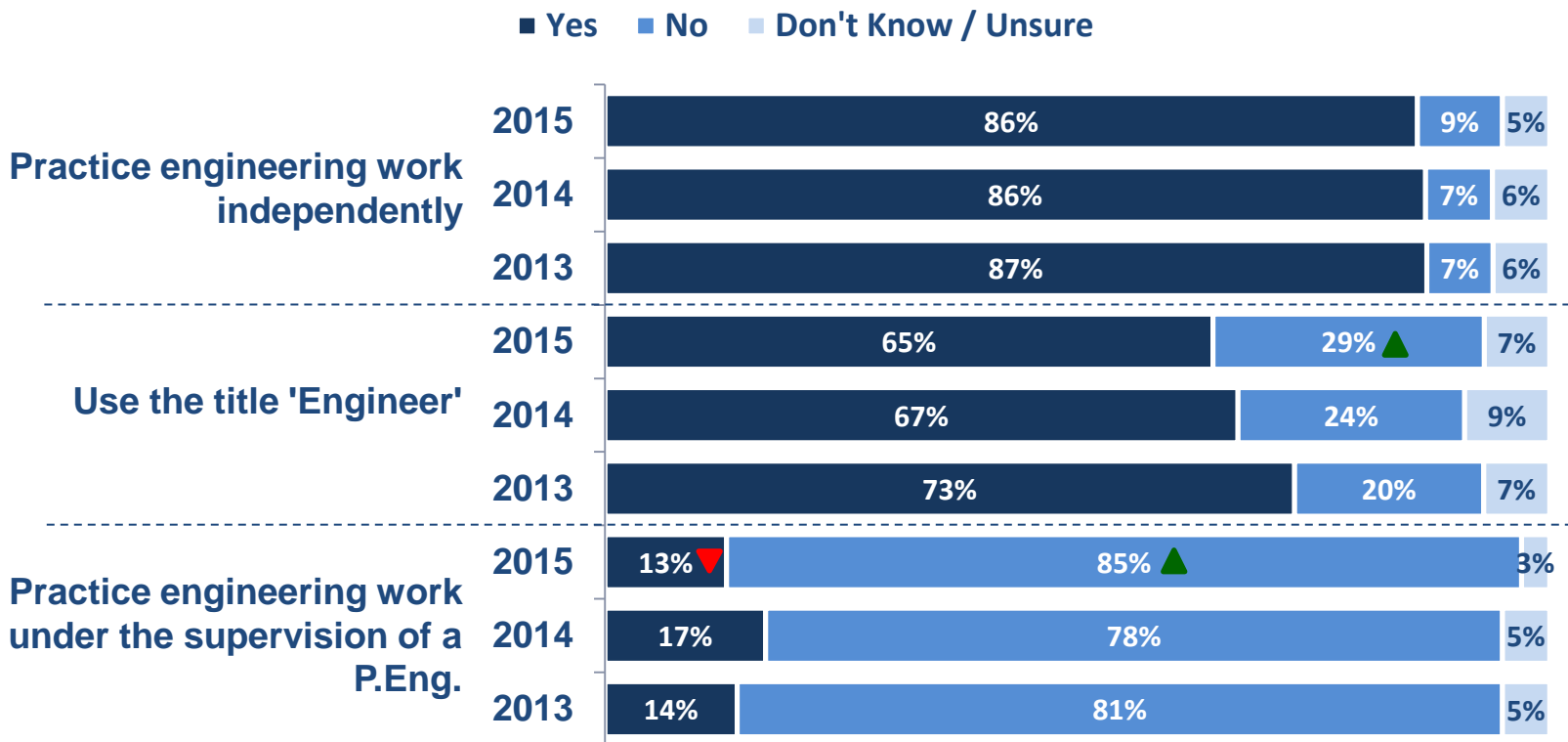
Mentions may add to more than 100% as respondents were able to select more than one response

Licensing Knowledge



Licensing for Roles within Engineering

- At almost nine in ten, the vast majority of students know that a license is required to perform engineering work independently or that it is not required to practice engineering work under the supervision of a P.Eng. Two-thirds know that it is required to use the title 'Engineer.'
- Compared to 2014, students are more likely to know that a license isn't required to practice engineering work under the supervision of a P.Eng. and also more think a licence isn't required to use the title 'Engineer.'



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 about half were correct in all three fronts, consistent with 2014. One in ten have little or no knowledge on the subject.

Knowledge Level of Engineering Practices Requiring a Licence

■ 2015 ■ 2014 ■ 2013

High/Moderate (Top 2 Box)

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

*Knowledge Levels Defined

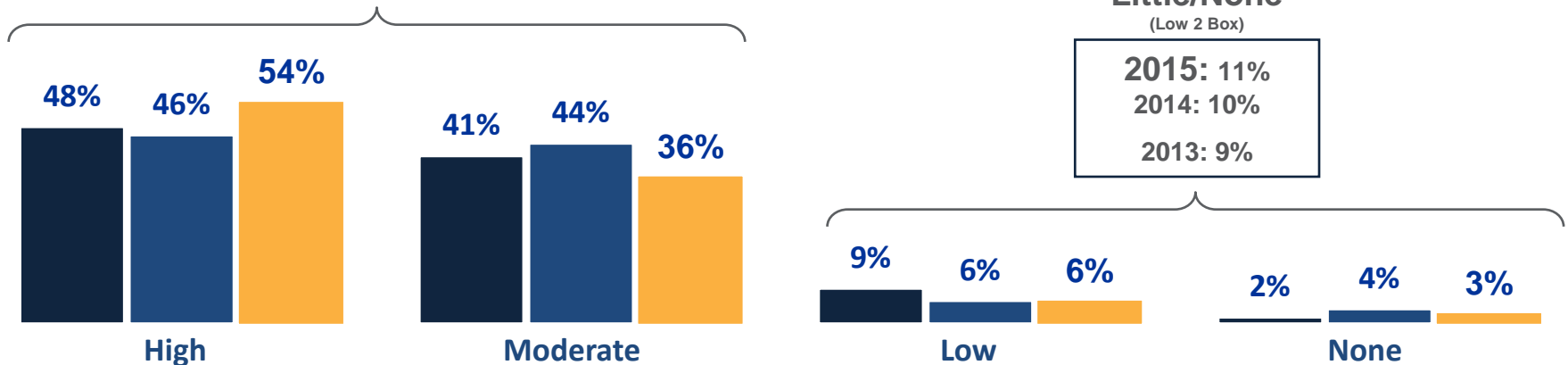
2013

High: All Correct (3) in Q8

Moderate: 2 Correct in Q8

Low: 1 Correct in Q8

None: Zero (0) Correct in Q8



Knowledge of Licensing and Roles (cont'd)

- Younger students are more likely to have a high level of knowledge of when a license is required to legally perform actions/ duties, while international students are more likely to have a low level of knowledge.

		Age			Gender		Resident Status		
	Total	Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
		G	H	I	J	K	N	O	P
Base: All Respondents	n=703	n=367	n=230	n=106	n=525	n=178	n=609	n=43*	n=51*
High	48%	54% H	41%	45%	48%	49%	50% P	51% P	28%
Moderate	41%	38%	44%	43%	41%	40%	40%	40%	45%
Low	9%	7%	11%	10%	9%	8%	7%	7%	28% NO
None	2%	1%	4%	2%	2%	2%	2%	2%	-

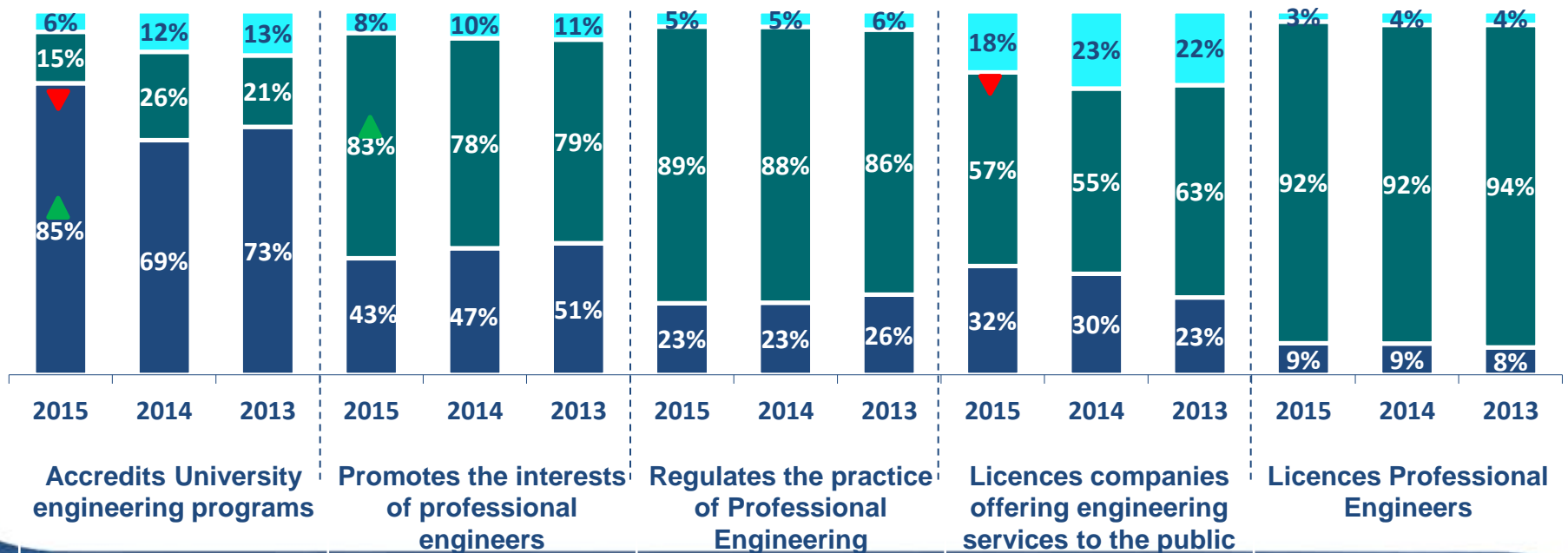
*small base size

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 and that it also regulates the practice of professional engineers, while slightly fewer know that Engineers Canada is the organization that accredits university engineering programs, higher than in 2014. Students are less certain about which organization licenses companies offering engineering services, nearly six in ten believe it is the respective provincial engineering association, while one third think it is Engineers Canada and two in ten don't know, lower than last year.

Which Organization is Responsible for Each of the Follow Activities?

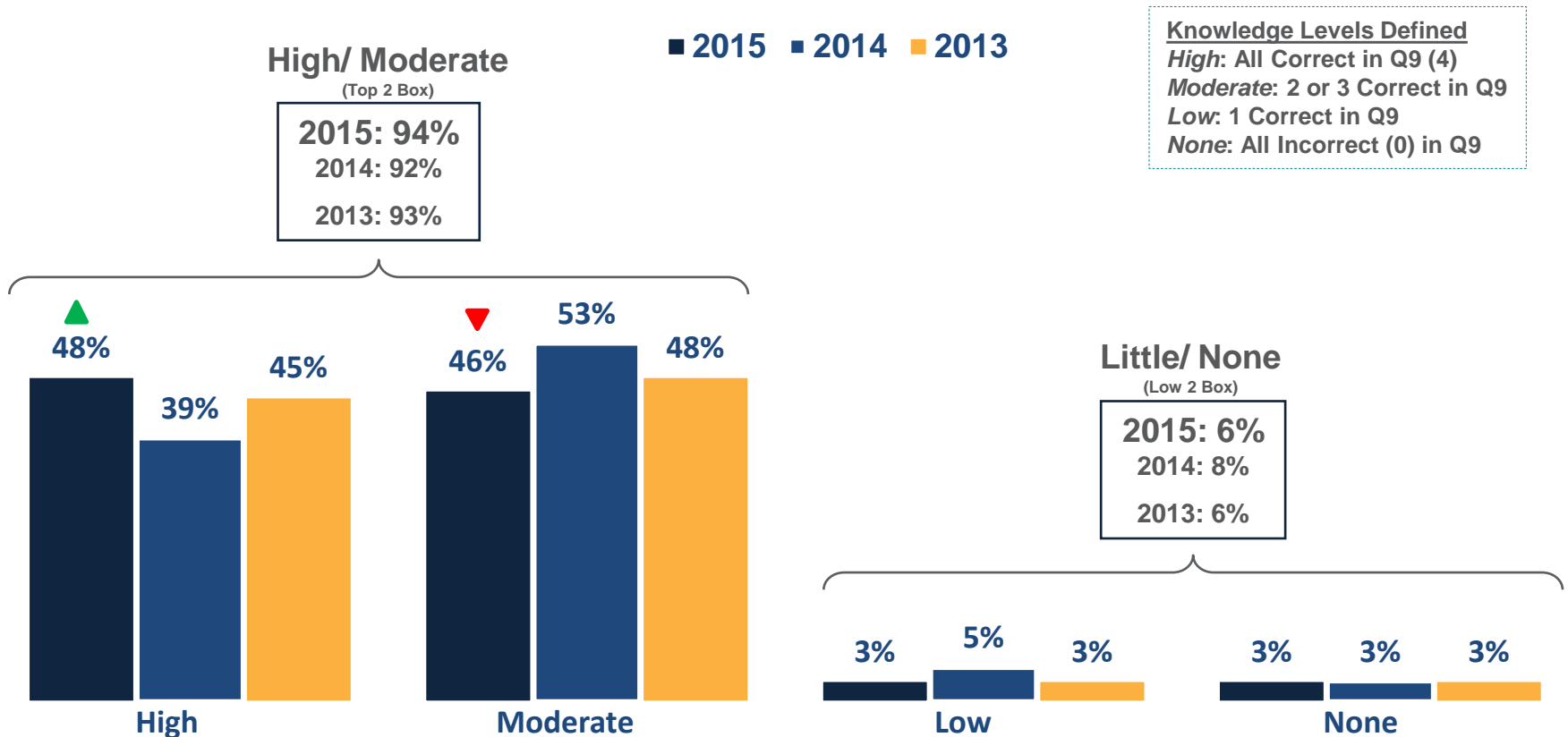
- Don't know/ Unsure
- Respective Professional Engineers Association
- Engineers Canada (CEAB)



Knowledge of Organizational Responsibility

- Over nine in ten students have at least a moderate level of knowledge concerning organizational responsibilities of activities/ procedures relating to the engineering profession, of which half were correct on all four measures, higher than in 2014. Fewer than one in ten have either low level or no knowledge on the subject.

Knowledge Level of Organizational Responsibility within the Engineering Profession



Impact of Knowledge of Licensing and Roles



Knowledge of Licensing and Roles & Intention to Pursue Engineering Career

- 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 and more likely to probably do so.

		HIGH KNOWLEDGE			MODERATE KNOWLEDGE			LOW KNOWLEDGE			NO KNOWLEDGE		
		A			B			C			D		
		2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
Base		n=262	n=277	n=340	n=175	n=268	n=286	n=31*	n=36*	n=62*	n=16**	n=25*	n=15**
Yes, Definitely		76%	68%	65%	73%	74%	63% ▼	71%	67%	68%	81%	64%	53%
		199	187	222	128	197	181	22	24	42	13	16	8
Yes, Probably		21%	25%	26%	22%	21%	29% ▲	23%	31%	27%	19%	36%	40%
		56	69	89	39	55	82	7	11	17	3	9	6
No, Probably		2%	7%	3% ▼	2%	5%	4%	3%	3%	-	-	-	-
		5	18	11	3	13	11	1	1	0	-	-	0
No, Definitely		1%	1%	2%	3%	1%	0%	3%	-	2%	-	-	7%
		2	3	5	5	3	1	1	-	1	-	-	1
Top 2 Box Yes		97%	92%	92%	95%	94%	92%	94%	97%	95%	100%	100%	93%
		255	256	311	167	252	263	29	35	59	16	25	14
Low 2 Box No		3%	8%	5%	5%	6%	4%	6%	3%	2%	-	-	7%
		7	21	16	8	16	12	2	1	1	-	-	1

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

Intentions to Pursue Career within the Engineering Field

*small base size **very small base size

Knowledge of Licensing and Roles & Intention to Apply for Licensure

- Students with a high level of knowledge in terms of roles and licensing requirements are statistically more likely than those with a low level of knowledge to be definitely likely to intent to apply for licensure.

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		
	A			B			C			D		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
base	n=262	n=277	n=340	n=175	n=268	n=286	n=31*	n=36*	n=62*	n=16**	n=25*	n=15**
Yes, Definitely	67%	53%	57% C	67%	55%	54%	52%	42%	40%	56%	48%	33%
	176	148	194	118	146	154	16	15	25	9	12	5
Yes, Probably	24%	28%	26%	22%	30%	28%	35%	47%	34%	19%	28%	33%
	62	77	194	38	81	87	11	17	81	3	7	21
No, Probably	5%	10%B	8%	5%	4%	8%	--	6%	10%	--	4%	7%
	12	27	26	8	11	23	--	2	6	--	1	1
No, Definitely	2%	2%	4%	3%	3%	2%	--	--	5%	--	8%	20%
	4	6	12	6	9	5	--	--	3	--	2	3
Don't Know / Unsure	3%	7%	6%	3%	8%	8%	13%	6%	11%	25%	12%	7%
	8	19	21	5	21	23	4	2	7	4	3	1
Top 2 Box Yes	91%D	81%	83%	89%	85%	82%	87%	89%	74%	75%	76%	67%
	238	225	281	156	227	235	27	32	46	12	19	10
Low 2 Box No	6%	12%	11%	8%	8%	10%	--	6%	15%	--	12%	27%
	16	33	38	14	20	28	--	2	9	--	3	4

*small base size **very small base size

Impact of Knowledge of Organizational Responsibility



Knowledge of Organizational Responsibility & Intention to Pursue Engineering Career

- Knowledge of organizational responsibility has no significant impact on intention to pursue an engineering career.
- Compared to 2014, those with a moderate level of knowledge are less likely to be definitely likely to pursue a career in engineering and more likely to probably 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		
	A			B			C			D		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
Base	n=220	n=234	n=336	n=235	n=322	n=324	n=14**	n=33*	n=20**	n=15**	n=17**	n=23**
Yes, Definitely	81%BC D	68%	67%	73%	74%	62%▼	50%	58%	60%	40%	59%	70%
	178	158	224	171	237	201	7	19	12	6	10	16
Yes, Probably	16%	22%	26%	23%	23%	30%▲	50%AB	42%AB	30%	60%AB	29%	17%
	35	51	86	54	74	98	7	14	6	9	5	4
No, Probably	2%	9%B	4%	2%	3%	3%	-	-	-	-	6%	9%
	4	21	12	5	10	8	-	-	0	-	1	2
No, Definitely	1%	2%	1%	2%	0%	1%	-	-	5%	-	6%	4%
	3	4	2	5	1	4	-	-	1	-	1	1
Top 2 Box Yes	97%	89%	92%	96%	97%A	92%	100%	100%	90%	100%	88%	87%
	213	209	310	225	311	299	14	33	18	15	15	20
Low 2 Box No	3%	11%B	4%	4%	3%	4%	--	-	5%	--	11%	13%
	7	25	14	10	11	12	--	-	1	--	2	3

Intentions to Pursue Career within the Engineering Field

*small base size **very small base size

Knowledge of Organizational Responsibility & Intention to Apply for Licensure

- Knowledge of organizational responsibility has no significant impact on intention to apply for licensure.

Knowledge Levels Defined <i>High: All Correct in Q9 (4)</i> <i>Moderate: 2 or 3 Correct in Q9</i> <i>Low: 1 Correct in Q9</i> <i>None: All Incorrect (0) in Q9</i>		HIGH KNOWLEDGE			MODERATE KNOWLEDGE			LOW KNOWLEDGE			NO KNOWLEDGE		
		A			B			C			D		
Base	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	
		n=220	n=234	n=336	n=235	n=322	n=324	n=14**	n=33*	n=20**	n=15**	n=17**	n=23**
Yes, Definitely	69%D	53%	58%	65%	54%	52%	64%	58%	50%	40%	35%	17%	
	151	123	196	153	173	168	9	19	10	6	6	4	
Yes, Probably	23%	30%	27%	25%	30%	28%	21%	36%	25%	13%	18%	26%	
	50	69	92	59	98	91	3	12	5	2	3	6	
No, Probably	4%	9%B	6%	4%	5%	10%	7%	3%	5%	7%	24%	13%	
	9	21	21	9	15	31	1	1	1	1	4	3	
No, Definitely	1%	2%	1%	3%	3%	4% A	--	--	5%	--	18%	30%	
	3	5	3	7	9	12	--	--	1	--	3	7	
Top 2 Box Yes	91%D	82%	86%	90%D	84%	80%	86%	94%	75%	53%	53%	44%	
	201	192	288	212	271	259	12	31	15	8	9	10	
Low 2 Box No	5%	11%	7%	7%	8%	13% A	7%	3%	10%	7%	41%	44%	
	12	26	24	16	24	43	1	1	2	1	7	10	

Intention to Apply for the Professional Engineers Licensure

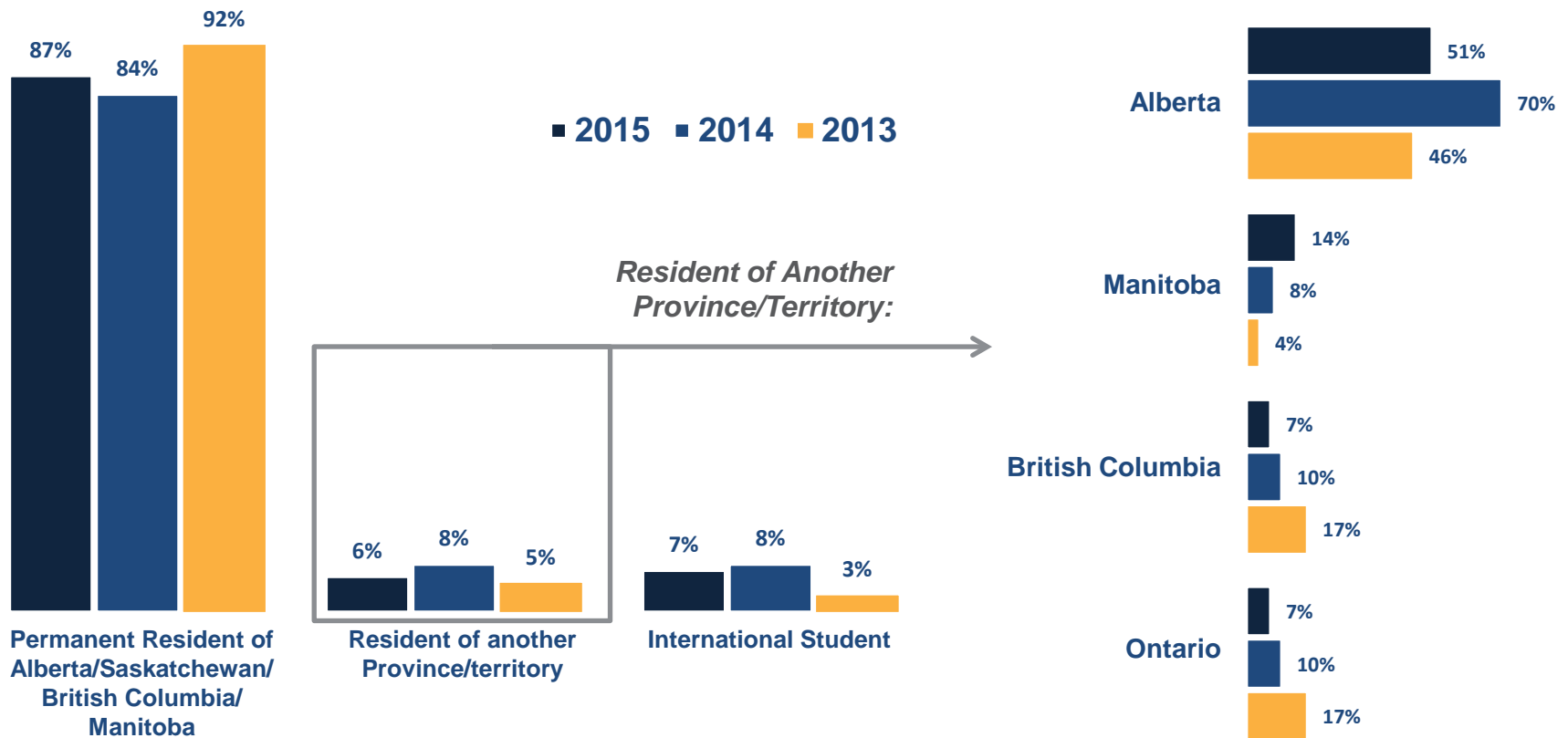
*small base size **very small base size

Demographics



Permanent Residency

- Nearly nine 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 an international student.
- Of those who are a permanent resident of another province, the majority are from Alberta, followed by Manitoba, British Columbia and Ontario.

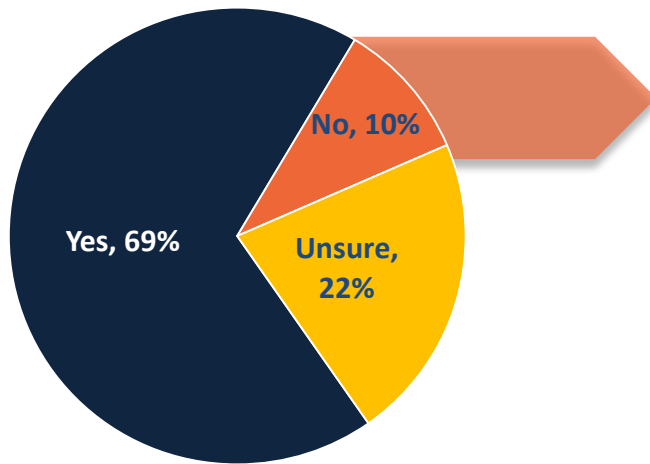


*small base size **very small base size

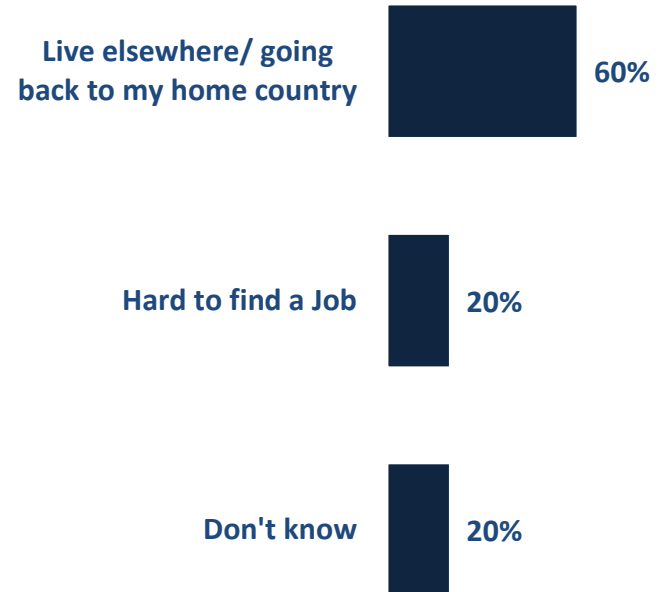
International Students' Plans After Graduation

- Seven in ten international students plan on staying in Canada after graduation, while two in ten are unsure and one in ten do not plan on staying.
- Among those who do not plan on staying in Canada, the most common reason is the desire to go back to their home country.

Do you plan on staying in Canada after your bachelor's degree is complete?
(*small base size)



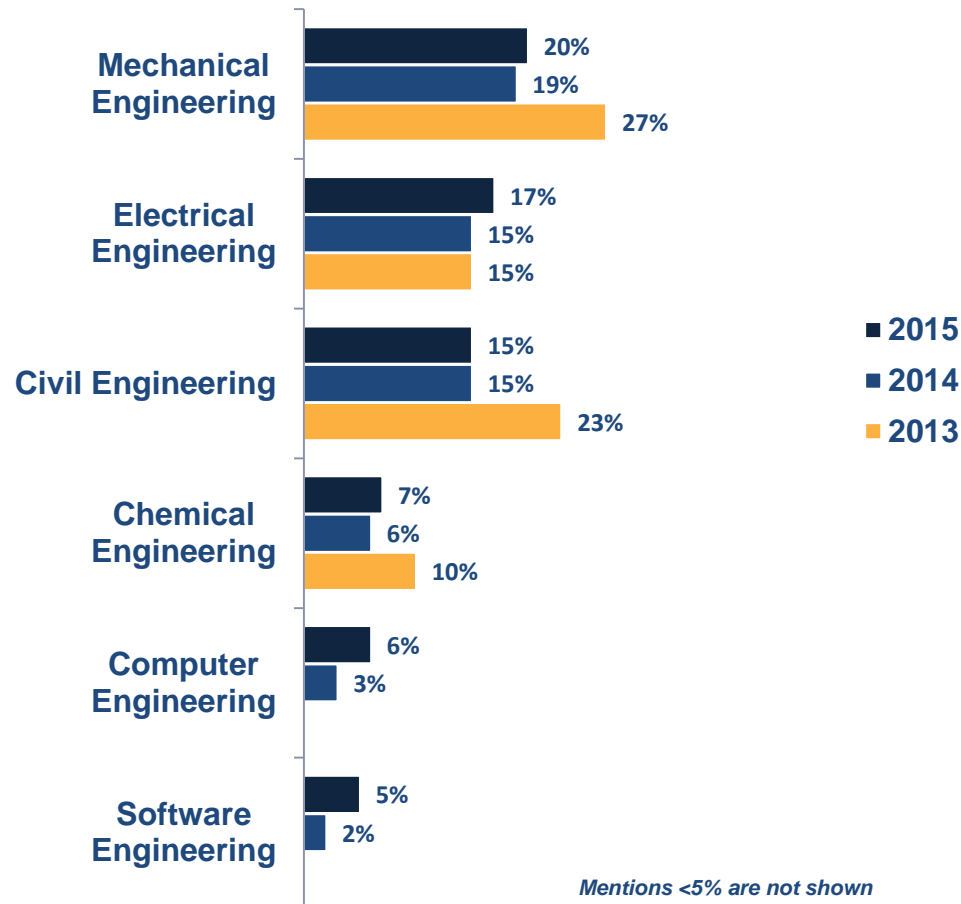
Why do you not intend on staying in Canada? (**very small base size)



*small base size **very small base size

Engineering Disciplines

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



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

Engineering Disciplines (cont'd)

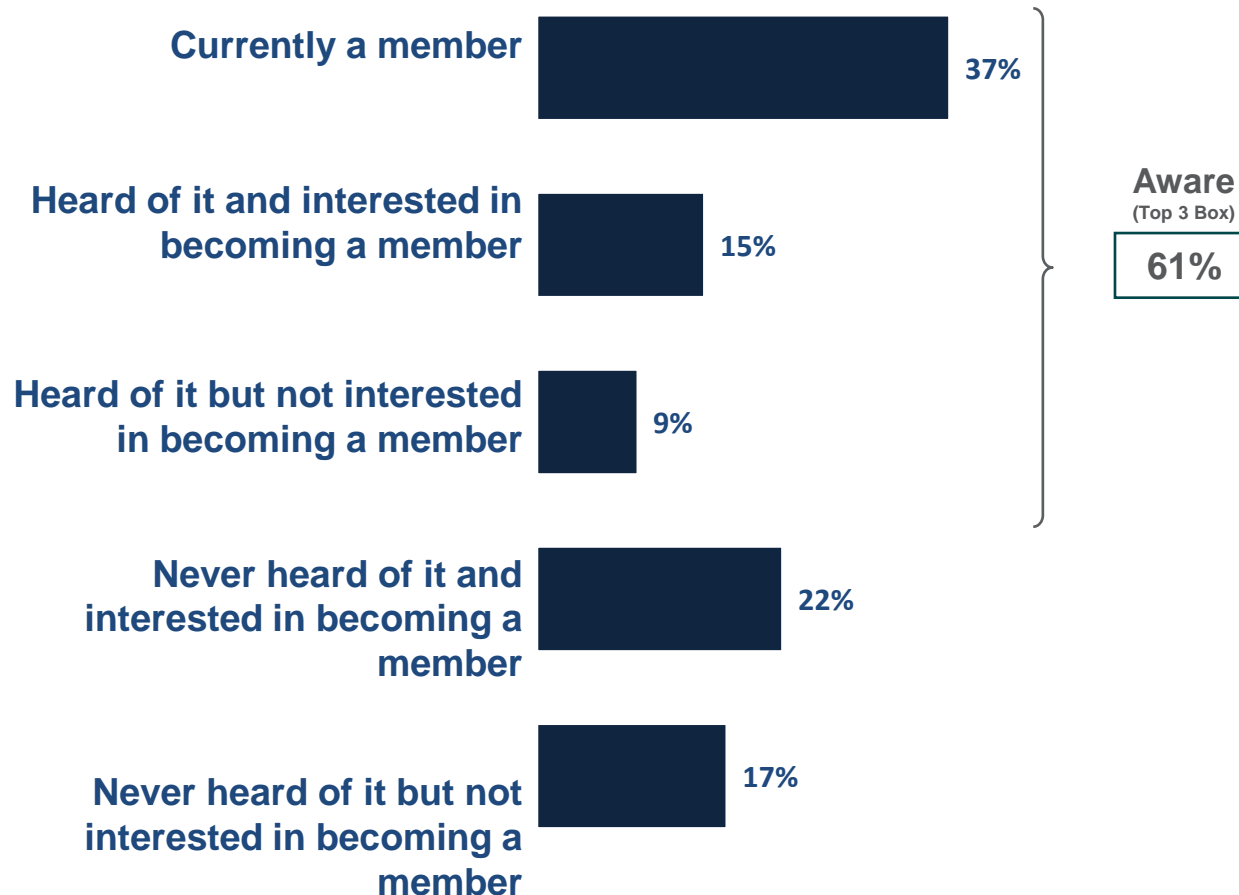
- Younger students are more likely to indicate studying chemical engineering.

		Age			Gender		Resident Status		
	Total	Under 23	24-26	27+	Male	Female	Permanent resident	Permanent resident of another province	International student
		G	H	I	J	K	N	O	P
Base: All Respondents	n=703	n=367	n=230	n=106	n=525	n=178	n=609	n=43*	n=51*
Mechanical Engineering	20%	22%	18%	21%	22%	16%	19%	26%	28%
Civil Engineering	15%	15%	14%	14%	13%	18%	15%	9%	8%
Electrical Engineering	17%	16%	19%	17%	18%	14%	17%	9%	18%
Chemical Engineering	7%	8% I	7% I	-	6%	10%	7%	7%	4%
Computer Engineering	6%	6%	4%	9%	6%	5%	6%	5%	6%
Software Engineering	5%	5%	4%	5%	6%	2%	5%	5%	-

*small base size

Association with Student Membership Program

- At six in ten, the majority of students are aware of provincial engineering association Student Membership Programs (SMP), of which nearly four in ten are currently a member, more than one in ten have heard of it and are interested in becoming a member while one in ten have heard of it but are not interested. Two in ten have never heard of it but are interested in becoming a member, while less than two in ten have never heard of it but are not interested.



Demographics- Gender, Age, Ethnicity

Gender	
Male	75%
Female	25%

Ethnicity	
British	33%
Western European	27%
East Asian	20%
Southern or Eastern European	18%
South Asian	10%
Southeast Asian	5%
West Asian or Middle Eastern	4%
African or African American	3%
Central/South American	2%
Aboriginal/First Nations/Métis	2%
Other	5%
Prefer not to say	2%

Age	
21-23	52%
24-26	33%
27+	15%

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