



CANADIAN CENTRE
FOR ETHICS IN SPORT

Leger

THE RESEARCH INTELLIGENCE GROUP

**Youth and Performance-Enhancing
Substances Survey**

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Contact Information

Ashley Challinor
Consultant, Communications & Public Affairs
achallinor@leger360.com
416.964.4114

Lisa Covens
VP, Communications & Public Affairs
lcovens@leger360.com
416.964.4107



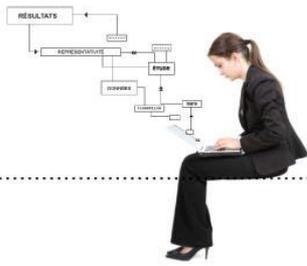
TABLE OF CONTENTS

Research Methods	4
Strategic Conclusions	6
Detailed Analysis of Results	11
<i>Physical Activity</i>	12
<i>User Segments</i>	19
<i>Attitudes</i>	22
<i>Relationship with PES</i>	25
<i>Drivers & Triggers</i>	43
Appendix	50





RESEARCH METHODS



RESEARCH METHODS

INSTRUMENT

A survey of 2997 Canadians between the ages of 10 and 18 was completed online between March 23 and April 24, 2014 using Leger's online panel, **LegerWeb**.

A probability sample of the same size would yield a margin of error of +/- 1.8%, 19 times out of 20.

ONLINE PANEL

Leger's online panel has approximately 460,000 members nationally – with between 10,000 and 20,000 new members added each month, and has a retention rate of 90%.

Panel members are randomly selected to receive email invitations to the individual surveys.

We ensure the protection of privacy via the usage of unique URLs and respondent IDs in combination with survey IDs.

QUALITY CONTROL

Stringent quality assurance measures allow Leger to achieve the high-quality standards set by the company. As a result, its methods of data collection and storage outperform the norms set by WAPOR (The World Association for Public Opinion Research). These measures are applied at every stage of the project: from data collection to processing, through to analysis. We aim to answer our clients' needs with honesty, total confidentiality, and integrity.



STRATEGIC
CONCLUSIONS



STRATEGIC CONCLUSIONS

The vast majority of Canadian youth do not use performance-enhancing substances

- However, this also means they are largely unaware of how PES (including caffeine, energy drinks, and alcohol) can affect them, as well as the nature and duration of any side effects
- The most common substances used to improve sports performance are vitamin and mineral supplements, energy drinks, protein supplements and caffeine

Those who use PES have a clear profile: male, athletic, and aware of PES through social channels

- They have a more lenient attitude towards PES use at all levels, from high school athletics to the Olympics
- Personally, they are concerned with self-image and popularity
- They are more likely to consider themselves social media experts and have a popular social media presence

For those youth who are predisposed to using PES, there are two triggers that may initiate trying a drug:

- The encouragement of friends, which legitimizes the activity; and
- The idea that they are only trying a drug “once”
- Both triggers decrease the perceived risk of using PES, and so encourage the behaviour



SAMPLE RISK SNAPSHOT

8

Using advanced analytics techniques, we subdivided our sample of Canadian youth into four groups, based on their admitted or suspected PES use and their potential predicted behaviour. We discovered that 18% can be classified as “at risk”, based on this criteria. The cost/benefit relationship surrounding PES use within this group is explored on the next slide.

SAFE

AT RISK





BENEFITS VS. RISK

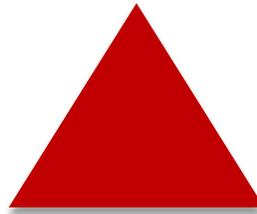
PERCEIVED BENEFITS

- Improved athletic performance
- Improved personal appearance
- Boost in self-image and confidence
- Boost in popularity

PERCEIVED RISKS

- Potential (but unknown) side effects or harm
- Social/athletic status consequences

These risks are mitigated by being introduced to PES use through friends, and by believing they will only use a drug once.





RECOMMENDATIONS

10

Focus on social media as a delivery mechanism



Messages about the dangers or drawbacks of PES use may not resonate in classroom settings. Most youth are on social media, and those who use PES tend to have a greater presence on, or propensity for, social technology.



Compensate for the peer discussion that surrounds PES – one which is largely about the benefits of PES use – with a discussion about the risks. Fight the idea of trying PES “once” as a legitimate activity.



Target the friend relationships that act as a trigger for PES use among those who are predisposed.



Create a consistent and engaging social media strategy through techniques such as gamification. Explore content analysis: determine what is being said, by whom, in what context, and with what language.

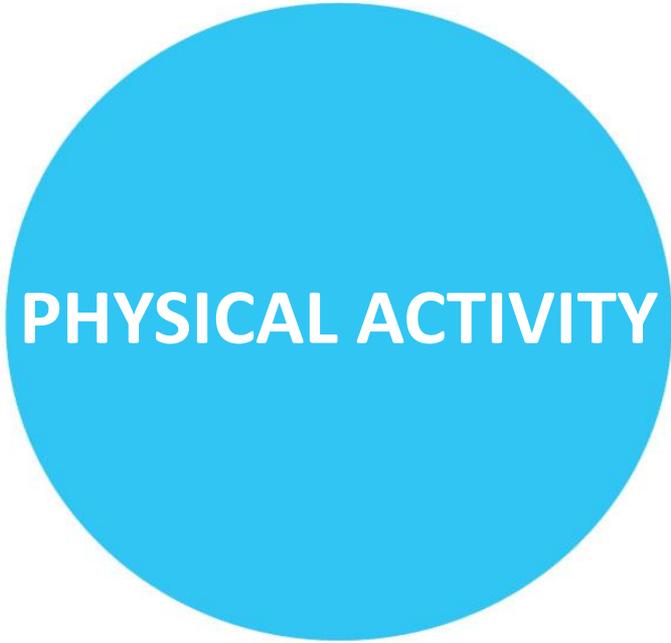
2005	25%
2006	35%
2007	36%
2008	48%
2009	55%
2010	80%
2011	85%



+40%

+10%





PHYSICAL ACTIVITY

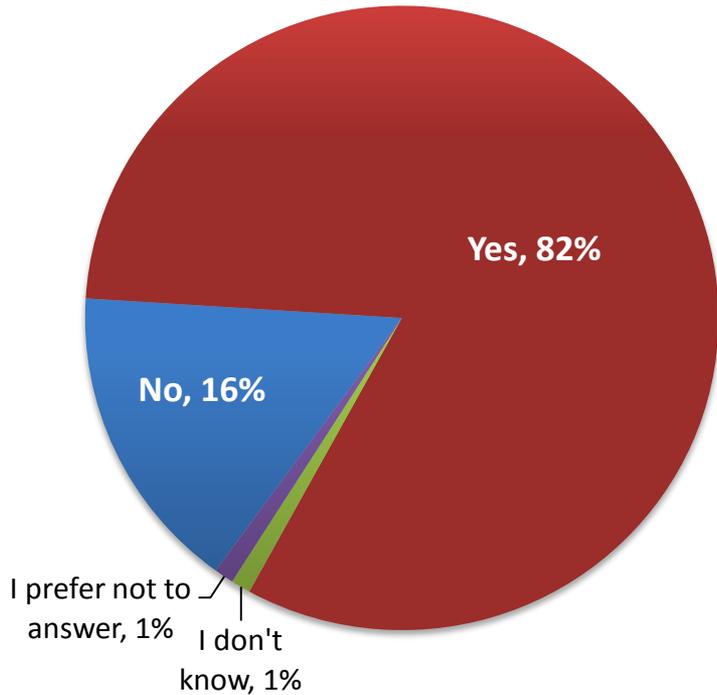


REGULAR PHYSICAL ACTIVITY

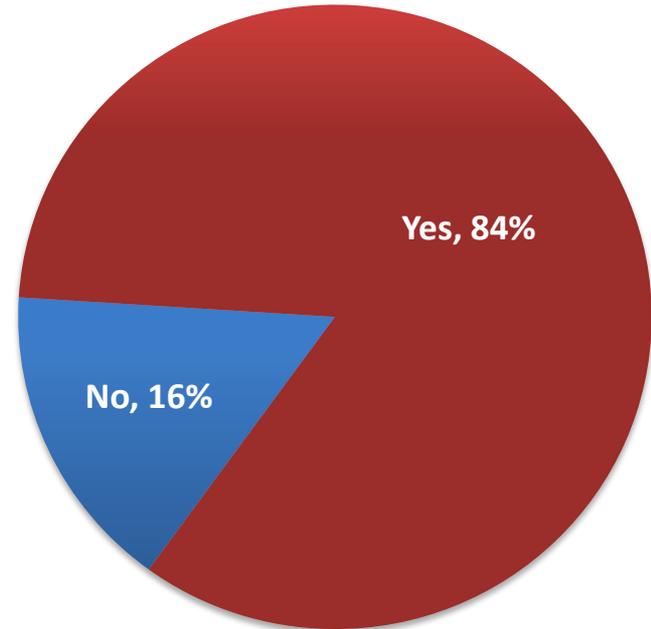
The majority of Canadian youth indicate they regularly engage in physical activity or exercise, and/or they are enrolled in a physical education class in school.

Boys and those under the age of 15 are more likely to do both these things, compared to girls and youth aged 16-18.

Do you do any physical activity (exercise) on a regular basis?



Are you taking a physical education (gym) class in school this year?



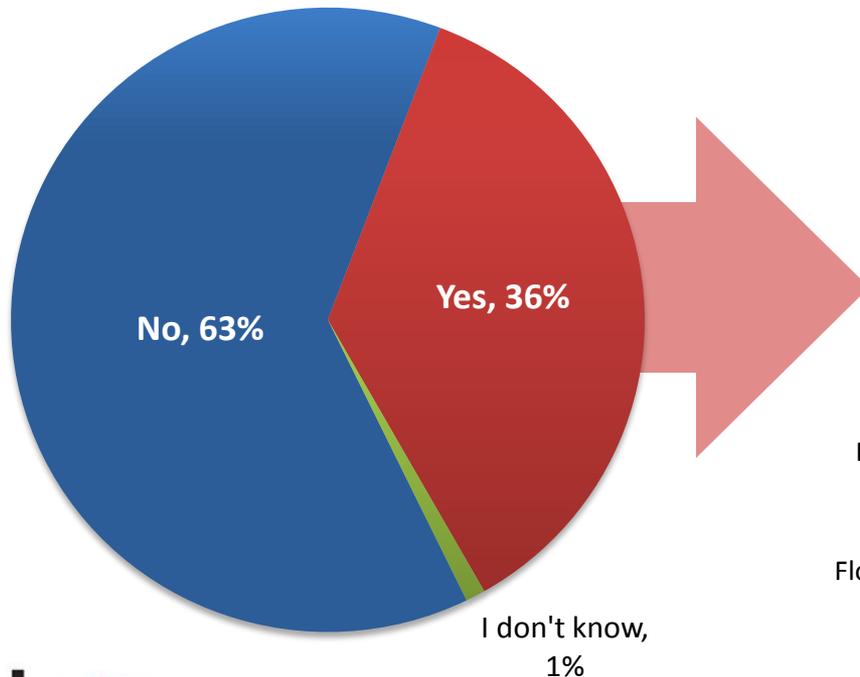


INVOLVEMENT IN SPORTS - INTRAMURAL

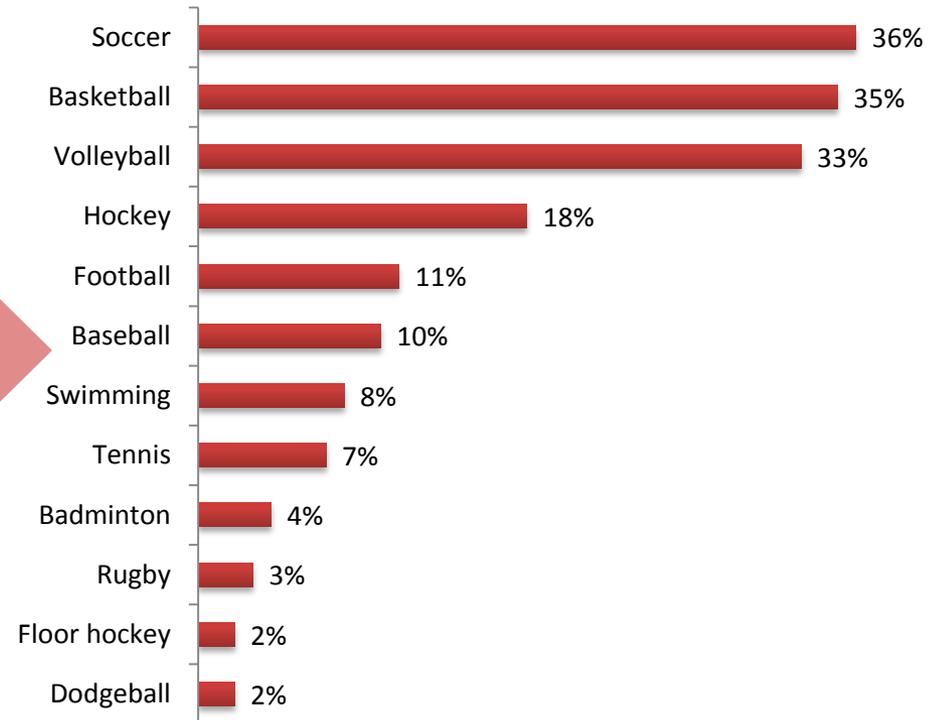
Approximately **one third of Canadian youth say they are involved in intramural sports** at their school. Younger youth (aged 10-15 years) are more likely to be involved than those aged 16-18 years.

Soccer, basketball, volleyball, hockey and football are most common sports, with soccer more likely to be played by 10-12 year olds compared to older youth. Girls are more likely to play volleyball, while boys are more likely to participate in hockey and football.

Are you on a team that plays against other teams from your own school (intramural)?



What sports do you play against teams from your own school?



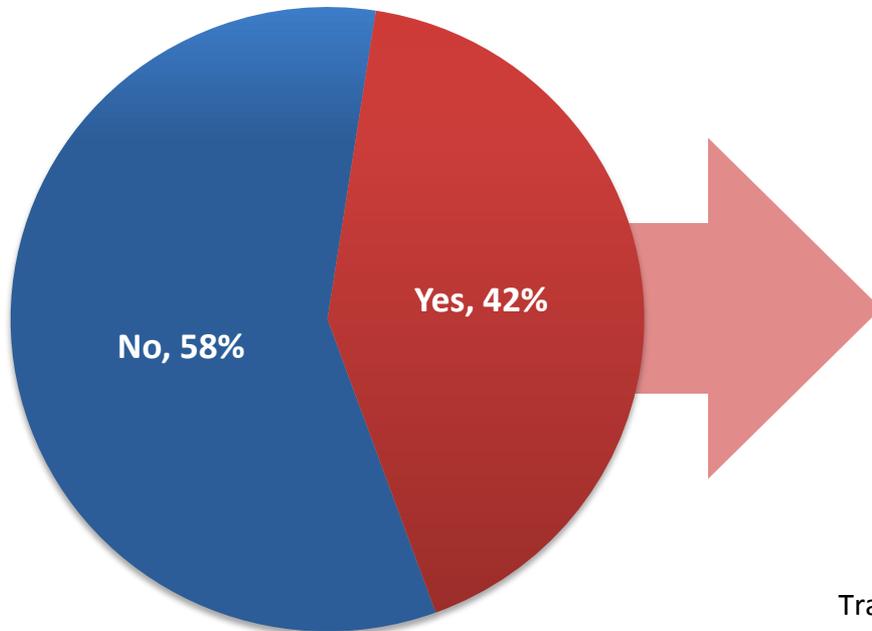


INVOLVEMENT IN SPORTS – SCHOOL VS. SCHOOL

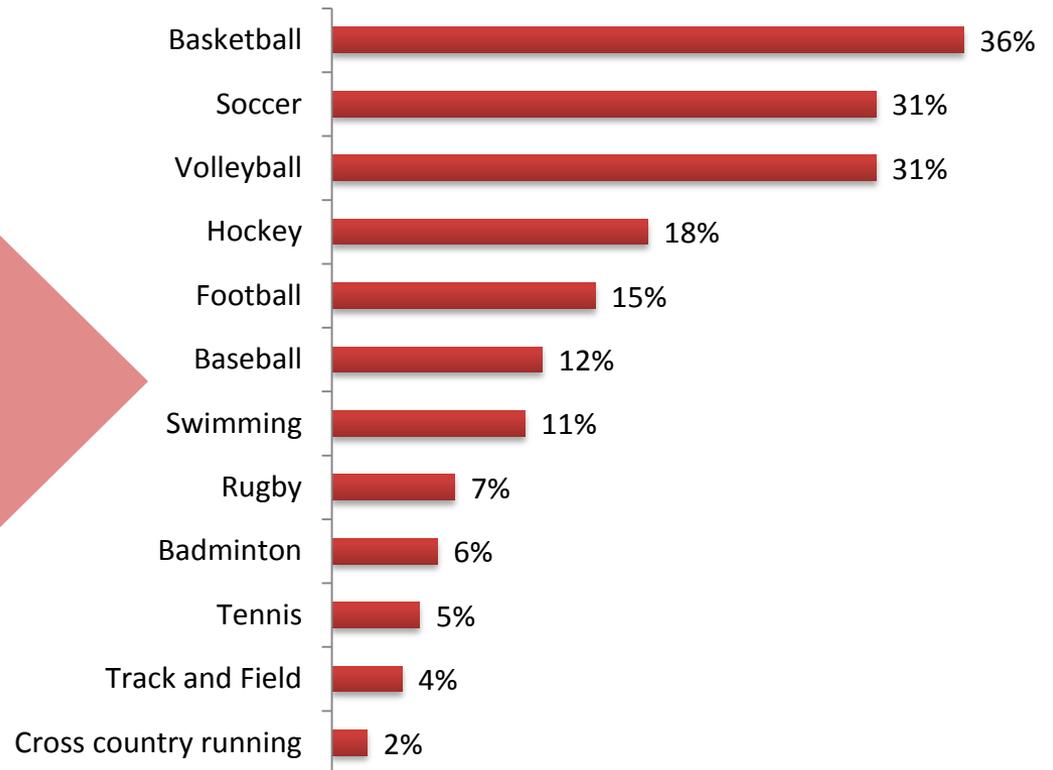
A little less than half of Canadian youth indicate they are involved in a school sports team that competes against other schools. Youth aged 13-15 years are more likely to be involved in a school sports team compared to younger (10-12 years) and older (16-18 years) youth.

Basketball, soccer, volleyball, hockey and football are most common sports, with girls more likely to play volleyball, while boys more likely to participate in hockey and football.

Are you on a school sports team that plays against teams from other schools?



What sports do you play against other schools?



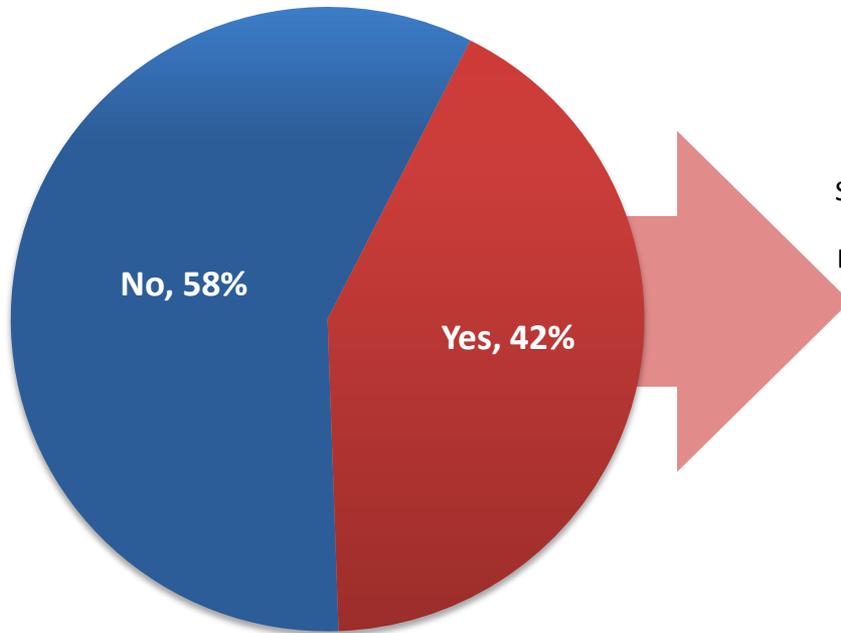


INVOLVEMENT IN SPORTS - COMMUNITY

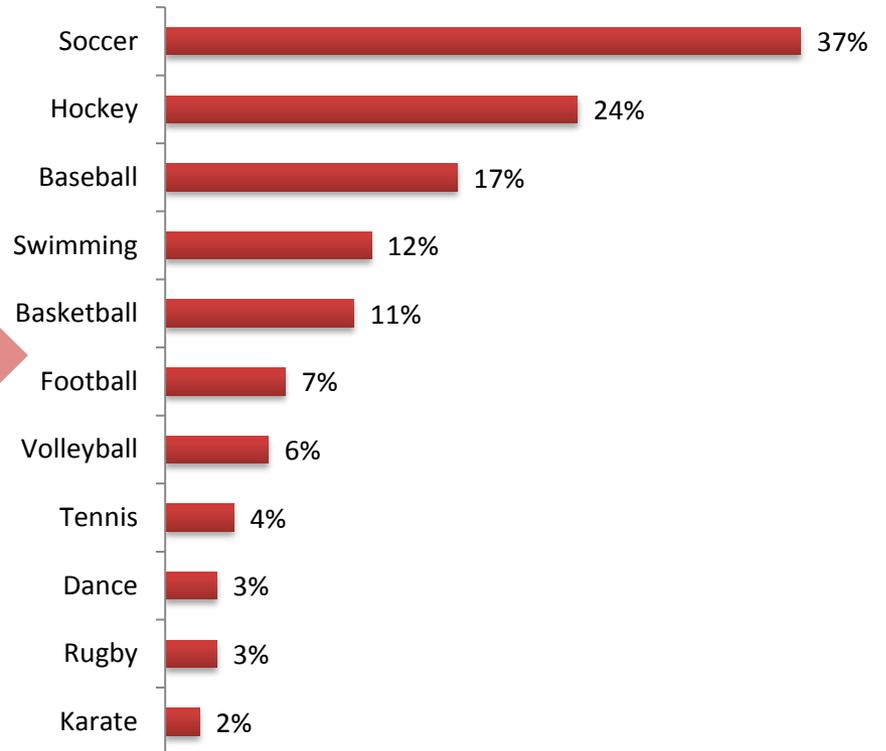
A little less than half of Canadian youth indicate they are on a community/recreational team outside of school. Boys and those aged 10-15 are more likely to be involved in these types of teams compared to girls and those aged 16-18.

Soccer, hockey, baseball, swimming and basketball are most common sports, with youth aged 10-12 more likely to participate in swimming compared to those aged 13-18.

Are you on a community / recreational team that is not part of your school?



What sports do you play or participate in with a community / recreational team?

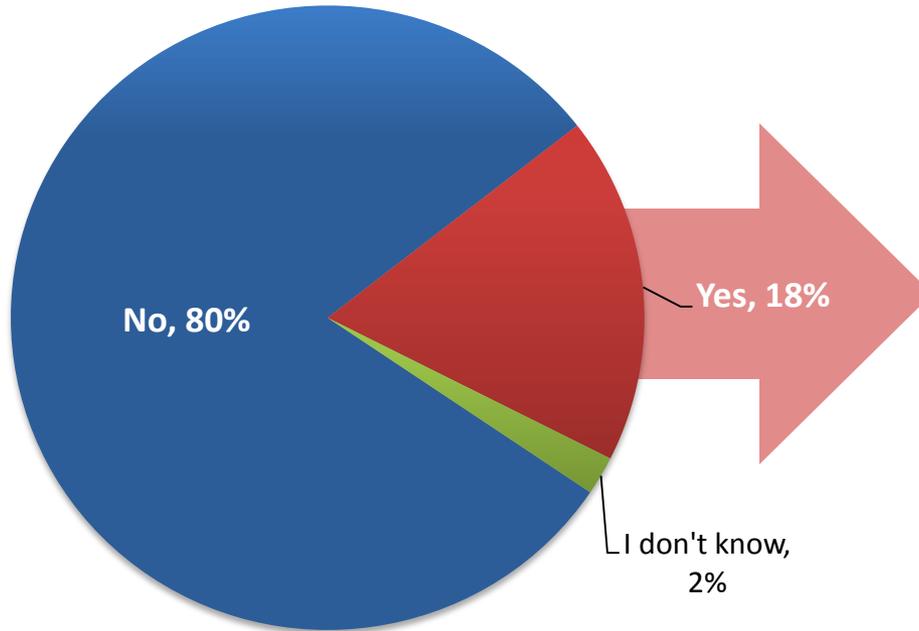




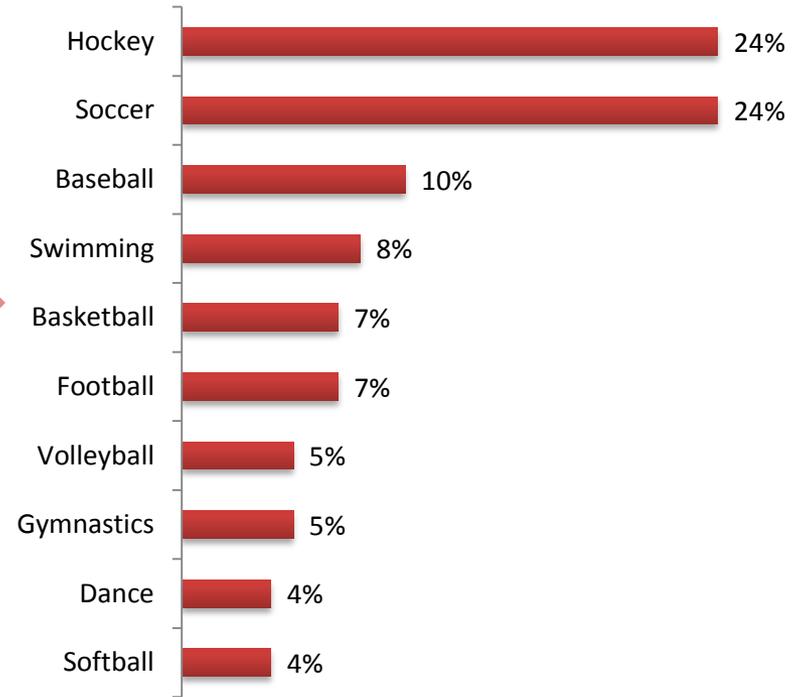
INVOLVEMENT IN SPORTS - COMPETITIVE

Nearly **one in five Canadian youth** are involved with a provincial or competitive sports team, with hockey and soccer the most common sports played. Boys are more likely to be involved in hockey at this level than girls.

Do you belong to a provincial or competitive sports team?



What sports do you play on a provincial or competitive sports team?



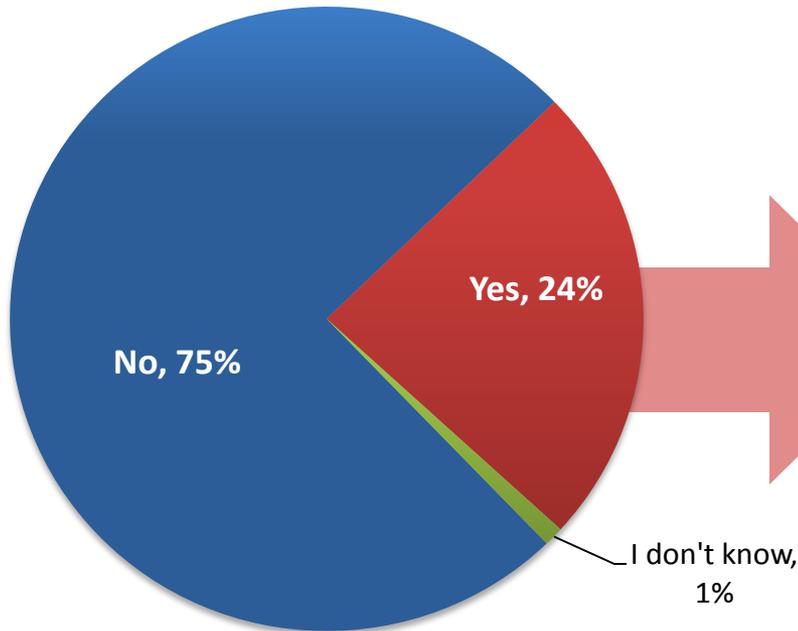


WEIGHT LIFTING

Nearly 20% of Canadian youth are involved in a weight training program, lift weights, or use weight machines to work out. Boys are more likely lift weights than girls, and youth in general are more likely to become involved in a weight training program as they get older.

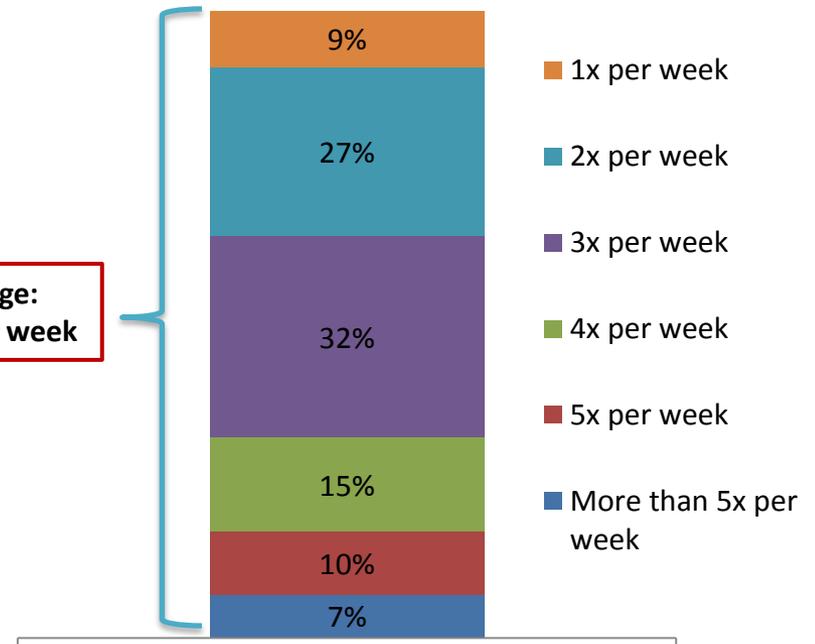
The majority of weight-lifters train 2-4 times per week, 3.1 times on average. Sixteen-to-eighteen year-olds are more likely to train more frequently compared to their younger counterparts.

Do you follow or are you involved in a weight training program (lift weights, work out on weight machine)?



Average:
3.1 x per week

If so, how many times per week do you train?



USER SEGMENTS



GREEN, GREY AND RED

Based on their responses to questions about use of performance-enhancing substances,* respondents were classified into three user groups – Green, Grey and Red.

GREEN – NON-USERS

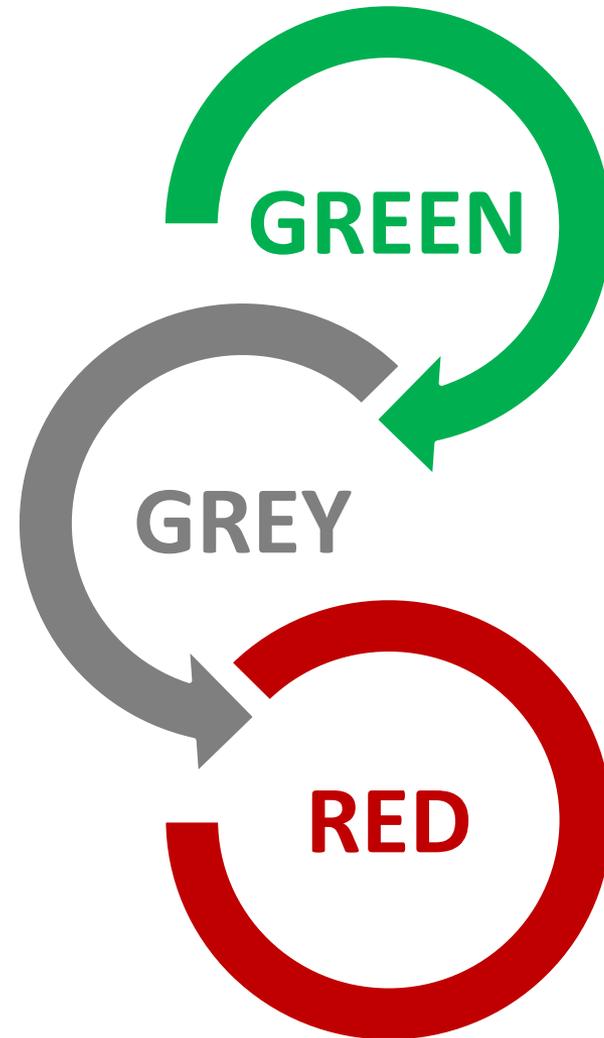
- Green respondents answered no/never to questions about PES use.

GREY – SUSPECTED USERS

- When asked about PES use, respondents in the grey group indicated that they prefer not to answer.

RED – USERS

- Respondents in the red group indicated that they have at some point used amphetamines/stimulants, anabolic steroids, beta blockers, EPO, HGH, diuretics, and/or ephedrine in the context of athletics and/or changing their appearance.





USER GROUP CHARACTERISTICS

21



- More likely to be female
- Less likely to be physically active, or play on a sports team
- Less likely to be involved in weight training/lifting
- More likely to have heard about PES through the news-media or parents, or to simply not have heard about PES at all
- Confident and values fair play



- More likely to be male (vs. Green)
- Less likely to be physically active or on a sports team (vs. Red), but more likely to weight train (vs. Green)
- More likely to have heard about PES online
- Not confident or sure of themselves
- Permissive attitudes towards PES use



- More likely to be male (vs. Green)
- More likely to be physically active, play sports, and lift weights
- More likely to have heard about PES socially – through friends, coaches, and teammates
- Confident, but focused on personal appearance and popularity



ATTITUDES



PERSONAL ATTITUDES, SEGMENTS

There is a marked difference in attitudes between user and non-user groups: Red and Green youth disagree on the acceptability of steroid use and the importance of winning over doing their best, as well as on matters of confidence. Grey youth rate similarly to Red on statements related to more permissive or relaxed attitudes about PES use, suggesting that they may have engaged in drug use but are uncomfortable answering honestly.

<i>% who agree (strongly or somewhat agree) with the following statements....</i>	Red %	Grey %	Green %
I think that I do well at school	80	63	89
Using drugs to do better in sports is cheating	77	55	89
Doing my best at sports is more important than winning	78	54	86
I usually like the way I look	75	70	85
Usually, if I have something to say, I say it	75	60	82
I mostly use my computer to access the Internet	75	72	81
I usually get upset if someone yells at me	73	60	80
Using steroids should be against the law	74	38	76
I use social media to keep up with my friends	77	71	75
People who sell steroids should go to jail	68	45	66
People judge me on my appearance	68	52	57
There are substances or drugs that will help improve athletic performance	69	42	57
I am popular on social media	73	53	49
I mostly use my smartphone to access the Internet	74	54	48

<i>% who agree (strongly or somewhat agree) with the following statements....</i>	Red %	Grey %	Green %
My friends think I am an expert on the latest technology	63	55	46
It is hard to tell if someone is taking steroids	55	31	45
Few Olympic athletes use drugs or substances to perform better	58	28	41
My friends think I am an expert on the latest social media	57	54	38
In sports, winning is the most important thing	60	50	33
Most people my age are better liked than me	60	36	27
It is nobody's business but my own if I choose to take steroids	55	39	25
I often wish that I was someone else	61	38	24
Steroids will help me look better	51	30	10
Olympic athletes using drugs such as steroids should be allowed to compete	41	28	7
It is okay to try steroids once	45	31	7
Athletes using drugs such as steroids should be allowed to compete on a high school team	43	26	7
If a close friend offered me a drug that would make me do better in sports, I would try it	43	38	5



PERSONAL ATTITUDES, TOTAL

<i>% who agree (strongly or somewhat agree) with the following statements....</i>	Total
I think that I do well at school	88
Using drugs to do better in sports is cheating	88
Doing my best at sports is more important than winning	86
I usually like the way I look	84
Usually, if I have something to say, I say it	82
I mostly use my computer to access the Internet	80
I usually get upset if someone yells at me	79
Using steroids should be against the law	76
I use social media to keep up with my friends	75
People who sell steroids should go to jail	66
People judge me on my appearance	58
There are substances or drugs that will help improve athletic performance	57
I am popular on social media	50
I mostly use my smartphone to access the Internet	49

<i>% who agree (strongly or somewhat agree) with the following statements....</i>	Total
My friends think I am an expert on the latest technology	47
It is hard to tell if someone is taking steroids	46
Few Olympic athletes use drugs or substances to perform better	41
My friends think I am an expert on the latest social media	39
In sports, winning is the most important thing	35
Most people my age are better liked than me	28
It is nobody's business but my own if I choose to take steroids	27
I often wish that I was someone else	26
Steroids will help me look better	12
Olympic athletes using drugs such as steroids should be allowed to compete	9
It is okay to try steroids once	9
Athletes using drugs such as steroids should be allowed to compete on a high school team	9
If a close friend offered me a drug that would make me do better in sports, I would try it	8



**RELATIONSHIP
WITH PES**



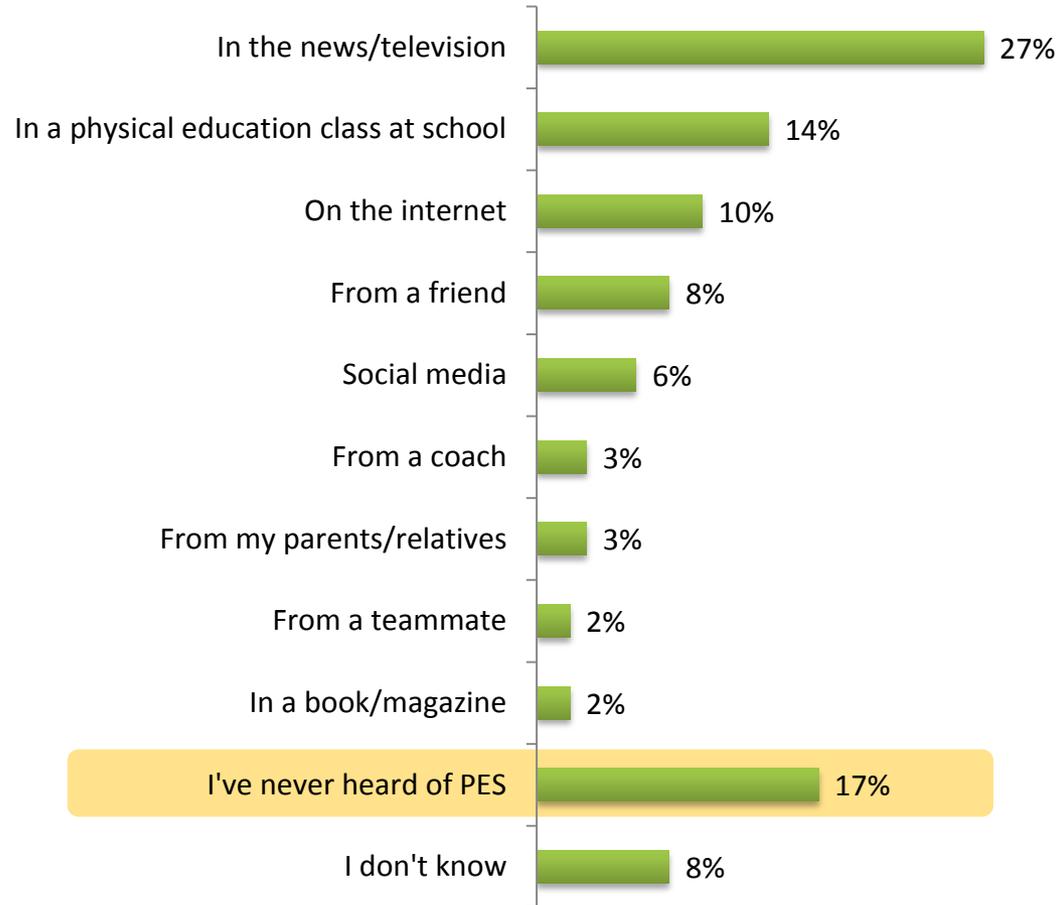
AWARENESS OF PES

Have you ever heard about performance-/image-enhancing drugs (steroids)?
If so, where did you first hear about it?

A quarter of Canadian youth have heard about performance-enhancing substances from the news or from TV, with **only 17% saying they have not heard of these drugs**. Green youth and those under 15 are more likely to say they have not heard of PES.

Youth who first heard about PES through the news/TV are more likely to not be steroid users, potentially because of the negative portrayal of steroid use in the media (i.e. athletes losing status, medals or endorsements in doping scandals). In contrast, **those who say they first heard about PES from a friend are more likely to report having used steroids, as their friends may only be reporting the “benefits” of steroid use and/or are uninformed about the risks.**

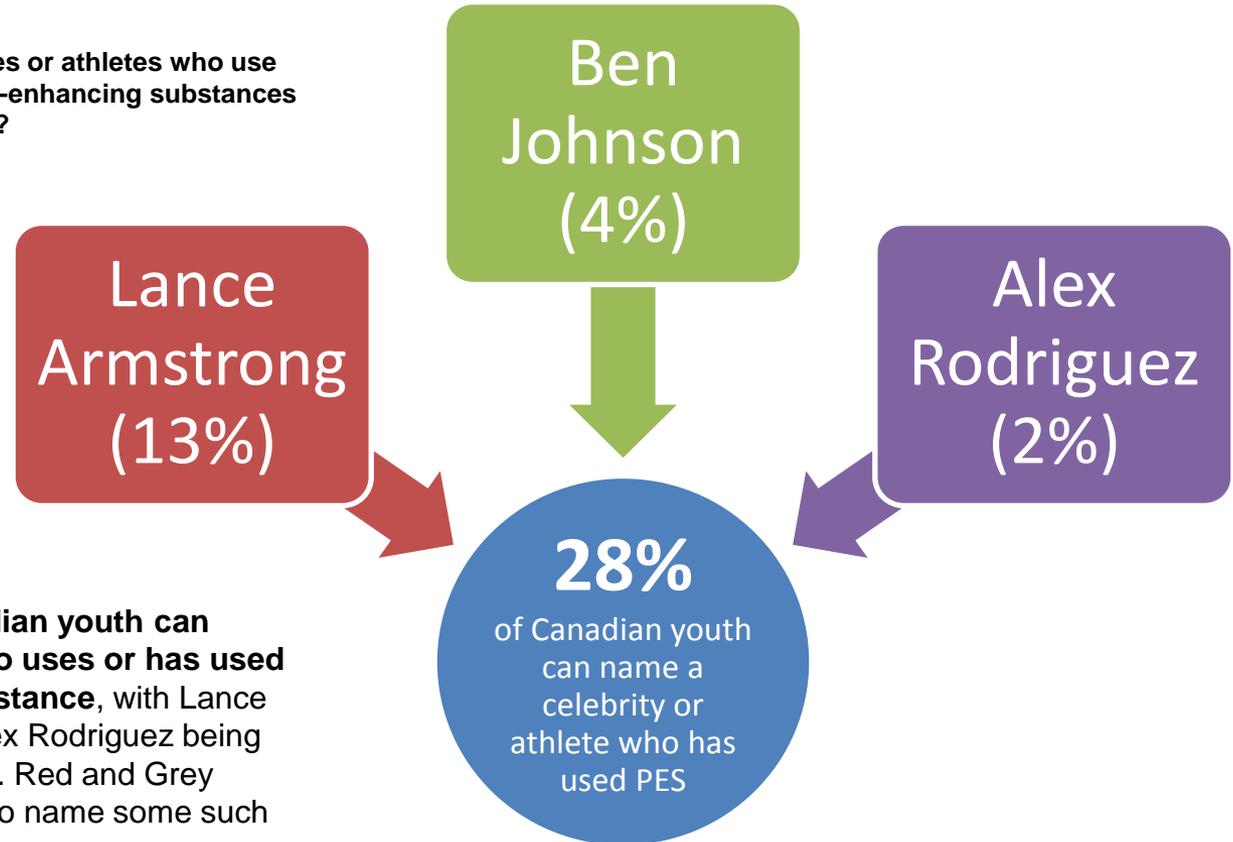
Youth who weight train are more likely to have heard about PES through social means – friends, coaches, teammates, and social media.





PES AND CELEBRITIES

Can you think of any celebrities or athletes who use steroids or performance-/image-enhancing substances or drugs?



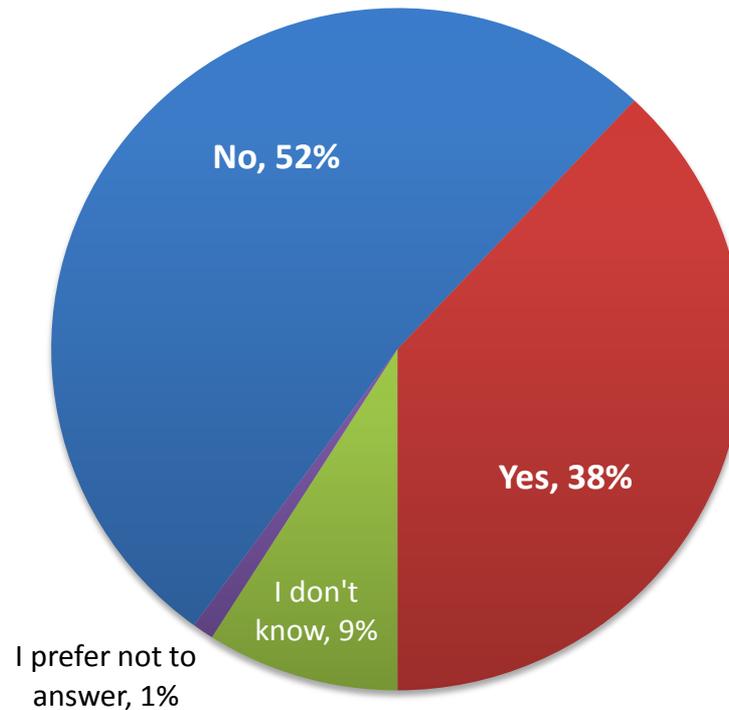
Twenty-eight percent of Canadian youth can name a celebrity or athlete who uses or has used a performance-enhancing substance, with Lance Armstrong, Ben Johnson and Alex Rodriguez being the most commonly-cited names. Red and Grey youth are more likely to be able to name some such celebrity.



PES IN SCHOOL

Less than two in five Canadian youth have heard about performance-enhancing substances in a classroom context – although older teens are more likely to report having learned about PES in school. Red and Grey youth are more likely to report (or remember) learning about PES in the classroom, potentially because the subject is personal to them.

Have you learned about any performance-/image-enhancing substances or drugs in school?

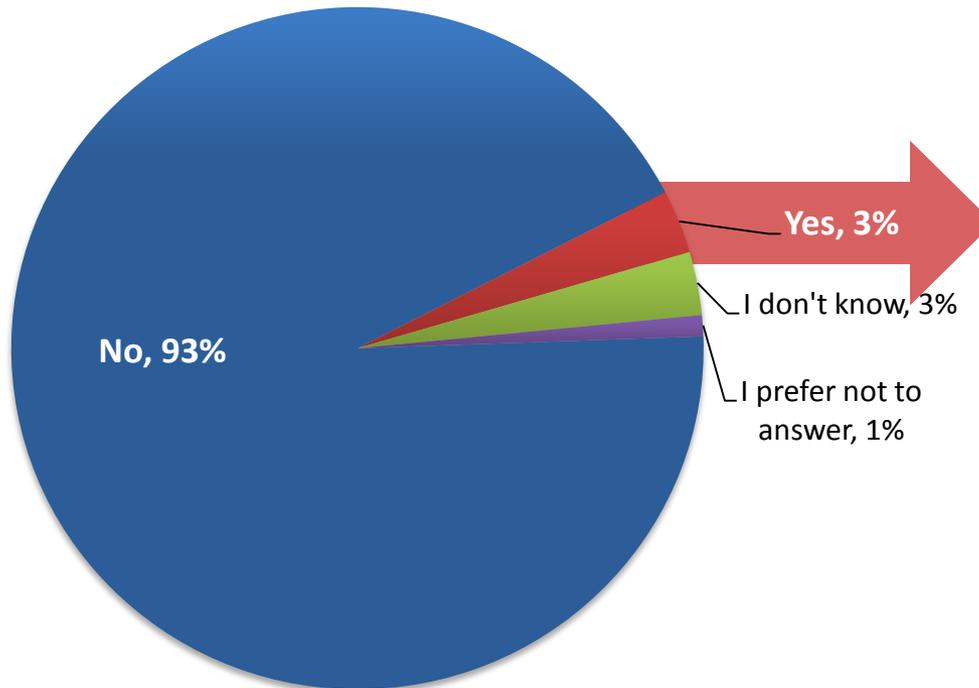




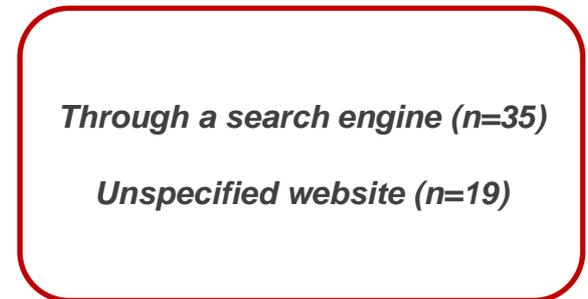
RESEARCHING PES

The **great majority of Canadian youth have not looked for information about performance-enhancing substances online**. Not surprisingly, Red youth are more likely to have looked for information online, while Green youth are less likely to have done so.

Have you ever looked for information about steroids or performance-/image-enhancing substances or drugs online?



Where did you look?



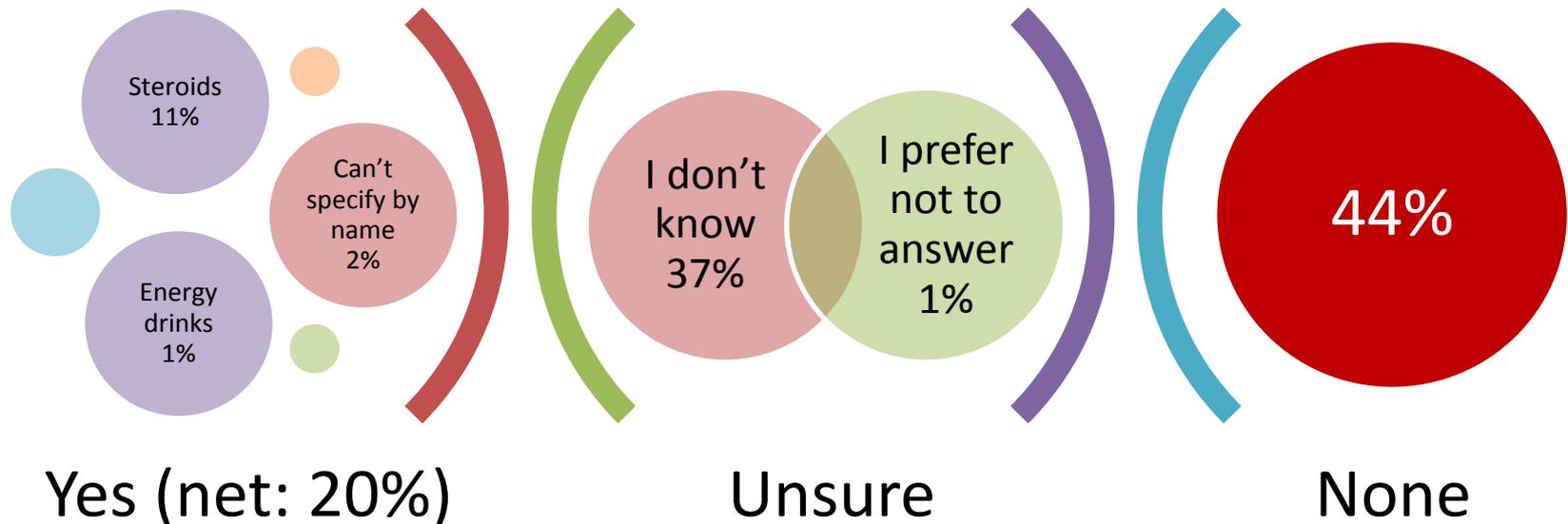


PES AND ATHLETIC PERFORMANCE

While **more than two in five Canadian youth do not think there are any substances or drugs that will make them perform better at sports**, nearly as many are unsure if this is the case.

The most commonly-cited substance to improve sports performance is steroids, with those youth who play sports or lift weights most likely to name this drug.

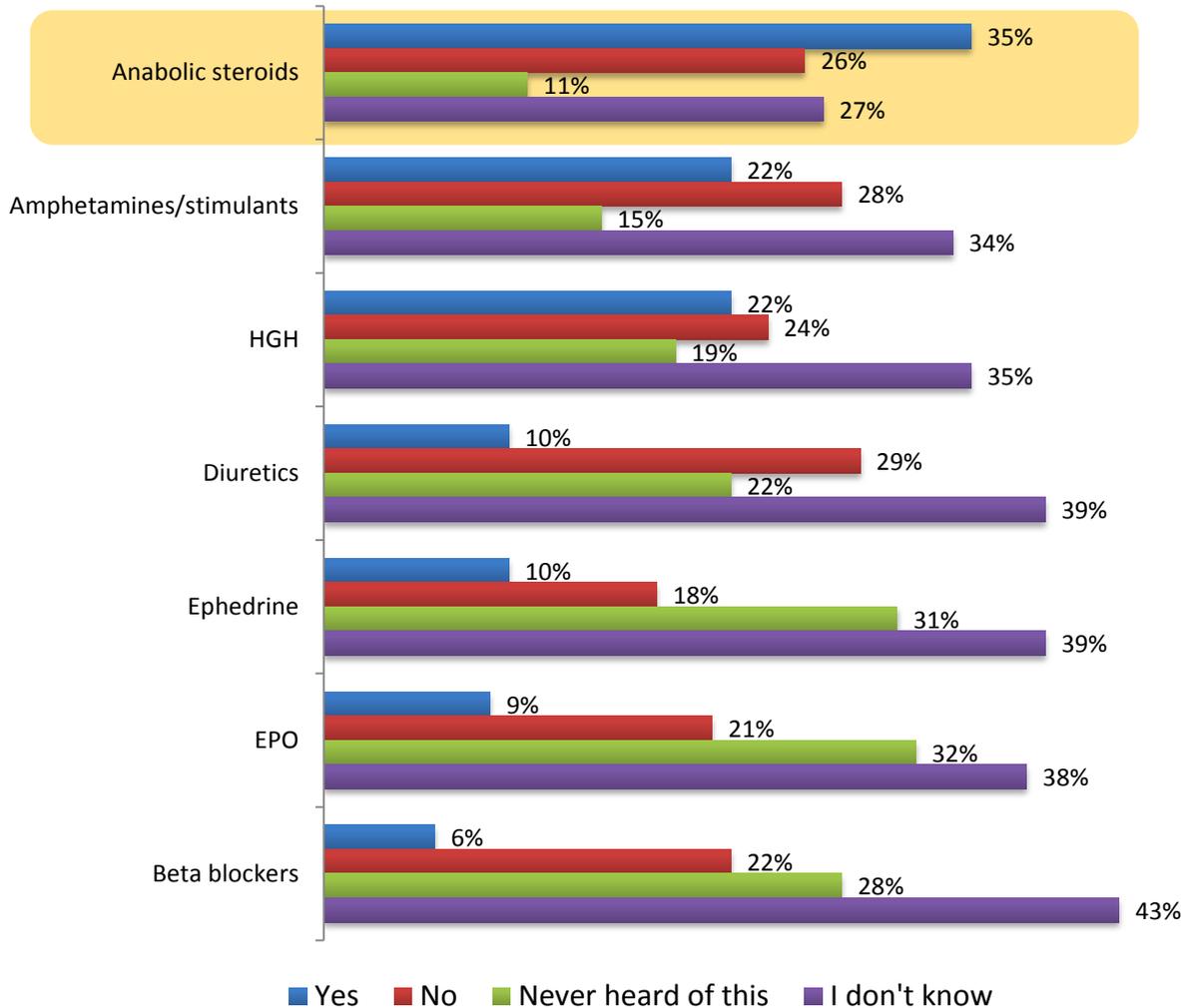
Do you think that there are substances or drugs that will make you perform better at sports?





PES AND ATHLETIC PERFORMANCE

Do you think that any of the following substances or drugs will help and athlete perform better?

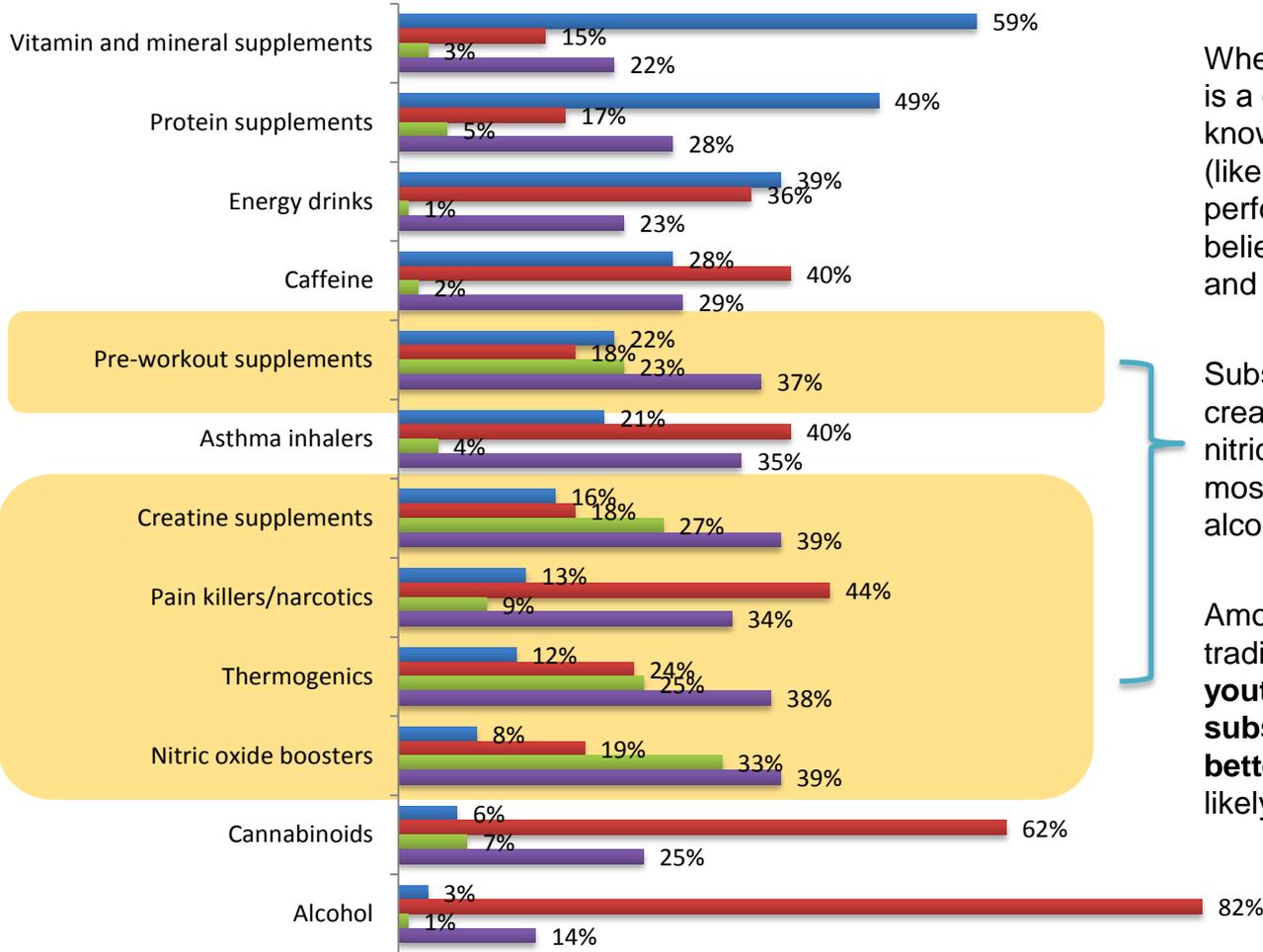


When looking at harder or more traditional performance-enhancing substances, **Canadian youth appear to be largely unaware of specific drugs and their ability to affect an athlete's performance.** Anabolic steroids is the only PES for which a belief that the drug can help athletes outranks "I don't know".



PES AND ATHLETIC PERFORMANCE, continued

Do you think that any of the following substances or drugs will help and athlete perform better?



When looking at non-traditional PES, there is a greater diversity in Canadian youth's knowledge. Many believe that supplements (like vitamins or protein) will help an athlete perform better, while an equal number believe that energy drinks will both help and not help.

Substances like pre-workout supplements, creatine, narcotics, thermogenics, and nitric oxide boosters are unknowns, while most youth say that cannabinoids and alcohol will not help an athlete.

Among all substance types, including the traditional PES in the previous slide, **Red youth are more likely to say that all substances will help an athlete perform better.** In contrast, Green youth are more likely to be unsure.

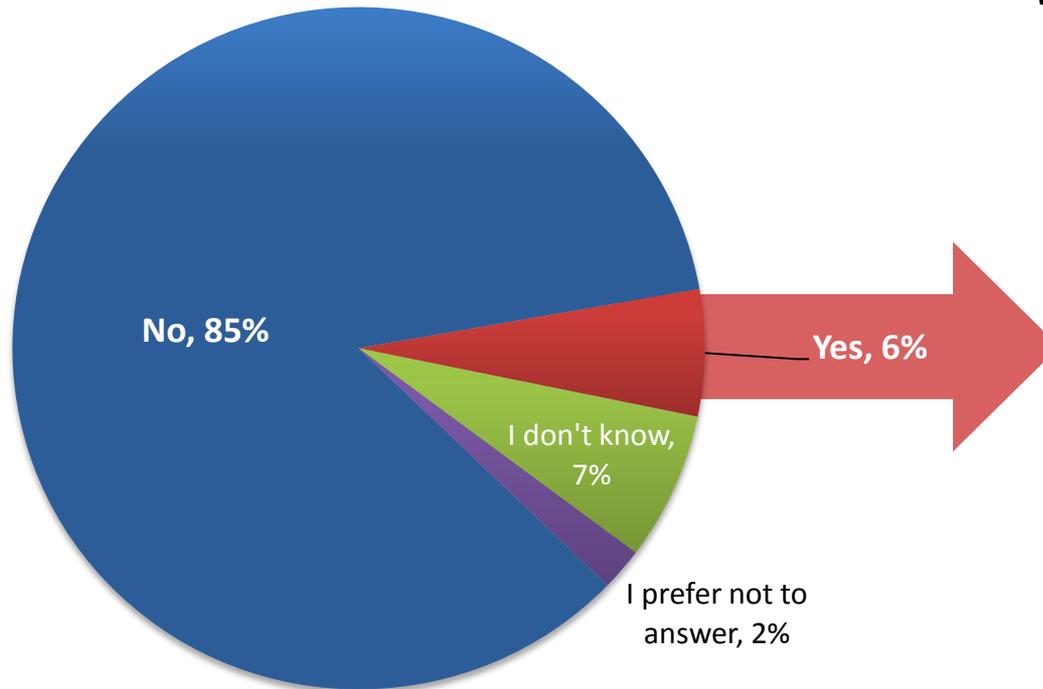


PEERS AND PES

Most Canadian youth have not heard their friends talk about using PES. Among the 6% who have, there is a mixed bag of attitudes, with **many friends mentioning improved performance, a desire to use or previous experience using drugs, or other positive impressions**. Not surprisingly, Red youth are more likely to say their friends have talked about using PES, while Green youth have not had such a discussion with friends.

Have your friends ever talked about using steroids or other performance-/image-enhancing substances or drugs?

What did they say or how did they feel about it?



They thought it was bad/not a good idea (n=57)

They said it helps performance/makes you stronger, faster, better (n=30)

They like it/say it's good (n=27)

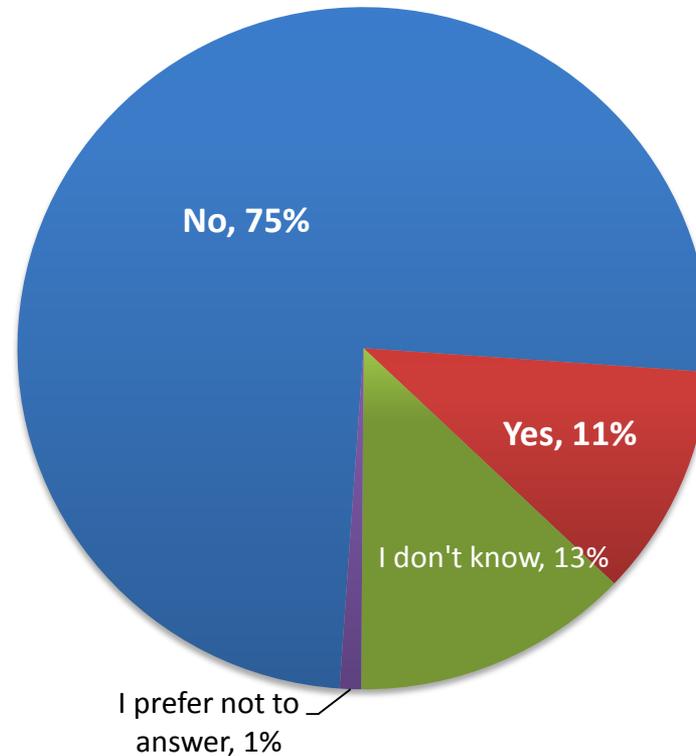
They want to try it/have tried it (n=24)



PEERS AND PES, continued

Three quarters of Canadian youth are confident that they do not know anyone who uses PES. Older teens, those who weight train or are on a sports team, and admitted steroid users are all more likely to say they know someone who uses these drugs.

Does someone you know use steroids or performance-/image-enhancing substances or drugs?

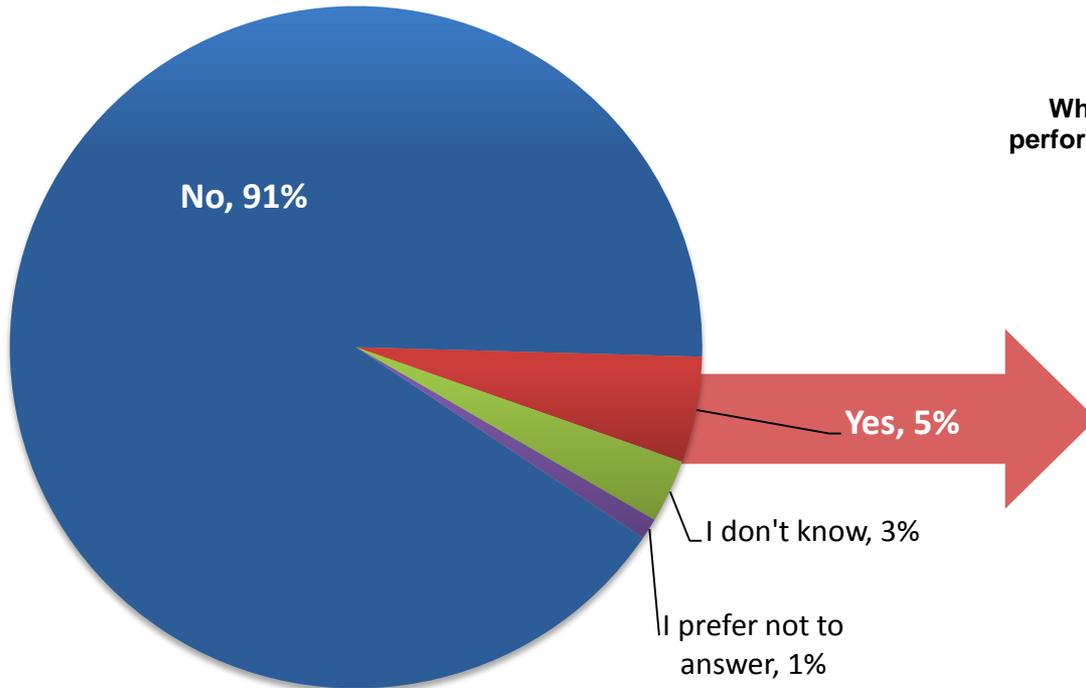




SUGGESTED USE OF PES

The majority of Canadian youth say that no one has ever suggested they try PES. Of the 5% who have been told to try these substances, many say it was a peer (such as a friend or teammate) who made the suggestion. Not surprisingly, Red youth are more likely to report someone suggesting they try PES.

Has anyone ever suggested that you try steroids or performance-/image-enhancing substances or drugs to make you perform better at sports, or to change the way you look?



Who suggested that you should use steroids or performance-/image-enhancing substances or drugs?

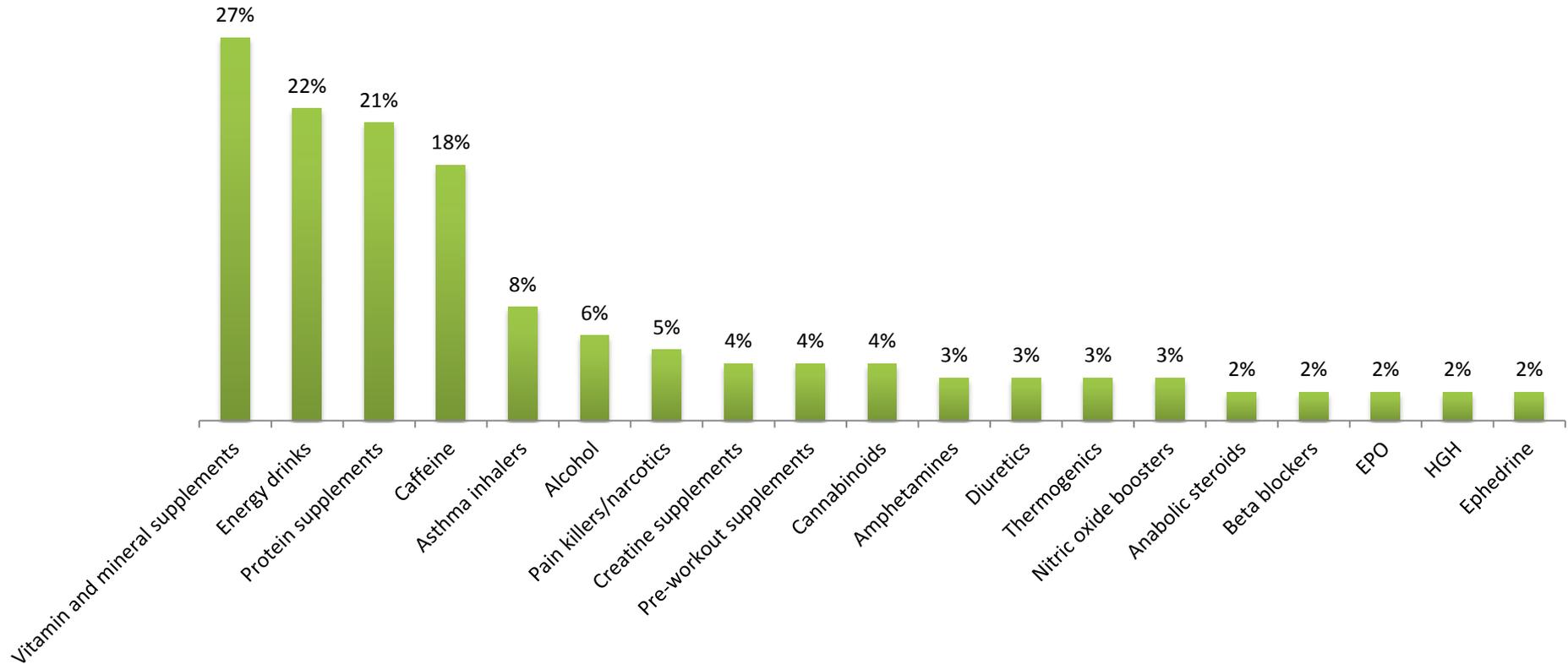
- Friend (n=91)
- Teammate (n=50)
- Someone at the gym (n=44)
- Coach (n=14)
- Parents (n=10)
- Other (n=6)



USE BY SUBSTANCE

A quarter of Canadian youth say that in the past 12 months they have taken vitamin and mineral supplements in help them do better in sports. Energy drinks, protein supplements, and caffeine were also popular substances.

In the last 12 months, have you used any of the following to help you do better in sports?

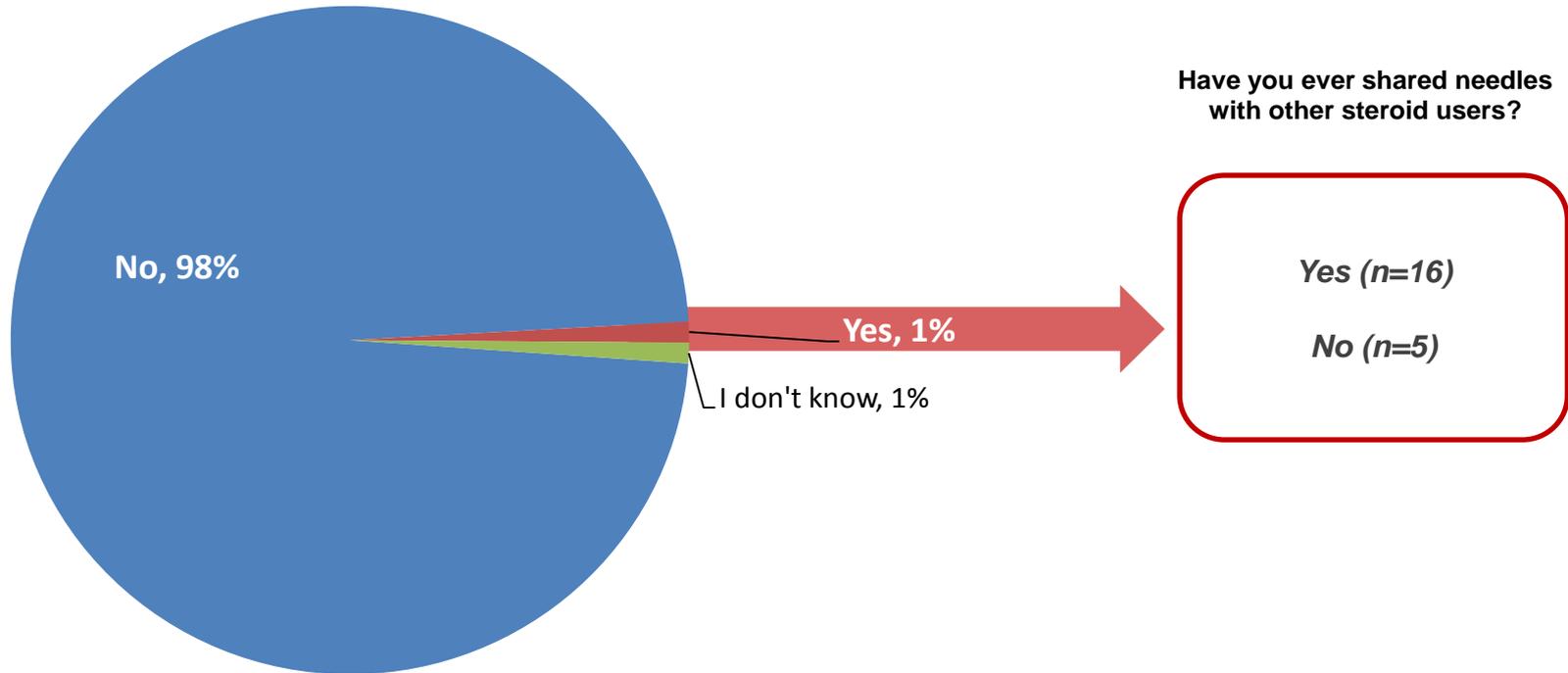




NEEDLE USAGE

The vast majority of Canadian youth have never used a needle to inject steroids, although those who are on a sports team or lift weights are more likely to have done so. Among those who have, many have shared needles.

Have you ever used a needle to inject steroids?

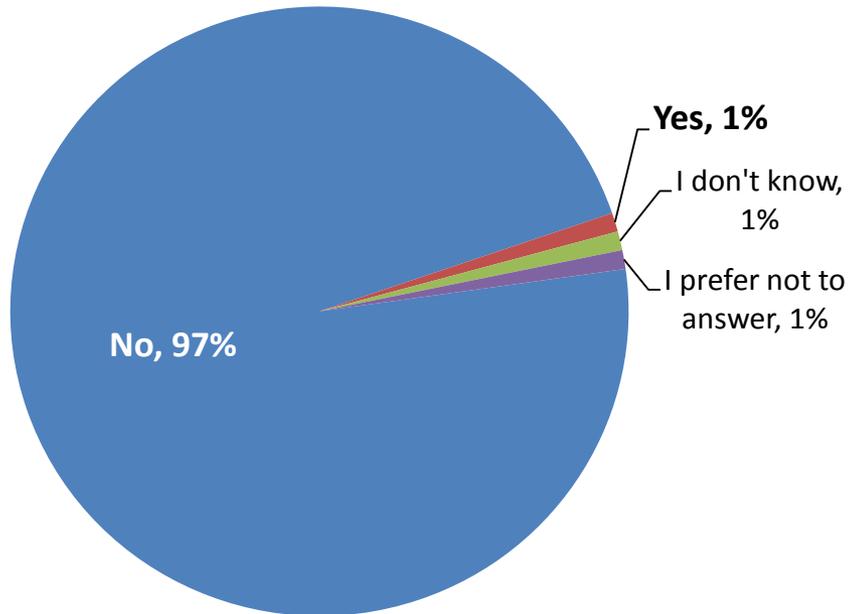




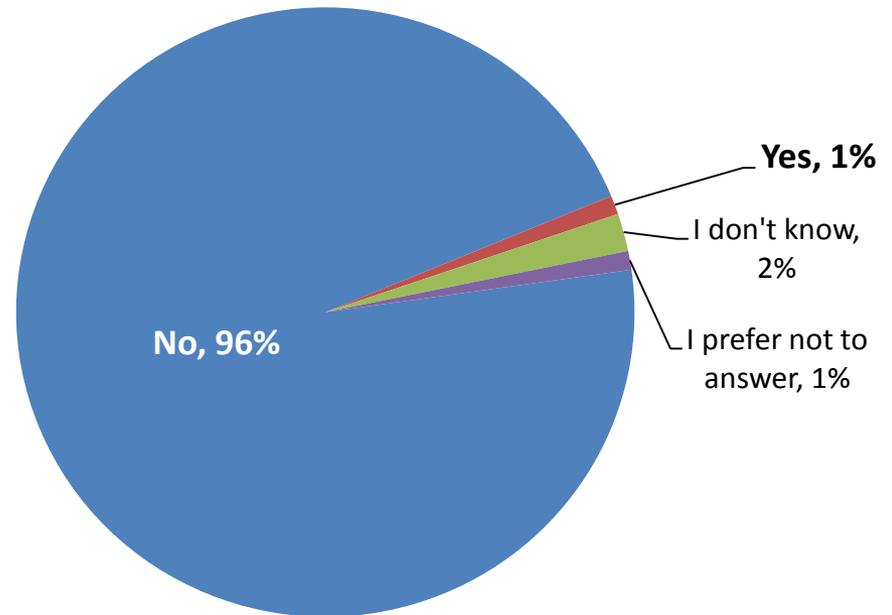
USE BY GOAL

Most Canadian youth have not used steroids, either to perform better at sports or to change the way they look. Those who have used for either reason are more likely to be male, older, regular exercisers, on a sports team, and/or lift weights.

Have you ever used steroids or performance-/image-enhancing substances or drugs to make you perform better at sports?



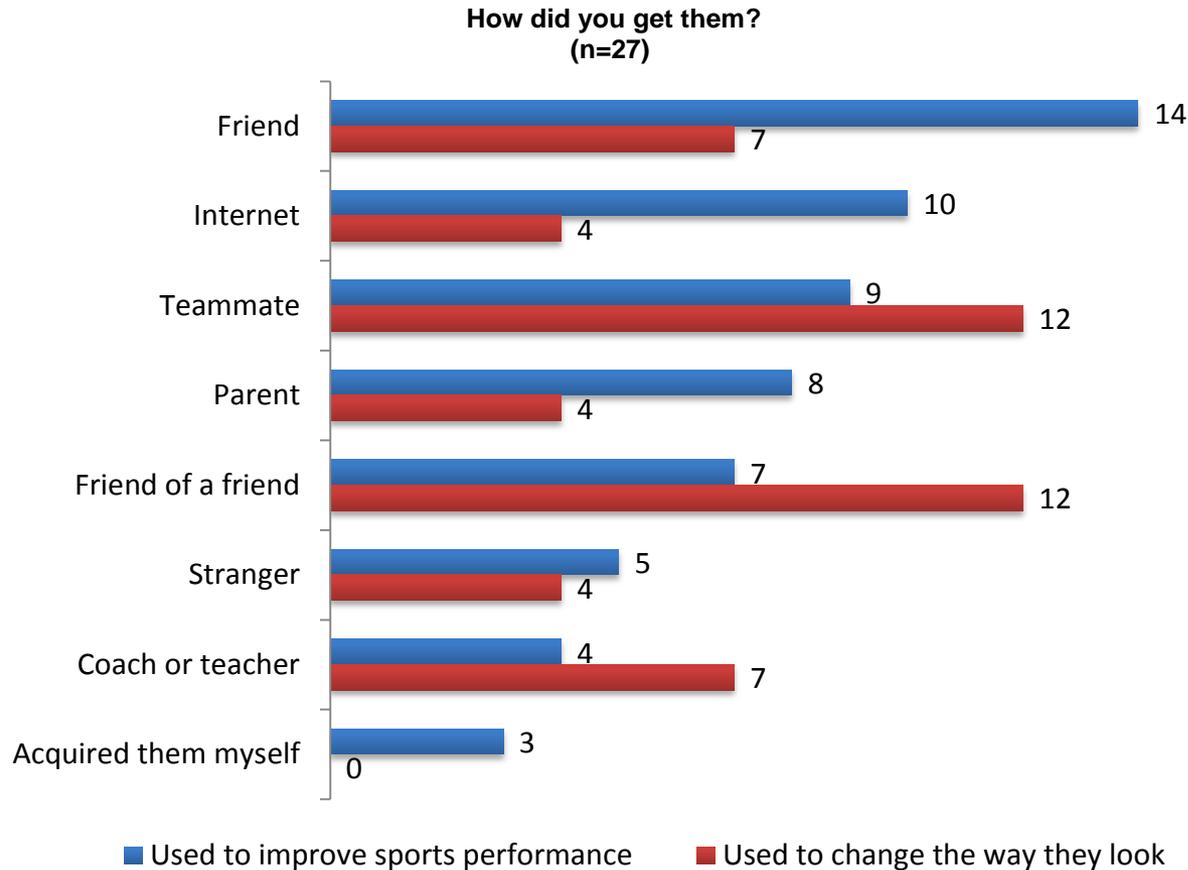
Have you ever used steroids or performance-/image-enhancing substances or drugs to change the way you look?





ACQUISITION OF PES

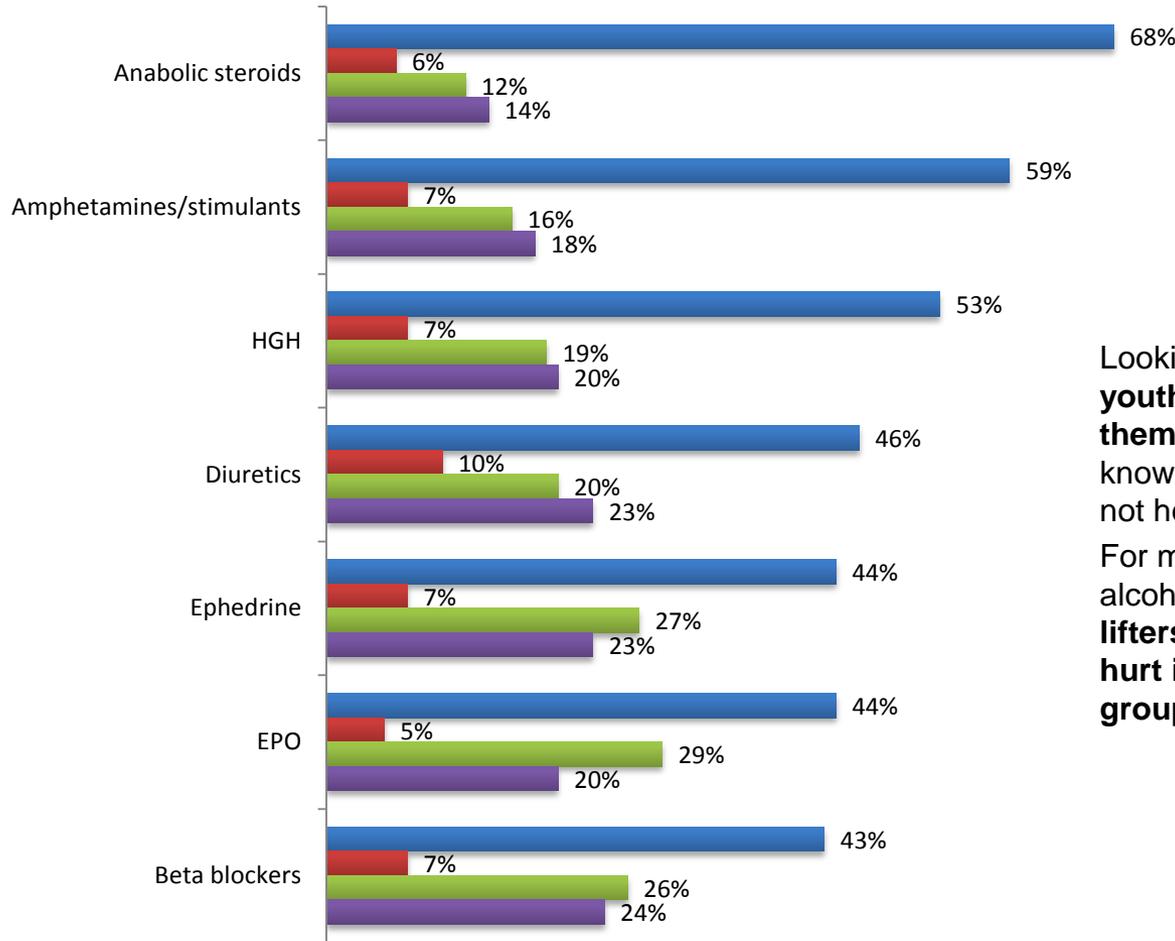
Among those youth who say they have used steroids to perform better at sports or change the way they look, there are a variety of sources of the drug: for those looking to perform better, **friends**, the internet, teammates and even parents are common sources; for those who want to change the way they look, **friends of a friend or teammates are most common**, followed by coaches and close friends.





BELIEF IN DANGER OF PES

Do you think that any of the following will hurt you in any way if you use them?



Looking at traditional PES, **many Canadian youth believe that these drugs will harm them**, although a similar share often do not know if the substance will harm them, or have not heard of the substance.

For most substances (with the exception of alcohol, energy drinks and caffeine), **weight lifters are more likely to say that they will be hurt if they use them – even though this group is more susceptible to PES use.**

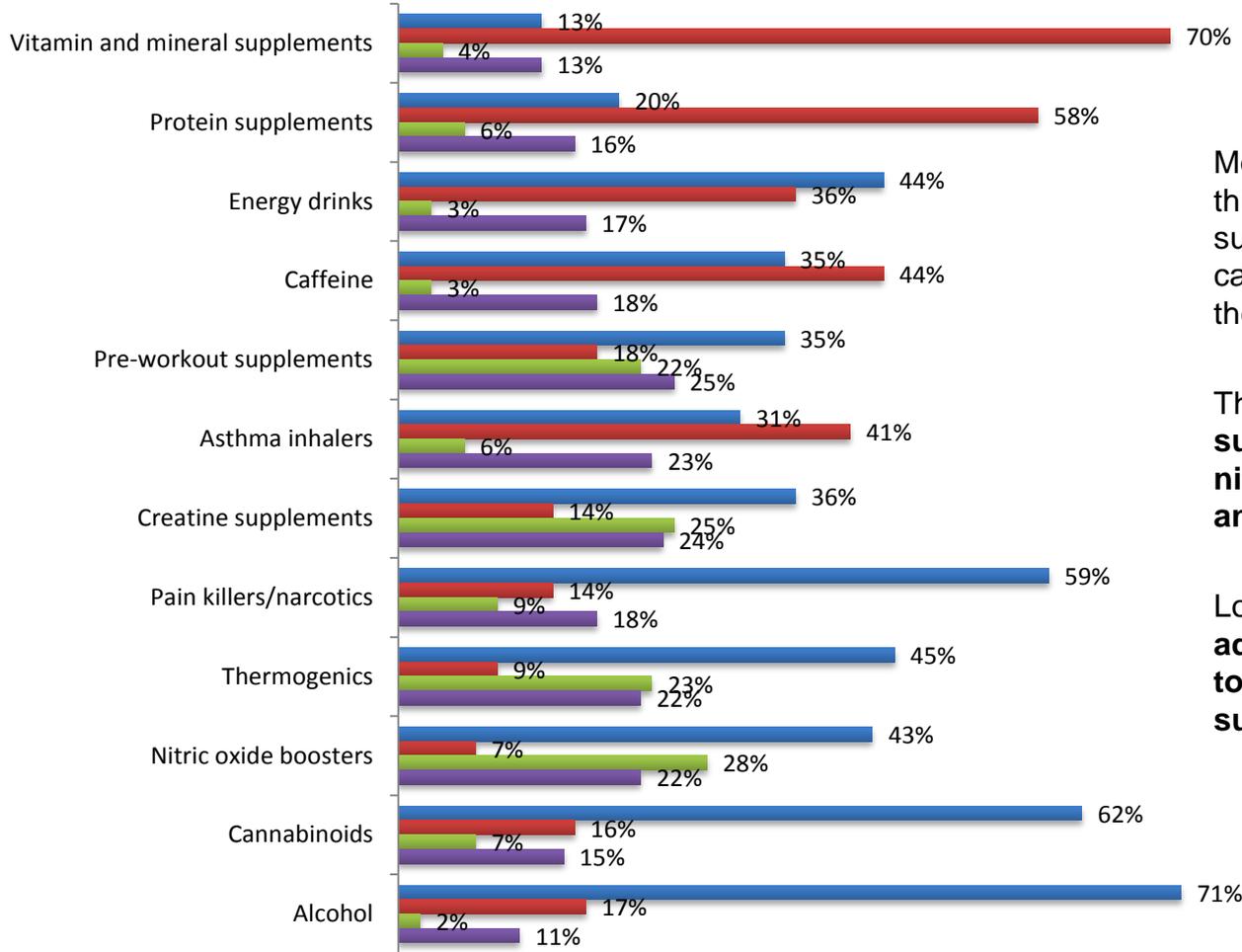
■ Yes ■ No ■ Never heard of this ■ I don't know





BELIEF IN DANGER OF PES, continued

Do you think that any of the following will hurt you in any way if you use them?



Most commonly, Canadian youth do not think that vitamin and mineral supplements, protein supplements, caffeine, and asthma inhalers will not hurt them if used.

They are more wary of creatine supplements, narcotics, thermogenics, nitric oxide boosters, cannabinoids, and alcohol.

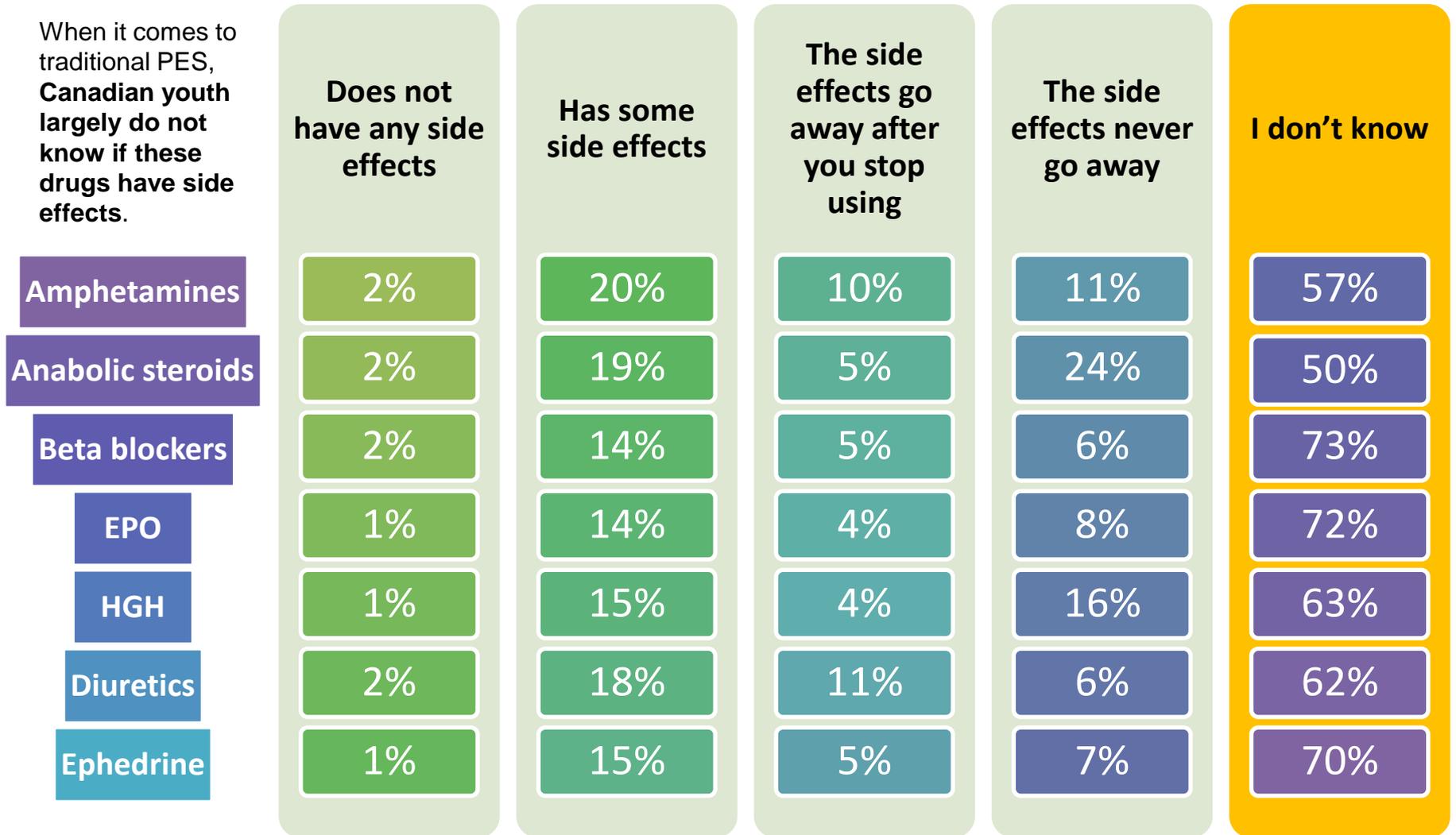
Looking across all PES, athletes and admitted steroid users are more likely to say that none of the listed substances will hurt them.

■ Yes ■ No ■ Never heard of this ■ I don't know



UNDERSTANDING OF SIDE EFFECTS

When it comes to traditional PES, Canadian youth largely do not know if these drugs have side effects.





UNDERSTANDING OF SIDE EFFECTS, continued

While many youth are unsure of the side effects of most listed substances, they are confident that energy drinks, caffeine, and alcohol have side effects.



Q30. Which of the following do you agree with most? Base: Canadians 10-18 (n=2997).



DRIVERS & TRIGGERS



ATTITUDINAL DRIVERS

It is okay to try steroids once
If a close friend offered me a drug that would make me do better in sports, I would try it
Athletes using drugs such as steroids should be allowed to compete on a high school team
Olympic athletes using drugs such as steroids should be allowed to compete
Steroids will help me look better
It is nobody's business but my own if I choose to take steroids

STEROID ACCEPTANCE

My friends think I am an expert on the latest social media
I am popular on social media
I use social media to keep up with my friends
My friends think I am an expert on the latest technology
I mostly use my smartphone to access the internet

SOCIAL TECHNOLOGY

I usually like the way I look
I think that I do well at school
I often wish that I was someone else
Most people my age are better liked than me
Usually, if I have something to say, I say it

SELF-IMAGE

In order to determine the attitudinal drivers that set youth on the path to using performance-enhancing substances, we ran a factor analysis of 28 statements to determine associations between beliefs and drug use.

The strongest associations were observed in three category areas: Steroid Acceptance, Social Technology, and Self-Image.

Not surprisingly, **youth with a propensity for PES use are more likely to agree with statements that imply acceptance of or lenience towards steroid use**, or imply that it is a private matter. There is **also an association between this behaviour and strong self-image** which, when taken in hand with statements such as “I am popular on social media” imply pseudo-narcissistic behaviour.



BEHAVIOURAL TRIGGERS

46

Within the 28 attitudinal statements, two were identified (through discriminant analysis) as being **triggers of PES use**:

*If a close **friend** offered me a drug that would make me do better in sports, I would try it*

*It is okay to try steroids **once***

In the first statement, the important trigger is “friend” – **a close peer who conveys legitimacy upon the act of trying performance-enhancing substances**. There is also a level of trust between friends that is less likely to exist between the potential user and another individual offering a drug (such as a coach or stranger). The importance of this attribute is reflective of how user groups report first learning about PES – through peers.

In the second statement, the key word is “once” – just “trying” steroids is fine. The implication is that **the steroid use they are comfortable with is not habitual use**. This attitude is best exemplified in the common teenage expression, “YOLO”.

Both concepts serve the purpose of psychologically reducing the risk of using PES – *My friends do so it must be okay and anyway, I’ll only do it once*. This connection should be critiqued in a manner that increases the perceived risk of the act, outweighing the benefits of peer legitimacy and perceived one-time use.



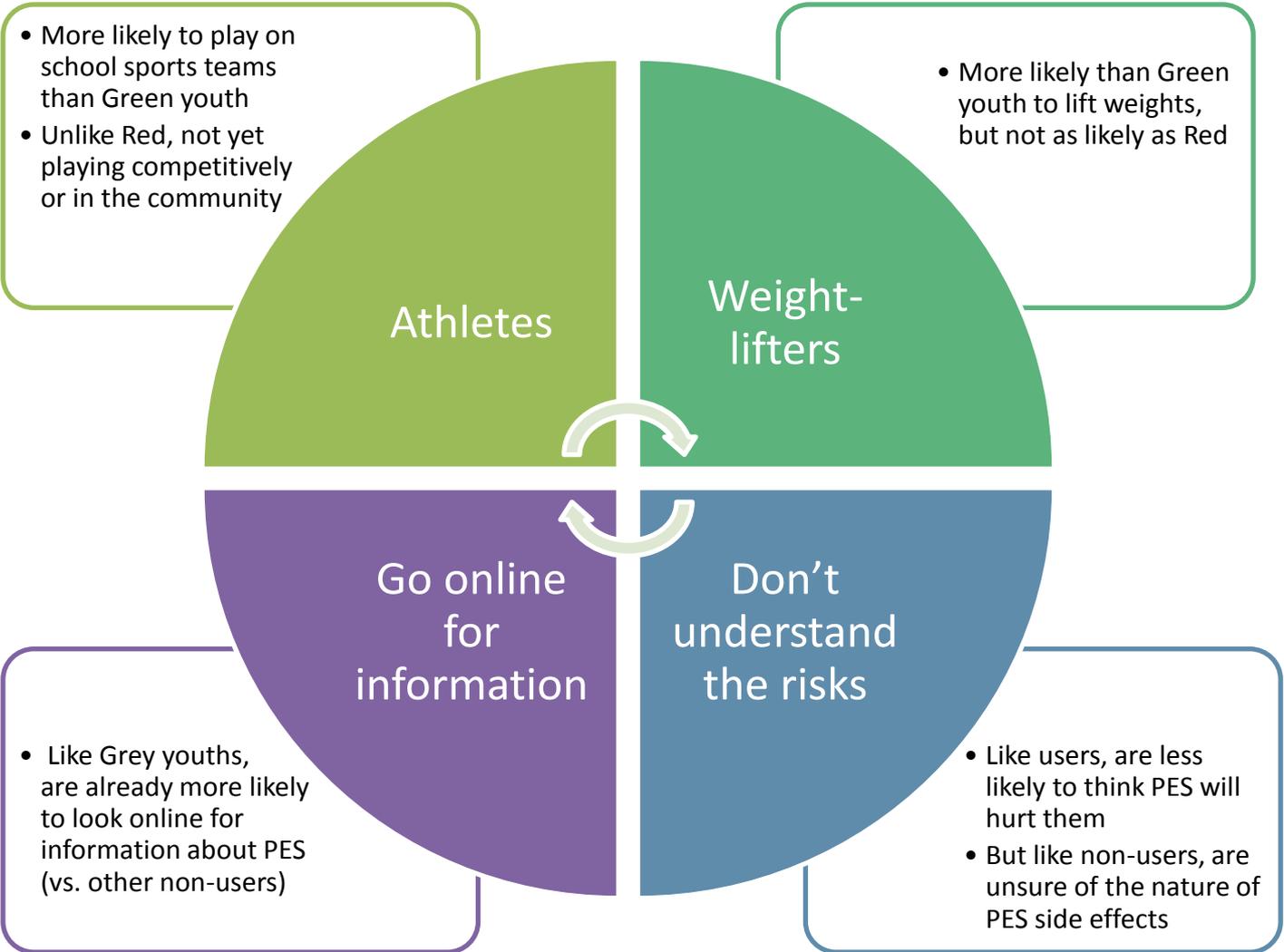
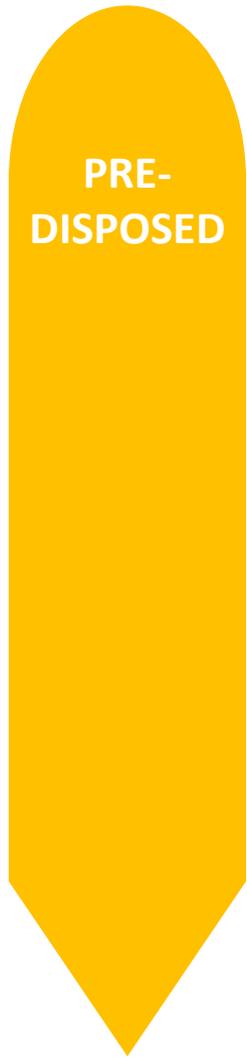
CONTINUUM OF RISK

We identified a group within the sample that is made up of youth **who have not indicated that they are users of PES, but who display the same attitudinal make-up as users**. This group may be predisposed to this behaviour, but have not yet experienced the triggers that may initiate drug use.





PREDISPOSED TO USE





PREDISPOSED TO USE, continued

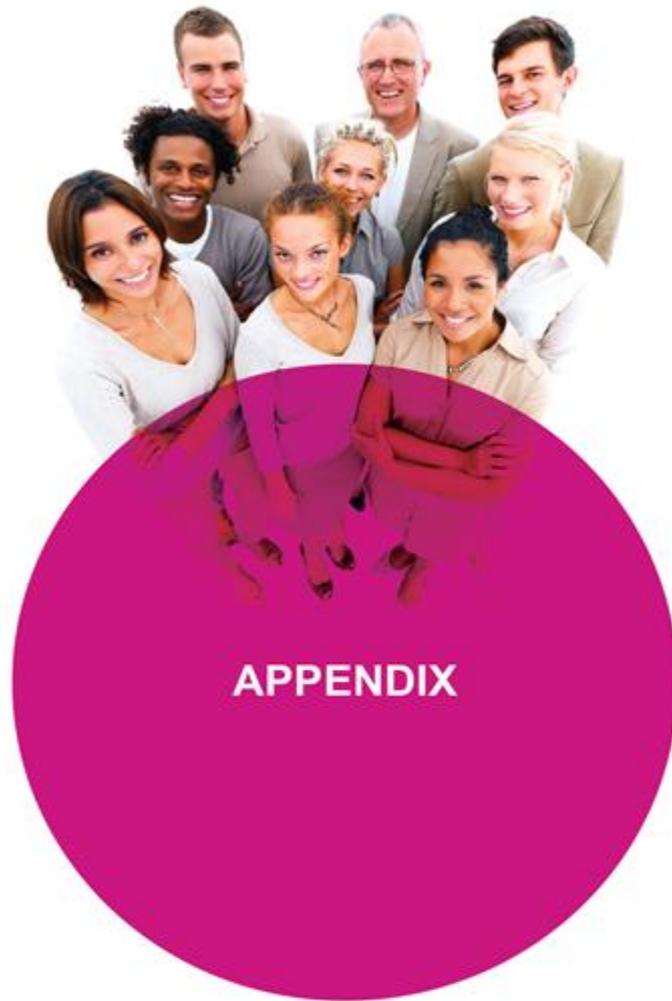
49

PRE- DISPOSED

When asked unaided, **this potential at-risk group was likely to say they did not think there were any substances that would help them perform better at sports** – suggesting the introduction to PES and their “benefits” has not yet been made.

Like the Green group, the predisposed youth are more likely to say that **they have not heard their friends talk about PES**. They are also less likely than the Red group to know someone who uses PES, indicating one of the key triggers has not yet been met.

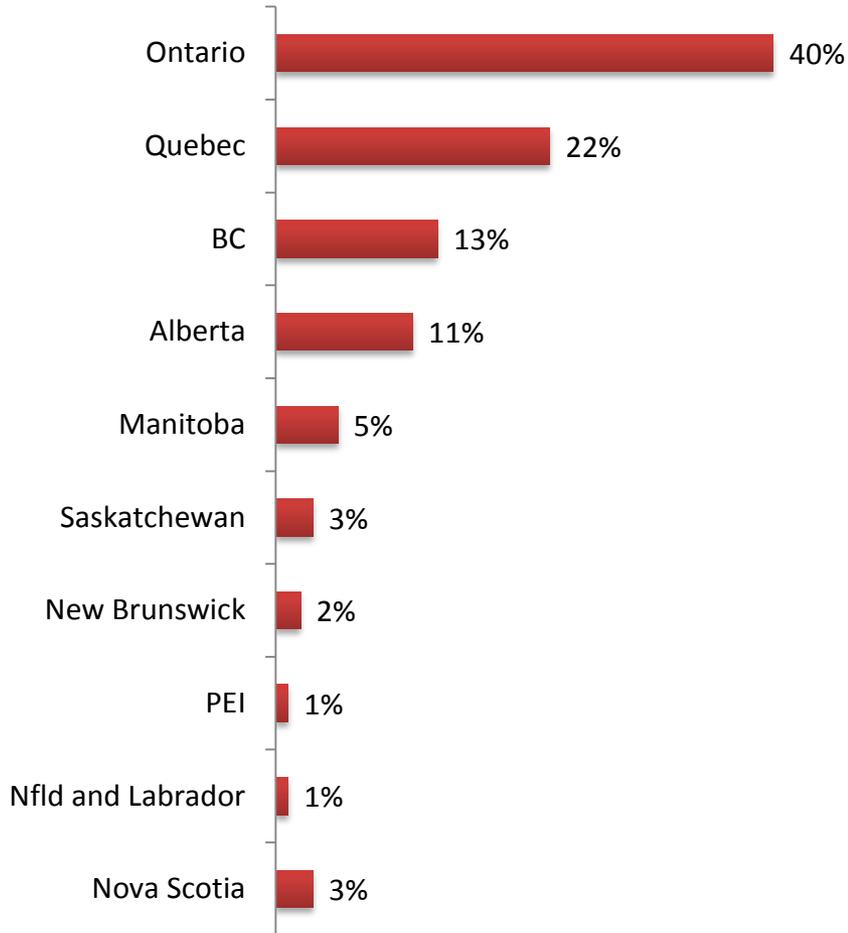
However, this group is **more likely than other non-users to have had someone suggest they try PES** in order to perform better at sports or change the way they look.



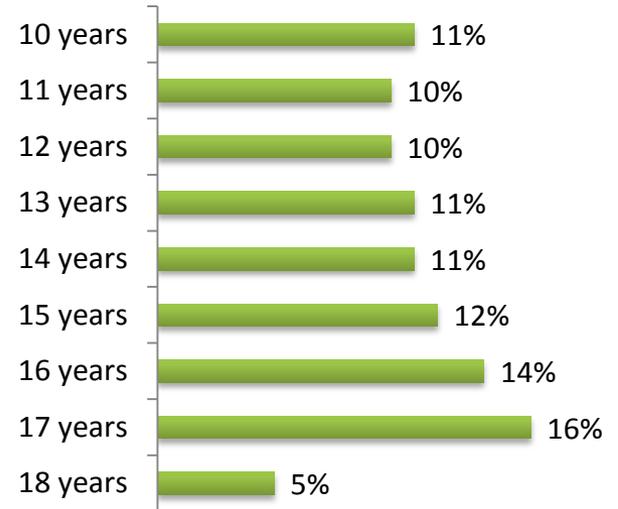


DEMOGRAPHICS

PROVINCE



AGE



GENDER

