

Public perception of healthcare, anesthesia, and climate change.

Ava Zardynezhad, Jenice Ma Rakesh Sondekoppam, Vivian Ip

INTRODUCTION

- Healthcare is a significant contributor to the national Greenhouse Gas emissions, ORs being some of the most resource-intensive sub-sectors.
- The aim of this study was to investigate the perception of patients and their family members of the intersectionality of climate change and healthcare.
- Additionally investigated whether perceptions and attitudes translated into choosing anesthesia options with different environmental footprints.

METHODS

- Participants meeting inclusion and exclusion criteria were interviewed using a standard set of 9 questions.
- The survey queried participants on demographic information, perceptions of climate change, perceptions of the health impacts of climate change, knowledge of healthcare and its impact on climate change, and willingness to learn more about climate change and the healthcare system.
- For normally distributed continuous data, mean and standard deviation were used.
- For ordinal and interval data such as survey responses, Chi-square test was used.

RESULTS

- 320 participants included in final analysis; demographic information shown in Table 1.
- 32% of participants were aware that healthcare *greatly* contributes to climate change, a larger majority of patients (82.5%) thought healthcare contributes to climate change in some form.
- Participants were likelier to ask for a greener choice if they perceived healthcare somewhat or greatly contributed to climate change (p= 0.002), and (p=0.011) when choosing between a general anesthesia and a regional anesthetic option. (Figure 1 & 2)
- Strong association of perception of healthcare’s impact on the environment with level of education (p= 0.015) but no similar associations with income, age or sex.

DISCUSSION

- The majority of the study population was aware that healthcare impacts the environment, but that did not completely translate to choosing the least carbon-intensive type of anesthesia.
- Our study highlights that educating our public is required on healthcare and climate change, however, education alone is not enough.
- Perhaps a bottoms up approach needs to be complimented with top down approaches to improve sustainability in perioperative medicine

The majority of the study population was aware that healthcare impacts the environment, but that did not completely translate to choosing the least carbon-intensive type of anesthesia

Figure 1.

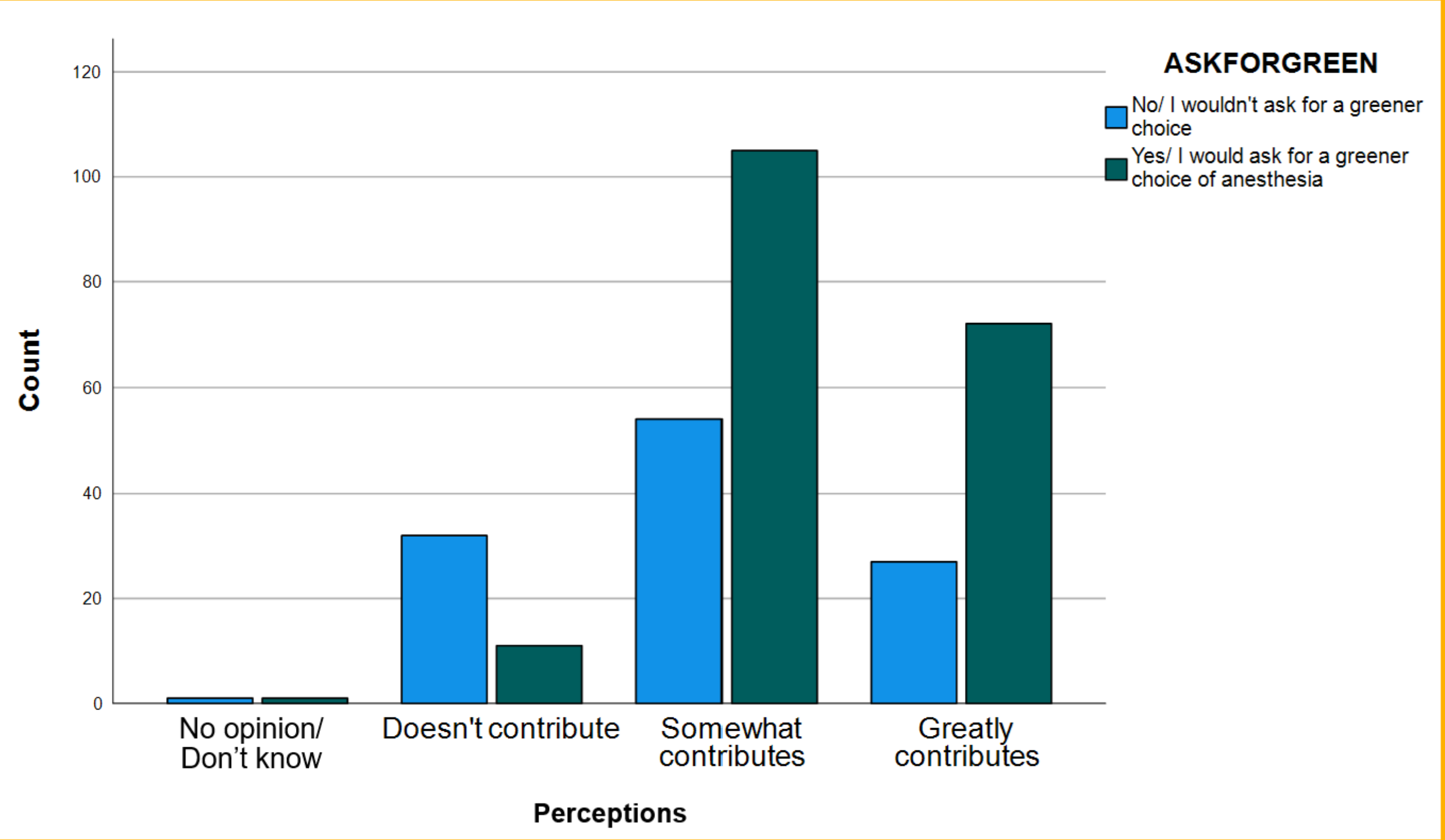


Figure 2.

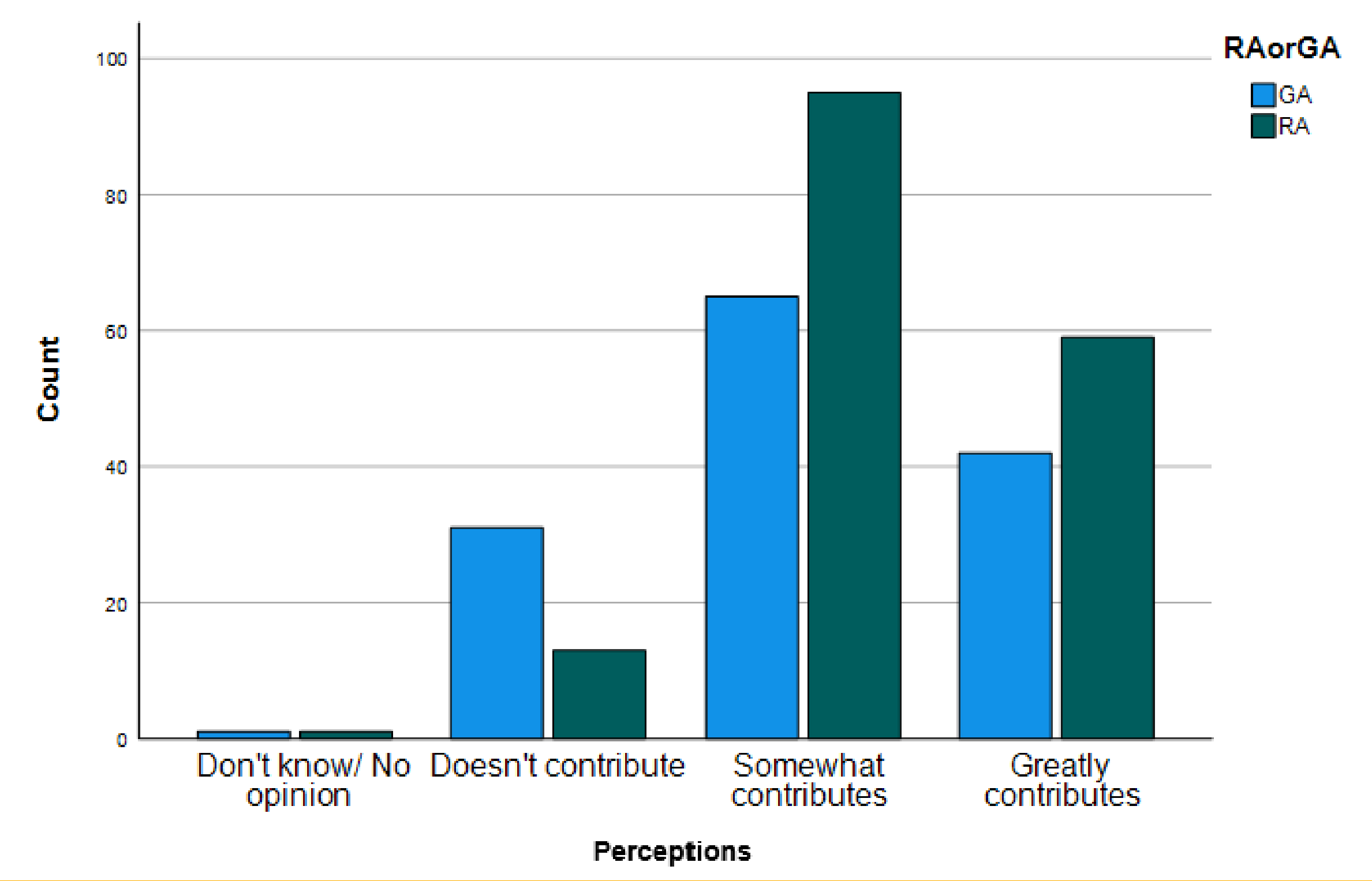
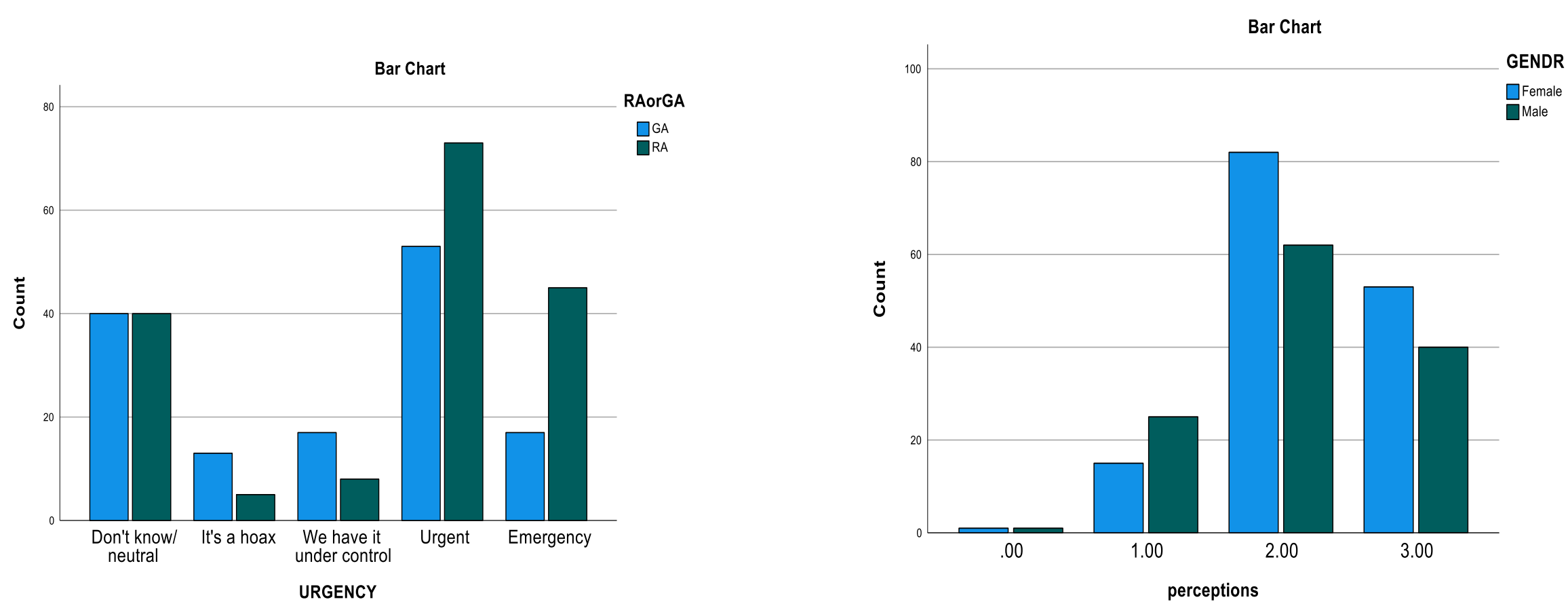
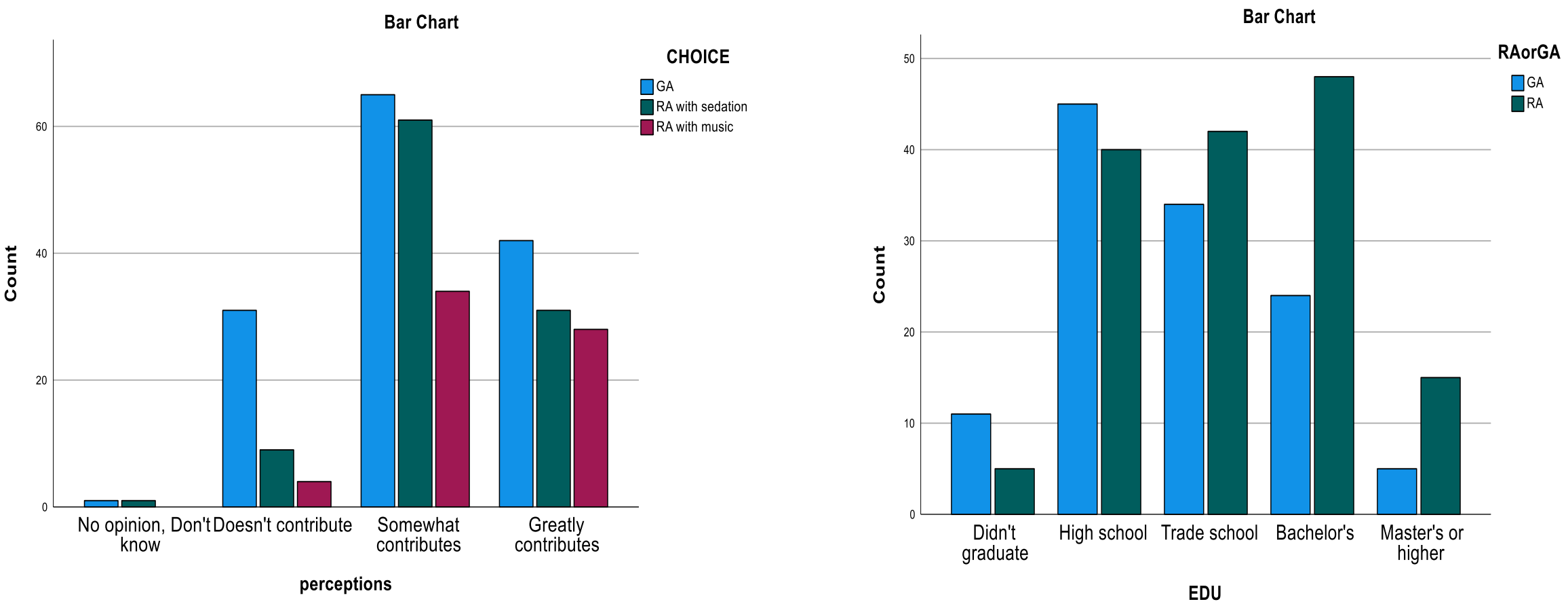


Table 1.

Variable	Number of responses (%)	Variable	Number of responses (%)	Variable	Number of responses (%)	Variable	Number of responses (%)
Age group (years)		Sex		Education:		Income:	
• 18-30	39 (12.2%)	Female	153 (47.8%)	Did not Graduate	12 (3.8%)	<45,000 CAD/yr	60
• 31-45	63 (19.7%)	Male	130 (40.6%)	High school graduate	86 (26.9%)	>45,000-120,000 CAD/yr	120
• 46-60	73 (22.8%)	Non-binary	3 (0.9%)	Trade school	77 (24.1%)	>120,000 CAD/yr	79
• 61-75	98 (30.6%)	Missing/Don't want to express	34 (10.6%)	Bachelor's degree	72 (22.5%)	No data	61
• >75	28 (8.8%)			Master's degree	14 (4.4%)		
Missing/Don't want to express	5.9%			Doctorate degree	10 (3.1%)		
				No data	40 (12.5%)		
				Other degree	9 (2.8%)		



References:

- Intergovernmental panel on climate change (IPCC). Climate Change 2021: the physical science basis. Sixth Assessment report. IPCC_AR6_WGI_Full_Report.pdf Accessed on Dec 13, 2023
- Romanello M, Di Napoli C, Drummond P, et al. The 2022 report of the lancet Countdown on health and climate change:health at the mercy of fossil fuels. Lancet 2022;400:1619-1654.
- Eckelman MJ, Sherman J. Environmental impacts of the US healthcare system and effects on public health. PLOS One 2016;June 9. <https://doi.org/10.1371/journal.pone.0157014>