Fossil fuel divestment at the University of Toronto: attitudes towards divestment approaches and implications for climate action intentions

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ABSTRACT

With the objective of informing fossil fuel divestment decisions at the University of Toronto (UofT), this study compared attitudes towards (1) UofT's response to the 2014 divestment petition, (2) UofT's current approach to fossil fuel divestment, and (3) the approach advocated by UofT divestment groups. It also assessed the relationship between these attitudes and intentions to take personal action on climate change, as well as the extent to which demographics influence results. A total of 375 students, faculty, and staff from all UofT campuses participated in a between-subjects survey that probed these measures. Results indicate that the approach advocated by divestment groups – i.e., full divestment – is viewed more positively than UofT's current approach – a 40% reduction in the carbon footprint of the University's investment portfolios. However, each of the aforementioned approaches was viewed more positively than the approach adopted by UofT following the 2014 petition. Intentions to take personal action on climate change were positively associated with attitudes towards the full divestment approach and negatively associated with attitudes towards the carbon footprint reduction approach. Younger participants and females (compared to older participants and males) had more negative attitudes towards UofT's response to the 2014 petition, and more positive attitudes towards divestment. This study concludes that the University of Toronto should consider its community's support for divestment, but that it would also be beneficial to conduct a follow-up study that clarifies the results presented here.

Keywords: fossil fuel divestment; University of Toronto; attitudes; intentions

INTRODUCTION

Climate change is arguably the largest threat facing contemporary society. We are fossil fuel reliant; yet, greenhouse gas emissions need to urgently and drastically be reduced if global warming is to be limited to 2ºC above pre-industrial levels (McGlade & Ekins, 2015), let alone the more recently recognized limit of 1.5ºC above pre-industrial levels (Intergovernmental Panel on Climate Change, 2018). Fossil fuel divestment has been proposed as a measure that can help achieve this goal. By removing investment capital from fossil fuel companies, divestment aims to weaken the financial power of the fossil fuel industry and signal that fossil fuels are no longer socially acceptable, thus accelerating the transition to renewable energy and reducing emissions (Ritchie & Dowlatabadi, 2015). The movement to divest has become increasingly popular in recent years (Maina et al., 2020), with higher education institutions being one of the most common targets (Richardson, 2017).

Among the institutions who have faced pressure to divest is the University of Toronto (UofT or "the University"). In 2014, a student-led environmental group sent a petition to Meric Gertler, the UofT President, demanding full divestment from fossil fuel companies and no more new investments in the industry (Gertler, 2016; Toronto350.org, 2015). The President, advised by the ad hoc President's Advisory Committee on Divestment from Fossil Fuels, responded by rejecting the demands, but adopting a "Responsible Investing" approach, which considers

environmental, social, and governance (ESG) factors in its investment decisions (Gertler, 2016; University of Toronto Asset Management Corporation [UTAM], 2018). According to the President, "this offer[s] the best chance of success in meeting the challenge of climate change, while fulfilling … fiduciary duties to the University's pension and endowment fund beneficiaries" (Gertler, 2016, p. 2). The petitioners condemned the response (Desai, 2016).

UofT had maintained this approach until recently. Last month, the University of Toronto committed to reducing the carbon footprint of its investment portfolios by 40% or more in the next decade (UTAM, 2019). The University of Toronto Asset Management Corporation (UTAM) claims that this approach will reduce carbon emissions by 40% whereas full divestment would reduce emissions by only 13% (Kalvapalle, 2020). Despite this, support for divestment persists. *Divestment & Beyond*, a coalition of UofT students, faculty, and staff, as well as the School of Environment and non-UofT pro-climate groups is currently amassing signatures on a petition that calls for the University to fully divest and not pursue any further fossil fuel investments (Divestment & Beyond, 2020).

Such a situation is similar to that recently observed at University College London (UCL). Despite sustainability policies aimed at reducing emissions (UCL, 2016), UCL refused to divest, leading many students to protest (Pasha, 2016). Faculty supported the movement by conducting psychological research on divestment (Skipper et al., in preparation). Specifically, students and faculty were presented with consistently- or inconsistently-framed information about UCL's

sustainability policy and fossil fuel investments[1], then were asked to rank their intentions to engage in pro-environmental behaviour over the next week. Compared to those who received consistently-framed information, participants who received inconsistently-framed information reported they would engage in fewer pro-environmental behaviours over the next week. The study was presented to UCL administration as part of an ethical appeal to divest (Skipper, 2019; J.I. Skipper, personal communication, October 24, 2019). Less than one month later, UCL announced it would withdraw its fossil fuel holdings (McKie, 2019; University College London News, 2019).

The present study builds on Skipper et al. (in preparation). Instead of considering the effects of perceived (in)consistency on behavioural intentions, this study evaluates attitudes and intentions towards different approaches to fossil fuel divestment: (1) UofT's original approach, i.e., a targeted, ESG strategy, (2) the University of Toronto's current approach, i.e., a 40% reduction in the carbon footprint of its investment portfolios, and (3) the approach demanded by UofT divestment groups, i.e., immediate, full divestment. Hereafter, these approaches will be referred to as "the ESG approach", "the footprint reduction approach", and "the divestment approach", respectively. This study also considers the extent to which demographic variables influence attitudes and intentions. The design is an attempt to overcome some of the limitations of Skipper et al. (in preparation). Namely, it avoids the implication that UofT could achieve

[1] For example, participants were told that UCL "aims to create a campus which supports UCL's academic, research, and enterprise activities in a sustainable way" (Skipper et al., in preparation, p. 2) and then that, "inconsistent with this policy… the Institute for Sustainable Resources is funded by the mining giant BHP Biliton" (Skipper et al., in preparation, p. 3).

similar behavioural outcomes to divestment by merely adjusting its messaging and leaving its investment strategy unchanged.

Attitudes are linked to intentions in psychological models (e.g., Ajzen, 1991; Hines et al., 1987), and empirical research has found that attitudes towards climate change are positively associated with intentions to adapt to climate change (Lin, 2013; Masud et al., 2016). That being said, neither attitudes nor intentions are good predictors of actual behaviour (Sheeran & Webb, 2016; Ungar, 1994). It is important to note that the present study does not go beyond intentions to actual behaviour. Existing literature has also noted an association between demographic variables (e.g., age, gender) and support for climate change mitigation policies (Dietz et al., 2007; Rhodes et al., 2017) as well as intentions to reduce personal carbon footprints (O'Connor et al., 1999). With this in mind, the research questions (RQs) of this study are as follows:

- *RQ1 – Attitudes.* To what extent do attitudes towards each approach differ?
- *RQ2 – Intentions.* To what extent do attitudes towards each approach influence intentions to engage in climate action?
- *RQ3 – Demographics*. To what extent do demographic variables influence attitudes towards each approach and intentions to engage in climate action?

To assess these questions, a between-subjects survey was distributed to students, faculty, and staff at the University of Toronto (all campuses). Attitudes towards the three approaches described above were measured, as were intentions to take personal action on climate change and

a series of demographic variables (age, gender, race/ethnicity, departmental affiliation(s), and relationship to UofT (student/faculty/staff)). We hypothesized the following:

- *H1 – Attitudes towards the divestment approach will be more positive than attitudes towards the footprint reduction approach.* Although it has been claimed that the footprint reduction approach would reduce emissions by three times as much as the divestment approach (Kalvapalle, 2020), these statistics are not included in our survey, and thus, we are assessing the image of these two approaches rather than their projected emission-reduction outcomes. Given the growing popularity of the divestment movement on Canadian campuses (Maina et al., 2020), and the fact that "full divestment" sounds stronger than a 40% carbon footprint reduction, it is hypothesized that attitudes towards the divestment approach will be more positive than attitudes towards the footprint reduction approach.
- *H2 – Attitudes towards the footprint reduction approach and the divestment approach will both be more positive than attitudes towards the ESG approach.* The footprint reduction approach and the divestment approach both take a stronger stance on climate change than the ESG approach. Thus, using the same logic as above, it is hypothesized that attitudes towards the footprint reduction approach and the divestment approach will both be more positive than attitudes towards the ESG approach.
- *H3 – Those who have a positive attitude towards the footprint reduction approach or the divestment approach will intend to take more action than those who have a negative attitude towards the footprint reduction approach or the divestment approach.* The footprint reduction approach and divestment approach both take a stronger stance on

climate change than the ESG approach. Attitudes towards climate change are positively associated with intentions to engage in climate adaptation (Lin, 2013; Masud et al., 2016). Thus, it is hypothesized that positive attitudes towards the footprint reduction approach and the divestment approach will be associated with greater intention to engage in climate adaptation.

The exploratory analysis does not have a formal hypothesis; however, based on existing literature (Elliott et al., 1997; Klineberg et al., 1998; O'Connor et al., 1999; Rhodes et al., 2017), it is expected that females (compared to males) will intend to take greater personal action on climate change, and will have more positive attitudes towards the footprint reduction approach and divestment approach than ESG approach. It is also expected that younger participants (compared to older participants) will have more positive attitudes towards the footprint reduction approach and divestment approach than ESG approach.

The objective of this study is to help inform decisions about fossil fuel divestment at the University of Toronto. It also aims to contribute to the literature on attitudes towards fossil fuel divestment, their relationship to climate action intentions, and the demographic variables that influence these measures.

METHODS

Survey Design

A between-subjects survey was distributed to students, faculty, and staff at the University of Toronto (all campuses). It was hosted on the platform Qualtrics (https://www.qualtrics.com/; Qualtrics, Provo, UT), and comprised the following sections (see Appendix A for full survey):

Attitudes towards the ESG approach. Participants were presented with a brief paragraph outlining the ESG approach. They were then asked to rank their view of this approach on a five-point scale from 1 (strongly negative) to 5 (strongly positive). Previous studies (e.g., Jagers, Martinsson, & Matti, 2019) have measured attitudes towards climate policy with this question design.

Scenarios. Next, participants were informed that UofT has the opportunity to change its divestment approach every fiscal year. They were then randomly assigned into one of two conditions – one that describes the footprint reduction approach and another that describes the divestment approach. The text presented to participants is reproduced below.

> Footprint reduction approach: "*Starting this fiscal year, the University of Toronto will be changing its approach. The University of Toronto will not divest from fossil fuel companies, but will reduce the carbon footprint of its investment portfolios by 40% or more in the next decade. This will involve shifting assets to lower emitting countries and sectors as well as investing in managers and strategies that have lower carbon footprints*."

Divestment approach: "*Starting this fiscal year, the University of Toronto will be changing its approach. The University of Toronto will fully divest from fossil fuel companies, and will not pursue any further fossil fuel investments. This includes companies that provide direct support for fossil fuel exploration and development. The University of Toronto will also instruct managers and advisors of investments in which the University is involved to adopt the same approach*."

Attitudes towards the footprint reduction approach or the divestment approach. Participants were then asked to rank their view of the approach to which they were assigned. The same five-point scale as the previous attitude question was used: 1 (strongly negative) to 5 (strongly positive).

Intentions. Next, participants ranked their intentions to take personal action on climate change assuming the circumstances of the approach to which they were assigned. Responses were measured on a discrete scale: "more likely", "less likely", "neither more or less likely", or "unsure".

Demographics. Last, participants indicated their age, gender, race/ethnicity, departmental affiliation(s), and relationship to the University of Toronto (i.e., student, faculty, staff, or other).

Data Collection

Data collection began on March 2, 2020 and ended on March 20, 2020. To recruit participants, administrators of all faculties, departments, institutes, and centres across all three University of Toronto campuses (158) were contacted to enquire about the possibility of distributing the survey to students, faculty, and staff via their listserv. 27 academic units were able to accommodate the request. Although this is a small portion of all administrators, participants were receptive to the invitation, and a sample size of 375 individuals was achieved.

Further, because students, faculty, and staff can be affiliated with more than one unit, a total of 84 academic units spanning the humanities, sciences, social sciences, applied sciences, and professional faculties (e.g., medicine, law) are represented in this study (see Appendix B for full list). Despite this breadth, the distribution was uneven, with the half of all participants associated with just seven units: Ecology and Evolutionary Biology (16%), English (10%), Psychology (6%), the School of Environment (6%), Anthropology (6%), Economics (3%), and History (3%). Participants affiliated with environment-related academic units (Table 1) comprise 29% of the sample. Because the University of Toronto only provides enrolment statistics for faculties, not the more specific departments, institutes, or centres (Office of Planning & Budget, 2018), it is difficult to know how representative this sample is of the UofT population. However, it is reasonable to assume that the sample is biased in favour of participants in environment-related disciplines.

Table 1. Percent of participants affiliated with environment-related academic units.

Academic Unit	% of Participants
Ecology and Evolutionary Biology	15.9
School of Environment	6.0
Geography and Planning	2.3
Forestry	2.3
Earth Science	2.3
Physical and Environmental Sciences	0.6
Total	*29.4*

The remaining demographic variables are summarized in Tables 2 and 3. The youngest participant is 17 and the oldest is 88. The average age is towards the younger end of this range due to the high proportion of students relative to staff and faculty. Although the distribution of students/faculty/staff is uneven, it is representative of the UofT population, which has approximately 81% students, 13% faculty, and 6% staff (University of Toronto, n.d.). Some participants identified a relationship to UofT that was neither student, faculty, or staff, such as research associate or alum. These participants were classified as “Other”.

Like the sample in this study, UofT has more females than males; however, the difference in proportions for this study (62.7% vs 30.7%) are greater than the difference for the UofT population (55% vs 45%; Office of Planning & Budget, 2018). Some participants identified with

a gender other than female or male such as non-binary or agender. These participants were classified as “Other”.

Table 2. Participant age, gender, and relationship to UofT. All values are percentages unless otherwise specified. SD stands for standard deviation.

Age (years ± SD)	Gender			Relationship to UofT			
	Female	Male	Other	Student	Faculty	Staff	Other
27.7 ± 12.6	62.7	30.7	6.7	82.4	9.5	2.7	5.4

Although data for participant race/ethnicity was collected, it is not presented here because it proved unfeasible to obtain meaningful information from the responses.

Data Analysis

To test Hypothesis 1, the rankings for the footprint reduction approach and the divestment approach were compared with a two-tailed independent samples t-test. To test Hypothesis 2, two-tailed paired samples t-tests were used to compare (1) attitudes towards the ESG approach and the footprint reduction approach and (2) attitudes towards the ESG approach and the divestment approach. To test Hypothesis 3, Pearson correlations were performed on (1) attitudes towards the footprint reduction approach and intentions to take personal action on climate change, and (2)

attitudes towards the divestment approach and intentions to take personal action on climate change.

For the exploratory analysis, the relationship between demographic variables (age, gender, relationship to UofT) and survey measures (the ESG approach, footprint reduction approach, divestment approach, intentions following the footprint reduction approach, and intentions following the divestment approach) was assessed. The relationship between the demographic variables (age, gender, relationship to UofT) and the strength of preference for the footprint reduction approach or divestment approach (relative to the ESG approach) was also tested. This construct was operationalized by subtracting a participant's attitude towards the ESG approach from their attitude towards the footprint reduction approach (or divestment approach). Larger, positive numbers therefore represent a stronger preference for the footprint reduction approach (or divestment approach) compared to the ESG approach, while larger, negative numbers represent the opposite. A score of zero represents the same attitude towards the ESG approach and the footprint reduction approach (or the divestment approach).

For age and gender, all relationships were tested with Pearson correlations. For relationships to UofT, Kruskal Wallis H tests were performed. Departmental affiliations, races/ ethnicities, and "other" genders were excluded from analyses because meaningful information could not be obtained from them. Responses of "unsure" for intentions were included in the *qualitative* analysis but excluded from the *quantitative* analysis because of statistical limitations.

Statistical analyses were performed in SPSS (version 26) and Microsoft Excel (version 16.16.3). The significance level was set to $\alpha = .05$. All figures were prepared in Microsoft Excel (version 16.16.3).

RESULTS

Hypothesis 1: *Attitudes towards the divestment approach will be more positive than attitudes towards the footprint reduction approach*.

Attitudes towards the divestment approach ($M = 4.22$, $SD = 1.08$) were significantly more positive than attitudes towards the footprint reduction approach ($M = 2.57$, $SD = 1.14$), $t(373) = -14.411$, $p < .001$. This result is represented in Figure 1, which shows a much greater proportion of strongly or mildly positive[2] attitudes towards the divestment approach (83%) than towards the footprint reduction approach (26%). Figure 1 also shows a much smaller proportion of strongly or mildly negative attitudes towards the divestment approach (10%) than towards the footprint reduction approach (54%).

[2] The survey only provided labels for rankings 1 (strongly negative) and 5 (strongly positive). To facilitate the discussion of results, the following terms will be used to describe rankings 2, 3, and 4, respectively: mildly negative, neutral, and mildly positive.

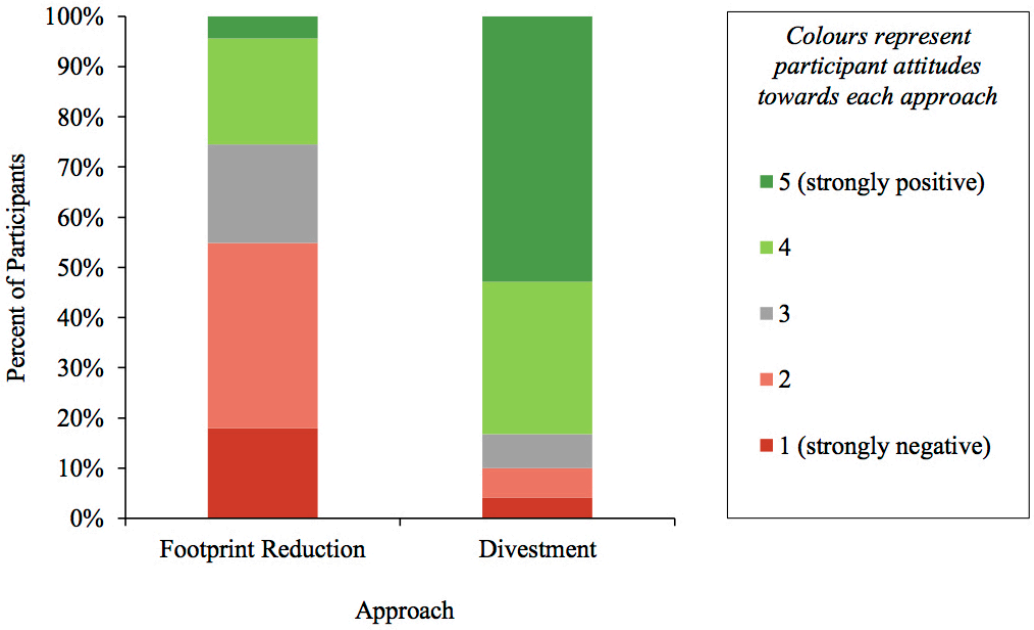

Figure 1. Distribution of attitudes towards the footprint reduction approach and divestment approach. Participants ranked their attitude toward each approach on a five-point scale, where 1 represents a strongly negative attitude and 5 represents a strongly positive attitude.

Hypothesis 2: *Attitudes towards the footprint reduction approach and the divestment approach will both be more positive than attitudes towards the ESG approach.*

Attitudes towards the divestment approach (M = 4.22, SD = 1.08) were significantly more positive than attitudes towards the ESG approach (M = 2.18, SD = 1.13), $t(190) = -14.784$, $p < .001$. Attitudes towards the footprint reduction approach (M = 2.57, SD = 1.14) were also significantly more positive than attitudes towards the ESG approach (M = 2.07, SD = 1.12), $t(183) = -5.922$, $p < .001$. These results are represented in Figure 2.

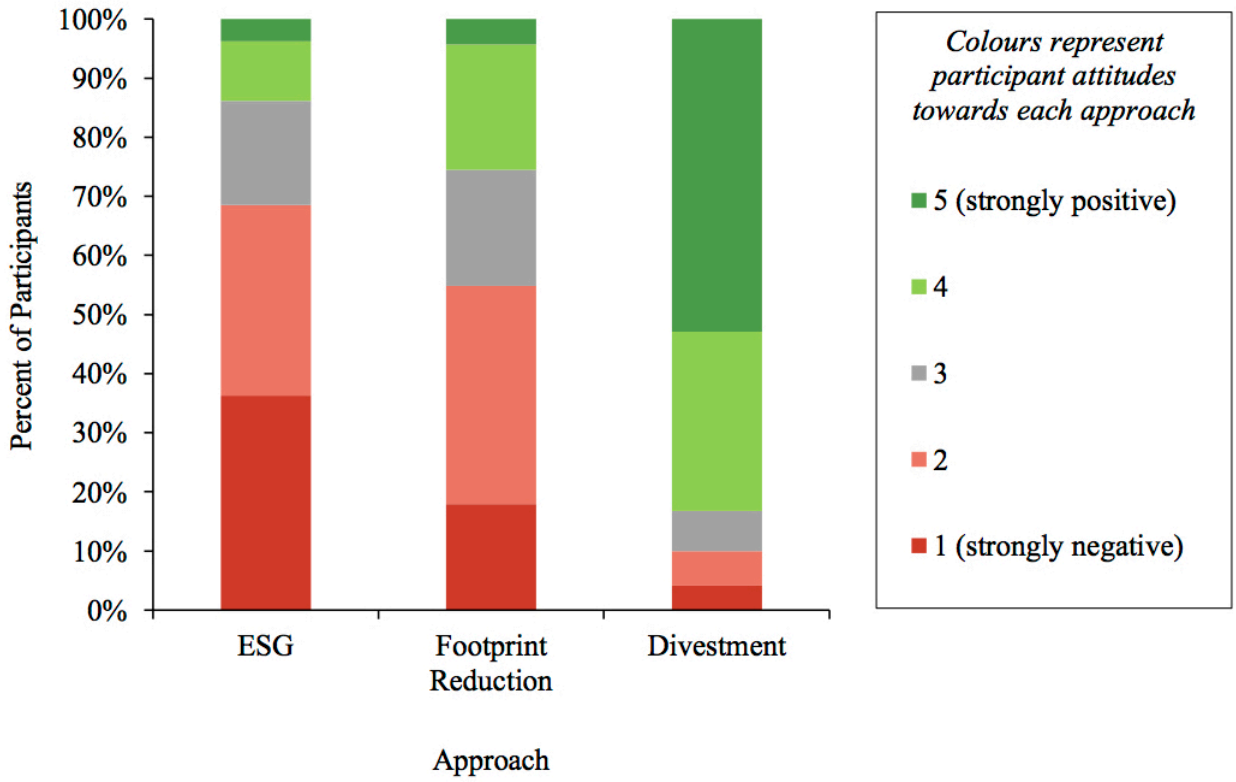

Figure 2. Distribution of attitudes towards the ESG approach, footprint reduction approach, and divestment approach. Participants ranked their attitude toward each approach on a five-point scale, where 1 represents a strongly negative attitude and 5 represents a strongly positive attitude.

As Figure 2 illustrates, there is a far greater proportion of strongly or mildly positive attitudes towards the divestment approach (83%) than there is towards the ESG approach (14%). There is also a far smaller proportion of strongly or mildly negative attitudes towards the divestment approach (10%) than there is towards the ESG approach (69%). The distribution of attitudes towards the footprint reduction approach is much more similar to that of the ESG approach than to that of the divestment approach. Nevertheless, the same pattern as above is observed: there is a greater proportion of strongly or mildly positive attitudes towards the footprint reduction approach (26%) than there is towards the ESG approach (14%), and there is a

smaller proportion of strongly or mildly negative attitudes towards the footprint reduction approach (54%) than there is towards the ESG approach (69%).

Hypothesis 3: *Those who have a positive attitude towards the footprint reduction approach or the divestment approach will intend to take more action than those who have a negative attitude towards the footprint reduction approach or the divestment approach.*

Intentions to take personal action on climate change were negatively associated with attitudes towards the footprint reduction approach, $r(174) = -.219$, $p = .004$. In other words, participants who had a positive attitude towards the footprint reduction approach intended to take less action on climate change than those who had a negative attitude towards the footprint reduction approach. In contrast, intentions to take personal action on climate change were positively associated with attitudes towards the divestment approach, $r(178) = .316$, $p < .001$ (Fig. 3). This means participants who had a positive attitude towards the divestment approach intended to take more personal action on climate change than those who had a negative attitude towards the divestment approach.

Table 4 illustrates the distribution of intentions within each approach. As can be seen, the proportions are similar between each approach. The majority of participants indicated they would be "neither more or less likely" to take action on climate change, i.e., that their intentions had not changed. Very few participants indicated they would be less likely to take action on climate

change. A similarly small proportion of participants indicated they were unsure whether they would take more or less action on climate change.

Table 4. Distribution of intentions within the footprint reduction and divestment approaches. "Unsure" refers to participants who were unsure whether they would take more or less action on climate change; "less likely" refers to participants who intended to take less action on climate change; "more likely" refers to participants who intended to take more action on climate change; and "neither more or less likely" refers to participants whose intentions had not changed.

	% of respondents within the footprint reduction approach	% of respondents within the divestment approach
Unsure	4	6
Less likely	3	2
Neither more or less likely	57	52
More likely	36	40

Figure 3 offers further insights. The majority of participants (81%) who had a *strongly negative, mildly negative, or neutral* attitude towards the *divestment approach* indicated their intentions had not changed. In comparison, the majority of participants (72%) who had a *strongly positive or mildly positive* attitude towards the *footprint reduction approach* indicated their intentions had not changed.

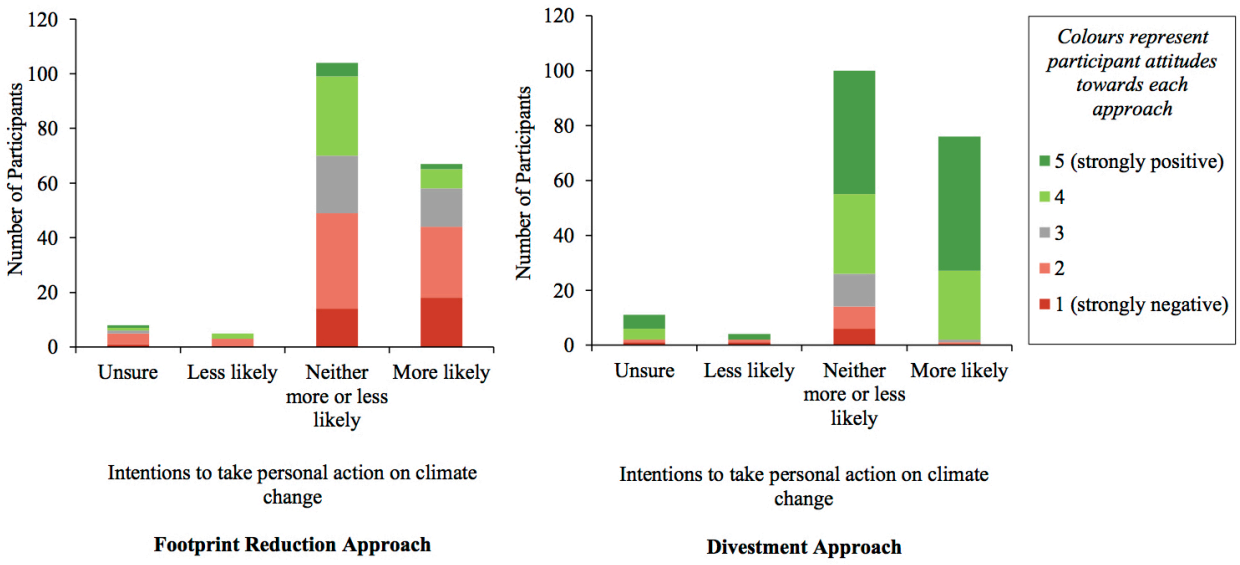

Figure 3. Relationship between intentions to take action on climate change and attitudes towards the footprint reduction approach or divestment approach. Participants were randomly assigned to either the footprint reduction or divestment approach. They then ranked their attitude toward the approach to which they were assigned on a five-point scale, where 1 represents a strongly negative attitude and 5 represents a strongly positive attitude. Next, participants indicated their intentions to take personal action on climate change. Possible responses were "unsure", "less likely", "neither more or less likely", or "more likely". "Unsure" refers to participants who were unsure whether they would take more or less action on climate change; "less likely" refers to participants who intended to take less action on climate change; "more likely" refers to participants who intended to take more action on climate change; and "neither more or less likely" refers to participants whose intentions had not changed.

Exploratory Analysis: *Exploring the extent to which demographic variables (age, gender, and relationship to UofT) influence survey measures (attitudes towards each approach, strength of preference for the footprint reduction approach (or divestment approach) over the ESG approach, and intentions).*

Age

Younger participants (compared to older participants) were significantly more likely to have negative attitudes towards the ESG approach, $r(369) = .120$, $p = .02$, and positive attitudes towards the divestment approach, $r(188) = .204$, $p = .005$. Younger participants (compared to older participants) also had a significantly stronger preference for the divestment approach over the ESG approach, $r(188) = -.221$, $p = .002$.

All other variables were not significantly associated with age, $p > .05$. In other words, a participant's age did not predict their attitudes towards the footprint reduction approach, the strength of their preference for the footprint reduction approach over the ESG approach, or their intentions to take action on climate change.

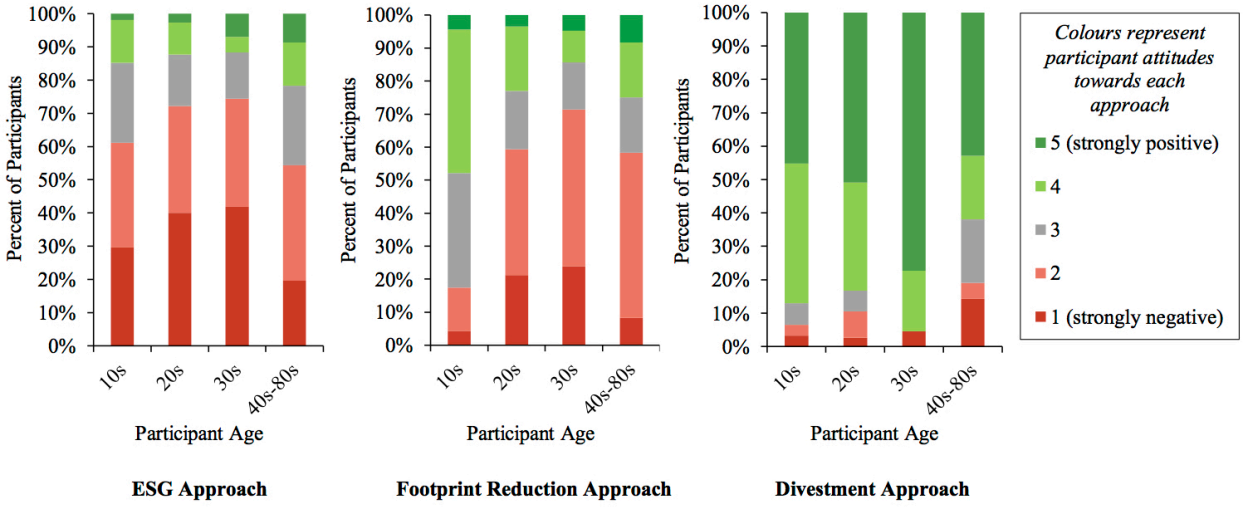

Figure 4. Distribution of attitudes towards each approach, grouped by age (decades). Participants ranked their attitude toward each approach on a five-point scale, where 1 represents a strongly negative attitude and 5 represents a strongly positive attitude. Note: To allow meaningful analysis, participants in their 40s-80s are grouped together. The quantitative analysis did *not* group any ages together.

Figure 4 builds on the statistical results. For example, strongly negative attitudes towards the divestment approach appear to be driven by the 40s-80s age bracket. (14% of participants in their 40s-80s had strongly negative attitudes towards the divestment approach, compared to 3% of participants in their 10s, 3% of participants in their 20s, and 5% of participants in their 30s). Further, strongly or mildly positive attitudes towards the divestment approach are less common in the 40s-80s age bracket than in the other age brackets.

Figure 4 also indicates that participants in their 30s had a greater proportion of strongly positive attitudes towards the divestment approach than participants in other age brackets. (77% of participants in their 30s had a strongly positive view of the divestment approach whereas 45%, 51%, and 43% of participants in their 10s, 20s, and 40s-80s, respectively, had a strongly positive view of the divestment approach).

For the footprint reduction approach, the distribution of attitudes for participants in their 10s stands out. This age bracket had a much greater proportion of strongly and mildly positive attitudes towards the footprint reduction approach than participants in other age brackets. Participants in this age bracket also had far fewer strongly and mildly negative attitudes towards the footprint reduction approach than participants in other age brackets.

Gender

Gender was significantly correlated with the same variables as age. Females (compared to males) had significantly more negative attitudes towards the ESG approach, $r(349) = -.210$, p

< .001, and significantly more positive attitudes towards the divestment approach, $r(180) = .197$, $p = .008$. Females (compared to males) also had a significantly stronger preference for the divestment approach over the ESG approach, $r(180) = .217$, $p = .003$.

All other variables were not significantly associated with gender, $p > .05$. In other words, a participant's gender did not predict their attitudes towards the footprint reduction approach, the strength of their preference for the footprint reduction approach over the ESG approach, or their intentions to take action on climate change. Figure 5 summarizes the distribution of attitudes towards each approach, grouped by gender.

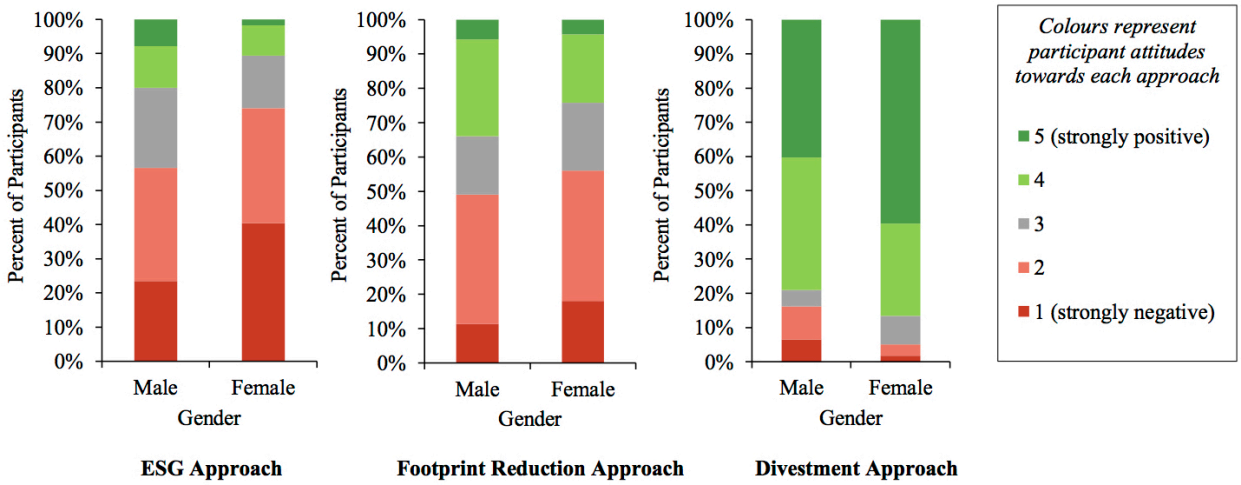

Figure 5. Distribution of attitudes towards each approach, grouped by gender. Participants ranked their attitude toward each approach on a five-point scale, where 1 represents a strongly negative attitude and 5 represents a strongly positive attitude.

The trends observed in Figure 5 reflect the statistical results. 74% of females had a strongly or mildly negative attitude towards the ESG approach whereas only 57% of males had a strongly or mildly negative attitude toward the ESG approach. These proportions decreased slightly for the footprint reduction approach: 56% of females had a strongly or mildly negative attitude towards the footprint reduction approach whereas 49% of males had a strongly or mildly negative attitude towards the footprint reduction approach. In contrast, only 5% of females and 16% of males had a strongly or mildly negative attitude towards the divestment approach.

The trends are the opposite when considering the strongly or mildly *positive* attitudes. 11%, 24%, and 87% of females had strongly or mildly positive attitudes towards the ESG approach, footprint reduction approach, and divestment approach, respectively. 20%, 34%, and 79% of males had strongly or mildly positive attitudes towards the ESG approach, footprint reduction approach, and divestment approach, respectively.

A comparison of these percentages indicates that the females' attitudes varied more than the males' attitudes. (For example, 57% of males had a strongly or mildly negative attitude towards the ESG approach whereas 16% of males had a strongly or mildly negative attitude towards the divestment approach -- a difference of 41%. In contrast, 74% of females had a strongly or mildly negative attitude towards the ESG approach while 5% of females had a strongly or mildly negative attitude towards the divestment approach -- a difference of 69%).

Relationship to UofT

Participant relationships to UofT (i.e., student, faculty, staff, other) were not significantly associated with any of the variables tested, $p > .05$. In other words, a participant's relationship to UofT did not predict their attitudes towards any approach, the strength of their preference for the footprint reduction approach (or divestment approach) over the ESG approach, nor their intentions to take action on climate change.

Nevertheless, some patterns emerged in Figure 6. Students and faculty/staff/other have a similar distribution of attitudes towards the ESG approach. That is, 69% of students and 63% of faculty/staff/other have a strongly or mildly negative attitude towards the ESG approach while 14% of students and 15% of faculty/staff/other have a strongly or mildly positive attitude towards the ESG approach. Students and faculty/staff/other also have a similar distribution of attitudes towards the footprint reduction approach. That is, 55% of students and 58% of faculty/staff/other have a strongly or mildly negative attitude towards the footprint reduction approach while 26% of students and 23% of faculty/staff/other have a strongly or mildly positive attitude towards the footprint reduction approach.

In contrast, stronger trends emerge for the divestment approach. For example, a greater proportion of faculty/staff/other (than students) have strongly negative attitudes towards the divestment approach. (12% of faculty/staff/other have a strongly negative attitude towards the divestment approach whereas 3% of students have a strongly negative attitude towards the divestment approach). A smaller proportion of faculty/staff/other (than students) also have

strongly or mildly positive attitudes towards the divestment approach. (77% of faculty/staff/other have a strongly or mildly positive attitude towards the divestment approach whereas 85% of students have a strongly or mildly positive attitude towards the divestment approach).

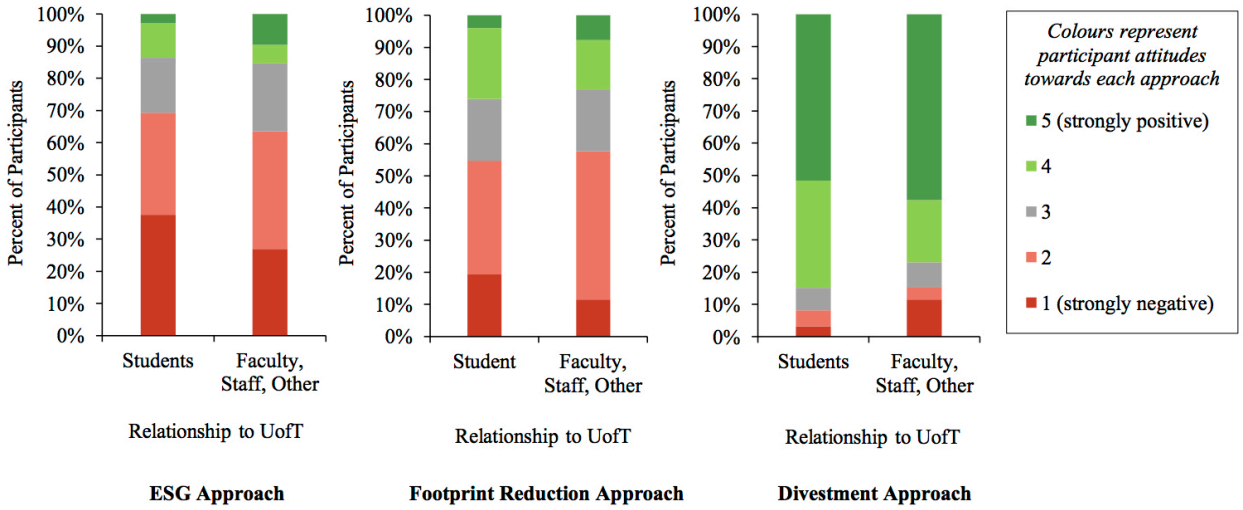

Figure 6. Distribution of attitudes towards each approach, grouped by relationship to UofT. Participants ranked their attitude toward each approach on a five-point scale, where 1 represents a strongly negative attitude and 5 represents a strongly positive attitude. Participants who identified a relationship of "student and staff" were excluded because they would fall into both groups.

DISCUSSION

Hypotheses

Hypotheses 1 and 2 were confirmed. The divestment approach was viewed more positively by those assigned to that approach than the footprint reduction approach was by those assigned to it; however, each approach was viewed more positively than the ESG approach. This implies a

stronger preference for the divestment approach (relative to the ESG approach) compared to the footprint approach (relative to the ESG approach) -- a distinct result from a preference for the divestment approach over the footprint reduction approach. Due to the study design, no participant received information about both the footprint reduction *and* divestment approaches, and thus, we cannot know whether participants would have preferred the footprint reduction approach over the divestment approach or vice versa. Nevertheless, these results demonstrate that adopting a full divestment approach created a greater increase in positive reactions than adopting a footprint reduction approach.

Hypothesis 3 was only partially confirmed. We correctly predicted that those who have a positive attitude towards the divestment approach intend to take more action than those who have a negative attitude towards the divestment approach. However, we incorrectly predicted that those who have a positive attitude towards the footprint reduction approach intend to take more action than those who have a negative attitude towards the footprint reduction approach. According to the results, these participants intend to take *less* action, not more. Since both the footprint reduction approach and divestment approach take an objectively more aggressive position on climate change than the ESG approach, the difference in trends must be due to the perception of the approaches. The divestment approach has the image of a very strong stance on climate change (full, or “100%”, divestment) whereas the footprint reduction approach sounds comparatively weaker (40% within the next decade). A possible interpretation is that those with negative attitudes towards the footprint reduction approach view it as insufficient to meet the threat of climate change, and are thereby encouraged to take greater action. However, these

results are at odds with most literature on the topic (e.g., Lin, 2013; Masud et al., 2016), so further examination is required.

As for why the majority of participants reported no change in their intentions to take climate action, this might be explained by factors such as perceived behavioural control and subjective norms[3], which are predicted to influence intentions (Ajzen, 1991). For example, if a participant feels they do not have the means to take greater climate action, they may indicate that their intentions have not changed, even if their attitude is positive.

Exploratory Analysis

The exploratory analysis revealed a series of significant relationships and patterns, most of which is supported by existing literature. For example, although the occasional study reports greater environmental/climate policy support from older individuals (e.g., Dietz et al., 2007), most studies report greater environmental/climate policy support from younger individuals (e.g., Elliott et al., 1997; Klineberg et al., 1998), as we found in this report. Our results also make sense in the context of our study. That is, with the increasing popularity of the divestment movement, which tends to be primarily student-run (Grady-Benson & Sarathy, 2016), it is not entirely surprising that younger participants (mostly students) had more positive than negative attitudes towards divestment. All the results for gender are consistent with previous studies (e.g., Elliott et al., 1997; Klineberg et al., 1998; Rhodes et al., 2017), which report that females have

[3] Perceived behavioural control refers to "the perceived ease or difficulty of performing [a] behavior" (Ajzen, 1991, p. 188). Subjective norms refer to "the perceived social pressure to perform or not to perform [a] behaviour" (Ajzen, 1991, p. 188).

greater support for environmental/climate policies than males. The results for relationships to UofT make sense when considering the patterns observed for age. That is, relative to the other age brackets, the 40s-80s age bracket (predominantly faculty/staff/other) had the greatest proportion of strongly negative attitudes towards the divestment approach.

Limitations & Important Considerations

There are several limitations to this study. As previously noted, the study design does not allow us to know how an individual's attitudes towards the footprint reduction approach compare to their attitudes towards the divestment approach. This could be resolved by conducting a within-subjects study that compares each participant's attitudes towards the footprint reduction approach *and* the divestment approach.

Another limitation is the tenuous relationship between attitudes, intentions and behaviour. Even though psychological theory (e.g., Ajzen, 1991; Hines et al., 1987) links these three constructs, neither attitudes nor intentions are good predictors of actual behaviour (Kollmuss & Agyeman, 2002; Sheeran & Webb, 2016; Ungar, 1994). In the context of the present study, this means that our results cannot be used to infer any behavioural outcomes. For example, even though participants with positive views towards the divestment approach intend to take more action on climate change than those with negative views towards the divestment approach, we cannot assume that divestment would lead the participants with positive views to actually engage in more climate-adaptive behaviours.

Lastly, an important consideration is the phrasing of the approaches. We did not specify that the divestment approach is projected to reduce emissions by only 13%. Instead, we explained that the divestment approach involves *full* divestment, which may suggest a 100% reduction. This might suggest to participants that, relative to the ESG approach, the divestment approach is a very large improvement. On the other hand, participants assigned to the footprint reduction approach were told that the footprint of UofT's investment portfolios would be reduced by 40%, which might seem to be an insufficient reduction. The results presented here should thus be interpreted as UofT students, faculty, and staff having more positive views towards the divestment approach than the footprint reduction approach *when they are presented as they were in this study*.

Directions for Future Research

From this follows opportunities for future research. For example, if participants are made aware of the relative contribution of each approach, is divestment still favoured? (Note that the claim that the footprint reduction approach would reduce emissions more than divestment has been made by those adopting the footprint reduction approach). Participants may now have more positive views towards the footprint reduction approach because it would apparently lead to a greater reduction in emissions. Alternatively, the longer time scale for the footprint reduction approach (40% *over the next decade*) may prompt participants to still favour the (immediate) divestment approach. Social justice could also be a reason that divestment is preferred over a

40% carbon footprint reduction. That is, the language surrounding divestment is closely tied to justice (Bratman et al., 2016) whereas the language surrounding carbon footprint reductions is not. Thus, on moral grounds, attitudes towards the divestment approach may still be more positive than attitudes towards the 40% carbon footprint reduction approach. This would be consistent with research that suggests a policy's perceived fairness is a greater predictor of its support than its effectiveness (Kyselá et al., 2019). Findings from such a study would help clarify, and potentially strengthen, the results presented here.

CONCLUSION

The University of Toronto should consider fossil fuel divestment. As this study demonstrates, UofT student, faculty, and staff attitudes towards the divestment approach are significantly more positive than attitudes towards the 40% carbon footprint reduction approach (i.e., the University's current strategy). The divestment approach is also more favourably viewed than the ESG approach (i.e., the University's original strategy). That being said, it would be beneficial to conduct a follow-up study that confirms the difference in outcomes between the divestment and footprint reduction approaches and clarifies whether results would change when participants are made aware of such outcomes. It would also be worthwhile to further investigate the relationship between the approaches in this study and intentions to take personal action on climate change given the results presented here were at odds with most of the literature on those topics.

ACKNOWLEDGEMENTS

LM Werbowski would like to thank John Robinson for his supervision and support, and William Ryan for his guidance in survey design and statistical analysis. The author would also like to express her gratitude to the School of Environment for providing the opportunity to engage in this research, and to the administrators across the University who facilitated recruitment.

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APPENDIX A

Below is the survey which participants completed. Some of the questions did not contribute to the analysis. These questions are marked with an asterisk (*).

Page 1:

How familiar are you with the University of Toronto's approach to fossil fuel divestment?*
Please rank your response on a scale from 0 to 10, where 0 is not at all familiar with the approach and 10 is very familiar with the approach.

(not at all familiar) (very familiar)

0 1 2 3 4 5 6 7 8 9 10

Page 2:

Please carefully read the following:

In 2014, a UofT student group called on the University of Toronto to divest from fossil fuel companies and to stop making new investments in the industry. In response, the University announced that it would not divest, but that it would consider environmental, social, and governance factors when undertaking such investments. The University said that this approach would offer the best chance of success in meeting the challenge of climate change, while fulfilling its duties to society.

How would you describe your view of the University of Toronto's approach to divestment?
Please rank your response on a scale from 1 to 5, where 1 is a strongly negative view and 5 is a strongly positive view.

(strongly negative) (strongly positive)

1 2 3 4 5

Page 3:

Every fiscal year, the University of Toronto has the opportunity to change its approach. Consider the following scenario:

(Participants are now randomly assigned to one of A or B).

A) Starting this fiscal year, the University of Toronto will be changing its approach. The University of Toronto will not divest from fossil fuel companies, but will reduce the carbon footprint of its investment portfolios by 40% or more in the next decade. This will involve shifting assets to lower emitting countries and sectors as well as investing in managers and strategies that have lower carbon footprints.

B) Starting this fiscal year, the University of Toronto will be changing its approach. The University of Toronto will fully divest from fossil fuel companies, and will not pursue any further fossil fuel investments. This includes companies that provide direct support for fossil fuel exploration and development. The University of Toronto will also instruct managers and advisors of investments in which the University is involved to adopt the same approach.

(All participants now receive the following questions).

Under these circumstances, how would you describe your view of the University of Toronto's approach to divestment? Please rank your response on a scale from 1 to 5, where 1 is a strongly negative view and 5 is a strongly positive view.

1	2	3	4	5
(strongly negative)				(strongly positive)

Under these circumstances, are you more or less likely to take personal action on climate change? Please select one response.

- More likely
- Less likely
- Neither more or less likely (no change)
- Unsure

Page 4:

What is your age? (Type a number)

What is your gender? (Type one of: female, male, transgender, other, prefer not to answer. If you choose other, please specify).

What is your racial or ethnic background?* (Type all that apply: Arab, Black, Chinese, Filipino, Japanese, Korean, Latin American, South Asian, Southeast Asian, West Asian (e.g., Iranian, Afghan, etc.), White, other, prefer not to answer. If you choose other, please specify).

What is your relationship to UofT? (Type one of: student, faculty, staff, or other. If you choose other, please specify).

With which academic department(s) are you affiliated? (Type all that apply).

How frequently do you consider yourself to be taking personal action on climate change?* (Please choose one response).

Never Very Rarely Rarely Occasionally Frequently Very Frequently

To what extent are you involved with climate and/or other environmental groups?* (Type one of: very great, great, moderate, some, small, none).

Please describe your involvement with climate and/or other environmental groups, if any, at the University of Toronto.*

APPENDIX B

Table 5. Percent of participants associated with each academic unit.

Academic Unit	% of Participants
Ecology and Evolutionary Biology	15.9
English	9.8
Psychology	6.0
School of Environment	6.0
Anthropology	5.6
Economics	3.5
History	2.7
Applied Science & Engineering	2.5
Biology	2.3
Earth Sciences	2.3
Forestry	2.3
Geography and Planning	2.3
Political Science	2.3
Human Biology	2.1
Centre for Drama, Theatre & Performance Studies	1.9
Cell & Systems Biology	1.7
Cinema Studies Institute	1.7
Classics	1.2
French	1.2
Germanic Language & Literatures	1.2
Immunology	1.2
Linguistics	1.2
Philosophy	1.2
Italian	1.0
Munk School of Global Affairs	1.0

School of Graduate Studies	1.0
Sociology	1.0
Physics	0.8
Centre for Diaspora & Transnational Studies	0.8
Criminology	0.8
Equity Studies	0.8
Humanities	0.8
Molecular Genetics and Microbiology	0.8
Physiology	0.8
Architecture	0.6
Indigenous Studies	0.6
Law	0.6
Music	0.6
Neuroscience	0.6
Physical and Environmental Sciences	0.6
Rehabilitation Sciences Institute	0.6
Rotman School of Management	0.6
Centre for European, Russian, and Eurasian Studies	0.4
Chemistry	0.4
Computer Science	0.4
Dentistry	0.4
International Relations	0.4
Mathematics	0.4
Medicine	0.4
Ontario Institute for Studies in Education	0.4
Statistics	0.4
Visual Studies	0.4
Women & Gender Studies	0.4

Writing and Rhetoric	0.4
Bioethics	0.2
Book and Media Studies	0.2
Buddhism Psychology and Mental Health	0.2
Business	0.2
Centre for Jewish Studies	0.2
Centre for Sexual Diversity Studies	0.2
Centre for the Study of the United States	0.2
Comparative Literature	0.2
Drama	0.2
East Asian Studies	0.2
English and Drama	0.2
Forensic Science	0.2
Forensic Sciences	0.2
Institute of Communication, Culture, Information, and Technology	0.2
Latin American Studies	0.2
Mathematical and Computational Sciences	0.2
Near and Middle Eastern Civilizations	0.2
Religion	0.2
Social Justice Education	0.2
Spanish & Portuguese	0.2