

**Supplemental Table S1.** NVP questions and response options in ITC 4CV W2 (2018) and W3 (2020).

<b>Variable</b>	<b>Wave</b>	<b>Question</b>	<b>Response Options</b>
NVP Description	2018, 2020	Which of the following best describes the type...	1) Disposable, not-refillable (non-rechargeable) 2) Replaceable, pre-filled cartridges/pods (rechargeable) 3) Tank that you fill with liquids (rechargeable) 4) Refused 5) DK
NVP Appearance	2018	Which of the following best describes the appearance...	1) Looked like an ordinary cigarette, including shape, size, and colour 2) Looked similar in shape and size to an ordinary cigarette, but was a different colour 3) Looked similar in shape to a pen, but not necessarily round, and was pen-sized or larger 4) Looked like a box-shaped battery (that fit in the palm of my hand) with a mouthpiece 5) Looked different than any of the response options described above 6) Refused 7) DK
NVP Appearance	2020	Which of the following best describes the appearance...	Added option “Looked similar to a USB/flash drive”
NVP Brand	2018	What brand of e-cigarette/vaping device...	Prompted to start typing the name of the brand to see a list of relevant brand names and find a match. If brand not listed, please select ‘Other’ and type the name of your brand.
NVP Brand	2020	What brand of vaping device...	Same as 2018 for disposable/cartridge users. Tank users were asked brand open-ended, without providing a brand list.
Adjustable Voltage	2018,	Can you adjusted the power, voltage, or temperature...	1) Yes, but I don’t change it 2) Yes, and I change the settings occasionally

		Asked to cartridge/tank only	3) Yes, and I regularly adjust the settings 4) No 5) Refused 6) DK	
Adjustable Voltage	2020	Can you adjust the power and voltage...	1) Yes 2) No 3) Refused 4) DK	
NVP capacity	2018, 2020	What is the volume/capacity of the tank/cartridge...  Asked to cartridge/tank only	1) Less than 1 ml 2) 1 – 1.5 ml 3) 1.6 – 2.0 ml 4) 2.1 – 3.0 ml 5) 3.1 – 4.0 ml 6) Over 4 ml 7) Refused 8) DK	
Nicotine Content	2018	What is the nicotine strength of the e-liquid	1) No nicotine - 0 mg/ml (0%) 2) 1 – 4 mg/ml (0.1 – 0.4%) 3) 5 – 8 mg/ml (0.5 – 0.8%) 4) 9 – 14 mg/ml (0.9 – 1.4%) 5) 15 – 20 mg/ml (1.5 – 2.0%) 6) 21 – 24 mg/ml (2.1 – 2.4%) 7) 25 mg/ml (2.5%) or more 8) Refused 9) DK	
Nicotine Content	2020	1) Choose how you want to report nicotine strength, by % of mg/ml 2) What is the nicotine strength....	1) None (0%) 2) Less than 1% 3) 1 to 1.9% 4) 2 to 2.9% 5) 3 to 3.9% 6) 4 to 4.9% 7) 5% or more 8) Refused 9) DK	1) None (0 mg/ml nicotine) 2) Less than 10 mg/ml 3) 20 – 29 mg/ml 4) 30 – 39 mg/ml 5) 40 – 49 mg/ml 6) 50 mg/ml or more 7) Refused 8) DK
Nicotine Salt	2020	Have you ever used the salt form of nicotine e-liquid?	1) Yes 2) No 3) Refused	

			4) DK
NVP Consumption	2018, 2020	<p>(Disposable) On average, about how many disposable vaping devices do you now use each week?</p> <p>(Cartridge) On average, about how many cartridges or pods do you now use each week?</p> <p>(Tank) How many days will this amount last – after being asked about last e-liquid bottle purchase</p>	<p>Open-ended question with Refused and DK options</p> <p>1) Less than 1 day 2) Open: type number of days 3) Refused 4) DK</p>

Note: 2018 did not include the term “pods” while 2020 referred to “cartridges or pods.”

**Supplemental Table S2.** DK percentages by country.

		<i>Canada</i>	<i>United States</i>	<i>England</i>	<i>Australia</i>		
	n at 2018	<i>901</i>	<i>992</i>	<i>2037</i>	<i>263</i>		
	n at 2020	<i>1208</i>	<i>879</i>	<i>1555</i>	<i>252</i>	<i>X<sup>2</sup> or F</i>	<i>p</i>
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NVP Description							
	2018	0.2	0.7	0.1	0.8	7.96	0.045
	2020	0.1	0.0	0.2	0.0	2.45	0.49
NVP Appearance							
	2018	0.0	0.0	0.1	0.0	2.12	0.55
	2020	0.2	0.3	0.3	0.0	0.96	0.81
Brand							
	2018	23.4	12.8	10.9	6.6	93.15	< .001
	2020	6.9	11.1	9.5	10.9	12.14	0.007
Adjustable Voltage							
	2018	3.5	1.1	2.1	2.4	11.65	0.009
	2020	6.3	2.8	4.4	4.4	13.21	0.004
Capacity							
	2018	27.6	34.3	31.4	11.6	52.73	<.001
	2020	26.1	31.6	26.4	14.9	27.24	<.001
Nicotine Content							
	2018	15.4	9.8	6.7	5.7	61.29	< .001
	2020	5.2	9.7	6.7	13.6	30.54	< .001
Nicotine Salt							
	2018	n/a	n/a	n/a	n/a	n/a	n/a
	2020	4.6	4.4	7.4	4.0	15.52	0.001
Consumption							
	2018	10.0	9.2	10.2	6.4	4.17	0.37
	2020	4.0	8.5	6.6	17.2	28.49	<.001
DK Index							
	2018	11.39 (0.49)	9.31 (0.39)	8.69 (0.26)	5.03 (0.65)	17.46	<.001
	2020	6.71 (0.29)	8.23 (0.37)	7.75 (0.29)	7.29 (0.79)	5.32	0.001