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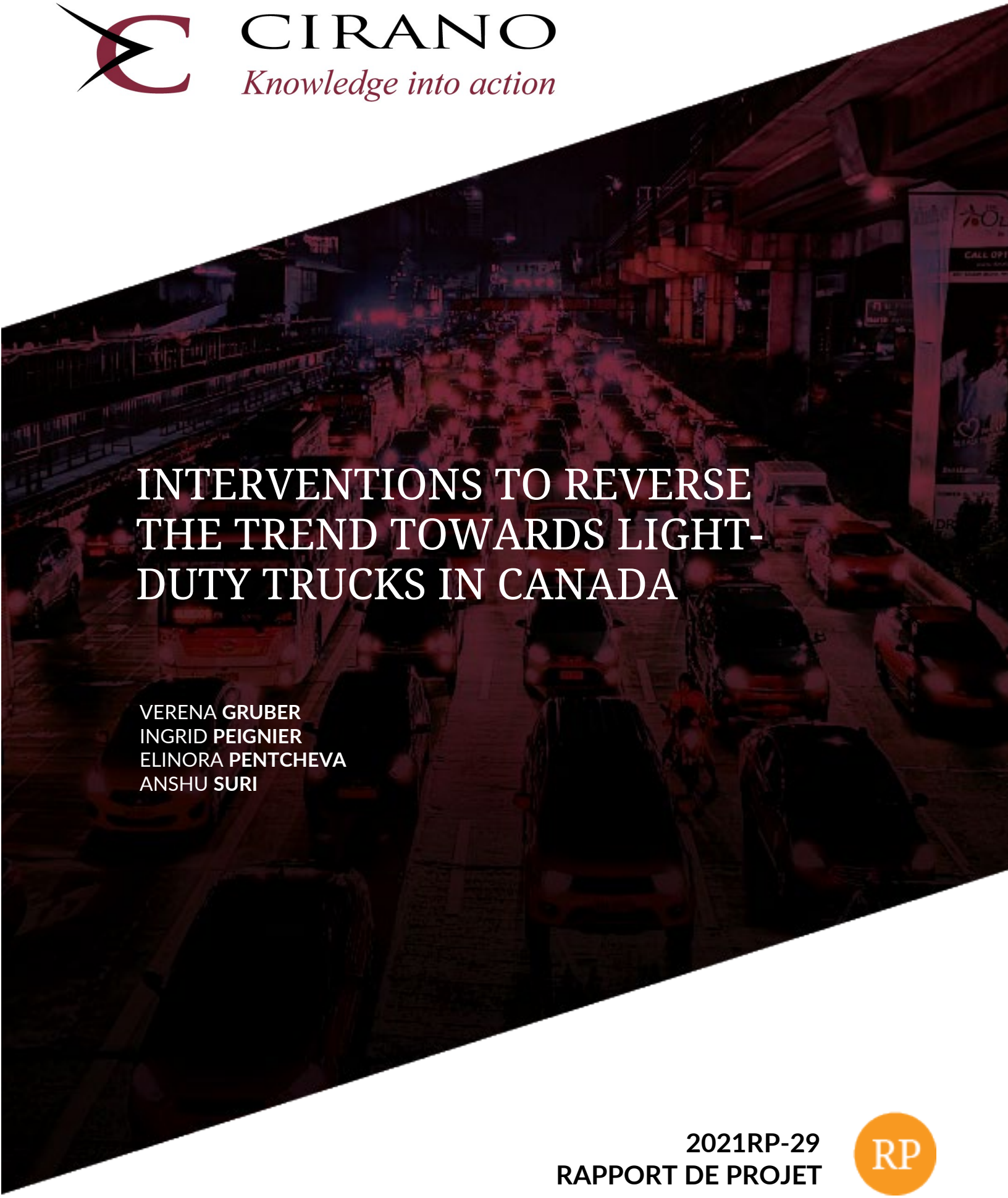

INTERVENTIONS TO REVERSE THE TREND TOWARDS LIGHT-DUTY TRUCKS IN CANADA

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RP

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INTERVENTIONS TO REVERSE THE TREND TOWARDS LIGHT-DUTY TRUCKS IN CANADA

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Résumé

L'objectif principal de ce rapport était d'étudier l'efficacité de différents messages visant à atténuer le goût et l'achat de véhicules à forte consommation d'énergie, en particulier les véhicules utilitaires sport (VUS).
Il présente les résultats de quatre études expérimentales portant à la fois sur des thèmes pertinents pour les décideurs politiques (c'est-à-dire réglementer la présentation des prix et travailler sur des initiatives de renforcement des capacités financières afin de renforcer les connaissances numériques et financières des citoyens) et sur des thèmes qui peuvent être exploités dans des campagnes de marketing social pour aider à inverser la tendance vers des véhicules à forte consommation d'énergie. Plus précisément, trois expériences testant des aspects de l'identité personnelle, des normes sociales et de l'orientation temporelle permettent de constater ce qui suit :

- Créer des perceptions négatives des conducteurs de SUV en tant que personnes ayant des compétences de conduite inférieures à la moyenne contribue à réduire de manière significative à la fois l'appréciation des VUS et l'intention d'acheter un VUS, indépendamment du fait que la personne possède déjà un véhicule énergivore ou non.
- Changer la norme sociale autour des VUS : Les VUS sont devenus une norme sociale de facto puisqu'ils étaient les véhicules les plus vendus au Canada en 2020, et la littérature dans le domaine démontre clairement l'importance des normes sociales pour influencer la prise de décision des consommateurs. Nos résultats montrent que ces normes peuvent également être utilisées pour contrer la tendance aux véhicules énergivores en soulignant que les voitures de taille compacte sont le véhicule normal à choisir.
- Amener le public à réfléchir à l'héritage laissé à ses enfants en achetant un camion léger à l'aide de repères temporels : le fait de faire ressortir une orientation vers l'avenir permet de diminuer le goût et l'intention d'achat de véhicules à forte consommation d'énergie. L'intervention est particulièrement efficace pour les individus qui reconnaissent déjà l'effet du transport individuel sur l'environnement.

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• Renforcer les capacités individuelles à tenir compte de tous les coûts associés aux véhicules : Nous constatons que, si les individus sont généralement capables de respecter leur budget, ceux qui ont un faible niveau de compétences numériques et financières, ainsi que ceux qui sont financièrement insatisfaits (indépendamment de leur niveau de compétences), font beaucoup plus de choix qui dépassent leur budget. Cette expérience souligne l'importance des initiatives visant à améliorer les compétences financières, car les consommateurs particulièrement vulnérables semblent être attirés par l'achat de VUS.

La recherche documentée dans ce deuxième rapport s'appuie directement sur les résultats de la phase exploratoire documentés dans le rapport de projet CIRANO 2021RP-06 qui a évalué les motivations, les attitudes et les facteurs contextuels influençant les choix de véhicules chez les Canadiens et teste empiriquement l'efficacité de différents messages pour contrer la tendance à l'utilisation de véhicules énergivores au Canada.

Mots-clés : VUS, Camions légers, Économie expérimentale, Comportement du consommateur, marketing social

Abstract

The primary objective of this report was to investigate the effectiveness of different messages to mitigate the liking and purchase of energy-intensive vehicles, particularly sport utility vehicles (SUVs).

It presents the results of four experimental studies on both topics relevant to policymakers (i.e., regulating price presentation and working on financial empowerment initiatives to increase citizens' numerical and financial literacy) and topics that can be leveraged in social marketing campaigns to help reverse the trend toward energy-intensive vehicles. Specifically, three experiments testing aspects of personal identity, social norms, and time orientation find the following:

• Creating negative perceptions of SUV drivers as people with below-average driving skills significantly reduces both appreciation of SUVs and intention to purchase an SUV, regardless of whether the individual already owns a gas-guzzling vehicle.

• Changing the social norm around SUVs: SUVs have become a social norm as they were the top selling vehicle in Canada in 2020, and the literature in the field clearly demonstrates the importance of social norms in influencing consumer decision-making. Our results show that these norms can also be used to counter the trend toward gas-guzzlers by emphasizing that compact cars are the normal vehicle to choose.

• Get the public to think about the legacy left to their children by purchasing a light truck using time-based cues: highlighting a future orientation decreases the liking and intention to purchase energy-intensive vehicles. The intervention is particularly effective for individuals who already recognize the environmental impact of personal transport.

• Building individual capacity to consider all vehicle costs: We find that while individuals are generally able to stay within their budgets, those with low levels of numerical and financial literacy, as well as those who are financially dissatisfied (regardless of their level of literacy), make many more choices that exceed their budgets.

This experience underscores the importance of initiatives to improve financial literacy, as particularly vulnerable consumers appear to be attracted to SUV purchases.
The research documented in this second report builds directly on the results of the exploratory phase documented in the CIRANO 2021RP-06 project report which assessed the motivations, attitudes and contextual factors influencing vehicle choices among Canadians and empirically tests the effectiveness of different messages in addressing the trend towards fuel-inefficient vehicles in Canada.

keywords : SUVs, Light trucks, Experimental economics, Consumer behavior, Social marketing

JEL codes : C91, M31, M38, Q5, R4

EXECUTIVE SUMMARY

The main objective of this report is to test different themes to be used in messages aimed at attenuating liking and purchasing intentions of large and energy intensive vehicles, in particular sport utility vehicles (SUVs). The report directly builds on the insights of the first exploratory research phase documented in report 1 (Gruber et al. 2021) that assessed the motivations, attitudes and contextual factors that influence vehicle choices among Canadians. Both reports are integral parts of a larger research project coordinated by Équiterre whose main objective is to understand Canadians' preference for fuel-efficient vehicles and the factors (political, economic, social, etc.) that contribute to the increase in sales of these types of vehicles in Canada, as well as how to reverse the trend.

This report is divided into three sections. We first introduce the context, structure, and objectives of the report. The main part is the middle section, i.e., the chapters with the four experimental studies. While we include a short section regarding the methodological details in each chapter, the experiments all follow a similar design: in all cases, we experimentally manipulate a stimulus and randomly assign participants to either the condition with the stimulus, or in a control condition. The stimuli we used are based on the literature and the findings of report 1 (Gruber et al. 2021) and represent the themes that we propose to help decrease liking of light-duty trucks when incorporated in some form of message or campaign. The analysis of all experiments revolves around the comparison of SUV liking and purchase intentions between groups who have, or have not, been exposed to the stimulus.

The first three chapters each present an experiment that tests a possible social marketing intervention and is directly informed by the results of the exploratory phase and developed based on a review of the relevant literature.

The first experiment deals with self-identity, a notion often leveraged in vehicle advertising to create positive and aspirational associations and images. Drawing on the same basic mechanism, we test whether relating a dissociative identity (i.e., bad driving skills) with SUVs helps make this type of vehicle less attractive. The results are encouraging and show that messages that counter the all too positive press coverage regarding SUV drivers constitutes a promising means for public policy or social marketing campaigns.

The second experimental study focuses on social norms, another factor that has been shown highly relevant to understanding preferences for energy-intensive vehicles (Gruber et al., 2021). Social norms relate to what individuals consider as normal, both in terms of what they see around them being done and what they feel they ought to do. Nowadays, SUVs and other types of light-duty trucks are the most sold vehicles in Canada, thus constituting the de facto social norm with regard to personal vehicles. The many press articles addressing Canadians' unabated fondness with SUVs further reinforce them as the prevailing social norm. In our second experiment, we test whether messages that stress smaller compact cars as the norm or present the normative perspective to be against SUVs would help reduce liking and purchase intentions of SUVs. Again, the results are promising and show that making other norms salient can help reduce the increasing tendency towards SUVs.

In a **third experiment**, we investigated temporal orientations. The qualitative phase documented in the first report (Gruber et al. 2021) has shown that individuals are strongly influenced in their vehicle choice by the type of vehicle they have had growing up. Indeed, a lot of individuals seem predisposed to lean towards larger-sized vehicles. The third experiment tests whether making the legacy we leave, and the world we have inherited, salient would help reduce liking and purchase intentions of SUVs. The results show that the specific future temporal orientation that requires individuals to think about what they pass on to their children helps make energy-intensive vehicles less attractive.

Rather than testing the efficiency of message themes for social marketing campaigns, the **fourth experiment** deals with a topic important to regulators, i.e., the way product prices are being presented. Vehicle prices are often shown in terms of weekly and monthly instalments, and it is not clear how individuals respond to them. In this fourth experiment, we give respondents 15 paired comparisons, 9 of which feature a choice between a vehicle within their budget and a vehicle above their budget. We find that individuals are overall quite able to make choices within their budget, but a more detailed analysis reveals that individuals with low numerical or financial literacy make significantly more over-budget choices. This points to the importance of providing financial education and explaining total ownership costs in the process of advertising and selling vehicles.

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Theme	Self-identity	Social norms	Temporal orientations	Price presentation
Results	Making negative perceptions of SUV drivers as individuals with below average driving skills helps to significantly reduce both liking of SUVs and intention to purchase an SUV, irrespective of whether the person already owns an energy-intensive vehicle or not.	Social norms can be used to counter the trend towards energy-intensive vehicles by stressing the compact size cars are the normal vehicle to choose. This effect holds for both SUV drivers and owners of other vehicles and applies both to SUV liking and purchase intentions.	Making a future orientation salient, helps decrease the liking and purchasing intention of energy-intensive vehicles. People who care about their legacy in the first place, irrespective of the type of intervention, are more likely to opt for electric vehicles.	Whereas individuals are generally quite able to stay within their budgets, those individuals low in numerical and financial literacy, as well as those who are financially dissatisfied (irrespective of their literacy), take significantly more over-budget choices.

In the last section, we conclude the report by reiterating the major findings and possible public policy interventions. The design and results of experiment 4 most directly speak to governments concerned about protecting vulnerable consumers by prioritizing price displays that accurately depict the total cost of products, be it vehicles or other products such as electronic appliances or furniture, that are often advertised with monthly or even weekly payment instalments. The results of this report demonstrate that there are viable mechanisms to counter the increasing prevalence of energy-intensive vehicles, including self-identity and social norm-based messages and interventions leveraging different temporal foci. Notably, we also show the importance of addressing financial literacy or, even more generally, numeracy as these competences influence the likelihood to choose vehicles that are above one's budget. These types of messages can be used by policy-makers and third-sector organizations focusing on sustainability in campaigns that aim at discouraging the purchase of light-duty trucks. Such a campaign would be reminiscent of the "Truth" campaign that was highly successful in reducing teenage smoking in Florida. The focus of the campaign was to reframe smoking: those who bought cigarettes were just playing into the hands of tobacco companies who were manipulating the youth to accrue even larger profits. The campaign shows the usefulness of tested messages in reducing undesirable behaviours. We contend that the themes developed in this report could serve a similar purpose.

Acknowledgments

The realization of a study of this magnitude required the involvement of a large number of partners and actors. As this report is directly built on the first report « *Analyse des motivations d'achat des camions légers au Canada* » (Gruber et al. 2021), we would like to thank again some key collaborators.

We would first like to express our thanks to Ms. Jessie Pelchat, Senior Researcher at Équiterre at the beginning of our mandate, and Ms. Andréanne Brazeau, Mobility Analyst at Équiterre. Their support and expertise were very important to the success of this project, especially in coordination with the other research teams involved in the overall project.

We would also like to thank CIRANO researchers Nathalie de Marcellis-Warin (president and CEO of CIRANO and Professor at *Polytechnique Montréal*), Sabine Kröger (Professor at *Université Laval*), Charles Bellemare (Professor at *Université Laval*) and especially the late Claude Montmarquette (Professor Emeritus at the *Université de Montréal*), who, through their observations and the sharing of their expertise, helped us refine the experimental designs.

Finally, we are indebted to all those who mobilized for this study and, more specifically, the citizens of all Canadian provinces who agreed to participate in the experiments. We are delighted with the great generosity of the participants in sharing the various information that led to the writing of this report.

Through their availability, their critical sense, their suggestions, or their points of view, all these people contributed to transforming the realization of this work on interventions to reverse the trend towards SUVs into an enriching, motivating and interesting experience for the future of mobility.

NOTE TO READERS: We are aware that there are many words to describe vehicle types. Since we are conducting a consumer study, in the French experiment surveys to the population, we have opted for the use of the recommended term by the Office québécoise de la langue française (OQLF) to which we have added the most widely used term in order to avoid any ambiguity in the questions. Thus, for all the questions in the French questionnaires, we mentioned "fourgonette/minivan" and "camionette/pick-up." In addition, throughout the report, we do not distinguish between SUVs and so-called crossover utility vehicles (CUVs). We use the term SUV broadly. Further note that EV stands for Electrical Vehicle.

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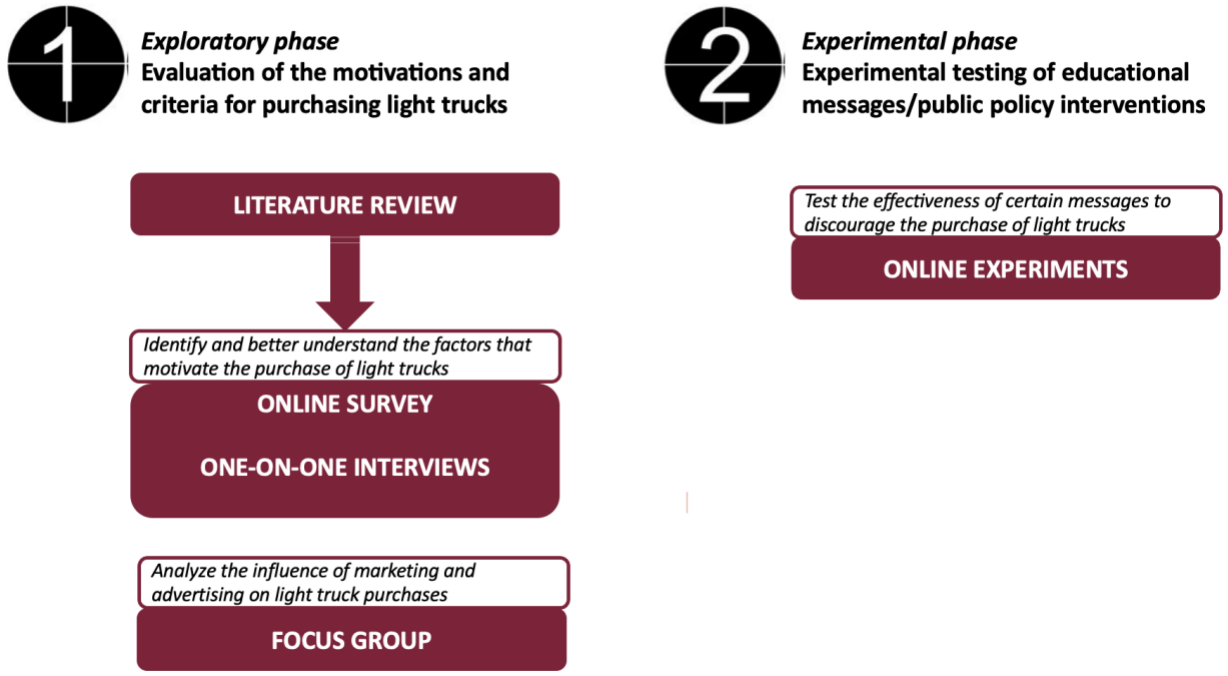
1 INTRODUCTION

1.1 Context

This study is part of a larger research project coordinated by Équiterre whose main objective is to understand Canadians' preference for SUVs and the factors (political, economic, social, etc.) that contribute to the increase in sales of this type of vehicle in Canada. Équiterre's objective is to assess the role that the Canadian government could play in encouraging the adoption of sustainable vehicle purchasing practices.

Our study is divided into two main parts: an exploratory phase and an experimental phase.



The first phase has already been the subject of a project report and includes an online survey of the Canadian population, followed by qualitative research using interviews and focus groups. This report builds directly on the results of this initial research component entitled « *Analyse des motivations d'achat de camions légers au Canada* » (Gruber et al. 2021). The executive summary of report 1 can be found in annex 7.1. This second research component discusses different themes that could be used for interventions aimed at making large vehicles less attractive to consumers. The interventions are conceived based on the results of the first report and relevant literature in the respective domain and tested via experimental designs on a sample reflecting the general Canadian population. More specifically, in the following three chapters, we will discuss in detail the conceptual development, methodological approach, and results of each one of the

interventions. The chapters and interventions focus on three key themes: (1) self-identity and threats to it; (2) the role of social norms; and (3) considerations of the future.

(1) Driver Self-Identity

The qualitative research conducted in phase 1 (Gruber et al. 2021) shows that individuals are in general quite confident about their driving skills, irrespective of the type of vehicle they are driving. Interestingly, some of the SUV drivers feel particularly in control because of the height of the vehicle and the four-wheel drive whereas others believe that it is exactly these features that make SUV owners somewhat reckless and often bad drivers. In the first experiment, we test whether messages questioning the driving skills of SUV drivers can reduce liking of large vehicles. We simultaneously assess the effectiveness of messages pointing towards the superior driving skills of compact car drivers. As potential moderators, we include perceived driving skills, self-esteem, and self-construal, three constructs that can potentially influence the extent to which individuals are impacted by messages addressing their identities as drivers.

(2) The Role of Social Norms

The representative survey conducted in phase 1 (Gruber et al. 2021) has shown that descriptive social norms are among the most important factors influencing the likelihood to purchase an SUV. Social norms have been shown to influence behaviour in various contexts related to sustainability. In the second experiment, we test the effect of normative influences on vehicle liking and purchase likelihood. Once again, we concurrently test two different framings: one in which the norm presented is against SUVs and other large vehicles, and one in which the norm presented is for sedans and smaller-sized vehicles. In this second experiment, we measure the liking of different vehicles and purchasing intention on two different times: one pre- and one post-intervention measure. Once again, we include self-construal as a potential moderator, and we also measure peer influence and psychological reactance as these constructs can impact how individuals react to others' opinion regarding the "socially approved" type of vehicle.

(3) Considerations of the Future

Sustainability is necessarily connected to the future as the impact of our decisions and behaviours from today will mostly materialize only later. This constitutes a major barrier to adopting more environmentally friendly practices. Prior research has shown that leveraging temporal orientation (i.e., through messages that make the past or the future more salient) can be conducive to promoting more sustainable behaviours. In this third experiment, we test the effectiveness of reminding individuals of the legacy that our ancestors left behind and how different life was when we were young (past orientation) and we ask them to imagine the future and what it will look like for future generations

(future orientation). As moderators, we include generativity as a chronic psychological trait, perceptions of climate harm, and past and future orientations.

In addition to testing messages that can help de-normalize large vehicles such as SUVs, we also conducted a study to understand how the presentation of price and financing arrangements influence consumers' responses. More specifically, we build on results of Morency et al. (2021) that show the significantly higher price of SUVs, which can pose a threat to consumer indebtedness. In addition, if prices are presented in terms of weekly or monthly instalments, this might further influence consumers and, more specifically, those with lower financial capabilities. In a fourth experiment, we thus test whether consumers choose vehicles that are beyond their budget and whether this effect is especially pronounced for consumers with low numeracy and low financial literacy. Chapter 4 follows the same logic as previous chapters and presents in detail the conceptual development, methodological approach, and results of the experiment.

1.2 Objectives and Method

As mentioned, this study is part of a larger research project coordinated by Équiterre whose main objective is to understand Canadians' growing preference for SUVs, the factors (political, economic, social, etc.) that contribute to the increase in sales of this type of vehicle in Canada, and how to reverse this trend. The objective for Équiterre is to assess the role that the Canadian government could play in encouraging the adoption of sustainable vehicle purchasing practices. This report is a direct continuation of the first report (Gruber et al., 2021) and empirically tests the uncovered results through a series of experimental studies. More specifically, we investigate the effectiveness of different messages to decrease liking of SUVs and purchase intentions for this type of vehicle with the objective that these messages, if proven effective, could be used in social marketing campaigns to counter the lure of automobile advertising.

The work reported herein consists of the conceptual development, design, and implementation of different interventions that might help counter the trend towards energy-intensive vehicles. Each of the intervention themes is based on insights from the first phase report (Gruber et al. 2021) and further substantiated by relevant academic research.

1.3 Report Structure

The report is structured along the different experimental studies and divided into six chapters. The chapters all follow the same structure: in the first section on the conceptual development, we discuss the literature relevant to the topic at hand and complement it

with insights from the first phase report (Gruber et al. 2021). Against this background, we develop hypotheses with our predictions. We then present the research design and explain the experimental manipulations and how the relevant constructs have been operationalized. In a subsequent section we present the analysis and results, and then discuss the findings.

- **Chapter 2** presents the experiment on messages addressing driver self-identity;
- **Chapter 3** presents the experiment on normative messages;
- **Chapter 4** presents the experiment on messages with different temporal orientations made salient;
- **Chapter 5** presents the experiment testing the influence of different price presentations on choice.

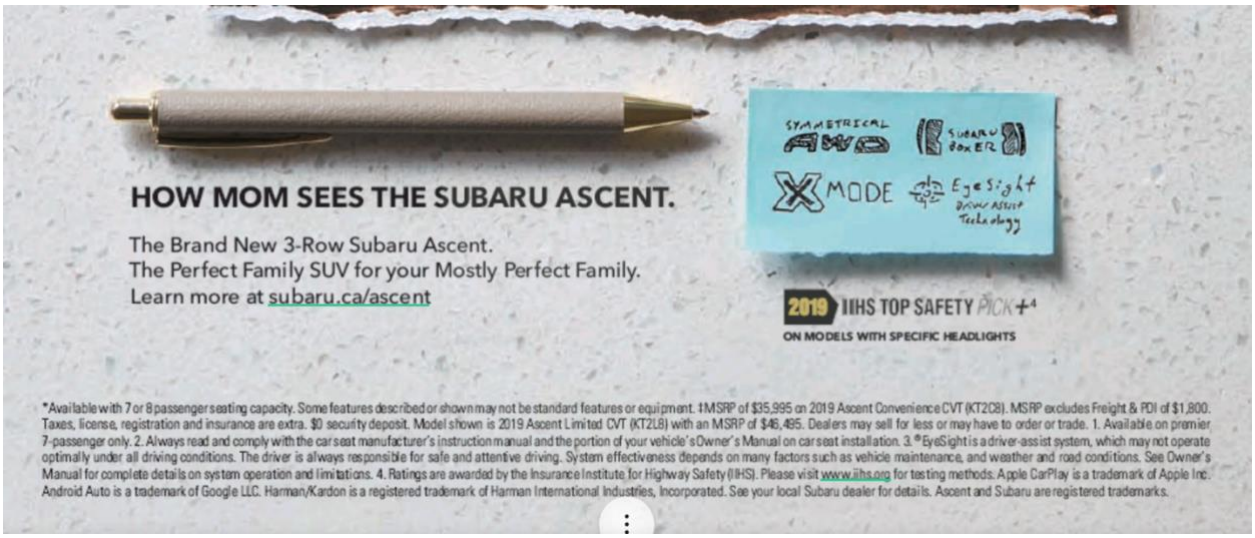
In Chapter 6, we provide a general conclusion of the main findings, provide suggestions for the incorporation of tested themes in social marketing campaigns and outline avenues for future research.

2 THEME 1: DRIVER SELF-IDENTITY

This chapter presents the results of the first experiment, which focuses on the influence of driving skills.

2.1 Conceptual development

In marketing and advertising, there is a long tradition to link products and brands to certain aspects of consumers' identities, a strategy that constitutes an effective means to appeal to consumers (Bolton and Reed, 2004; White and Argo, 2009). Identity refers to self-relevant social categories such as one's citizenship, one's gender, one's university affiliation, etc., which influence our behaviours, judgments, and attitudes (Reed, 2004). Bolton and Reed (2004, p. 408) provide the example of Harley Davidson motorcycles, which are "linked to an outlaw or rebel identity, which is an aspirational identity for many of its customers." When a particular identity is threatened, individuals are less likely to engage in identity-related behaviours that would reinforce the identity under threat and avoid products associated with that identity (White and Argo, 2009). In a similar vein, consumers avoid products that are associated with dissociative reference groups or, in other words, groups that individuals do not want to be a member of (White and Dahl, 2006; 2007). The automobile industry also heavily uses identity-related strategies to promote vehicles. The Subaru advertisement shown in figure 1 reinforces a family identity and, more specifically, the role of a mother and the concerns and attitudes that come with it.



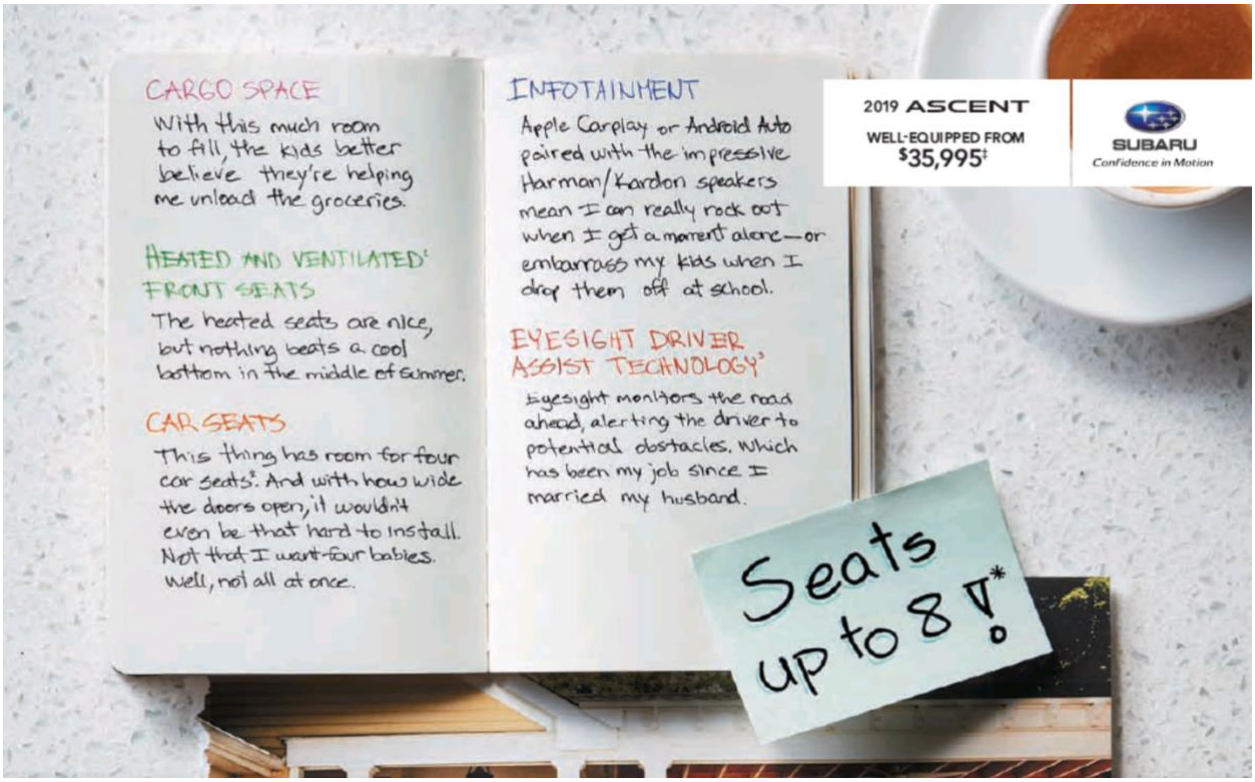


Figure 1 : Example of identity-relevant advertising

Interventions that draw on a similar identity-related mechanism to link large vehicles with dissociative – rather than associative – identities could help make them less attractive in the eye of the public. Based on the qualitative insights described in report 1 (Gruber et al., 2021) and anecdotal evidence collected from various popular media, SUV drivers are often associated with reckless and bad driving: The West Australian (2018) asks, "Why are 4WD and SUV drivers too arrogant?" as author Neale Prior shares how he found it "disturbing just how many bad drivers are out there in big, white four-wheel-drives and SUVs." A user on the platform Drivetribe (2021) lists various reasons as to why, in his opinion, "SUVs are the worst of all cars":

> *"We first have to look at typical mainstream SUV drivers and there are exactly three types of them, with no exception. There is the middle-aged bloke who refuses to accept his age and therefore attempts to counteract it by wearing smartwatches and going to yoga classes, then there are those orange-faced women who either are Hollywood celebrities or have read too much about Hollywood celebrities, and finally some really old man who thinks that a slightly higher seating position will extend his life by six days." (Kay F., Drivetribe)*

A News24 article from 2014 (which we have used as a template for the experimental manipulations) ran the headline "Fact: 4x4 and SUV Drivers Are Idiots" and Malcom

Gladwell, in an article in The New Yorker in 2004, argues that the feeling of safety that SUV drivers have, due to the vehicle size, leads to a situation of learned helplessness and deteriorating driving skills.

Drivers naturally aim to maintain a positive image of their driving skills, yet the above evidence suggests drivers of large vehicles in general, and SUVs in particular, might not be driving as well as they think. Against the background of social identity literature (Tajfel and Turner, 1979), we suggest that threatening the identity of SUV drivers as good drivers might make the vehicle less attractive. In a similar vein, stressing the superior driving skills of individuals owning compact cars should also decrease liking of SUVs:

- *H1a: Presenting information about the bad driving skills of SUV drivers will decrease liking of SUVs*
- *H1b: Presenting information about the superior driving skills of compact car drivers will decrease liking of SUVs*

Along the same line of thought, we predict that negatively framed information about SUV drivers and positively framed information about compact-car drivers will lead to a decrease in purchasing intentions of SUVs:

- *H2a: Presenting information about the bad driving skills of SUV drivers will decrease likelihood to purchase an SUV*
- *H2b: Presenting information about the superior driving skills of compact car drivers will decrease likelihood to purchase an SUV*

The following sections explain the methodological approach and experiment design.

2.2 Research Design

This study employed a single factor between-subjects design wherein the participants were introduced to stimuli that manipulated the information regarding the skill level of car owners (skill levels: positive, negative and control). All conditions were presented as an excerpt from a digital news website. In the positive condition, the excerpt discussed the superior skills of smaller-sized vehicle owners (sedan specifically, see Appendix 1 for the manipulation in English and French). On the other hand, the negative condition discussed the inferior skills of larger-sized vehicle owners (SUVs specifically, see Appendix 2). The control condition discussed the increasing number of automobiles in Canada and did not mention any information about the skill sets of drivers (see Appendix 3). Our two dependent variables are similar to those of report 1 (Gruber et al., 2021): Liking of SUVs (as well as other types of vehicles), measured on a 1–100 scale and purchasing intention of SUVs (as well as other types of vehicles), measured on a 7-point Likert scale from 1 (not likely at all) to 7 (very likely).

We include three moderators in our research design: driving skills, self-esteem and interdependent vs. independent self-construal. We measured self-reported driving skills with the Driving Skill Inventory (DSI), the most widely used instrument to understand self-reported driving style and driving skill (Lajunen and Summala, 1995; Martinussen et al., 2014). Xu et al. (2018) show that driving skills are negatively correlated with aberrant driving, errors, lapses, penalty fines and points received within the last year; Sümer et al. (2006) demonstrate that driving skills moderate the effects of safety skills on outcome variables such as overtaking tendencies or speeding on motorways. We suggest that those people who consider themselves not very skilled will be more influenced by negative information regarding driving skills of SUV owners.

We measure respondents' self-esteem with Rosenberg's self-esteem scale (RSE) (Rosenberg, 1965), the most widely used instrument to capture global self-worth (Gray-Little, William, and Hancock, 1997). One's evaluation of oneself influences numerous aspects of one's life, including the products he or she chooses as a consumer (Stuppy, Mead and Van Osselaer, 2020). Self-esteem has also been shown to influence driving style as individuals with an inflated self-esteem drive more aggressively than those low in self-esteem (Schreer, 2002). When individuals obtain information that threatens their view of the self, they engage in compensatory behaviours to regulate their self-esteem (Vandellen et al., 2011). We therefore suggest that those people high in self-esteem will be less influenced by receiving negative information about themselves.

We also include measures for self-construal as potential moderators. The construct of self-construal captures these distinct perceptions of selfhood and allows identifying predominantly interdependent or independent individuals (Shavitt & Barnes, 2018). Individuals' self-construal reflects their beliefs about the self and the extent to which it is connected with others (Cross, Bacon, and Morris 2000; Markus and Kitayama 1991; Singelis 1994). Interdependent self-construal captures a relatively strong connection with others, and features "the person not as separate from the social context but more connected and less differentiated from others" (Markus & Kitayama, 1991, p. 227), while an independent self-construal implies a more self-determining stance that "derives from a belief in the wholeness and uniqueness of each person's configuration of internal attributes" (p. 226). The way individuals themselves construct and understand themselves in relation to others and the realities around has important consequences on their motivational processes and behaviours (Cross et al. 2000). We suggest that independent individuals will be less influenced by negative information about themselves. The full instrument can be found in Appendix 4.

RESEARCH QUESTION
How do messages addressing SUV owners' driving skills influence attitudes towards SUVs?

Study Design
Single factor between-subject design wherein the participants were introduced to stimuli that manipulated the information regarding the skill level of car owners (skill levels: positive, negative and control).

Two dependent variables

- Liking of SUVs (1–100 scale)
- Purchasing intention of SUVs (7-points Likert scale)

Three moderators

- Driving Skill Inventory (DSI)
- Rosenberg's self-esteem scale (RSE)
- Self-construal (interdependent or independent)

2.3 Analysis and Results

The experimental design was verified by researchers of CIRANO and other colleagues in the field of marketing and sustainable behaviours. Having integrated their feedback, the final design was approved by the Ethical Review Board of HEC Montréal, and a pretest on Amazon M-Turk (N = 100) was run to assure that all questions were well understood. After a last fine-tuning, the experiment was sent to a panel of Leger Marketing. More specifically, unique respondents (for each one of the four studies) were randomly selected from the LEO Online Panel.

2.3.1 Demographic Information

Three hundred and thirty-nine (339) Canadian residents (50.1% females, median age group = 45 to 54) were recruited through the online panel Léger Opinion (LEO) and completed an online study. A full table of sample characteristics can be found in Appendix 5. Only participants who own a vehicle that they regularly use were allowed to participate in the study. 36.6% of the respondents owned an SUV, while 6.8% owned a pick-up truck and 6.2% owned a minivan. On the other hand, 45.7% of the respondents owned some form of sedan or a compact vehicle, while 2.1% owned an electric vehicle and 2.7% owned some other form of vehicle. Given that less than 5% (N = 16) of the

respondents owned an electric vehicle or some other form of vehicle, these respondents were eliminated from the analyses. In terms of demographics, we observe similar patterns as those presented in report 1: there are more females among SUV owners and there are more highly educated people among sedan drivers.

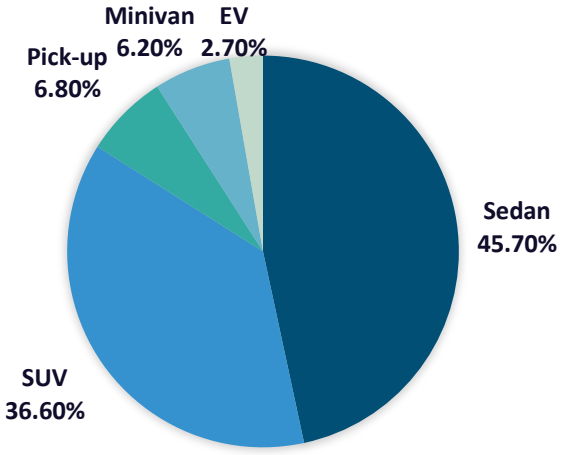


Figure 2 : Vehicle owned by the respondents in Experiment 1

For certain analyses, SUV, pick-up truck and minivan owners' responses were combined to form a separate category of larger-sized vehicle owners (N = 168). Analyses were also conducted for SUV owners only (N = 124), as Study 1 found SUV ownership to be an important contributing factor in future vehicle purchases (drivers who already own an SUV were most likely to repurchase one). Similarly, the effect of the manipulation was analyzed separately for sedan owners (N = 155).

2.3.2 Influence of Message on Liking and Purchase intentions

Owners of large-sized vehicles

A MANOVA with the condition as the independent variable and like/dislike of SUVs, pick-up trucks, minivans, sedans, electric vehicles, as well as purchase intentions towards these vehicles indicated a significant effect ($p < .05$ for Wilks' Lambda test)[5]. A one-way ANOVA showed that the effect of the condition was significant on liking of SUVs ($F(2, 162) = 3.08$, $p = .048$). Specifically, for such vehicle owners, the negative condition led to a decreased liking of SUVs, as compared to the control condition ($M_{negative} = 78.04$ vs. $M_{control} = 85.67$, $p = .017$). There was also a marginal difference between the negative and positive conditions, with the participants in the negative condition reporting a reduced liking towards SUVs ($M_{negative} = 78.04$ vs. $M_{positive} = 83.33$, $p = .08$). Furthermore, while the

[5] Throughout the report we use $p < .05$ as a threshold to establish significance though typically report the specific p values.

effect of the manipulation was not significant on purchase intentions towards SUVs ($F(2,165) = .299$, $p > .5$), directionally the results aligned with the results of liking towards SUVs. Specifically, the purchase intentions were lower for participants in the negative condition, although not statistically significant ($M_{negative} = 5.65$ vs. $M_{control} = 5.86$, $p > .4$).

The effect of the manipulation was marginally significant on purchase intentions towards pick-up trucks ($F (2, 165) = 2.33$, $p = .10$) and significant on purchase intentions of minivans ($F (2, 165) = 5.68$, $p = .004$). Specifically, with respect to the purchase intentions towards pick-up trucks, the positive appraisal of sedan owners (vs. negative appraisal of SUV owners) led to a decrease in purchase intentions towards pick-up trucks ($M_{negative} = 3.71$ vs. $M_{positive} = 2.91$, $p = .03$). On the other hand, the negative condition was found to be more effective for reducing the purchase intentions of minivans ($M_{negative} = 2.13$ vs. $M_{positive} = 3.21$, $p = .002$).

SUV Owners in particular

For SUV owners, the manipulations had a significant effect on liking towards SUVs ($F (2, 142) = 4.68$, $p = .01$). The negative condition in particular was effective in leading to a reduction in liking towards SUVs. For instance, when compared to the control condition, the negative condition led to a significantly lower liking towards SUVs ($M_{negative} = 78.52$ vs. $M_{control} = 88.39$, $p = .004$). Similarly, the negative condition was significantly more effective than the positive condition for a reduced liking towards SUVs ($M_{negative} = 78.52$ vs. $M_{positive} = 85.98$, $p = .02$). In a similar vein, participants exposed to the negative (vs. control) condition also expressed marginally lower liking towards pick-up trucks ($M_{negative} = 49.82$ vs. $M_{control} = 61.56$, $p = .07$). The effectiveness of the negative condition was also found to be true when looking at purchase intentions towards SUVs. For instance, participants exposed to the negative (vs. control) condition reported lower purchase intentions towards SUVs ($M_{negative} = 5.8$ vs. $M_{control} = 6.26$, $p = .07$). For participants in the positive condition, purchase intentions was $M = 6.07$. However, the data showed no statistically significant difference with the negative or control conditions. Similar results were obtained when comparing purchase intentions towards minivans, where the negative (vs. control) condition was found to be more effective ($M_{negative} = 1.97$ vs. $M_{control} = 2.10$, $p = .06$).

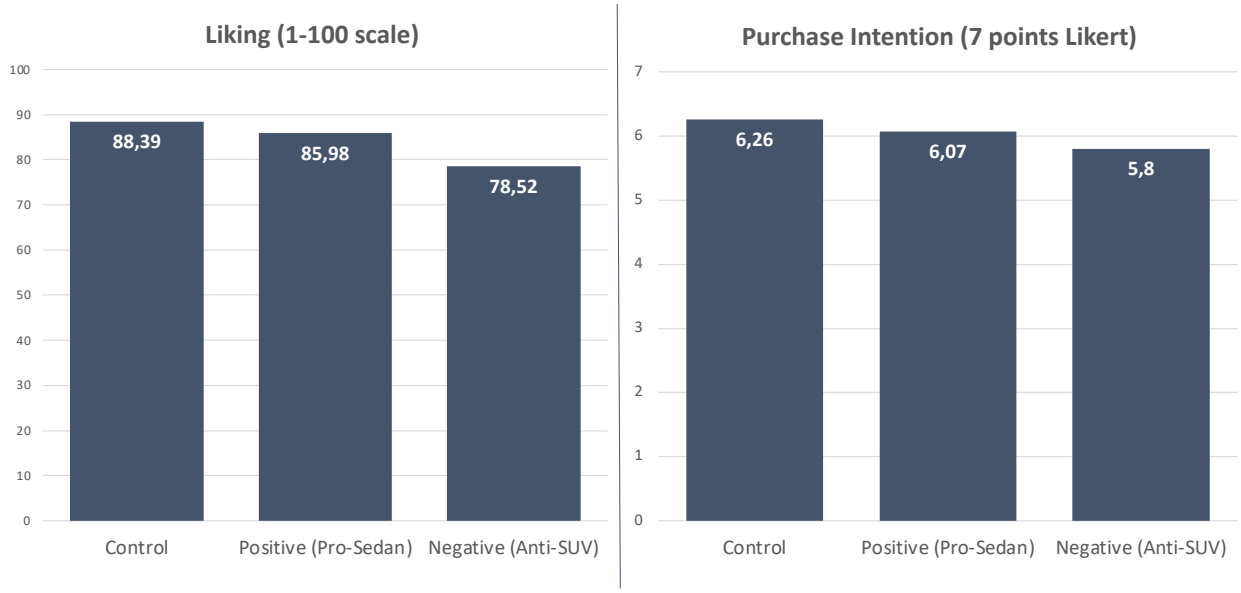


Figure 3 : Liking and Purchase intentions measured within SUV owners (N = 124)

Owners of smaller-sized vehicles

For these respondents, the manipulation had a significant effect on liking towards SUVs ($F(2, 142) = 5.12$, $p = .007$). Specifically, the negative condition that criticized the skills of SUV drivers decreased the liking towards such vehicles ($M_{negative} = 54.36$ vs. $M_{control} = 68.7$, $p = .004$). Additionally, this intervention was even more effective as compared to the positive condition that praised the superior driving skills of sedan owners ($M_{negative} = 54.36$ vs. $M_{positive} = 67.53$, $p = .01$). These results were similar with respect to purchase intentions towards SUVs, wherein the negative condition reduced purchase intentions towards such vehicles ($M_{negative} = 3.45$ vs. $M_{control} = 4.22$, $p = .05$) and ($M_{negative} = 3.45$ vs. $M_{positive} = 4.15$, $p = .09$). The results of the manipulation were not significant on purchase intentions of pick-up trucks and minivans, as owners of smaller vehicles are in general not inclined to purchase pick-up trucks and minivans ($M < 2.5$ where 1 = extremely unlikely to purchase, for all conditions).

	Liking			Purchase Intention		
	Negative	Positive	Control	Negative	Positive	Control
Owners of large-sized vehicles	78,04	83,33	85,67	5,65	5,77	5,86
SUV Owners	78,52	85,98	88,39	5,8	6,07	6,26
Owners of smaller-sized vehicles	54,36	67,53	68,73	3,45	4,15	4,22

Table 1 : Influence of messages on liking and purchase intentions

2.3.3 Driver Skills Assessment as a Moderator

SUV owners

To assess self-reported driving skills, we used all items and formed an average (which is done with all constructs reported hereinafter). SUV owners were then assigned in two groups based on a median split: low-skilled drivers and highly skilled drivers. A table of descriptive statistics for these two groups can be found in Appendix 6. Skills had a main significant effect on **liking towards SUVs** (F (1, 118) = .014). Specifically, when comparing the different conditions and their interaction with skill levels, there was a significant effect of skill level in the negative condition. As hypothesized, participants with low skills (vs. high skills) had a significantly lower liking towards SUVs ($M_{low\text{-}skill}$ = 73.95 vs. $M_{high\text{-}skill}$ = 83.10, p = .052) when such participants were exposed to the negative condition that criticized the skills of SUV drivers. The results indicate that SUV owners with lower self-assessment of their skills are particularly impacted by the negative condition.

Similar effects were found when looking at all large-sized vehicle owners (SUVs, pick-ups, minivans). In the negative condition, participants with low skills indicated a significantly lower liking towards SUVs ($M_{low\text{-}skill}$ = 70.14 vs. $M_{high\text{-}skill}$ = 84.03, p = .002). This effect was also found in the control condition ($M_{low\text{-}skill}$ = 81.4 vs. $M_{high\text{-}skill}$ = 89.77, p = .053), indicating that regardless of the content of the manipulation, consumers with higher skill levels report higher liking of SUVs.

Skill levels also had a significant main effect on participants' **purchase intentions** (F (1, 118) = .000). For SUV owners, a pairwise comparison showed that participants with low skills showed lower purchase intentions for all manipulations. Specifically, low-skilled participants showed lower purchase intentions in the positive condition ($M_{low\text{-}skill}$ = 5.5 vs. $M_{high\text{-}skill}$ = 6.43, p = .008), negative condition ($M_{low\text{-}skill}$ = 5.5 vs. $M_{high\text{-}skill}$ = 6.10, p = .10), as well as in the control condition ($M_{low\text{-}skill}$ = 6.0 vs. $M_{high\text{-}skill}$ = 6.77, p = .052). Given that SUV owners with overall high skills show higher purchase intentions for SUVs in all conditions, we also compare which condition leads to lower purchase intentions in this group overall. As hypothesized, the negative condition that criticizes SUV owners' skills seems to have a higher impact in this group. For instance, when compared to the control condition, the negative condition leads to a marginal reduction in purchase intentions of SUVs among high-skilled participants ($M_{negative}$ = 6.10 vs. $M_{control}$ = 6.77, p = .10). Furthermore, for such high-skilled SUV owners, the purchase intentions of SUVs is lower in the negative condition as in the positive one, although the difference is not statistically significant ($M_{negative}$ = 6.10 vs. $M_{positive}$ = 6.43, p = NS).

When considering all large vehicle owners, skill level also has an important main effect on purchase intentions of SUVs (F = 16.710, p = .000). The difference is particularly noted in

the positive condition, where $M_{low\text{-}skill} = 5.04$ vs. $M_{high\text{-}skill} = 6.29$, $p = .00$. The effect is also significant in the negative condition ($M_{low\text{-}skill} = 5.23$ vs. $M_{high\text{-}skill} = 5.97$, $p = .045$).

	Liking			Purchase Intention		
	Negative	Positive	Control	Negative	Positive	Control
SUV Owners :						
Low DSI	72,06	81,81	84,25	5,5	5,5	6
High DSI	83,30	88,2	93,0	6,10	6,43	6,77
Owners of large-sized vehicles						
Low DSI	70,14	79,36	81,4	5,23	5,04	5,6
High DSI	84,03	85,95	89,77	5,97	6,29	6,11

Table 2 : Influence of messages on liking and purchase intentions with driver skills assessment as a moderator

2.3.4 Self-esteem as a Moderator

For this variable as well, data was split into two categories: high self-esteem and low self-esteem, using a median split. A descriptive comparison of these two groups can be found in Appendix 7. Among SUV owners only, there was no significant main effect ($F = .607$, $p = .438$) or interaction effect (self-esteem*Condition; $F = 1.127$, $p = .328$) of self-esteem on liking of SUVs.

However, when considering all vehicle owners, self-esteem is found to have a significant main effect on liking ($F = 3.699$, $p = .055$), as well as an interaction effect ($F = 1.198$, $p = .303$), specifically in the positive condition. Pairwise comparisons show that, in this condition, participants with high self-esteem report much higher liking of SUVs ($M_{low\text{-}self\text{-}esteem} = 70.8$ vs. $M_{high\text{-}self\text{-}esteem} = 81.431$, $p = .018$).

For existing SUV owners, there is a highly significant main effect of self-esteem on purchase intentions of SUVs ($F = 10.520$, $p = .002$). The strongest interaction of self-esteem is within the positive condition ($M_{low\text{-}self\text{-}esteem} = 5.44$ vs. $M_{high\text{-}self\text{-}esteem} = 6.46$, $p = .004$). Thus, participants with high self-esteem in the positive condition reported a higher purchase intentions than participants with low self-esteem. Similar effects were found in the control condition ($M_{low\text{-}self\text{-}esteem} = 5.9$ vs. $M_{high\text{-}self\text{-}esteem} = 6.67$, $p = .042$) and in the negative condition ($M_{low\text{-}self\text{-}esteem} = 5.67$ vs. $M_{high\text{-}self\text{-}esteem} = 5.91$, $p = .507$). Overall, consumers with high self-esteem reported the highest purchase intentions, regardless of condition, and the condition in which the manipulations operated the biggest reduction of purchase intentions was the positive condition.

This effect is also found when considering all participants, regardless of the vehicle type. The main effect of self-esteem on purchase intentions is essentially significant ($F = 3.609$, $p = .058$), and particularly in the positive condition, participants with high self-esteem report higher purchase intentions ($M_{low\text{-}self\text{-}esteem} = 4.59$ vs. $M_{high\text{-}self\text{-}esteem} = 5.52$, $p = .013$).

2.3.5 Self-construal as a Moderator

Independence

There is no statistically significant effect of independence as a moderator of SUV liking within SUV owners and for the entire sample. There is an effect, however, on purchase intentions, specifically for SUV owners. The main effect of independence on purchase intentions is particularly strong ($F = 8.866$, $p = .004$). While there is no significant difference in the positive condition, consumers with high independence reported higher purchase intentions in both the negative ($M_{low\text{-}indep} = 5.48$ vs. $M_{high\text{-}indep} = 6.33$, $p = .026$) and control ($M_{low\text{-}indep} = 5.96$ vs. $M_{high\text{-}indep} = 6.79$, $p = .036$) conditions.

Interdependence

There is no statistically significant effect of interdependence as a moderator of SUV liking, nor as a moderator of SUV purchase intentions. Table 3 provides an overview of the results, showing that irrespective of self-esteem levels and independence, there is no difference in the effect of the type of message (positive vs. negative vs. control) on SUV liking.

With regards to SUV purchasing intention, there have been more significant results.In particular, participants with low independence reported lower purchase intentions overall, and especially in the negative condition (Mlow-indep = 5.48 vs. Mhigh-indep = 6.33).

	Liking			Purchase Intention		
	Negative	Positive	Control	Negative	Positive	Control
SUV Owners :						
Low self-esteem	ns	ns	ns	5.67	5.44	5.9
High self-esteem				5.91	6.46	6.67
All type of vehicle						
Low self-esteem	ns	70.8	ns	ns	4.59	ns
High self-esteem		81.43			5.52	
SUV Owners :						
Low independence	ns	ns	ns	5.48	ns	5.96
High independence				6.33		6.79

Table 3 : Influence of messages on liking and purchase intentions with self-esteem and independence as moderators

2.3.6 Driving Experience as a Moderator

Upon evaluation of different demographic variables, an interaction effect was identified between Driving Experience (categorized, in ten-year segments) and the condition of the manipulation. In regard to liking of SUVs, there was no significant effect of the Driving Experience variable, but a close to significant interaction of Driving Experience X Condition ($F = 1.834$, $p = .07$). More specifically, drivers with relatively little experience (0-10 years or 11-20 years) responded most to the negative messaging. The mean scores for liking in each condition are reported below.

0-10 driving years	Negative	58.00
	Positive	74.735
	Control	74.069

$p = .010$

11-20 driving years	Negative	62.941
	Positive	85.125
	Control	72.200

$p = .022$

Table 4 : Influence of messages on liking with driving experience as moderator (1/2)

It is interesting to note that in the second bracket, drivers with 11-20 years experience, the positive condition (stressing a positive association with sedans) actually led to an important increase in liking of SUVs.
There were no significant differences between conditions in the next two categories (21-30 and 31-40 driving years). However, in the final bracket (41 years and more driving experience), drivers responded very well to the negative and positive conditions.

41+ driving years	Negative	62.00
	Positive	68.833
	Control	81.143

p = .008

Table 5 : Influence of messages on liking with driving experience as moderator (2/2)

This final bracket, drivers with 41 years and more driving experience, is the only bracket to respond to the positive condition in this manipulation with a decrease in liking of SUVs. All other segments boast no difference or even an increase in liking.

Purchase Intention

In regard to purchase intention of SUVs, fewer significant differences were identified. Once again however, experienced drivers (with 41 years or more experience), were unique in their response to the positive condition.
Within this condition, pairwise comparisons between all categories show that the most experienced group of drivers reports the lowest mean for purchase intention of SUVs.

Positive Condition	0-10 driving years	5.028
	11-20 driving years	5.667
	21-30 driving years	4.955
	31-40 driving years	5.941
	41+ driving years	3.947

p = .023

Table 6 : Influence of messages on purchase intention with driving experience as moderator (1/2)

Once again, for all other categories of drivers, there was no significant difference between the positive and control conditions, and sometimes even an increase in purchase intention.

2.3.7 Gender effects

To test the interaction effect of interventions and gender, data of all participants, irrespective of the type of vehicle they owned, was analyzed together. Regarding the level of appreciation of SUVs, there was a significant difference between the positive and negative conditions for men, such that men in the negative condition reported lower liking towards SUVs than those in the positive condition ($M_{positive}$ = 75.32 vs. $M_{negative}$ = 63.39, p = .009). For men, there was also a significant difference in the negative condition as compared to the control condition ($M_{negative}$ = 63.39 vs. $M_{control}$ = 75.00, p = .01). Similarly, the negative condition also seemed to be more effective for reducing liking towards SUVs for women, when compared to both the positive condition ($M_{positive}$ = 77.86 vs. $M_{negative}$ = 66.69, p = .014) and the control condition ($M_{negative}$ = 66.69 vs. $M_{control}$ = 76.00, p = .036). No significant differences were observed between positive and control conditions (p > .6) for both genders, indicating that negative conditions that criticize the driving skills of SUV owners are more effective for reducing liking towards SUVs for both genders. On a similar note, negative (vs. positive) conditions also led to marginally lower purchase intentions for SUVs in men ($M_{positive}$ = 5.00 vs. $M_{negative}$ = 4.35, p = .09). Similar results were obtained for purchase intentions of SUVs for women, but they fell short of significance ($M_{positive}$ = 5.14 vs. $M_{negative}$ = 4.59, p = .13).

On the other hand, regarding the level of appreciation of sedans, the positive (vs. control) condition led to marginally higher liking towards these vehicles for women ($M_{positive}$ = 73.15 vs. $M_{control}$ = 65.37, p = .07), but not for men ($M_{positive}$ = 73.89 vs. $M_{control}$ = 73.25, p > .80). Similar results were obtained for purchase intentions of sedans, where the positive condition led to higher purchase intentions in women ($M_{positive}$ = 4.71 vs. $M_{control}$ = 3.96, p = .047), but not for men ($M_{positive}$ = 4.67 vs. $M_{control}$ = 4.59, p > .80).

2.4 Summary & Discussion

Hypothesis	Result
H1a: Presenting information about the bad driving skills of SUV drivers will decrease liking of SUVs	✓
The effect was validated and statistically significant	
H1b: Presenting information about the superior driving skills of compact car drivers will decrease liking of SUVs	
The effect was observed, just shy of statistical significance	
H2a: Presenting information about the bad driving skills of SUV drivers will decrease likelihood to purchase an SUV	✓
For owners of larger vehicles, the effect was observed but not significant For owners of small vehicles, the effect was validated and significant	
H2b: Presenting information about the superior driving skills of compact car drivers will decrease likelihood to purchase an SUV	
The effect of the manipulation was not significant regarding SUVs, however led to decreased purchase intention for pick-up trucks and minivans.	

Table 7 : Summary of results - study 1

Figure 4 : : Advertising alluding to driving skills

Identity-relevant messages are widespread in automobile advertising and allude to a multitude of identities potentially relevant to buyers: family, gender roles, or driving skills (as is evident in figure 4 showcasing a Honda advertisement stressing the vehicle's ability to master winter). Naturally, manufacturers only draw on positive identities. The general opinion about SUVs is, however, much more mixed and both popular media and the insights from our first report demonstrate that people often associate worse driving skills with SUV owners. In this first experimental study, we tested whether portraying a more balanced view including negative information about SUV driving could help attenuate the attractiveness associated with this type of vehicle. The experiment shows that negatively framed information regarding the driving skills of SUV owners is most effective.

Liking of SUVs

Our first experiment confirms that such an approach can be fruitful in decreasing liking of SUVs, even among those who already own such a vehicle or another type of light-duty truck (pick-up and minivan). Respondents who received the information associating SUV drivers to low-skilled drivers liked these vehicles significantly less (M = 78.04/100) than respondents who received information about sedan drivers being better at driving (M = 83.33/100) and respondents who received unrelated neutral information (M = 85.67/100). The negative information also further decreases the already lower liking of SUVs among sedan drivers.

Purchase intentions

We find similar patterns with regard to purchase intentions, where those who received the negatively framed messages were significantly less likely (M = 5.8/7) to buy SUVs than respondents in the control group (M = 6.26/7). The negative effect of identity-threat message on SUV liking is significantly stronger among those who report lower driving skills. This is an encouraging finding, because it means that people who do not necessarily consider themselves as high-skilled drivers but feel overconfident in an SUV due to its height, weight and four-wheel drive, are less likely to purchase one. **Stressing this type of message might be effective in deterring people who want to feel safer, and thus buy SUVs**, because they are more aware of the negative effects that they could have in such a large and potentially dangerous vehicle.

We suggest that campaigns stressing the negative facets of SUVs and SUV drivers could help counterbalance the tendency of advertising and, more generally, the media to portray SUV drivers as cool. It is reminiscent of the development we saw with tobacco: films and other medias' portrayal of inspirational characters who smoke and always look very fashionable has been instrumental in causing adolescents to start smoking (Center for Disease Control, 2019). Over time and thanks to social marketing campaigns such as the Truth campaign in Florida, the image associated with a smoker was changed from the cool and rebellious James Dean-like person to a conformist, middle-aged person who often belongs to a somewhat lower social class. In the qualitative phase documented in report 1 (Gruber et al., 2021), Marie told us that when she thinks of SUVs, she always thinks of big black vehicles like the ones used by secret services. Messages like the one tested in this first experiment could help change the picture of the SUV driver as an inspirational person to a more dissociative character such as the "Sunday's driver."

3 THEME 2: SOCIAL NORMS

This chapter presents the results of the second experiment focusing on the influence of social norms.

3.1 Conceptual development

The results portrayed in the first report have shown that social norms exert a strong influence on the likelihood to purchase an SUV. Our findings corroborate research in the context of sustainable behaviour which has shown the importance of social norms in influencing environmental decision-making (Steg, 2005). According to Steg (2005), social norms are defined as the social pressure that makes individuals perceive that they should adopt a given behaviour. Social norms can be distinguished along two different lines: injunctive norms, which refer to an individual's perception of others' expectations of his or her behaviour, that is what one ought to do (Reno, Cialdini, & Kallgren, 1993), and descriptive social norms, which refer to an individual's perception of others' behaviours, that is what others are doing (Rivis & Sheeran, 2003). Our perceptions of what others do and what others consider the "right" thing to do strongly influence our own decisions (Cialdini, 2007; Nayum et al., 2013).

In the context of vehicle purchases, social norms have also been shown to be important explanatory variables. Barth et al. (2018) show that social norms predict the acceptance and adoption of electric vehicles in Germany, a finding He and Zhan (2018) confirm on a Chinese sample and Jansson et al. (2017) on a Swedish sample. Jansson et al. (2017) conclude that electric vehicles should be marketed as the socially desirable option, thus activating injunctive social norms. Grinblatt et al. (2008) adopted a different methodological approach and analyzed car purchases in two Finnish provinces over the course of several years. The authors found that the purchases of neighbours, particularly temporally and geographically close ones, exert a significant influence on vehicle choice. This is in line with insights from the qualitative phase documented in report 1 (Gruber et al. 2021) that shows the extent to which individuals are aware of the pressure exerted by their environment. Simon shared with us a discussion he had with a friend:

> *"We have a lot of pressure in my neighbourhood to buy a certain kind of car, if you want to be part of the ingroup. For example, a friend of mine is an investment advisor, and he just bought a BMW. When I asked him why he bought a BMW, he said that he can't drive up in a junky car to appointments. And a real estate salesman told me the same thing. He said his car is way more expensive than what he could afford but if he is taking somebody to view a house, he can't be driving a junkie car, he has to show how successful he is, as they're more likely to buy a*

house from a successful person. So, if you want to be a successful person, you'd better not buy a cheap car!" (Simon, Hybrid)

Patricia confirms Simon's observation about the importance of others around you: "*I think a lot of people want to conform. It's a common thing, people see what others have and want to have the same sort of thing but maybe the newer one. So yeah, it is either about keeping up with people or trying to show your status*."

The normative appeal is also used in automobile advertising. Figures 5 and 6 show two examples of normative appeals used in automobile advertising. In the case of Honda, the advertising stresses that "Core Honda Models Continue to be the #1 Choice for Consumers" and that the Honda Accord is "The Most Popular Car in America." This is an example of a descriptive social norm as it focuses on the behaviour of others (i.e., choosing Honda).

Figure 5 : Descriptive Normative Appeal in Automobile Advertising

In the case of Nissan, the advertising message incorporates an injunctive normative appeal and stresses what people should do (or not do – i.e., have reservations about electric cars). In fact, the advertising corresponds very well to the type of message suggested by Jansson et al. (2017).

Figure 6 : Injunctive Normative Appeal in Automobile Advertising

Against this background, we hypothesize the following:

- *H1a: Presenting small vehicles as the norm reduces perceived attractiveness of large vehicles such as SUVs*
- *H1b: Presenting small vehicles as the norm reduces likelihood to purchase large vehicles such as SUVs*

It is possible to manipulate social norms to represent either positive sentiments towards small vehicles or negative sentiments towards large vehicles. In line with the above research, we suggest that presenting information stressing that SUVs are not socially accepted will influence individuals' liking of these vehicles and their likelihood to buy them:

- *H2a: Presenting negative sentiments towards large vehicles as the norm reduces perceived attractiveness of large vehicles such as SUVs*
- *H2b: Presenting negative sentiments towards large vehicles as the norm reduces likelihood to purchase large vehicles such as SUVs*

The level of impact that normative influences have on the dependent variables is likely to depend on individuals' self-construal. The construct of self-construal captures these distinct perceptions of selfhood and allows identifying predominantly interdependent or independent individuals (Shavitt & Barnes, 2018). Individuals' self-construal reflects their beliefs about the self and the extent to which it is connected with others (Cross, Bacon, and Morris 2000; Markus and Kitayama 1991; Singelis 1994). Interdependent self-construal captures a relatively strong connection with others, and features "the person not as separate from the social context but more connected and less differentiated from others" (Markus & Kitayama, 1991, p. 227), while an independent self-construal implies a more self-determining stance that "derives from a belief in the wholeness and uniqueness of each person's configuration of internal attributes" (p. 226). The way individuals construct and understand themselves in relation to others and the realities around themselves has important consequences on their motivational processes and behaviours

(Cross et al. 2000). The focus on others suggests that interdependent individuals have a stronger motivation to conform to societal expectations, also with regards to the environment (Cho et al. 2013; Pöhlmann and Hannover 2006). We thus hypothesize that:

- *H3a: The stronger the negative (anti-SUV) or positive (pro-compact car) influence of normative appeals on perceived attractiveness of large vehicles is, the more interdependent the respondents' self-construal is*
- *H3b: The stronger the negative (anti-SUV) or positive (pro-compact car) influence of normative appeals on likelihood to buy large vehicles is, the more interdependent the respondents' self-construal is*

A second construct that could moderate the influence of social norm appeals on perceived liking and purchasing likelihood is reactance. Psychological reactance is "the motivational state that is hypothesized to occur when a freedom is eliminated or threatened with elimination" (Brehm & Brehm, 1981, p. 37; Hong & Page, 1989). Consumers who score high in reactance are less likely to accept the prescription of certain behaviours. For example, individuals high in reactance might reject persuasive health messages as they are seen as a restriction to individual freedom (Dillard & Shen, 2005). Miller et al. (2006) show that reactance influences responses to anti-smoking campaigns, as adolescents resist having their options prescribed. The authors conclude that "psychological reactance deserves more attention and study as a key predictor of risk for adolescent smoking initiation and use" (Miller et al., 2006, p. 250). The reactant individuals have also been shown to be more likely than less reactant individuals to oppose nudges (Jung & Mellers, 2015). Against this background, we propose that:

- *H4a: The stronger the negative (anti-SUV) or positive (pro-compact car) influence of normative appeals on perceived attractiveness of large vehicles is, the less reactant the individual is*
- *H4b: The stronger the negative (anti-SUV) or positive (pro-compact car) influence of normative appeals on likelihood to buy large vehicles is, the less reactant the individual is*

The following section explains the methodological approach and experiment design.

3.2 Research design

This study employed a 3 (norms: positive, negative, control) X 2 (time: time1, time2) mixed design, wherein the norms condition was a between-subject factor whereas time was a within-subject factor, such that measures for the dependent variables were collected pre- and post-exposure to the stimuli. All participants were first asked in a filter question whether their household has a vehicle that is used regularly. Those who answered "yes" were asked to indicate the type of vehicle they owned and how many years they have

been driving. Participants then indicated to what extent they like or dislike different types of vehicles on a scale from 1 to 100 and their likelihood to purchase different types of vehicles on a 7-point Likert scale from 1 (extremely unlikely) to 7 (extremely likely). All participants were then asked to complete a filler task, in which they had to describe their pre-pandemic life in as much detail as possible (minimum of 500 characters) and indicate how much their life has changed from 1 (completely unchanged) to 7 (completely changed).

Participants were then randomly assigned to one of the three conditions. In the control condition, participants viewed snippets from an online automobile forum in which individuals discuss the number of vehicles on the road (see Appendix 8). In the pro-compact car condition, participants view snippets from an online automobile forum in which individuals speak positively about compact cars (injunctive norm) and mention that there are more and more compact cars on the road (descriptive norm) (see Appendix 9). In the anti-SUV condition, individuals view snippets from an online automobile forum in which individuals speak negatively about SUVs (injunctive norm) and mention that there are fewer large vehicles on the road (descriptive norm) (see Appendix 10).

Right after the manipulation, respondents were asked to evaluate the forum excerpt (how it is written, whether it is interesting and relevant, etc.) and responded to an attention check asking for the names of the forum participants. Afterwards, the two dependent variables (liking of different vehicles on a 1–100 scale and likelihood to purchase vehicles on a 1–7 Likert scale) were repeated. At the end of the study, we captured potential moderators and control variables. We measured self-construal (independent vs. interdependent) with six items on a 7-point Likert scale (strongly disagree to strongly agree) (Escalas & Bettman, 2005) and reactance (i.e., a motivational drive directed towards the reestablishment of threatened or eliminated personal freedoms) with eight items (Hong & Page, 1989). For each moderator, an average score was computed based on these items. Demographic variables (age, sex, relationship status, children, province, level of education, and income) were captured as potential control variables. The full instrument can be found in Appendix 11.

RESEARCH QUESTION

How do messages that focus on the opinions of others influence attitudes towards SUVs?

Study Design

3 (norms: positive, negative, control) X 2 (time: time1, time2) mixed design, wherein the norm condition was a between-subject factor whereas time was a within-subject factor, such that measures for the dependent variables were collected pre-and post-exposure to the stimuli.

Two dependent variables

- Liking of SUVs (1–100 scale)
- Purchasing intention of SUVs (7-points Likert scale)

Three moderators

- Self-construal (interdependent or independent)
- Reactance (i.e., a motivational drive directed towards the reestablishment of threatened or eliminated personal freedoms)

3.3 Analysis and Results

The experimental design was verified by researchers of CIRANO and other colleagues in the field of marketing and sustainable behaviours. Having integrated their feedback, the final design was approved by the Ethical Review Board of HEC Montréal, and we ran a pretest on Amazon M-Turk (N = 100) to assure that all questions are well understood. After a last fine-tuning, the experiment was sent to a panel of Léger Marketing.

Three hundred and forty (340) Canadian residents (55.9% females, median age group = 35 to 44 years) completed the online study. 36.2% of the respondents owned an SUV, while 4.4% owned a pick-up truck and 6.8% owned a minivan. On the other hand, 45.3% of the respondents owned some form of sedan or a compact vehicle, while 3.2% owned an electric vehicle and 4.1% owned some other form of vehicle. Given that less than 10% (N = 25) of the respondents owned an electric vehicle or some other form of vehicle, these respondents were eliminated from the analyses. Once again, the demographic profiles of different vehicle owners paralleled previous studies. SUVs are most popular within the household income bracket of $100,000-$125,000, and preferred by female drivers. More educated drivers tend to favour sedans, but there is still a large part of SUV owners in these groups as well (between 38% and 40%).

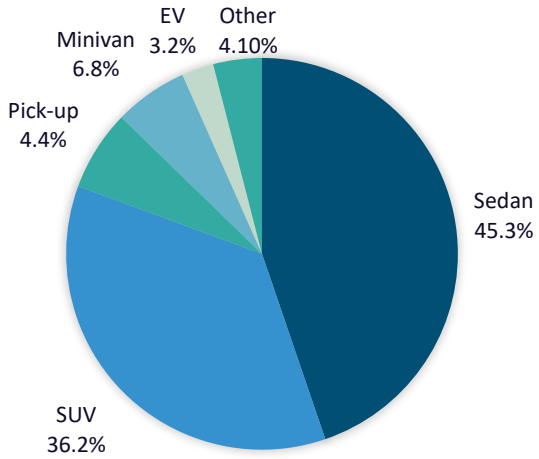


Figure 7 : Vehicle owned by the respondents in Experiment 2

For certain analyses, SUV, pick-up truck and minivan owners' responses were combined to form a separate category of larger-sized vehicle owners (N = 161). Analyses were also conducted for SUV owners only (N = 123), as the results documented in the first report (Gruber et al. 2021) indicated that SUV ownership is an important contributing factor in future vehicle purchases (drivers who already own an SUV were most likely to repurchase one). Similarly, the effect of the manipulation was analyzed separately for sedan owners (N = 154). In the analyses below, we will refer to the condition stressing that SUVs are not the norm as "negative condition" as it includes a negative framing, and to the condition stressing that compact cars are the norm as "positive condition." The sample characteristics can be found in Appendix 12.

3.3.1 Analysis of the Intervention's Main Effects

Owners of large-sized vehicles

Paired tests indicated that for such vehicle owners, the **liking towards SUVs** decreased significantly for the positive condition wherein other consumers expressed positive opinions about owners of smaller-sized vehicles ($M_{positive\text{-}time1}$ = 84.31 vs. $M_{positive\text{-}time2}$ = 80.04, p = .02). Furthermore, although the liking towards SUVs for this group decreased after exposure to the negative condition as well, this result was not significant ($M_{negative\text{-}time1}$ = 82.93 vs. $M_{negative\text{-}time2}$ = 80.41, p > .15). Lastly, for the control condition, liking towards SUVs did not vary significantly between the two time periods ($M_{control\text{-}time1}$ = 80.80 vs. $M_{control\text{-}time2}$ = 79.02, p > .30), indicating the importance of interventions. Overall, for this variable, positive norms about owners of smaller-sized vehicles seem to be the most effective. Similar results were obtained with respect to liking towards pick-up trucks, wherein participants exposed to positive norms indicated a reduced liking towards pick-up trucks ($M_{positive\text{-}time1}$ = 49.5 vs. $M_{positive\text{-}time2}$ = 45.54, p = .03). Additionally, both the

positive and negative conditions were found to have a significant effect on reducing liking towards minivans ($M_{positive\text{-}time1}$ = 42.38 vs. $M_{positive\text{-}time2}$ = 37.38, p = .07) and ($M_{negative\text{-}time1}$ = 44.15 vs. $M_{negative\text{-}time2}$ = 37.74, p = .01).

However, with regard to **purchase intentions of SUVs**, although the results were not significant, the positive condition seemed to fare better since it led to higher reduction in the magnitude of this variable ($M_{positive\text{-}time1}$ = 5.44 vs. $M_{positive\text{-}time2}$ = 5.31, p > .35) vs. ($M_{negative\text{-}time1}$ = 5.45 vs. $M_{negative\text{-}time2}$ = 5.36, p > .50). Further, there was absolutely no change in purchase intentions towards SUVs for participants in the control condition, again **highlighting the importance of interventions** ($M_{control\text{-}time1}$ = 5.42 vs. $M_{control\text{-}time2}$ = 5.42, p = 1.0). However, when it came to purchase intentions towards sedans, negative opinions about larger-sized vehicles increased purchase intentions for sedans among this group ($M_{negative\text{-}time1}$ = 3.45 vs. $M_{negative\text{-}time2}$ = 3.79, p = .04). In the positive condition, this effect was not significant, but aligned directionally in line with previous results indicating that the positive condition led to an improvement in perceptions of compact vehicles among this group ($M_{positive\text{-}time1}$ = 3.56 vs. $M_{positive\text{-}time2}$ = 3.75, p = .354).

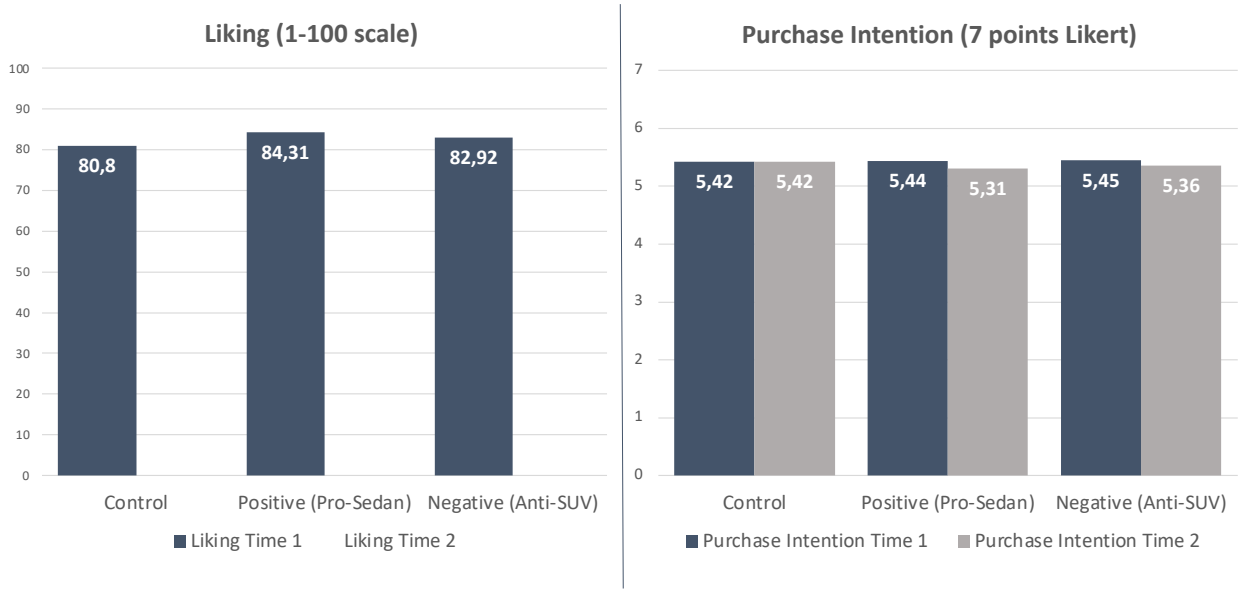


Figure 8 : Liking and Purchase intentions for owners of large-sized vehicles before and after manipulation

SUV Owners

Paired t-tests indicated similar results for SUV owners. Participants in the positive condition reported decreased **liking towards SUVs** ($M_{positive\text{-}time1}$ = 88.6 vs. $M_{positive\text{-}time2}$ = 83.52, p = .012). This decrease was much smaller, and insignificant, in the negative condition ($M_{negative\text{-}time1}$ = 86.78 vs. $M_{negative\text{-}time2}$ = 84.63, p = .227), which confirms that **SUV owners respond more favourably to the positive framing** rather than the negative one. These effects were maintained regarding liking towards pick-ups. In the positive condition,

liking decreased significantly ($M_{positive\text{-}time1}$ = 44.19 vs. $M_{positive\text{-}time2}$ = 38.64, p = .024). In the negative condition, the effect was insignificant ($M_{negative\text{-}time1}$ = 51.79 vs. $M_{negative\text{-}time2}$ = 49.95, p = .376). Interestingly enough, both positive and negative conditions led to a decrease in liking towards minivans, but the difference in the positive condition is slightly shy of statistical significance ($M_{positive\text{-}time1}$ = 39.84 vs. $M_{positive\text{-}time2}$ = 33.43, p = .094; $M_{negative\text{-}time1}$ = 35.15 vs. $M_{negative\text{-}time2}$ = 28.78, p = .035). Finally, liking towards sedans decreased in both conditions, but the results were close to significance only in the negative condition ($M_{negative\text{-}time1}$ = 56.58 vs. $M_{negative\text{-}time2}$ = 51.58, p = .061). As for **purchase intentions** of sedans, there was a significant increase only in the negative condition $M_{negative\text{-}time1}$ = 3.365 vs. $M_{negative\text{-}time2}$ = 3.76, p = .013). There was no significant effect on **purchase intentions** of SUVs.

Owners of smaller-sized vehicles

Paired t-tests indicated that for such vehicle owners, the **liking towards SUVs** decreased significantly for the positive condition as well as for the negative condition ($M_{positive\text{-}time1}$ = 62.87 vs. $M_{positive\text{-}time2}$ = 55.54, p = .003) and ($M_{negative\text{-}time1}$ = 68.13 vs. $M_{negative\text{-}time2}$ = 62.08, p = .02). Similar results were obtained with respect to **purchase intentions towards SUVs**, where both the conditions led to a decreased purchase likelihood of SUVs ($M_{positive\text{-}time1}$ = 4.02 vs. $M_{positive\text{-}time2}$ = 3.65, p = .01) and ($M_{negative\text{-}time1}$ = 4.37 vs. $M_{negative\text{-}time2}$ = 4.07, p = .048). On the other hand, the positive condition was found to be more effective for reducing liking towards pick-up trucks among this group ($M_{positive\text{-}time1}$ = 44.61 vs. $M_{positive\text{-}time2}$ = 39.93, p = .03). Further, it is important to note that, for the control condition, purchase likelihood of SUVs increased marginally among this group, indicating the importance of interventions ($M_{control\text{-}time1}$ = 3.71 vs. $M_{controle\text{-}time2}$ = 3.94, p = .08). A significant difference was not observed among the purchase intentions of pick-up trucks and minivans among these groups, since the likelihood of purchasing such vehicles is generally already low (mean <= 2.5 for all conditions before and after intervention).

	Liking after manipulation			Purchase Intention		
	Negative	Positive	Control	Negative	Positive	Control
Owners of large-sized vehicles	80,41	80,04*	79,02	5,36	5,31	5,42
SUV Owners	84,63	83,52*	ns	ns	ns	ns
Owners of smaller-sized vehicles	62,08	55,54	ns	4,07	3,65	3,94

Table 8 : Liking and purchase intentions after manipulation

3.3.2 *Analysis of the Moderators' Influence*

For the moderators' analyses, the different variables such as the level of self-construal (independent and interdependent), the level of peer influence and reactance were median split. Specifically, participants with values lower than the median were categorized in the "low" category and those with values higher than the median were categorized as "high." Further, given that differential scores (between time1 and time2) would be difficult to interpret with moderators, an alternative form of analysis was used. Specifically, time1 values for the variable were controlled for, by adding them as a covariate in the analyses.

Unless stated otherwise, the following moderator analyses relate to the "large vehicle owners" subgroup. Unless otherwise mentioned, there were no differences when computing these effects for large vehicle owners vs. SUV owners.

Level of Independent Self-Construal

For participants with lower independent self-construal, the positive norm condition (vs. control condition) led to lower liking towards SUVs, although this result was not significant ($M_{positive}$ = 76.18 vs. $M_{control}$ = 80.59, p = .17). Further, as expected, for participants with high independent self-construal, the conditions did not have a significant effect (all paired tests > .80), as these participants are less likely to be affected by others' opinions. For participants with a high independent self-construal, positive norms (as compared to negative) led to the desired effect of reduced liking towards pick-up trucks ($M_{positive}$ = 47.22 vs. $M_{negative}$ = 53.39, p = .08). Furthermore, this effect of positive norms persisted when compared to the control condition ($M_{positive}$ = 47.22 vs. $M_{control}$ = 57.40, p = .03), indicating that **positive norms are better suited in nudging this category of customers**. For liking towards sedans, similar results were obtained for these participants with high sense of independent self-construal, where the positive norms led to increased liking, although this result fell short of significance ($M_{positive}$ = 59.53 vs. $M_{negative}$ = 52.41, p = .11). Lastly, significant results were obtained for purchase intentions towards pick-up trucks. Specifically, in line with previous results, for people with a high sense of independence, norms pointing towards sedans led to reduced purchase intentions for pick-up trucks, compared to negative, as well as control conditions ($M_{positive}$ = 2.34 vs. $M_{negative}$ = 3.01, p = .02) and ($M_{positive}$ = 2.34 vs. $M_{control}$ = 3.24, p = .02). Similar results were obtained with respect to purchase intentions of minivans ($M_{positive}$ = 1.87 vs. $M_{negative}$ = 2.56, p = .02), although the comparison with the control group fell short of significance ($M_{positive}$ = 1.87 vs. $M_{control}$ = 2.46, p = .13).

Peer Influence

Neither a significant effect of peer influence on the liking of SUVs, nor any interaction effect with the condition of participants (F = .370, p = .691) was found after the

manipulations (F= 1.014, p = .316). However, data does show a close-to-significant effect of this moderator on liking of pick-up trucks (F = 3.251, p = 0.73), as well as an interaction with the condition (F = 1.728, p = .181). This interaction effect was especially salient for participants who scored "Low" on self-reported peer influence. These participants reported a significantly lower liking of pick-ups after manipulations in the positive condition ($M_{positive}$ = 49.55 vs. $M_{negative}$ = 57.098, p = .043; $M_{positive}$ vs. $M_{control}$ = 58.53, p = .014). Therefore, **for people who report lower levels of peer influence, a positive intervention is the most efficient**.

There was no significant main effect or interaction effect of this moderator for liking of sedans measured after the manipulations, but there was a significant interaction effect in liking of electric vehicles (F = 3.611, p = .030). Once again, participants who reported low peer influence and who were in the positive condition reported much higher liking of electric vehicles after the manipulation ($M_{positive}$ = 70.45 vs. $M_{negative}$ = 60.59, p = .034). This effect is also present when compared to the control condition ($M_{positive}$ vs. $M_{control}$ = 61.94, p = .067).

Peer influence had no significant effect on purchase intentions of SUVs or sedans, but there was an interaction effect relating to purchase intentions of electric vehicles (F = 1.754, p = .177). Specifically, participants who score high on self-reported peer influence in the positive condition showed a marginally lower purchase intentions than participants in the negative condition ($M_{positive}$ = 3.65 vs. $M_{negative}$ = 4.309, p = .034). These results suggest that individuals whose peers exert a large amount of influence on their purchase decisions are sensitive to negative framing in the manipulations. In the context of our study, **being exposed to negatively framed norms about SUVs led to a higher purchase intentions of electric vehicles**, which can be considered a favourable effect. This could point to some sort of compensatory actions in which drivers of large vehicles who care a lot about the opinion of others try to compensate for the unsustainable vehicles they own once they are told that others don't approve.

Reactance

The data shows neither a significant effect of reactance on liking of SUVs, sedans, or electric vehicles after the manipulation, nor any interaction effect. There is also no significant interaction with regard to liking of pick-ups. However, the main effect is important (F = 3.930, p = .049), indicating that participants who reported high reactance are more likely to score higher liking of these vehicles.

There is no significant effect of reactance on purchase intentions of SUVs, pick-ups, or electric vehicles, be it a main effect or interaction. There is no interaction regarding

purchase intentions of sedans, but the main effect of reactance on purchase intentions of sedans is significant ($F = 4.90$, $p = .028$).

Interaction of Interventions and Gender Effects

For these analyses, all participants were included, irrespective of the type of vehicle they owned. One participant whose gender was "Other" was excluded. Some significant effects were observed with respect to the interaction effect of conditions and gender. For instance, for liking towards SUVs, for females, both positive and negative norm conditions had a significant effect. Specifically, **for females, the positive condition that spoke highly of smaller vehicles reduced liking towards SUVs** ($M_{positive\text{-}time1} = 77.39$ vs. $M_{positive\text{-}time2} = 72.92$, $p = .03$), **as did the negative condition that spoke ill of large vehicles** ($M_{negative\text{-}time1} = 75.49$ vs. $M_{negative\text{-}time2} = 69.19$, $p = .001$). However, for men, only the positive condition led to a reduction in liking towards SUVs ($M_{positive\text{-}time1} = 71.78$ vs. $M_{positive\text{-}time2} = 65.11$, $p = .001$), whereas the negative condition did not have an effect ($M_{negative\text{-}time1} = 74.49$ vs. $M_{negative\text{-}time2} = 73.61$, $p > .6$). Similar effects were observed for liking towards pick-up trucks, where a significant reduction was observed at time2 for men in the positive condition ($M_{positive\text{-}time1} = 50.59$ vs. $M_{positive\text{-}time2} = 46.28$, $p = .02$), but not for the negative condition ($M_{negative\text{-}time1} = 52.17$ vs. $M_{negative\text{-}time2} = 49.83$, $p > .20$). No differences were observed in liking towards pick-up trucks for women, for both the positive and negative conditions ($p > .10$), although the effect was close to significance in the positive condition ($M_{negative\text{-}time1} = 40.75$ vs. $M_{negative\text{-}time2} = 37.58$, $p = .11$). Further, in line with previous results, for women, both the positive and negative conditions led to a reduction in liking towards minivans ($M_{positive\text{-}time1} = 40.23$ vs. $M_{positive\text{-}time2} = 34.81$, $p = .049$) and ($M_{negative\text{-}time1} = 40.32$ vs. $M_{negative\text{-}time2} = 33.73$, $p = .007$). No significant differences were observed towards liking of minivans for men, for both conditions. Overall, the results indicate that, **for men, positive framing of norms seems to reduce liking of large vehicles, whereas for women, both the positive and negative framing have a similar effect in reducing liking towards such vehicles**. Control condition did not reduce liking towards such large vehicles, for either of the genders, **highlighting the importance of interventions.**

In line with earlier results, **for purchase intentions towards SUVs, the positive framing of norms led to reduction intentions of purchasing such vehicles for men** ($M_{positive\text{-}time1} = 4.98$ vs. $M_{positive\text{-}time2} = 4.48$, $p = .000$), but not for women ($M_{positive\text{-}time1} = 4.52$ vs. $M_{positive\text{-}time2} = 4.57$, $p > .60$), while the negative condition led to a reduction in purchase intentions for SUVs in women ($M_{negative\text{-}time1} = 4.92$ vs. $M_{negative\text{-}time2} = 4.64$, $p = .032$), but not for men ($M_{negative\text{-}time1} = 4.87$ vs. $M_{negative\text{-}time2} = 4.67$, $p > .15$). These conclusions highlight the many differences in consumption choices between genders.

3.4 Discussion

Social norms exert a strong influence on consumers' decision-making and are also picked up by automobile advertising to provide social proof that others choose the same vehicle or that the vehicle is the "right" one to choose. **Social marketing campaigns can leverage the same mechanism in order to nudge people towards more environmentally friendly choices**. In this second experimental study, we tested the effectiveness of normative messages both *against* SUVs and *for* smaller cars in reducing the liking of SUVs and the likelihood to purchase such a vehicle.

Liking of SUVs

The experiment confirms the importance of interventions drawing on normative messages as both conditions help reduce liking of SUVs compared to the control condition. **Among owners of large vehicles in general, it is the message stressing smaller vehicles as the norm that most strongly reduced liking of SUVs** (M_{time1} = 84.31 vs. M_{time2} = 80.04). Also, among SUV owners more specifically, there was a significant decrease in SUV liking between time1 (M = 88.6) and time2 (M = 83.52). The pro-sedan intervention even worked for sedan owners, who already like SUVs much less to begin with (M_{time1} = 62.87 vs. M_{time2} = 55.54). The beneficial effect is therefore also observed on owners of small vehicles, which is very important if we want to avoid that these consumers eventually turn to SUVs as well.

The intervention containing a negatively framed message about SUVs shows a similar trend, but the effect is not as strong as the pro-sedan framing. Thus, the results clearly suggest that this social norm will be more effective with positive and unifying messages. Individuals who have a highly independent self-construal tend to be less affected by normative messages. This suggests that **independence can be used as a potential segmentation variable, targeting messages primarily at those who are rather interdependent such as individuals from collectivist countries**.

Purchasing intention

The effect of the message on purchasing intention of SUVs was not as powerful and the decrease in purchasing intention from time1 to time2 is not significant. Once again, the pro-sedan condition is more effective than the anti-SUV condition both among owners of large vehicles and among sedan owners. Interestingly, among the latter, both interventions led to a significant decrease of purchasing intention of SUVs, though the pro-sedan condition once again exerts a stronger influence (M_{time1} = 4.02 vs. M_{time2} = 3.65).

The results of this experiment have important implications. First, **they show the importance of presenting smaller-sized vehicles and/or electric vehicles as the norm (either descriptive or injunctive)**. A lot of the current media coverage stresses the increase among SUVs and the prevalence of this type of vehicle on Canadian roads (i.e., Radio Canada (2020): “Despite the Climate Emergency, Quebecers continue to buy SUVs en masse”; Le Devoir (2021) : “Quebecers fond of SUVs” or even La Presse (2021): “SUV, an undivided reign”). Paradoxically, **even if the articles mention that it is a worrisome trend, they might still reinforce SUVs as a descriptive social norm**. Instead, it is important for environmental organizations to scout for press releases and other examples that present compact cars or small electric vehicles as the descriptive norm and further reinforce them (e.g., CTV (2019) mentioning that B.C. has the highest per capita EV sales in North America, even surpassing eco-conscious California). **Campaigns incorporating this theme should further focus on inclusive rather than prescriptive wording** (i.e., “We choose what mother nature would choose” vs. “Choose what mother nature would choose”) to further reinforce the normative appeal.

Of course, liking and purchase intentions may differ according to certain socio-demographic variables. Differences have been tested especially by gender. For example, if we are interested in conditions related to social norms, for females, the positive condition that spoke highly of smaller vehicles reduced liking towards SUVs, as did the negative condition that spoke negatively of large vehicles. However, for men, only the positive condition led to a reduction in liking towards SUVs whereas the negative condition did not have an effect.

If we are interested in conditions related to temporal orientation, for males, the future condition (compared to past and control) led to the most reduction in liking towards SUVs, while for women, the future condition seemed to fare better than control in decreasing liking towards SUVs but there is no significant difference between future and past conditions. Important differences were however observed between genders for liking electric vehicles. For women, there was a significant effect of the future condition (vs. control) for increasing liking towards EVs, while there is no such effect among males.

4 THEME 3: TEMPORAL ORIENTATION

4.1 Conceptual development

The notion of sustainability necessarily requires a consideration of the future as exemplified in the well-known definition of sustainable development by Brundtland (WCED, 1987), which urges us to consider future generations and their respective resource needs. People's predisposition to focus more strongly on either the present or the future has an effect on the importance they attach to long-term outcomes (Tangari and Smith 2012). In a similar vein, extant research has shown that individuals' time perspective influences their likelihood to engage in sustainable behaviours (Arnocky, Milfont and Nicol, 2014; Strathman, Gleicher, Boninger, and Edwards, 1994). More specifically, a future time perspective predicts sustainable behaviours such as the use of public transport (Joireman et al., 2004), recycling (Ebreo and Vining, 2001) or general pro-environmental actions (Joireman et al., 2001). Temporal associations are also commonly found in automobile advertising. For example, Audi (Figure 9) aims to create inferences about the modern and state-of-the-art manufacturing and equipment of their models by linking them to "tomorrow" and the future.

Figure 9 : Temporal Associations (Future) in Automobile Advertising

A related approach is chosen by Honda in their advertisement depicted in Figure 9. In this case, a reference is made to the past, to tradition, and to passing on what is important by stressing that "it takes a Honda to show you legacy."

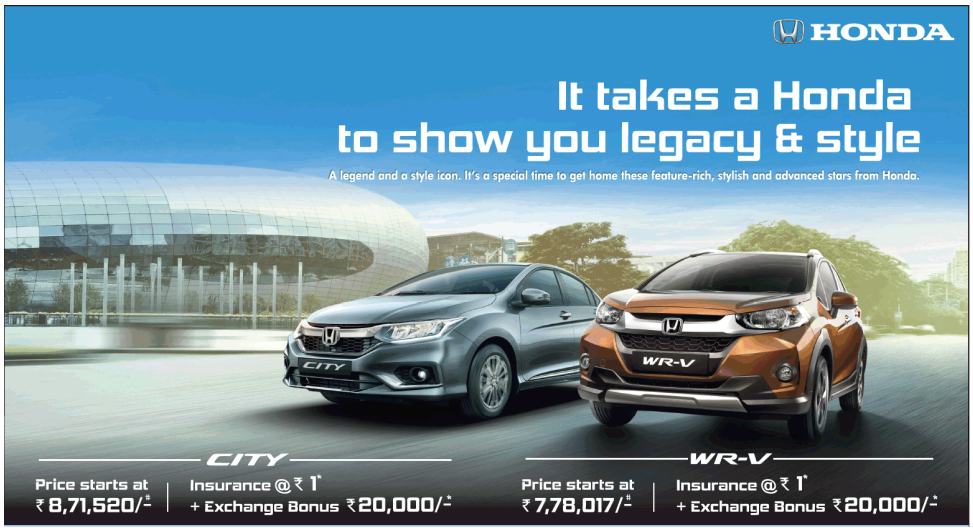


Figure 10 : Temporal Associations (Legacy) in Automobile Advertising

There are different approaches to capture the temporal orientation. Strathman et al. (1994) proposed the Consideration of Future Consequences (CFC) as an individual trait, capturing the focus of individuals on immediate versus future consequences of their behaviour. Even though it was not specifically developed in the context of environmental behaviours, the CFC scale has been shown to have high correlations with these (Joireman et al., 2001; 2004). Arnocky et al. (2014) tested the differential impact of two CFC subscales, CFC-Future and CFC-Immediate, and found that the latter focus on the immediate environment is negatively related with cinsi it is the latter that drives negative associations with environmental variables. These findings further corroborate the importance of focusing on the future when trying to encourage sustainable behaviours. Temporal focus is a situational variable and even CFC, while considered as an individual trait, changes over a lifetime and can be primed in specific decision-making contexts (Arnocky et al., 2014). Against this background, we develop the following hypothesis:

- *H1a: Activating a future orientation reduces perceived attractiveness of unsustainable vehicles such as SUVs*
- *H1b: Activating a future orientation reduces purchase intentions of unsustainable vehicles such as SUVs*

Both future- and past-oriented perceptions of time are important to marketers (Usunier & Valette-Florence, 2007). With regard to environmental behaviours, a past orientation is not particularly influential (Milfont, Wilson and Diniz, 2012) or might reduce willingness to engage in pro-environmental behaviours (Polonksy et al., 2014). On the other hand, nostalgia, a sentimental longing for the past (Sedikides et al., 2004), has been shown to be a rather positive emotion that can even increase prosocial behaviour (Huang, Hunang & Wyer, 2016; Zhou et al., 2008). However, Wang and Chao (2020) find that nostalgia

decreases consumers' preference for green products. Given the conflicting evidence, we develop two competing hypotheses:

- *H2a: Activating a past orientation reduces perceived attractiveness of unsustainable vehicles such as SUVs*
- *H2b: Activating a past orientation reduces purchase intentions of unsustainable vehicles such as SUVs*
- *H2c: Activating a past orientation increases perceived attractiveness of unsustainable vehicles such as SUVs*
- *H2d: Activating a past orientation increases purchase intentions of unsustainable vehicles such as SUVs*

The following section explains the methodological approach and experiment design.

4.2 Research design

This study employed a single factor between-subject design wherein participants were randomly assigned to one of three conditions and primed with a different temporal focus (future orientation vs. past orientation vs. control condition). These conditions test whether messages with a temporal focus influence purchasing likelihood of larger vehicles. All participants are first asked in a filter question whether their household has a vehicle that its members use regularly. Those who answered "yes" were asked to provide basic demographic information (age, sex and province). Respondents then indicated the type of their primary vehicle and the number of years they have been driving. Participants were then asked to imagine that they came across a letter in the newspaper and were randomly assigned to one of the three conditions. In the control condition, participants read a letter asking them to find stillness in life by trying to relax their body and mind (see Appendix 13). In the future-orientation condition, participants read a letter that promises their future generation a greener and better environment (called future condition herein) (see Appendix 14). Finally, in the past condition, participants viewed a letter that apologized to their ancestors for tainting the environment that was handed over to them (addressed as past condition from here forth) (see Appendix 15). Afterwards, the two dependent variables (liking of different vehicles on a 1–100 scale and likelihood to purchase vehicles on a 1–7 Likert scale) are repeated.

Three moderators were included when designing the research:

- Generativity;
- Perceived environmental impact (PEI); and
- A scale to measure future and past orientation.

Generativity is an individual trait that captures one's endeavour to leave something behind. Kotre (1984, p.10) suggests that generativity denotes a "desire to invest one's substance in forms of life and work that will outlive the self" and Urien and Kilbourne (2011, p. 73)) describe it as "a resource encouraging people towards the public good, maintaining continuity from one generation to the next." A recent article on the relationship of generativity, sustainable development, and green consumer behaviour (Shiel et al., 2020, p. 2) concludes that "the concept of generativity merits further exploration." We measure generativity based on Zaval, Markowitz and Weber's (2015) adaptation of the Loyola Generativity Scale with three items on a 7-point Likert scale.

The scale Perceived environmental impact (PEI) was introduced by Joireman et al. (2004) to assess individuals' understanding of the environmental impact of commuting by car versus using public transport. The authors measure PEI with four items (two items regarding perceived impact of cars on the environment and two items regarding the impact of cars compared to public transport) on a 7-point Likert scale. The scale has since been used in other contexts, such as the perceived environmental impact of conventionally produced meat (Siegrist and Hartmann, 2019). We adapted the items to measure perceived impact of large vehicles compared to compact cars and electric vehicles, and perceived impact of vehicles on greenhouse gas emissions and environmental degradation. The whole instrument can be found in Appendix 16.

RESEARCH QUESTION
How do messages that rely on different time orientations influence attitudes towards SUVs?

Study Design
Single factor between-subject design wherein participants were randomly assigned to one of three conditions and primed with a different temporal focus (future orientation vs. past orientation vs. control condition).

Two dependent variables

- Liking of SUVs (1–100 scale)
- Purchasing intention of SUVs (7-points Likert scale)

Three moderators

- Generativity
- Perceived environmental impact (PEI)
- Future- and Past-orientation

4.3 Analysis and Results

The experimental design was verified by researchers of CIRANO and other colleagues in the field of marketing and sustainable behaviours. Having integrated their feedback, the final design was approved by the Ethical Review Board of HEC Montréal and sent to the online panel LEO.

4.3.1 Demographic Information

Three hundred and seventy-two (372) Canadian residents (44.1% Females, M_{age} = 45–54 years) were recruited online through the market research firm Léger to participate in a single factor design with three conditions (control vs. past orientation vs. future orientation). A full table of sample characteristics can be found in Appendix 17.

Only participants who own a vehicle that is used regularly were allowed to participate in the study. 36% of the respondents owned an SUV, while 8.1% owned a pick-up truck and 5.9% owned a minivan. On the other hand, 42.5% of the respondents owned some form of sedan or compact vehicle, while 2.4% owned an electric vehicle and 5.1% owned some other form of vehicle. Given that less than 10% (N = 28) of the respondents owned an electric vehicle or some other form of vehicle, these respondents were eliminated from the analyses. The division of vehicle owners was like previous experiments. As such, the responses of SUV, pick-up truck and minivan owners were combined to form a separate category of larger-sized vehicles (N = 186). Further, data for SUV owners (N = 134) and sedan owners (N = 158) was also analyzed separately to understand the effect of the different interventions in the different categories of vehicle owners.

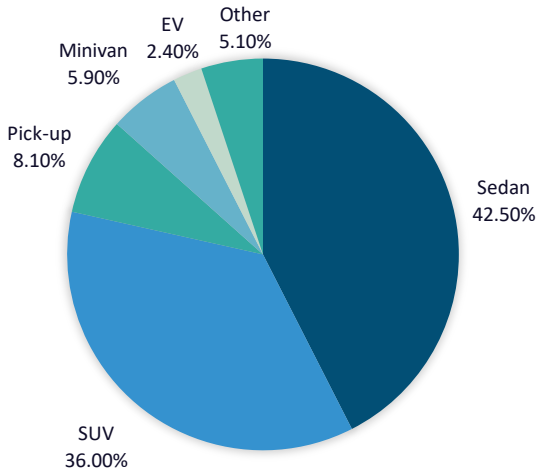


Figure 11 : Vehicle owned by the respondents in Experiment 3

4.3.2 Influence of Message on Liking and Purchase intentions

Owners of large vehicles

For **liking towards SUVs**, there was a significant difference in the past orientation and control conditions, wherein those in the past-orientation condition expressed less liking towards SUVs, although this effect was marginally significant (M_{past} = 78.88 vs. $M_{control}$ = 86.29, p = .086). There was no significant difference in liking towards SUVs between the past and future conditions (M_{past} = 78.88 vs. M_{future} = 81.75, p > .40). No significant differences were obtained between the conditions for liking towards other vehicles (> .15). Further, **purchase intentions** participants' **purchase intentions** towards SUVs were significantly lower for those who were introduced to the future orientation (M_{future}= 5.08 vs. $M_{control}$ = 5.75, p = .054), indicating that **the future orientation seems to reduce purchase intentions** towards such vehicles. Furthermore, compared to control conditions, past orientation also seemed to reduce purchase intentions of SUVs, although this effect fell short of significance (M_{past} = 5.24 vs. $M_{control}$ = 5.75, p = .13). The difference between future and past conditions was not significant (M_{future} = 5.08 vs. M_{past} = 5.24, p > .6). For purchase intentions towards electric vehicles, participants in past orientation (vs. control) expressed increased purchase intentions towards such vehicles, although the results were not significant (M_{past} = 4.01 vs. $M_{control}$ = 3.49, p = .19), indicating that **past orientation seems to increase participants' awareness about their vehicles' environmental impact**.

SUV owners

Like owners of large vehicles, **the past condition seems more effective for SUV owners**. For instance, the liking towards minivans was significantly lower for participants who were introduced to the past condition (M_{past} = 19.68 vs. $M_{control}$ = 34.32, p = .02). Past conditions seemed to be more effective in reducing liking towards minivans, when compared to the future condition (M_{past} = 19.68 vs. M_{future} = 31.69, p = .06). Further, once again compared to the control condition, both the past and future conditions seemed to improve SUV owners' liking towards electric vehicles (M_{past} = 71.87 vs. $M_{control}$ = 59.38, p = .08) and (M_{future}= 71.58 vs. $M_{control}$ = 59.38, p = .10). On a similar line, those in the past (vs. control) condition also expressed marginally higher purchase intentions towards electric vehicles (M_{past} = 4.29 vs. $M_{control}$ = 3.53, p = .09). Results with respect to other dependent variables were not significant (p > .10).

Owners of small vehicles (sedan)

The effect of interventions seems to be greater for this group. For instance, for liking towards SUVs, there was a significant difference in the future orientation and control conditions, whereas those in the future-orientation condition expressed significantly less liking towards SUVs (M_{future} = 42.19 vs. $M_{control}$ = 64.34, p = .000). Further, the future

condition seemed to be significantly more effective than the past condition as well, with respect to liking towards SUVs (M_{future} = 42.19 vs. M_{past} = 60.82 p = .003). Similar effect was observed for purchase intentions towards SUVs, where future (vs. control) condition was once again found to be more effective, although the result was marginally significant (M_{future} = 3.32 vs. $M_{control}$ = 4.02, p = .06). Further, for purchase intentions of SUVs, future orientation also seemed to be more effective than the past condition, although this effect fell short of significance (M_{future} = 3.32 vs. M_{past} = 3.83, p = .18). Results for other dependent variables were not significant, although the future (vs. control) condition also seemed to fare better for reducing purchase intentions towards minivans, even though the effect is not statistically significant (M_{future} = 1.58 vs. $M_{control}$ = 1.96, p = .14). Overall, for this group, the future condition seems to make participants aware of their environmental impact.

	Liking			Purchase Intention		
	Past	Future	Control	Past	Future	Control
Owners of large-sized vehicles	78,88	81,75	86,29	5,24	5,08	5,75
SUV Owners	No distinction with large vehicle owners					
Owners of smaller-sized vehicles	60,82	42,19**	64,34	3,83	3,32	4,02

Table 9 : Liking and purchase intentions – Study 3

4.3.3 Analysis of the Influence of Moderators for Large-Vehicle Owners

We analyzed the important moderators in this context by following procedures as earlier. The continuous variables were median split, such that participants with values lower than the median were categorized as “low” in that dimension, whereas those above the median were categorized as “high.” The results are discussed below for owners of large vehicles.

Generativity Scale

This scale indicates how important it is for people to leave a positive legacy for future generations. For owners of large vehicles, the construct of generativity was particularly relevant with regards to liking towards electric vehicles. For this dependent variable, this moderator had a significant main effect, that is, in all conditions, **those who rated themselves as higher on the generativity scale expressed a greater liking towards electric vehicles**. For instance, for the participants in the future-orientation condition, those who were rated higher (vs. lower) on this variable expressed a higher liking towards EVs (M_{higher} = 73.52 vs. M_{lower} = 57.48, p = .067). Similar results were obtained for those in the positive condition (M_{higher} = 72.05 vs. M_{lower} = 55.29, p = .055), as well as those in the control condition (M_{higher} = 70.90 vs. M_{lower} = 46.03, p = 01), indicating a significant main effect on linking towards electric vehicles, p = .000. Similar results were obtained for

purchase intentions towards electric vehicles for this group. For example, participants who rate higher (vs. lower) on this moderator expressed greater purchase intentions in the positive condition (M_{higher} = 4.64 vs. M_{lower} = 3.07, p = .003). Further, in the control condition where there was no intervention, participants who rate higher on this moderator show higher purchase intentions towards electric vehicles (M_{higher} = 4.64 vs. M_{lower} = 2.68, p = .001). The results for future orientation were similar in terms of direction (i.e., those who score higher in future orientation also show higher purchase intention for electric vehicles) but not significant (M_{higher} = 4.03 vs. M_{lower} = 3.69, p > .5).

Perceived environmental impact (PEI)

Important differences were observed with respect to liking towards pick-up trucks. Specifically, for owners of large vehicles, past orientation was significantly effective against reducing liking towards pick-up trucks for those with higher (vs. lower) considerations of perceived environmental impact of their vehicles (M_{higher} = 37.14 vs. M_{lower} = 61.74, p = .005). Similar differences in the past-orientation condition were also observed with respect to minivans, although the effect was not significant (M_{higher} = 23.71 vs. M_{lower} = 35.09, p = .16). Moreover, important differences were observed with respect to liking towards electric vehicles, where people with higher perceived environmental impact of their vehicles exhibited higher liking towards such vehicles in both past and future conditions. Specifically, the mean values in the condition with a past orientation are M_{higher} = 77.54 vs. M_{lower} = 52.23 (p = .002), and in the condition with a future orientation, (M_{higher} = 82.27 vs. M_{lower} = 54.79, p = .001), indicating that interventions work significantly better for those who perceive the environmental impact of their vehicles to be high.

Importantly, this moderator also had an effect on the purchase intentions of SUVs themselves, where participants who rate high (vs. low) on this moderator expressed lower purchase intentions in the future condition (M_{higher} = 4.54 vs. M_{lower} = 5.41, p = .07), indicating the importance of this moderator. On the other hand, for purchase intentions of pick-up trucks, there were significant differences between those in the high (vs. low) PEI, for the past orientation (M_{higher} = 2.33 vs. M_{lower} = 3.62, p = .01). Similar differences were observed for those in the future orientation (for purchase intentions of pick-up trucks), although this effect fell short of significance (M_{higher} = 2.54 vs. M_{lower} = 3.38, p = .13). This moderator also had a significant main effect on purchase intentions of EV (p = .000), where participants who are higher on PEI showed higher purchase intentions for EVs in all conditions. Specifically, this effect was significant for control condition (M_{higher} = 4.26 vs. M_{lower} = 2.90, p = .02) and for past orientation (M_{higher} = 4.75 vs. M_{lower} = 3.23, p = .003), but was marginal for the future condition (M_{higher} = 4.46 vs. M_{lower} = 3.49, p = .08). Overall, the results indicate that **PEI is an important moderator for determining consumers' perceptions towards vehicles**.

Nostalgia

Important differences were obtained for liking electric vehicles. As expected, for people who were rated high on nostalgia, the condition with past orientation (vs. control) led to significantly higher liking towards electric vehicles (M_{past} = 72.03 vs. $M_{control}$ = 53.84, p = .05). On the other hand, for participants who were rated low on nostalgia, there were no significant differences between past-orientation and control conditions (M_{past} = 60.23 vs. $M_{control}$ = 58.15, p > .8), indicating that the intervention with past-orientation is more effective for people who place value on nostalgia. On the contrary, for participants who rate lower on nostalgia, future (vs. control) condition led to a reduction in purchase intentions towards SUVs (M_{past} = 5.22 vs. $M_{control}$ = 61.4, p = .05). These results are not surprising, given that people who are rated lower on nostalgia could be more future-oriented. Other results were not significant.

Future Consideration

Surprisingly, for participants who rate high on future consideration of their actions, the past condition (vs. control) seemed to reduce liking towards SUVs (M_{past} = 77.53 vs. $M_{control}$ = 88.00 p = .10), although this effect was marginally significant. This observation could indicate that the condition with past orientation could have elicited concerns for the future. No differences were obtained between the past and future conditions for the respondents who rated high on future consideration (M_{past} = 77.53 vs. $M_{fututre}$ = 81.61 p > .5). For participants who rate higher on this moderator, the future (vs. control) condition also increased liking towards EVs (M_{future} = 81.30 vs. $M_{control}$ = 64.00, p = .08). For such participants, the future condition also seemed to increase liking towards EVs (as compared to the past condition), although this effect was not significant (M_{future} = 81.30 vs. M_{past} = 66.45, p = .12). Importantly, similar effects for those who rate high on this moderator were observed with respect to purchase intentions of SUVs, although the effect fell short of significance. Specifically, the future (vs. control) condition fared better on reducing purchase intentions of SUVs (M_{future} = 4.87 vs. $M_{control}$ = 5.71, p = .13).

	Liking			**Purchase Intention**		
	Past	Future	Control	Past	Future	Control
Owners of large-sized vehicles High Perceived environmental impact (PEI)					4,54	
Low PEI					5,41	
Owners of large-sized vehicles High Future-orientation	77,53	81,61	88,0	ns	4,87	5,71

Table 10 : Influence of messages on liking and purchase intentions with PEI and Future-Orientation as moderators

Gender effects

Once again, some significant results were obtained with respect to gender differences. Three participants who reported their gender as “other” or “prefer not to say” were discarded from the analyses. **For males, the future condition (compared to past and control) led to the most reduction in liking towards SUVs** (M_{future} = 58.36 vs. M_{past} = 69.56, p = .04) and (M_{future} = 58.36 vs. $M_{control}$ = 68.36, p = .07). For women, the future condition seemed to fare better than control in decreasing liking towards SUVs (M_{future} = 66.67 vs. $M_{control}$ = 81.14, p = .015); however, no significant difference was observed between future and past conditions (M_{future} = 66.67 vs. M_{past} = 72.81, p > .30). Further, important differences were observed between genders for liking electric vehicles. **For women, there was a significant effect of the future condition (vs. control) for increasing liking towards EVs** (M_{future} = 74.92 vs. $M_{control}$ = 54.92, p = .002). However, no such effect was observed among males (M_{future} = 64.45 vs. $M_{control}$ = 63.03, p > .80).

With respect to purchase intentions for SUVs, in line with previous results, the future condition (vs. control) once again seemed to fare better for reducing purchase intentions among females (M_{future} = 4.32 vs. $M_{control}$ = 5.12, p = .04). The future condition also seemed to reduce purchase intentions of SUVs in males, although these results fell shy of significance (M_{future} = 4.08 vs. $M_{control}$ = 4.58, p = .16). Lastly, with respect to purchase intentions of EVs, some important gender effects were observed. **For males, the past condition led to higher purchase intentions for EVs as compared to control, as well as future conditions** (M_{past} = 4.60 vs. $M_{control}$ = 3.70, p = .01) and (M_{past} = 4.60 vs. M_{future}= 3.83, p = .036). On the other hand, for women, future fared better than past and control conditions for improving purchase intentions of EVs (M_{future} = 4.56 vs. $M_{control}$ = 3.49, p = .009) and (M_{future} = 4.56 vs. M_{past}= 3.79, p = .056).

4.4 Discussion

Individuals are often reminiscing or thinking about the future. Messages that incorporate a temporal orientation have been shown to be effective in eliciting desirable attitudes and behaviours. This is particularly important in the context of sustainable behaviours which yield benefits that only materialize in the future. At the same time, the qualitative results documented in report 1 (Gruber et al., 2021) highlight the importance of a legacy for individuals. Indeed, preferences for certain types of vehicles seem to be passed on from one generation to the next. In this third experimental study, we tested the effectiveness of messages activating either a future or a past orientation in reducing the liking of SUVs and the likelihood to purchase such a vehicle.

Liking of SUVs

Among large vehicle owners, the message stressing the legacy of past generations helped significantly reduce liking of SUVs (M_{past} = 78.88 vs. $M_{control}$ = 86.29). The past condition is also more effective among SUV owners, whereas for small vehicle owners, the future orientation is more effective in reducing SUV liking (M_{future} = 42.19 vs. $M_{control}$ = 64.34).

Purchasing intention

When it comes to purchasing intentions, both the future and past orientations help to reduce likelihood of purchase, though the effect is only significant in the future orientation (vs. control condition) (M_{future}= 5.08 vs. M_{past} = 5.24 vs. $M_{control}$ = 5.75). When it comes to electric vehicles, we see a trend towards increasing purchase intentions, even though the effect is not significant. **Among the owners of a sedan, priming a future orientation was more effective in further reducing intention to purchase an SUV, as it seems to make them more aware of the environmental impact.**

In general, the interventions (past and future) work particularly well for individuals who believe (large) vehicles have an important impact on the environment. **Perceived environmental impact (PEI) has a significant negative impact on liking of SUVs and a significant positive impact on purchase intentions for electric vehicles.** Interestingly, individuals who score high on generativity have higher purchase intentions for EVs even without any intervention message. This observation further stresses **the importance of reminding individuals to leave something positive behind**.

Individuals who are **highly nostalgic are most impacted by past-oriented messaging**, leading to an increase in liking of electric vehicles. In return, individuals who are not nostalgic are drawn by future-oriented messages, as these facilitate a decrease in purchase intentions of SUVs. **Similarly, individuals who rate highly in future consideration are also most sensitive to future-oriented communications**.

The results of the experiment highlight the importance of strategically using temporal orientations in communications that address vehicle choice, as these orientations evoke strong effects in reducing appreciation of large vehicles and valorizing electric ones. Such messages can further be combined with normative messages, as done for example by the Fridays for Future movement that incorporates both a temporal perspective and a normative appeal (“our” planet).

5 THEME 4: FINANCING OPTIONS AND CONSUMER DECISION-MAKING

In the previous chapters, we presented three themes that can be leveraged in social marketing campaigns to counter the positive and aspirational image of SUVs built by manufacturers' advertising. In this chapter, we will address a different topic, that is the influence of different financing options on consumer decision-making, to generate recommendations for policy-makers on the type of pricing to be suggested in vehicle advertising.

5.1 Conceptual Development

Pricing is a key aspect of a marketing strategy and has important consequences for consumers' decision-making who often choose products, brands and even stores based on it. Product prices are not simply based on costs; they are an important source of information for customers, who infer the quality of said product according to that information (Kardes et al., 2004). There is far-reaching consensus that the way prices are presented to consumers influences their decision-making, including in the context of vehicle choice (Fan and Burton, 2005).

The way individuals pay for their vehicles depends on various factors. The growing attractiveness of leasing options has been argued to stem from consumers' desire to upgrade vehicles, who were also more likely to pay for "luxury" attributes than consumers who purchase their vehicles (Manning et al., 2002). Interestingly, Fan and Burton (2005) suggest that consumers with higher incomes are more likely to lease because of higher opportunity costs of money and better investment options. The authors also call for more research on the relationship between consumer debt status and vehicle purchase because they suspect that many individuals are not always aware of all the costs involved and rather look at the immediate costs (which also explain the tendency to prefer choices with no or lower down payments). Respondents of the nationally representative survey documented in report 1 (Gruber et al., 2021) also used various financing options, from leasing to paying cash with personal savings. Price and financing options are an integral part of vehicle advertising, whereas price components are often strategically presented to make certain vehicles seem more affordable (Brazeau and Denoncourt, 2021). Figure 12 shows an example of an advertisement analyzed by Brazeau and Denoncourt (2021).

Figure 12 : Example of price presentation

The example shows very well that financing decisions can be very complex, incorporating various price components, and not all consumers are equally equipped to comprehend them. The concept of financial literacy captures "people's ability to process economic information and make informed decisions about financial planning, wealth accumulation, pensions, and debt" (Lusardi and Mitchell, 2014, p. 6). There is a strong correlation between financial literacy and level of education, as well as general numeracy, which is the "ability to process basic probability and numerical concepts" (Peters et al., 2006, p.407). Xiao and O'Neill (2016) stress the importance of financial education among consumers to increase their financial capabilities as there is an important relationship between financial literacy and consumer over-indebtedness (Gathergood, 2012). Against the background of this research, we hypothesize the following:

- *H1a: Individuals with higher financial literacy are less likely to choose vehicles that are beyond their budget*
- *H1b: Individuals with higher numeracy are less likely to choose vehicles that are beyond their budget*

Another aspect that can influence the likelihood that people will go over budget is their satisfaction or dissatisfaction, which are subjective perceptions, with their current financial situation. Individuals who feel financially dissatisfied are more motivated to acquire resources, for example by playing the lottery more often (Callan et al., 2008) and eat more high-caloric food (Briers and Laporte, 2013). In line with this mechanism, we suggest the following:

- *H2: Individuals who feel financially dissatisfied are more likely to choose vehicles that are beyond their budget*

Further variables that are included in this design are product expertise, that is the level of knowledge individuals have with the category of vehicles in general, as well as risk aversion, that is the amount of risk individuals are comfortable taking in any given situation (Mandrik & Bao, 2005). The following sections explain the methodological approach and experimental design.

5.2 Research design

This study employed a single factor between-subject design wherein participants were randomly assigned to either a financial satisfaction or a financial dissatisfaction scenario. All participants are first asked in a filter question whether their household has a vehicle that is used regularly. Those who answered "yes" were asked to provide basic demographic information (age, sex and province). Respondents then indicated the type of their primary vehicle and the number of years they have been driving, and were randomly assigned to one of the experimental manipulations. Financial (dis) satisfaction was manipulated in line with Briers and Laporte (2013) by asking individuals to indicate the total amount of their savings and checking account on a 9-point scale ranging from $0-$100 to $801 or more ($0-$1,000 to $301,000 or more). Next, respondents were told to imagine that they were shopping for a vehicle and that their budget was $38,000, and were then shown 15 paired comparisons of the same vehicle with varying prices. They were presented in weekly or monthly instalments, or as a total price. There were three prices within the allowed budget and three prices above budget (see Table 8 below). The interest rate was always 0% and the down payment $5,600 in the monthly and weekly payment scenarios (there was no down payment when the total vehicle price was shown). The pictures shown to respondents can be found in Appendix 18.

	Within budget	**Above budget**
Weekly	(1) 36 560	(2) 38 960
Monthly	(3) 37 340	(4) 38 540
Total	(5) 37 599	(6) 38 299

Table 11 : Different vehicle prices "within budget" and "above budget"

After the purchasing task, we measured the same two dependent variables as in previous experiments, that is liking of different vehicles on a 1–100 scale and likelihood to purchase the vehicles on a 1–7 Likert scale. We captured several moderators: (1) numeracy based on five open-ended questions that require respondents to calculate probabilities. Four

items are based on Peters et al. (2006) and one additional item was created to match the purchasing context. We measured (2) product expertise (with vehicles) based on three items, adapted from Mehta et al. (2011). (3) Financial literacy is based on Gathergood's (2012) conceptualization and measured with three items. Lastly, we also measured (4) risk aversion, as this could influence the likelihood to go over budget. The items for this construct are taken from Mandrik and Bao (2005). The whole instrument can be found in Appendix 19.

RESEARCH QUESTION
How does price presentation influence attitudes towards SUVs?

Study Design
Single factor between-subject design wherein participants were randomly assigned to either a financial satisfaction or a financial dissatisfaction scenario.

Two dependent variables

- Liking of SUVs (1–100 scale)
- Purchasing intention of SUVs (7-points Likert scale)

Four moderators

- Numeracy
- Product expertise (with vehicles)
- Financial Literacy
- Risk aversion

5.3 Analysis and Results

The experimental design was verified by researchers of CIRANO and other colleagues in the field of marketing and sustainable behaviours. Having integrated their feedback, the final design was approved by the Ethical Review Board of HEC Montreal and sent to the online panel LEO.

5.3.1 Demographic Information

Three hundred and eight (308) Canadian residents (53.2% males, median age group = 45 to 54 years old) completed the online study. 43.2% of respondents owned an SUV, while 10.4% owned a pick-up, and 5.5%, a minivan. On the other hand, 36.7% of

respondents owned a sedan, and 1.6% owned an electric vehicle. Demographic data parallels the findings of previous studies; SUVs are more popular among female drivers (51.9% of SUV owners are females), and particularly with families who have two children. A full table of sample characteristics can be found in Appendix 20.

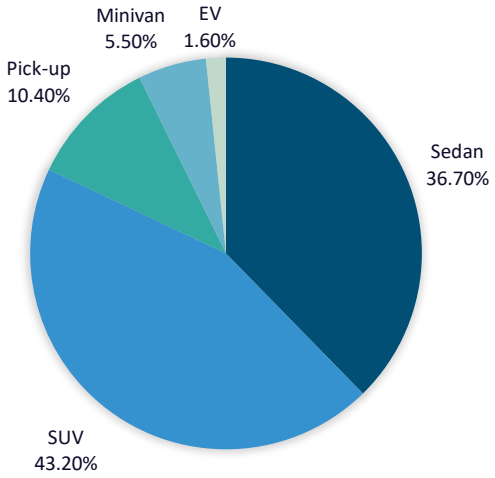


Figure 13 : Vehicle owned by the respondents in Experiment 4

5.3.2 Vehicle Choices

Out of the 15 pairwise vehicle choices, three featured two under-budget options, and three had two over-budget options. The remaining nine featured the choice between an under-budget option and an over-budget option. For each of these nine, participants were marked with one point if they picked the over-budget option. The total tally for each participant is a score out of nine, where 9/9 would represent a participant who has made exclusively over-budget choices, while 0/9 represents nine choices which respected the given budget.

Overall, in this study, 8.1% of participants made all valid, budget-friendly decisions. 14% made one over-budget decision, and 35.7% made two. 29.2% made three over-budget picks, while a cumulative 13% made four or more over budget decisions. As a whole, the majority of the sample (57.8%) made only two over-budget decisions or fewer.

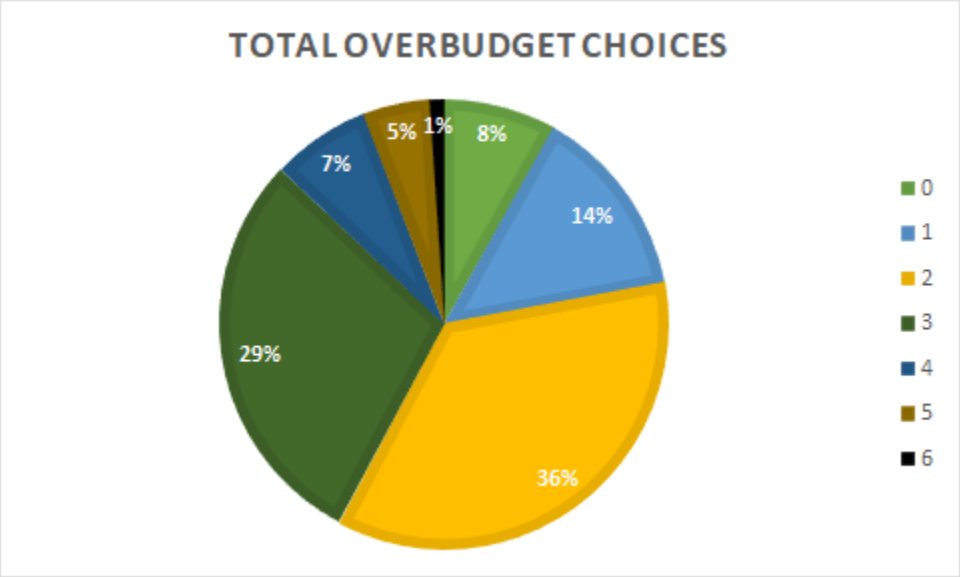


Figure 14 : Over-budget Choices

On average, men made 2.45 over-budget picks while women made 2.16 over-budget decisions; however, this effect fell short of significance (p = .11). Further, participants in the financial dissatisfaction condition made 2.36 over-budget picks on average, while participants in the financial satisfaction condition made 2.28, although this effect was not significant (p > .50).

Given that SUV owners and sedan owners made up the two largest groups, we compared overbudgeting decisions between them. The results indicate that sedan owners made more over-budget decisions, although the difference was not significant (M_{sedan} = 2.37 vs. M_{SUV} = 2.25, p > .4)

5.3.3 Analysis of the Moderators' Influence

Financial literacy

Participants were asked three financial literacy questions (taken from Gathergood, 2012), and scored one point for each correct answer. Only 23.05% of participants scored 3/3 correct answers, while 34.09% answered two questions correctly and 31.82% got only one correct answer. Finally, 11.04% of participants had no correct answers.

An ANOVA analysis revealed **a significant relationship between financial literacy and the number of overbudget choices made** (sig = .005). The means indicate that as financial literacy increases, the number of over-budget choices decreases.

Financial Literacy Score	Mean - Over-budget choices made	N
0	2.68	34
1	2.57	98
2	2.17	105
3	2.01	71
Total	**2.32**	**308**

Table 12 : Financial Literacy and Choices

Further, given the disparity in cell sizes, we did a median split, so that participants who answered one or less question for financial literacy correctly were categorized as low (N = 132), and others were categorized as high (N = 176). A one-way ANOVA indicated that financial literacy had a significant effect on choices. Specifically, as hypothesized, **people who scored low on financial literacy made significantly more over-budget choices as compared to those who scored high** (M_{low} = 2.6 vs. M_{high} = 2.1, p = .001).

Interaction of Financial Literacy and Financial Satisfaction

We conducted paired t-tests with financial literacy (categorized) and the manipulation wherein participants' satisfaction with their financial condition was manipulated. Results indicate that when participants were placed in financially satisfied condition, those with lower financial literacy made significantly more over-budget decision as compared to participants who were more financially literate ($M_{low\text{-}financial\text{-}literacy}$ = 2.68 vs. $M_{high\text{-}financial\text{-}literacy}$ = 1.99, p = .001). Similar results were obtained in the financial dissatisfaction condition, wherein those with lower financial literacy again made more over-budget decision as compared to high financial literate participants, although the results fell short of significance ($M_{low\text{-}financial\text{-}literacy}$ = 2.52 vs. $M_{high\text{-}financial\text{-}literacy}$ = 2.23, p = .14). Further, a surprising result was that highly financially literate consumers, whom one would expect to make fewer over-budget decisions when financially dissatisfied (vs. satisfied), actually made more over-budget decisions when they were dissatisfied (vs. satisfied), although the results fell short of significance ($M_{financial\text{-}satisfaction}$ = 1.99 vs. $M_{financial\text{-}dissatisfaction}$ = 2.23, p = .19), suggesting that financial dissatisfaction is associated with over-budgeting, even among consumers who are highly financially literate.

Numeracy

In a similar vein, participants were asked five basic numeracy questions, and scored a point for each correct answer. The results within the sample are as follows:

- 24.7% of participants got all five answers correctly;
- 27.3% scored four;

- 25.0% scored three;
- 14.3% scored two;
- 6.5% scored one; and
- 2.3% of participants had zero correct answers.

Numeracy was unsurprisingly found to be highly correlated with financial literacy (Pearson's coefficient = .43, sig = .000). In relation to overbudget decisions, there was a significant main effect of numeracy on overbudget choices (p = .001).

Numeric Literacy Score	Mean - Over-budget choices made	N
0	2.71	7
1	3.00	20
2	2.77	44
3	2.35	77
4	2.14	84
5	2.00	76
Total	**2.3182**	**308**

Table 13 : Effects of numeracy on over-budget decisions

Again, given the uneven distribution of participants between cell sizes, we carried out a median split for numeric literacy, wherein participants who scored equal to, or more than four correct choices were categorized as high on number literacy (N = 160) and the rest were categorized as low (N = 148). A one-way ANOVA indicated that numeric literacy had a significant effect on choices. Specifically, as hypothesized, **people who scored low on numeric literacy made significantly more over-budget choices as compared to those who scored high** (M_{low} = 2.58 vs. M_{high} = 2.08, p = .000), highlighting the importance of numeric literacy in consumer decision-making.

Interaction Effects of Numeric Literacy and Financial Satisfaction

We conducted paired t-tests with numeric literacy (categorized via a median-split) and the experimental manipulation of participants' satisfaction with their financial condition. Similar to results with financial literacy, these numeracy results indicate that when participants were assigned to the financially satisfied condition, those with lower numeric literacy made significantly more over-budget decisions as compared to participants who were more numerically literate ($M_{low\text{-}numeric\text{-}literacy}$ = 2.64 vs. $M_{high\text{-}numeric\text{-}literacy}$ = 1.95, p = .001). Similarly, those with low numeric literacy (vs. high numeric literacy) again made more over-budget choices, also in the financially dissatisfied condition ($M_{low\text{-}numeric\text{-}literacy}$ = 2.53 vs. $M_{high\text{-}numeric\text{-}literacy}$ = 2.20, p = .097). Further, as with financial literacy, those high in numeric results

seem to make more over-budget decisions when they are financially dissatisfied (vs. satisfied), although the results are not significant ($M_{financial\text{-}satisfaction}$ = 1.95 vs. $M_{financial\text{-}dissatisfaction}$ = 2.20, p = .195), suggesting that financial dissatisfaction is associated with making over-budget decisions, even when consumers are highly numerically or financially literate.

5.3.4 Effects on Liking and Purchase intentions

In this study, as in the previous ones, the dependent variables were liking and purchase intentions of different types of vehicles.

The condition in which participants were placed had a marginally significant effect on liking SUVs ($M_{satisfied}$ = 71.29 vs. $M_{dissatisfied}$ = 75.74, p =.10). Thus, **participants who were placed in a condition of financial dissatisfaction had higher appreciation for SUVs**. On a similar line, those who were financially dissatisfied (vs. satisfied) expressed greater purchase intentions towards SUVs, although the result was not significant ($M_{satisfied}$ = 5.10 vs. $M_{dissatisfied}$ = 4.97, p > .5).

The opposite effect was found with liking of sedans ($M_{satisfied}$ = 62.8 vs. $M_{dissatisfied}$ = 57.97, p = .095), where participants in the dissatisfied condition appreciated sedans less. Similarly, those who were financially dissatisfied (vs. satisfied) indicated lower purchase intentions towards sedans ($M_{satisfied}$ = 4.29 vs. $M_{dissatisfied}$ = 3.77, p = .013), indicating that **financially satisfied consumers prefer vehicles such as sedans, whereas financially dissatisfied consumers tend to prefer more expensive vehicles such as SUV**s.

	Liking		Purchase Intention	
	SUVs	Sedans	SUVs	Sedans
Satisfied	71.29	62.8	5.10	4.29
Dissatisfied	75.74	57.97	4.97	3.77

Table 14 : Effects of financial satisfaction on liking and purchase intention of vehicles

5.4 Discussion

Price is an important component of the marketing mix and a crucial aspect influencing the purchasing decision of consumers. The specific way in which a price is presented can influence consumers' perceptions and understanding. Especially for more expensive products such as vehicles, it is common to show prices in weekly or monthly instalments (Brazeau & Denancourt, 2021). In this study, we tested the implications of presenting price

in different formats (weekly, monthly, total price) and investigated the influence of potential moderators such as numeracy and financial literacy.

Overall, it seems that individuals are able to make decisions within a predefined budget. However, once we look at this relationship in more detail, we see that **individuals with high financial literacy are significantly more likely to stay within budget**. This points to a worrisome situation in which those individuals who have difficulties managing their finances are also more likely to overspend on vehicles. A similar effect was found when looking at the influence of numeracy on vehicle choices, suggesting that **individuals who lack basic mathematical skills are also prone to taking over-budget decisions**. Another important finding relates to the financial situation the individual is in. The results of the experiment show that **individuals who feel financially dissatisfied are more likely to make over-budget decisions, irrespective of how numerically or financially literate they are**. Again, this points to a maladaptive compensation mechanism, and it is important to stress that **"upgrading" vehicles will not help deal with financial dissatisfaction**.

A similar pattern was found with regards to the dependent variables that are SUV liking and purchasing intention; **individuals who feel financially dissatisfied show a higher liking of SUVs and a higher purchase intentions**. This pattern is potentially related to the higher perceived status of SUVs and individuals' inclination to compensate for their dissatisfaction. It is important to create awareness that especially SUVs, with the higher manufacturer margins and thus prices (Milford et al., 2021), are not a viable means to overcome financial dissatisfaction. In addition, to reiterate a point mentioned by Brigitte in the qualitative phase documented in report 1 (Gruber et al., 2021), **financial education is key to combating consumer overspending and indebtedness**.

6 CONCLUSION

The main objective of this report was to investigate the effectiveness of different messages in decreasing liking of large vehicles, in particular SUVs, and reduce purchase intentions for such vehicles in an effort to reverse the trend towards light-duty trucks in Canada. It is an integral part of a larger research project coordinated by Équiterre whose main objective is to understand Canadians' growing preference for energy-intensive vehicles and the factors (political, economic, social, etc.) that contribute to their increase in sales in Canada, as well as to explore themes that can be leveraged to reverse this tendency.

This report presents the results of four experimental studies dealing both with themes relevant to policymakers (i.e., regulating price presentations and working on financial capacity-building initiatives to strengthen numerical and financial literacy among citizens) and themes that can be leveraged in social marketing campaigns to help reverse the tendency towards energy-intensive vehicles. More specifically, three experiments testing aspects of self-identity, social norms and temporal orientation find the following:

(1) Creating negative perceptions of SUV drivers as individuals with below average driving skills helps to significantly reduce both liking of SUVs and intention to purchase an SUV, irrespective of whether the person already owns an energy-intensive vehicle or not. Enforcing a picture of the SUV driver as "Sunday drivers" rather than the secret service agent-type character popularized by the movie industry can help make the SUV a less aspirational product and turn it into one that individuals don't want to associate themselves with.
(2) SUVs have become a de facto social norm as they were the most sold vehicles in Canada in 2020, and the literature in the field clearly demonstrates the importance of social norms in influencing consumer decision-making. Our results show that these norms can also be used to counter the trend towards energy-intensive vehicles by stressing that compact size cars are the normal vehicle to choose. This effect holds for both SUV drivers and owners of other vehicles and applies both to SUV liking and purchase intentions.
(3) Temporal orientation is a prevalent theme in vehicle advertising and an important notion when it comes to sustainability. Our third experiment shows that making a future-orientation salient helps decrease the liking and purchasing intention of energy-intensive vehicles. The intervention is particularly effective for individuals who already acknowledge the effect of individual transport on the environment. Interestingly, we also find that individuals who care about their legacy in the first place, irrespective of the type of intervention, are more likely to opt for electric vehicles.

Figure 15 : Summary of the themes that can be leveraged in social marketing campaigns to help reverse the trend towards energy-intensive vehicles

In addition to uncovering themes for social marketing campaigns that can be used in efforts to counter the tendency towards energy-intensive vehicles, we also tested the influence of price presentations on consumer choices. This topic is particularly relevant for policymakers as it points them to potential regulatory measures (requiring advertisers to also include the total price when promoting vehicles) and stresses the relevance of encouraging capacity-building initiatives. The fourth experimental study used a different design and randomly assigned respondents to a condition making financial satisfaction salient, or a condition making financial dissatisfaction salient. Respondents then had to make a choice among 15 paired comparisons, of which some vehicles were within a predetermined budget and some above a predetermined budget. We find that whereas individuals are generally quite able to stay within their budgets, those individuals low in numerical and financial literacy, as well as those who are financially dissatisfied (irrespective of their literacy), make significantly more over-budget choices. This experiment points to the **importance of initiatives aimed at increasing financial competencies**, as particularly vulnerable consumers seem to be lured into buying SUVs.

The research documented in this second report builds directly on the results of the exploratory phase of report 1 (Gruber et al., 2021) and empirically tests the efficiency of different messages to counter the trend towards energy-intensive vehicles in Canada.

7 APPENDIX

7.1 APPENDIX 1. EXECUTIVE SUMMARY OF REPORT 1

The main objective of this report is to investigate the motivations, attitudes and contextual factors that influence Canadians' vehicle choices, with a particular focus on light-duty trucks such as sport utility vehicles (SUVs), pickup trucks and vans. It is an integral part of a larger research project coordinated by Équiterre whose main objective is to understand Canadians' preference for fuel-efficient vehicles and the factors (political, economic, social, etc.) that contribute to the increase in sales of these types of vehicles in Canada. The report is divided into three main sections.

First, a comprehensive and systematic review of the literature available to date provides an understanding of the key factors that affect individuals' vehicle preferences. Indeed, there are both personal and environmental factors that influence individuals' predisposition toward vehicles. The literature confirms that, obviously, socio-demographic criteria such as age, household composition, income or geographic location play a role in vehicle choice. Similarly, personal characteristics, such as environmental attitudes and materialistic or individualistic values, have an influence on vehicle choice. There are also factors related to vehicles and driving that have an influence: the instrumentality that people associate with their vehicles, i.e., how necessary they find their vehicles to get around and indispensable in their lives; symbolic aspects such as the prestige and status accorded to vehicles; and affective aspects, i.e., the emotions attached to driving, influence consumer preferences. In addition to these variables internal to each individual, the literature also suggests that the external environment affects consumer choices, most notably normative influences and various media.

We used the key themes identified in the literature review to develop a survey questionnaire that was administered in November 2020 to a representative sample of the Canadian population consisting of 1,515 vehicle owners. The survey results confirm the growing prevalence and interest in SUVs, which emerged as the most popular vehicle in our sample. The typical SUV owner is a middle-aged woman in a couple with children, living in the suburbs. The strongest influence on the likelihood of purchasing an SUV is exerted by social norms and media, as well as the indispensability and emotional motives one associates with vehicles. People who score high on environmental perception and who view their vehicle primarily in terms of its instrumental aspects are less likely to consider an SUV as their next vehicle.

The survey provided a comprehensive picture of what is relevant and important to consumers in the context of vehicle preferences. To better understand the specifics of

these aspects, we planned to continue the survey phase with qualitative research. To this end, we designed and conducted semi-structured interviews and focus group discussions, the former to understand personal perceptions in more detail, the latter to examine opinions regarding vehicle advertising. In all cases, we used the survey sample of Canadian vehicle owners from a variety of provinces and demographic backgrounds. To follow a logic of participant selection, we conducted a cluster analysis among all respondents who expressed interest in participating in the qualitative phase. Subsequently, we considered primarily demographic characteristics to ensure diversity in the sample. We asked respondents if they were interested in joining focus groups. In organizing the groups, we took into consideration the language and perspectives of the participants in order to have meaningful discussions.

This approach allowed us to capture the complexity and nuances of the SUV phenomenon. Participants in the interviews refer to the demanding driving conditions in Canada when explaining their preference for larger, heavier vehicles with four-wheel drive. Concerns about safety in winter conditions and in case of crashes build the image of the SUV as a vehicle of choice.

7.2 APPENDIX 2. MESSAGE STRESSING THE SUPERIOR DRIVING SKILLS OF SEDAN DRIVERS

6 March 2021

Fact: Sedan drivers are good drivers

SHARE

Smaller sized vehicles are in general safe because of their drivers, who often have very good driving skills. They are motivated by the size of the vehicle into driving more carefully than a typical SUV driver, for instance. Because they know how to drive, sedan drivers make roads safer, and this has positive consequences for everyone.

Those who drive smaller sized vehicles such as sedans generally are confident about their driving skills. The fact that sedans typically do not have a four-wheel drive means drivers have a more immediate and better feedback from the road and that makes them drive more carefully. In fact, driving with a front-wheel or rear-wheel traction, especially in wintery conditions, means that you actually master the vehicle. If you can't, maybe you shouldn't drive at all.

"The better driver is the one who is aware of the road conditions," says Laporte, a vice-president of Milgram Blue Goldstein, one of the leading automotive market-research firms, of the fundamental benefit of sedans. The man who chooses a sedan is saying that he is capable to meet the demands of the road, that he is engaged with the act of driving and that really, he is skilled enough to be a functioning road participant.

6 March 2021

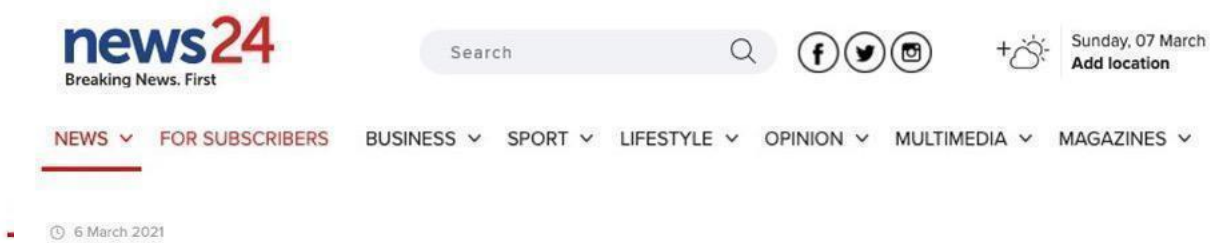
Fait : Les conducteurs de berlines sont de bons conducteurs

Les véhicules de petite taille sont en général sûrs grâce à leurs conducteurs, qui ont souvent de très bonnes compétences de conduite. La taille du véhicule les incite à conduire plus prudemment qu'un conducteur de VUS typique par exemple. Parce qu'ils savent conduire, les conducteurs de berlines rendent les routes plus sûres, ce qui a des conséquences positives pour tout le monde.

Les personnes qui conduisent des véhicules de plus petite taille, comme les berlines, ont généralement confiance dans leurs capacités de conduite. Le fait que les berlines n'aient généralement pas quatre roues motrices permet aux conducteurs d'avoir un retour d'information plus immédiat et de meilleure qualité de la route, ce qui les incite à conduire plus prudemment. En fait, conduire avec une traction avant ou arrière, surtout dans des conditions hivernales, signifie que vous maîtrisez réellement le véhicule. Si vous n'y arrivez pas, vous ne devriez peut-être pas conduire du tout.

"Le meilleur conducteur est celui qui est conscient de l'état de la route", explique M. Laporte, vice-président de Milgram Blue Goldstein, l'une des principales sociétés d'études de marché dans le secteur automobile, à propos de l'avantage fondamental des berlines. La personne qui choisit une berline dit qu'elle est capable de répondre aux exigences de la route, qu'elle est engagée dans l'acte de conduire et qu'en réalité, elle est suffisamment compétente pour être un acteur de la route fonctionnel.

7.3 APPENDIX 3. MESSAGE STRESSING THE INFERIOR DRIVING SKILLS OF SUV DRIVERS



6 March 2021

Fait : Les conducteurs de VUS sont de mauvais conducteurs

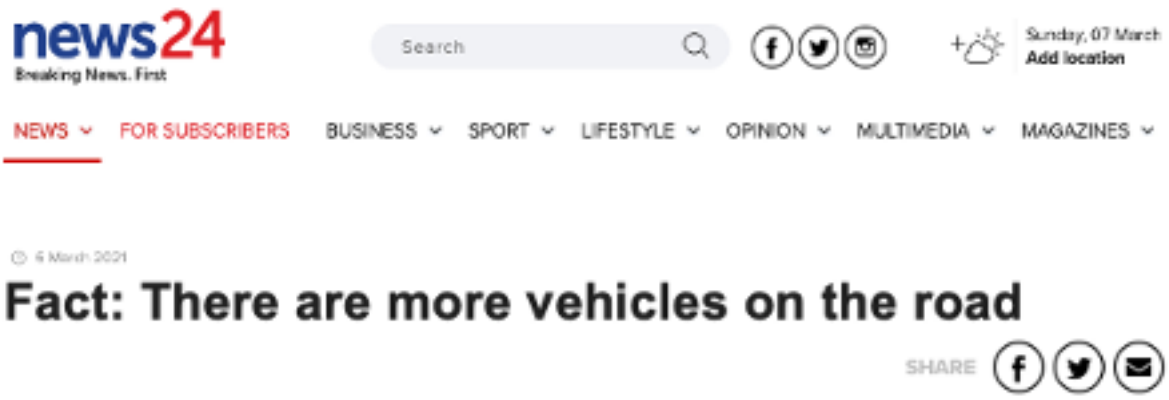
SHARE

Les VUS sont réputés dangereux à cause de leurs conducteurs, qui manquent souvent de compétences de base en matière de conduite. La taille du véhicule et les quatre roues motrices les amènent à relâcher leur vigilance et à conduire de manière imprudente voire même mauvaise. Parce qu'ils ne savent pas comment conduire, les conducteurs de VUS tuent de manière disproportionnée les autres usagers de la route, ce qui a des conséquences négatives pour tout le monde.

Prenons l'exemple des quatre roues motrices, qui semblent être la caractéristique la plus avantageuse du VUS. Les experts en sécurité soulignent que les quatre roues motrices n'améliorent en rien le freinage et ne rendent pas plus sûrs les virages sur une surface glissante. Au lieu de cela, elles privent le conducteur d'un retour d'information, ce qui conduit souvent à des situations potentiellement mortelles, en particulier dans des conditions hivernales. En fait, si vous ne pouvez pas conduire sans quatre roues motrices en hiver, alors vous ne devriez probablement pas conduire du tout.

"Lorsque vous vous sentez en sécurité, vous pouvez être un conducteur passif", déclare M. Laporte, vice-président de Milgram Blue Goldstein, l'une des principales sociétés d'études de marché dans le secteur automobile, à propos de l'attrait fondamental du VUS. Pendant des années, nous nous sommes tous moqués de l'homme d'âge moyen qui s'est soudainement acheté une voiture de sport rouge et brillante. On appelait cela la crise de la quarantaine. Mais au moins, cela implique un certain degré d'engagement dans l'acte de conduire. L'homme qui choisit le VUS dit quelque chose de bien plus troublant - qu'il trouve les exigences de la route énormes et qu'en réalité, il n'a pas les compétences de conduite nécessaire pour conduire un autre type de véhicule.

7.4 APPENDIX 4. CONTROL CONDITION FOR EXPERIMENT 1 – DRIVING SKILLS



6 March 2021

Fact: There are more vehicles on the road

SHARE

2020 has been an interesting year for the automotive market in Canada. The number of vehicles has been increasing yet another time. People may be at home, but many are still relying on cars, and the pandemic is causing people to rethink their modes of transportation. At the same time, experts are debating the future of autonomous driving.

Last week, The Economist published a list of countries with the highest car ownership per resident. The average is established for 1,000 residents, and Canada holds an unexpected rank: we're coming in 5th, averaging around 560 cars per 1,000 residents, and are thus even ahead of Germany in the list. "Vehicle ownership in Canada is at all-time record levels, and it's been increasing," said Laporte, citing figures showing there are now 10 million more vehicles on the road than there were in the year 2000. The pandemic seems to provide new dynamic to the market: Google reported that in April, global searches for "dealerships near me" grew by over 30% in a single week, and in Canada there have been spikes in interest for "it is a good time to buy a car."

Ford has been the best-selling car brand in Canada for over a decade now, despite a recent decline in sales. However, Asian brands Toyota, Honda and Hyundai Saw sales increase in the fourth quarter of 2020 and outsold Ford.

8 March 2021

Fait : Il y a plus de véhicules sur la route

L'année 2020 a été une année intéressante pour le marché automobile au Canada. Le nombre de véhicules a augmenté une fois de plus. Les gens sont peut-être à la maison, mais beaucoup d'entre eux dépendent encore de leur voiture, et la pandémie amène les gens à repenser leur mode de transport. Dans le même temps, les experts débattent de l'avenir de la conduite autonome.

La semaine dernière, *The Economist* a publié une liste des pays qui possèdent le plus de voitures par habitant. La moyenne est établie pour 1 000 résidents, et le Canada occupe un rang inattendu : nous arrivons en 5e position, avec une moyenne d'environ 560 voitures pour 1000 habitants, et nous sommes donc même devant l'Allemagne dans la liste. "Le nombre de véhicules au Canada n'a jamais été aussi élevé, et il n'a cessé d'augmenter", a déclaré M. Laporte, citant des chiffres montrant qu'il y a maintenant 10 millions de véhicules de plus sur la route qu'en l'an 2000. La pandémie semble apporter une nouvelle dynamique au marché : Google a signalé qu'en avril, les recherches mondiales pour "concessionnaires près de chez moi" ont augmenté de plus de 30 % en une seule semaine, et au Canada, on a constaté des pics d'intérêt pour "c'est le bon moment pour acheter une voiture".

Ford est la marque automobile la plus vendue au Canada depuis plus d'une décennie, malgré une baisse récente des ventes. Cependant, les marques asiatiques Toyota, Honda et Hyundai ont vu leurs ventes augmenter au quatrième trimestre de 2020 et ont dépassé Ford.

7.5 APPENDIX 5. FULL SURVEY INSTRUMENT – STUDY 1

SUV Skills - FINAL

Welcome!

You are invited to participate in a research project by investigators from HEC Montreal. The purpose of this study is to see how people make choices. At the end we also have some demographic questions.

Your participation is voluntary and you may withdraw from the study at any time simply by closing the browser window. No identifying information will be collected with the study data, so your anonymity is ensured.
The results of this study may be published in professional and/or scientific journals. It may also be used for educational purposes or for professional presentations. When results are reported, no individual respondent will be identified.

Since your first impressions best reflect your true opinions, we would ask that you please answer the questions included in this questionnaire without any hesitation. There is no time limit for completing the questionnaire, although we have estimated that it should take about 5 minutes.

Risks and Benefits
There are no risks involved in the completion of this study. While you will not directly benefit from participation beyond the stated compensation, your participation may help investigators better understand how people make decisions.
You are free to refuse to participate in this project and you may decide to stop answering the questions at any time.

By completing this questionnaire, you will be considered as having given your consent to participate in our research project and to the potential use of data collected from this questionnaire in future research.

Contacts
HEC Montréal's Research Ethics Board has determined that the data collection related to this study meets the ethics standards for research involving human subjects. If you have any questions related to ethics, please contact the REB secretary at (514) 340-7182 or by email at cer@hec.ca.
If you have any questions about this study, then please contact Verena Gruber (verena.gruber@hec.ca).

Bienvenue !

Vous êtes invité.e à participer à un projet de recherche proposé par des chercheurs à HEC Montréal. L'objectif de cette étude est de mieux comprendre comment les individus font leur choix. Il y a également des questions démographiques à la fin de l'enquête.

Votre participation est volontaire et vous pouvez quitter l'enquête en tout temps en fermant simplement la fenêtre de votre navigateur. Aucune donnée d'identification ne sera collectée avec les données de l'enquête, donc votre anonymat est assuré.
Les résultats de l'étude pourraient être publiés dans des journaux professionnels et/ou scientifiques. Ils pourraient également être utilisés à des fins académiques, ou pour des présentations professionnelles. Aucun répondant individuel ne sera identifié dans la présentation des résultats.

Puisque vos premières impressions reflètent le mieux vos opinions, nous vous demandons de répondre aux questions de cette enquête sans hésitation. Il n'y a pas de limite de temps pour compléter ce questionnaire, mais nous avons estimé que le tout devrait prendre autour de 5 minutes.

Risques et avantages potentiels

Il n'y a aucun risque associé à votre participation à cette enquête. Vous ne tirez pas de bénéfice mis à part la compensation fixée au préalable ; toutefois votre participation aidera les chercheurs à mieux comprendre les processus de prise de décision des invidivus.
Vous êtes entièrement libre de refuser de participer à ce projet, et pouvez décider d'arrêter de répondre aux questions en tout temps.

Si vous complétez ce questionnaire, nous considérerons que vous avez donné votre consentement à participer à notre projet de recherche, et à l'usage potentiel des données recueillies dans ce questionnaire dans toutes recherches futures.

Contacts
Le comité d'éthique en recherche de HEC Montréal a déterminé que la cueillette de données reliée à cette enquête est conforme aux standards d'éthique pour la recherche impliquant des sujets humains. Si vous avez des questions reliées à l'éthique, veuillez contacter le secrétariat du CER au (514) 340-7182, ou par courriel au cer@hec.ca.
Si vous avez des questions par rapport à cette enquête, veuillez contacter Verena Gruber (verena.gruber@hec.ca).

Do you agree to participate in this study?

- ○ Yes
- ○ No

Acceptez-vous de participer à cette étude ?

- ○ Oui
- ○ Non

Do you have a vehicle at your household that you use regularly?

- ○ Yes
- ○ No

Avez-vous un véhicule à votre domicile que vous utilisez régulièrement ?

- ○ Oui
- ○ Non

What is your sex?

- ○ Male
- ○ Female
- ○ I prefer not to answer
- ○ Other

Quel est votre sexe ?

- ○ Homme
- ○ Femme
- ○ Je préfère ne pas répondre
- ○ Autre

What is your age?

- ○ 18–24 years old
- ○ 25–34 years old
- ○ 35–44 years old
- ○ 45–54 years old
- ○ 55–64 years old
- ○ 65–74 years old
- ○ 75 years or older

Quel âge avez-vous ?

- ○ 18-24 ans
- ○ 25-34 ans
- ○ 35-44 ans
- ○ 45-54 ans
- ○ 55-64 ans
- ○ 65-74 ans
- ○ 75 ans et plus

In which province do you live?

- ○ Alberta
- ○ British Columbia
- ○ Manitoba
- ○ New Brunswick
- ○ Newfoundland and Labrador
- ○ Northwest Territories
- ○ Nova Scotia
- ○ Nunavut
- ○ Ontario
- ○ Prince Edward Island

- ○ Quebec
- ○ Saskatchewan
- ○ Yukon

Dans quelle province résidez-vous ?

- ○ Alberta
- ○ Colombie-Britannique
- ○ Manitoba
- ○ Nouveau-Brunswick
- ○ Terre-Neuve-et-Labrador
- ○ Territoires du Nord-Ouest
- ○ Nouvelle-Écosse
- ○ Nunavut
- ○ Ontario
- ○ Île-du-Prince-Édouard
- ○ Québec
- ○ Saskatchewan
- ○ Territoire du Yukon

Which of the following vehicle types do you have at your household?
Note: If you have several vehicles, please think about your primary vehicle.

- ○ SUV
- ○ Pick-up
- ○ Minivan
- ○ Sedan
- ○ Electric vehicle (please indicate the type): _____
- ○ Other (please specify): _____

Quel est le type de votre véhicule parmi ceux proposés ?
Note : Si vous avez plusieurs véhicules, veuillez penser et répondre pour votre véhicule principal.

- ○ VUS
- ○ Camionnette/Pick-up
- ○ Fourgonnette/Minivan
- ○ Berline
- ○ Véhicule électrique (veuillez indiquer le type): _____
- ○ Autre (veuillez préciser): _____

Please indicate for how many years have you been driving:
_____

Veuillez indiquer depuis combien d'années vous conduisez :
_____

What kind of transmission does your vehicle have?

- ○ Automatic
- ○ Manual
- ○ I don't know

Quel est le type de transmission de votre véhicule ?

- ○ Automatique
- ○ Manuelle
- ○ Je ne sais pas

Please rate yourself on how weak or strong you consider yourself on the following driving skills:

	very weak (0)	(1)	(2)	(3)	very strong (4)
Fluent driving	○	○	○	○	○
Perceiving hazards in traffic	○	○	○	○	○
Managing the car through a skid	○	○	○	○	○
Predicting traffic situation ahead	○	○	○	○	○
Knowing how to act in particular traffic situations	○	○	○	○	○
Making firm decisions	○	○	○	○	○
Controlling the vehicle	○	○	○	○	○
Adjusting your speed to the conditions	○	○	○	○	○
Make a hill start on a steep incline	○	○	○	○	○
Overtaking	○	○	○	○	○
Tolerating other drivers' errors calmly	○	○	○	○	○
Reverse parking into a narrow gap	○	○	○	○	○

Veuillez évaluer votre niveau de compétence (faible à fort) pour les éléments de conduite suivants :

	Très faible (0)	(1)	(2)	(3)	Très fort (4)
Conduire de façon fluide	○	○	○	○	○
Percevoir les dangers sur la route	○	○	○	○	○
Gérer le véhicule en cas de dérapage	○	○	○	○	○
Prédire les situations de trafic devant vous	○	○	○	○	○
Savoir comment agir dans des situations de circulation particulières	○	○	○	○	○
Prendre des décisions fermes	○	○	○	○	○
Contrôler le véhicule	○	○	○	○	○
Ajuster votre vitesse aux conditions routières	○	○	○	○	○
Effectuer un démarrage en côte sur une pente raide	○	○	○	○	○
Dépasser / Doubler un autre véhicule	○	○	○	○	○
Tolérer les erreurs des autres calmement	○	○	○	○	○
Se stationner de reculons dans un espace restreint	○	○	○	○	○

Using the 0–100 scale below, please indicate how much you like or dislike each of the following types of vehicles. We are interested in your perception and not your actual experience with these vehicles.

	Dislike a lot					Like a lot				No opinion
	0	10	20	30	40	50	60	70	80	90	100
SUV											
Pick-up											
Minivan											
Sedan											
Electric vehicle											

Pensez au niveau de plaisir et d'amusement que vous associez aux types de véhicules suivants. Nous nous intéressons à votre perception et non votre expérience réelle avec ces types de véhicules.

	N'aime pas beaucoup					Aime beaucoup				Pas d'opinion
	0	10	20	30	40	50	60	70	80	90	100
VUS											
Camionnette/Pick-up											
Fourgonnette/Minivan											
Berline											
Véhicule électrique											

Please indicate below how likely it is that you would choose one of the following types of vehicles when **purchasing your next primary vehicle** for private use (from 1 (=extremely unlikely) to 7 (=extremely likely)).

	extremely unlikely (1)	2	3	4	5	6	**extremely likely** (7)
SUV	○	○	○	○	○	○	○
Sedan	○	○	○	○	○	○	○
Pick-up	○	○	○	○	○	○	○
Minivan	○	○	○	○	○	○	○
Electric Vehicle	○	○	○	○	○	○	○

Veuillez indiquer ci-dessous dans quelle mesure il est probable que vous choisissiez l'un des types de véhicules suivants lors de **l'achat de votre prochain véhicule principal** (allant de 1 (=extrêmement improbable) à 7 (=extrêmement probable)).

	extrêmement improbable (1)	2	3	4	5	6	**extrêmement probable** (7)
Véhicule utilitaire sport (VUS)	○	○	○	○	○	○	○
Berline	○	○	○	○	○	○	○
Camionnette/Pick-up	○	○	○	○	○	○	○
Fourgonnette/Minivan	○	○	○	○	○	○	○
Véhicule électrique	○	○	○	○	○	○	○

What was the name of the expert cited in the news article?

- ○ Lavoie
- ○ Laporte
- ○ Lagarde

Quel était le nom de l'expert cité dans l'article de presse ?

- ○ Lavoie

○ Laporte

○ Lagarde think about yourself in general, and please rate how much you agree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
On the whole, I am satisfied with myself	○	○	○	○	○	○	○
At times I think I am not good at all	○	○	○	○	○	○	○
I feel that I have a number of good qualities	○	○	○	○	○	○	○
I am able to do things as well as most other people	○	○	○	○	○	○	○
I feel I do not have much to be proud of.	○	○	○	○	○	○	○
I certainly feel useless at times	○	○	○	○	○	○	○
I feel that I'm a person of worth	○	○	○	○	○	○	○
I wish I could have more respect for myself	○	○	○	○	○	○	○
All in all, I am inclined to think that I am a failure	○	○	○	○	○	○	○
I take a positive attitude towards myself	○	○	○	○	○	○	○

En réfléchissant à vous-même, veuillez indiquer dans quelle mesure vous êtes d'accord avec les affirmations suivantes :

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
Dans l'ensemble, je suis satisfait.e de moi-même	○	○	○	○	○	○	○
Parfois je pense que je ne suis pas bon.ne du tout	○	○	○	○	○	○	○
Je crois que j'ai un certain nombre de bonnes qualités	○	○	○	○	○	○	○
Je suis capable de faire des choses aussi bien que la plupart des autres personnes	○	○	○	○	○	○	○
J'ai l'impression que je n'ai pas de quoi être fièr.e	○	○	○	○	○	○	○
Je me sens certainement inutile par moment	○	○	○	○	○	○	○
J'estime être une personne de valeur	○	○	○	○	○	○	○
J'aimerais avoir plus de respect pour moi-même	○	○	○	○	○	○	○
Globalement, je suis porté.e à penser que je ne vaux rien	○	○	○	○	○	○	○
Je maintiens une attitude positive envers moi-même	○	○	○	○	○	○	○

Think about yourself in general, and please rate how much you agree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I often do “my own things”	○	○	○	○	○	○	○
I am a unique person, separate from others	○	○	○	○	○	○	○
It is important to me to maintain harmony within my group	○	○	○	○	○	○	○
It is important to me that I respect the decisions made by my groups	○	○	○	○	○	○	○
I’d rather depend on myself than on others	○	○	○	○	○	○	○
It is important to consult close friends and get their ideas before making a decision	○	○	○	○	○	○	○

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
Je fais souvent les choses à ma façon (selon ma propre volonté)	○	○	○	○	○	○	○
Je suis une personne unique, distincte des autres	○	○	○	○	○	○	○
Il est important pour moi de maintenir l'harmonie dans mon groupe	○	○	○	○	○	○	○
Il est important pour moi de respecter les décisions prises par mon groupe	○	○	○	○	○	○	○
J'aime mieux dépendre de moi-même que des autres	○	○	○	○	○	○	○
Il est important pour moi de consulter mes amis proches et d'avoir leur opinion avant de prendre une décision	○	○	○	○	○	○	○

Please indicate how much do you agree with the following statements.

Reading the article.....

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Made me feel insecure about the driving skills of the owners of such vehicles	○	○	○	○	○	○	○
Made me concerned about what others think about the driving skills of such vehicles	○	○	○	○	○	○	○
Made me feel that other drivers do not like the owners of such vehicles	○	○	○	○	○	○	○
Made me feel positive about the driving skills of the owners of such vehicles	○	○	○	○	○	○	○

La lecture de l'article...

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
M'a donné un sentiment d'insécurité quant aux compétences de conduite des propriétaires de ces véhicules	○	○	○	○	○	○	○
M'a rendu préoccupé.e de ce que les autres pensent des compétences de conduite reliées à ces véhicules	○	○	○	○	○	○	○
M'a fait sentir que les autres conducteurs n'appréciaient pas les propriétaires de ces véhicules	○	○	○	○	○	○	○
M'a donné un ressentiment positif quant aux compétences de conduite des propriétaires de ces véhicules	○	○	○	○	○	○	○

Please indicate your current relationship status

- ○ single
- ○ married
- ○ divorced
- ○ widowed
- ○ in a common-law partnership

Veuillez indiquer votre état civil actuel.

- ○ Célibataire
- ○ Marié. e
- ○ Divorcé. e
- ○ Veuf/veuve
- ○ En union de fait

Do you have any children?

- ○ Yes
- ○ No

Avez-vous des enfants ?

- ○ Oui
- ○ Non

Please indicate the number of children you have.

- ○ 1
- ○ 2
- ○ 3
- ○ 4 or more

Veuillez indiquer combien d’enfants vous avez.

- ○ 1
- ○ 2
- ○ 3
- ○ 4 ou plus

Where do you live?

- ○ Rural area
- ○ Small or regional city
- ○ Suburb
- ○ Large urban population center

Où résidez-vous ?

- ○ Région rurale
- ○ Petite ou moyenne ville
- ○ Banlieue
- ○ Grand centre urbain

What is your highest level of education?

- ○ Less than secondary (high) school graduation (Grade 8 or less)
- ○ Secondary (high) school diploma or equivalent
- ○ Some post-secondary education
- ○ Post-secondary certificate, diploma or degree
- ○ University Degree
- ○ I prefer not to answer

Quel est votre niveau d’études le plus élevé ?

- ○ Inférieur à un diplôme d’études secondaires
- ○ Diplôme d’études secondaires ou l’équivalent
- ○ Études postsecondaires partielles
- ○ Certificat, diplôme ou grade d’études postsecondaires
- ○ Diplôme universitaire
- ○ Je préfère ne pas répondre

What is your gross annual household income (before taxes)?

- ○ Less than $25,000
- ○ $25,000-$49,999
- ○ $50,000-$74,999
- ○ $75,000-$99,999
- ○ $100,000-$124,999
- ○ $125,000-$149,999
- ○ More than $150,000
- ○ I prefer not to answer

Quel est le revenu annuel brut (avant impôts) de votre ménage ?

- ○ Moins de 25 000 $
- ○ 25 000 $-49 999 $
- ○ 50 000 $-74 999 $
- ○ 75 000 $-99 999 $
- ○ 100 000 $-124 999 $
- ○ 125 000 $-149 999 $
- ○ Plus de 150 000 $
- ○ Je préfère ne pas répondre

End of Block: Demographics

Start of Block: Comments

Do you have any comments about this study? Is there anything you particularly liked or disliked?

_____

Avez-vous des commentaires sur cette étude ? Y a-t-il des éléments que vous avez particulièrement aimés ou pas aimés ?

_____

End of Block: Comments

7.6 Appendix 6. Sample characteristics – Study 1

Variable		Frequencies
Sex	Male	49.9%
	Female	50.1%
Age	18-24	11,8 %
	25-34	15,9 %
	35-44	22,1 %
	45-54	20,6 %
	55-64	13,6 %
	65-74	10,3 %
	75+	5,6 %
Province	Alberta	9.7%
	British Columbia	11.5%
	Manitoba	2.7%
	Maritimes	5.1%
	Ontario	42.2%
	Quebec	25.1%
	Saskatchewan	3.8%
Marital status	Single	28.0%
	Married	46.0%
	Divorced	6.2%
	Widowed	2.4%
	In a common-law partnership	17.4%
Income	Less than $25,000	6.8%
	$25,000-$49,999	14.7%
	$50,000-$74,999	17.4%
	$75,000-$99,999	18.9%
	$100,000-$124,999	14.2%

	$125,000-$149,000	8.0%
	More than $150,000	10.3%
	I prefer not to answer	9.7%
Education	Less than secondary school	1.2%
	Secondary school diploma or equivalent	12.4%
	Some post-secondary education	11.5%
	Post-secondary certificate, degree, or diploma	28.9%
	University degree	45.4%
	I prefer not to answer	.6%

7.7 Appendix 7. Descriptive Statistics - Skill Level Comparison

		Low-skilled	High-skilled
Sex	Male	42.0%	58.0%
	Female	58.2%	41.8%
Age	18–24	72.5%	27.5%
	25–34	57.4%	42.6%
	35–44	50.7%	49.3%
	45–54	48.6%	51.4%
	55–64	32.6%	67.4%
	65–74	42.9%	57.1%
	75+	42.1%	57.9%
Vehicle Type	SUV	42.7%	57.3%
	Pick-up	47.8%	52.2%
	Minivan	47.6%	52.4%
	Sedan	56.1%	43.9%
Driving years	(Mean)	21.51	30
Income	Less than $25,000	56.5	43.5
	$25,000-$49,999	48.0	52.0
	$50,000-$74,999	52.5	47.5
	$75,000-$99,999	37.5	62.5
	$100,000-$124,999	54.2	45.8
	$125,000-$149,000	51.9	48.1

	More than $150,000	57.1	42.9
	I prefer not to answer	54.5	45.5
Education	Less than secondary school	0.0	100.0
	Secondary school diploma or equivalent	42.9	57.1
	Some post-secondary education	48.7	51.3
	Post-secondary certificate, degree, or diploma	42.9	57.1
	University degree	58.4	41.6
	I prefer not to answer	50.0	50.0

7.8 Appendix 8. Descriptive Statistics - Self-Esteem

		Low self-esteem	High self-esteem
Sex	Male	53.3%	46.7%
	Female	49.4%	50.6%
Age	18–24	80%	20%
	25–34	59.3%	40.7%
	35–44	60.0%	40.0%
	45–54	47.1%	52.9%
	55–64	30.4%	69.6%
	65–74	31.4%	68.6%
	75+	36.8%	63.2%
Vehicle type	SUV	45.2%	54.8%
	Pick-up	56.5%	43.5%
	Minivan	47.6%	52.4%
	Sedan	56.1%	43.9%
Driving years	(Average)	20.16 years	31.62 years
Income	Less than $25,000	47.8%	52.2%
	$25,000-$49,999	58%	42%
	$50,000-$74,999	54.2%	45.8%
	$75,000-$99,999	54.7%	45.3%
	$100,000-$124,999	52.1%	47.9%
	$125,000-$149,000	48.1%	51.9%
	More than $150,000	37.1%	62.9%
	I prefer not to answer	48.5%	51.5%
Education	Less than secondary school	75%	25%

	Secondary school diploma or equivalent	50%	50%
	Some post-secondary education	56.4%	43.6%
	Post-secondary certificate, degree, or diploma	50%	50%
	University degree	51.3%	48.7%
	I prefer not to answer	0%	100%

7.9 Appendix 9. Control Condition for Experiment 2 – Social Norm

TENDANCES AUTOMOBILES

Commentaires de nos derniers forums

"Je suis surprise de constater que, même si la pandémie nous a essentiellement confinés chez nous, le nombre de véhicules au Canada a en fait augmenté. Si l'on examine les pays qui possèdent le plus grand nombre de véhicules par habitant, le Canada se classe maintenant au 5e rang mondial. Je me demande ce qui se passe." [Maria]

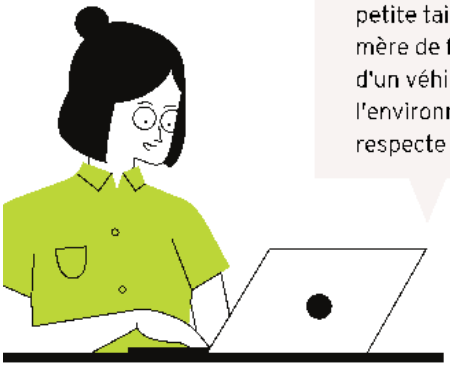
"Il semble que les gens repensent leurs modes de transport. Par exemple, les recherches mondiales sur le web pour "concessionnaires de véhicules près de chez moi" ont augmenté de 30 % en une seule semaine. La pandémie a en fait stimulé le marché de l'automobile. J'aurais supposé la tendance inverse, et un ralentissement des ventes de véhicules. Ce monde est un endroit étrange." [Robert]

"Des temps et des tendances étranges, en effet ! Je suis curieux de voir si ces tendances se maintiendront dans les années à venir. L'arrivée de la conduite autonome va ajouter une nouvelle dynamique au marché. Les véhicules autonomes augmenteront-ils encore le nombre de véhicules sur la route ? " [Joanne]

7.10 Appendix 10. Manipulation Pro-Compact Car

TENDANCES AUTOMOBILES

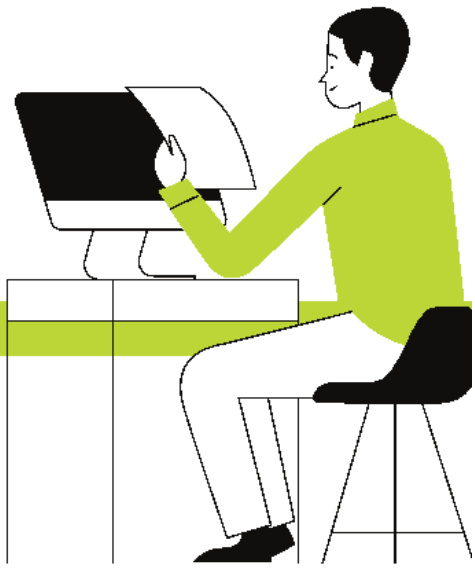
Commentaires de nos derniers forums



"Il y a quelque chose de très cool à posséder un véhicule de petite taille comme une berline. Si vous êtes un père ou une mère de famille de banlieue qui possèdez une berline au lieu d'un véhicule plus grand comme un VUS, qui est pire pour l'environnement et le trafic automobile en général, je vous respecte vraiment. Vous êtes une bonne personne." [Maria]

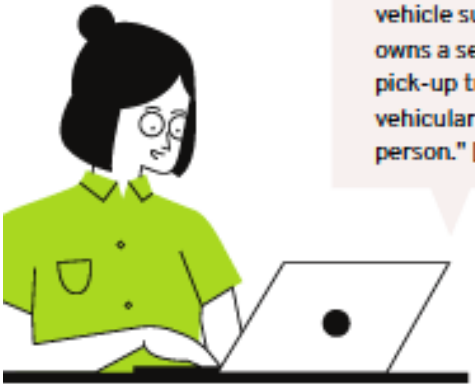
"Les personnes qui conduisent des véhicules plus petits, comme les berlines, se soucient de l'environnement et de la société en général. Les berlines ont été créées pour une raison précise : se rendre d'un point A à un point B sans surcharger le trafic automobile. En conduisant une berline, ils montrent à la société qu'ils se soucient des autres." [Robert]

"Ces dernières années, j'ai vu de plus en plus de véhicules de plus petite taille, comme les berlines, et j'en suis très heureux. Tout le monde a besoin de ces véhicules plus petits, qui permettent d'économiser de l'essence, et je pense donc que c'est une très bonne évolution !" [Joanne]



AUTOMOBILE TRENDS

Comments from our latest forums



"There is something very cool about owning a smaller sized vehicle such as a sedan. If you're a suburban dad/mom who owns a sedan instead of a larger sized alternative such as a pick-up truck, which is worse for the environment and vehicular traffic in general, I really respect you. You are a good person." [Maria]

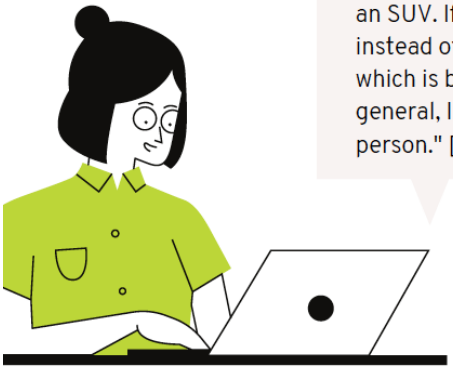
"People who drive smaller sized vehicles such as sedans care about the environment and the society in general. Sedans were created for a reason - to commute from point A to B without overwhelming vehicular traffic. By driving a sedan, they show the society that they care about the others." [Robert]

"The last years, I have been seeing more and more smaller sized vehicles such as sedans and that makes me really happy. Everyone needs such smaller, gas-saving vehicles, so I think this is a very good development!" [Joanne]

7.11 Appendix 11. Manipulation Anti-SUV

AUTOMOBILE TRENDS

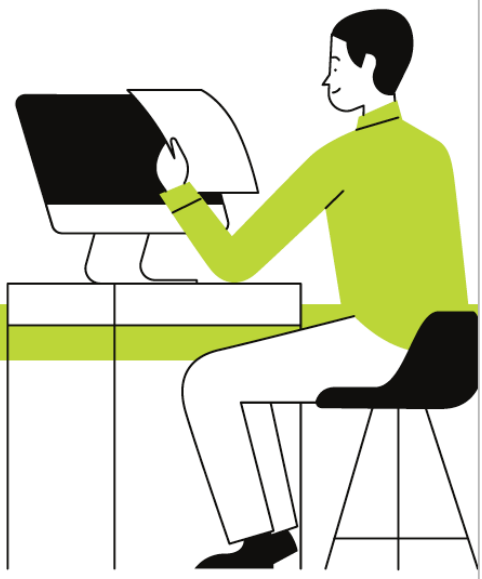
Comments from our latest forums



"There is nothing cool about owning a large vehicle such as an SUV. If you're a suburban dad/mom who owns an SUV instead of a smaller sized alternative such as a sedan, which is better for the environment and vehicular traffic in general, I really do not respect you. You are a not a good person." [Maria]

"People who drive larger sized vehicles such as SUVs just don't care about the environment and society in general. These large vehicles were created for a specific reason - to move stuff that normal cars could not move. But driving an SUV without a real reason, just because you like sitting up higher, that really shows that you don't care about others!" [Robert]

"The last years, I have been seeing fewer and fewer of these gigantic vehicles such as SUVs and pick-up trucks and that makes me really happy. Barely anyone needs such large, gas-guzzling vehicles, so I think this is a very good development!" [Joanne]



TENDANCES AUTOMOBILES

Commentaires de nos derniers forums

"Il n'y a rien de cool à posséder un gros véhicule tel qu'un VUS. Si vous êtes un père ou une mère de famille de banlieue qui possède un VUS au lieu d'une alternative de plus petite taille comme une berline, qui est meilleure pour l'environnement et le trafic automobile en général, je ne vous respecte vraiment pas. Vous n'êtes pas une bonne personne." [Maria]

"Les personnes qui conduisent des véhicules de grande taille, comme les VUS, ne se soucient tout simplement pas de l'environnement et de la société en général. Ces grands véhicules ont été créés pour une raison spécifique - pour déplacer des choses que les voitures normales ne pouvaient pas déplacer. Mais conduire un SUV sans véritable raison, juste parce que vous aimez être assis plus haut, cela montre vraiment que vous ne vous souciez pas des autres !" [Robert]

"Ces dernières années, je vois de moins en moins de ces véhicules gigantesques comme les SUV et les pick-up et cela me rend vraiment heureux. Presque personne n'a besoin de ces gros véhicules qui consomment beaucoup d'essence, alors je pense que c'est une très bonne évolution!" [Joanne]

7.12 Appendix 12. Full Survey Instrument – Study 2

SUV Norms - FINAL

Start of Block: Consent

Welcome!

You are invited to participate in a research project by investigators from HEC Montreal. The purpose of this study is to see how people make choices. At the end we also have some demographic questions.

Your participation is voluntary and you may withdraw from the study at any time simply by closing the browser window. No identifying information will be collected with the study data, so your anonymity is ensured.
The results of this study may be published in professional and/or scientific journals. It may also be used for educational purposes or for professional presentations. When results are reported no individual respondent will be identified.

Since your first impressions best reflect your true opinions, we would ask that you please answer the questions included in this questionnaire without any hesitation. There is no time limit for completing the questionnaire, although we have estimated that it should take about 8 minutes.

Risks and Benefits
There are no risks involved in the completion of this study. While you will not directly benefit from participation beyond the stated compensation, your participation may help investigators better understand how people make decisions.
You are free to refuse to participate in this project and you may decide to stop answering the questions at any time.

By completing this questionnaire, you will be considered as having given your consent to participate in our research project and to the potential use of data collected from this questionnaire in future research.

Contacts
HEC Montréal's Research Ethics Board has determined that the data collection related to this study meets the ethics standards for research involving human subjects. If you have any questions related to ethics, please contact the REB secretary at (514) 340-7182 or by email at cer@hec.ca.
If you have any questions about this study, then please contact Verena Gruber (verena.gruber@hec.ca).

Bienvenue !

Vous êtes invité.e à participer à un projet de recherche proposé par des chercheurs à HEC Montréal. L'objectif de cette étude est de mieux comprendre comment les individus font leur choix. Il y a également des questions démographiques à la fin de l'enquête.

Votre participation est volontaire et vous pouvez quitter l'enquête en tout temps en fermant simplement la fenêtre de votre navigateur. Aucune donnée d'identification ne sera collectée avec les données de l'enquête, donc votre anonymat est assuré.
Les résultats de l'étude pourraient être publiés dans des journaux professionnels et/ou scientifiques. Ils pourraient également être utilisés à des fins académiques, ou pour des présentations professionnelles. Aucun répondant individuel ne sera identifié dans la présentation des résultats.

Puisque vos premières impressions reflètent le mieux vos opinions, nous vous demandons de répondre aux questions de cette enquête sans hésitation. Il n'y a pas de limite de temps pour compléter ce

questionnaire, mais nous avons estimé que le tout devrait prendre autour de **8 minutes**.

Risques et avantages potentiels
Il n'y a aucun risque associé à votre participation à cette enquête. Vous ne tirez pas de bénéfice mis à part la compensation fixée au préalable ; toutefois votre participation aidera les chercheurs à mieux comprendre les processus de prise de décision des invidivus.
Vous êtes entièrement libre de refuser de participer à ce projet, et pouvez décider d'arrêter de répondre aux questions en tout temps.

Si vous complétez ce questionnaire, nous considérerons que vous avez donné votre consentement à participer à notre projet de recherche, et à l'usage potentiel des données recueillies dans ce questionnaire dans toutes recherches futures.

Contacts
Le comité d'éthique en recherche de HEC Montréal a déterminé que la cueillette de données reliée à cette enquête est conforme aux standards d'éthique pour la recherche impliquant des sujets humains. Si vous avez des questions reliées à l'éthique, veuillez contacter le secrétariat du CER au (514) 340-7182, ou par courriel au cer@hec.ca.
Si vous avez des questions par rapport à cette enquête, veuillez contacter Verena Gruber (verena.gruber@hec.ca).

Do you agree to participate in this study?

- ○ Yes
- ○ No

Acceptez-vous de participer à cette étude ?

- ○ Oui
- ○ Non

Do you have a vehicle at your household that you use regularly?

- ○ Yes
- ○ No

Avez-vous un véhicule à votre domicile que vous utilisez régulièrement ?

- ○ Oui
- ○ Non

What is your sex?

- ○ Male
- ○ Female
- ○ I prefer not to answer
- ○ Other

Quel est votre sexe ?

- ○ Homme
- ○ Femme
- ○ Je préfère ne pas répondre
- ○ Autre

What is your age?

- ○ 18–24 years old
- ○ 25–34 years old
- ○ 35–44 years old
- ○ 45–54 years old
- ○ 55–64 years old
- ○ 65–74 years old
- ○ 75 years or older

Quel âge avez-vous ?

- ○ 18-24 ans
- ○ 25-34 ans
- ○ 35-44 ans
- ○ 45-54 ans
- ○ 55-64 ans
- ○ 65-74 ans
- ○ 75 ans et plus

In which province do you live?

- ○ Alberta
- ○ British Columbia
- ○ Manitoba
- ○ New Brunswick
- ○ Newfoundland and Labrador
- ○ Northwest Territories
- ○ Nova Scotia
- ○ Nunavut
- ○ Ontario
- ○ Prince Edward Island

- ○ Quebec
- ○ Saskatchewan
- ○ Yukon

Dans quelle province résidez-vous ?

- ○ Alberta
- ○ Colombie-Britannique
- ○ Manitoba
- ○ Nouveau-Brunswick
- ○ Terre-Neuve-et-Labrador
- ○ Territoires du Nord-Ouest
- ○ Nouvelle-Écosse
- ○ Nunavut
- ○ Ontario
- ○ Île-du-Prince-Édouard
- ○ Québec
- ○ Saskatchewan
- ○ Territoire du Yukon

This survey includes three separate short studies. The first is related to your perceptions of different vehicles that are currently available on the market. In a second part, we would like to know how a typical day looked like for you before the pandemic. We ask you to describe such a day in as much detail as possible. In the third part, you will see snippets from an online forum and get questions about your comprehension of them.

- ○ I understand the instructions
- ○ I do not understand the instructions

Ce sondage comporte trois courtes études distinctes. La première est reliée à votre perception de différents véhicules actuellement disponibles sur le marché. Dans la deuxième étude, nous nous penchons sur l'aspect d'une journée typique pour vous avant la pandémie. Nous vous demanderons de décrire cette journée typique avec le plus de détail possible. Dans la troisième partie du sondage, vous

verrez des commentaires extraits d'un forum en ligne, et devrez répondre à des questions portant sur votre compréhension de ces extraits.

- ○ Je comprends les instructions
- ○ Je ne comprends pas les instructions

In this first part of the study, please share with us your opinions regarding different vehicles on the market.

Dans cette première partie de l'étude, partagez avec nous vos opinions sur les différents véhicules du marché.

Which of the following vehicle types do you have at your household?
Note: If you have several vehicles, please think about your primary vehicle.

- ○ SUV
- ○ Pick-up
- ○ Minivan
- ○ Sedan
- ○ Electric vehicle (please indicate the type):

_____

- ○ Other (please specify): _____

Quel est le type de votre véhicule parmi ceux proposés ?
Note : Si vous avez plusieurs véhicules, veuillez penser et répondre pour votre véhicule principal.

- ○ VUS
- ○ Camionnette/Pick-up
- ○ Fourgonnette/Minivan
- ○ Berline
- ○ Véhicule électrique (veuillez indiquer le type):

_____

- ○ Autre (veuillez préciser): _____

Please indicate for how many years have you been driving:

_____

Veuillez indiquer depuis combien d'années vous conduisez :

_____

What kind of transmission does your vehicle have?

- ○ Automatic
- ○ Manual
- ○ I don't know

Quel est le type de transmission de votre véhicule ?

- ○ Automatique
- ○ Manuelle
- ○ Je ne sais pas

Using the 0–100 scale below, please indicate how much you like or dislike each of the following types of vehicles. We are interested in your perception and not your actual experience with these vehicles.

	Dislike a lot					Like a lot				No opinion
	0	10	20	30	40	50	60	70	80	90	100
SUV											
Pick-up											
Minivan											
Sedan											
Electric vehicle											

Pensez au niveau de plaisir et d'amusement que vous associez aux types de véhicules suivants. Nous nous intéressons à votre perception et non votre expérience réelle avec ces types de véhicules.

	N'aime pas beaucoup	Aime beaucoup	Pas d'opinion

	0	10	20	30	40	50	60	70	80	90	100
VUS											
Camionnette/Pick-up											
Fourgonnette/Minivan											
Berline											
Véhicule électrique											

Please let us know how you feel about the following vehicles in more detail:

Veuillez nous partager comment vous vous sentez par rapport aux véhicules suivants en plus grand détail :

Pick-up truck:

	1	2	3	4	5	6	7	
Dull	○	○	○	○	○	○	○	Fun
Bad	○	○	○	○	○	○	○	Good
Uncomfortable	○	○	○	○	○	○	○	Comfortable
Inconvenient	○	○	○	○	○	○	○	Convenient

Camionnette/Pick-up ::

	1	2	3	4	5	6	7	
Ennuyant	○	○	○	○	○	○	○	Amusant
Mauvais	○	○	○	○	○	○	○	Bon
Inconfortable	○	○	○	○	○	○	○	Confortable
Incommode	○	○	○	○	○	○	○	Pratique

Minivan:

	1	2	3	4	5	6	7	
Dull	○	○	○	○	○	○	○	Fun
Bad	○	○	○	○	○	○	○	Good
Uncomfortable	○	○	○	○	○	○	○	Comfortable
Inconvenient	○	○	○	○	○	○	○	Convenient

Fourgonnette/Minivan :

	1	2	3	4	5	6	7	
Ennuyant	○	○	○	○	○	○	○	Amusant
Mauvais	○	○	○	○	○	○	○	Bon
Inconfortable	○	○	○	○	○	○	○	Confortable
Incommode	○	○	○	○	○	○	○	Pratique

SUV:

	1	2	3	4	5	6	7	
Dull	○	○	○	○	○	○	○	Fun
Bad	○	○	○	○	○	○	○	Good
Uncomfortable	○	○	○	○	○	○	○	Comfortable
Inconvenient	○	○	○	○	○	○	○	Convenient

VUS :

	1	2	3	4	5	6	7	
Ennuyant	○	○	○	○	○	○	○	Amusant
Mauvais	○	○	○	○	○	○	○	Bon
Inconfortable	○	○	○	○	○	○	○	Confortable
Incommode	○	○	○	○	○	○	○	Pratique

Sedan:

	1	2	3	4	5	6	7	
Dull	○	○	○	○	○	○	○	Fun
Bad	○	○	○	○	○	○	○	Good
Uncomfortable	○	○	○	○	○	○	○	Comfortable
Inconvenient	○	○	○	○	○	○	○	Convenient

Berline :

	1	2	3	4	5	6	7	
Ennuyant	○	○	○	○	○	○	○	Amusant
Mauvais	○	○	○	○	○	○	○	Bon
Inconfortable	○	○	○	○	○	○	○	Confortable
Incommode	○	○	○	○	○	○	○	Pratique

Electric vehicle:

	1	2	3	4	5	6	7	
Dull	○	○	○	○	○	○	○	Fun
Bad	○	○	○	○	○	○	○	Good
Uncomfortable	○	○	○	○	○	○	○	Comfortable
Inconvenient	○	○	○	○	○	○	○	Convenient

Véhicule électrique :

	1	2	3	4	5	6	7	
Ennuyant	○	○	○	○	○	○	○	Amusant
Mauvais	○	○	○	○	○	○	○	Bon
Inconfortable	○	○	○	○	○	○	○	Confortable
Incommode	○	○	○	○	○	○	○	Pratique

Please indicate below how likely it is that you would choose one of the following types of vehicles when **purchasing your next primary vehicle** for private use (from 1 (=extremely unlikely) to 7 (=extremely likely)).

	extremely unlikely (1)	2	3	4	5	6	**extremely likely** (7)
SUV	○	○	○	○	○	○	○
Sedan	○	○	○	○	○	○	○
Pick-up	○	○	○	○	○	○	○
Minivan	○	○	○	○	○	○	○
Electric Vehicle	○	○	○	○	○	○	○

Veuillez indiquer ci-dessous dans quelle mesure il est probable que vous choisissiez l'un des types de véhicules suivants lors de **l'achat de votre prochain véhicule principal** (allant de 1 (=extrêmement improbable) à 7 (=extrêmement probable)).

	extrêmement improbable (1)	2	3	4	5	6	**extrêmement probable** (7)
Véhicule utilitaire sport (VUS)	○	○	○	○	○	○	○
Berline	○	○	○	○	○	○	○
Camionnette/Pick-up	○	○	○	○	○	○	○
Fourgonnette/Minivan	○	○	○	○	○	○	○
Véhicule électrique	○	○	○	○	○	○	○

Thank you for sharing your opinions with us. We will now proceed with the second part of the study.

Merci d'avoir partagé vos opinions. Nous procédons maintenant à la deuxième partie dusondage.

A day in your life before the pandemic

In this study, we ask you to provide a detailed description (minimum of 500 characters) of a typical day in

your life before the pandemic. In the below text box, please describe how a typical weekday looked like for you:

_____

Une journée typique dans votre vie avant la pandémie

Dans cette étude, nous vous demandons de fournir une description détaillée(minimum 500 caractères) d'une journée typique dans votre vie avant la pandémie. Dans la zone de texte ci-dessous, veuillez décrire un jour de semaine typique :

_____

To what extent do you feel your life has changed?

	1	2	3	4	5	6	7	
Completely Changed	○	○	○	○	○	○	○	

Dans quelle mesure pensez-vous que votre vie a changé ?

	1	2	3	4	5	6	7	
Complètement Inchangée	○	○	○	○	○	○	○	Complètement Changée

Thank you for sharing with us how a typical day in your pre-pandemic life looked like. We will now proceed with the third and last part of this questionnaire. You will see snippets of an online forum and are asked to answer questions related to this. Please carefully read the text to answer the subsequent questions.

Merci d'avoir partagé votre journée typique pré-pandémie. Nous procédons maintenant à la troisième et dernière partie de ce questionnaire. Vous verrez des extraits d'un forum en ligne et devrez répondre à des questions relatives à ces extraits. Merci de lire le texte attentivement pour répondre aux questions suivantes.

Having read the insights of the online forum regarding automobile trends, please answer the following questions.

Après avoir lu les informations du forum en ligne automotive trends, veuillez répondre aux questions suivantes.

In general, I found the excerpt to be...

Very poorly written	○	○	○	○	○	○	○	Very well written
Not interesting at all	○	○	○	○	○	○	○	Highly interesting
Not relevant to me at all	○	○	○	○	○	○	○	Highly relevant to me

En général, j'ai trouvé que l'extrait était .....

Très mal écrit	○	○	○	○	○	○	○	Très bien écrit
Pas du tout intéressant	○	○	○	○	○	○	○	Très intéressant
Pas du tout pertinent pour moi	○	○	○	○	○	○	○	Très pertinent pour moi

Which of the following names **DID NOT** appear in the article?

- ○ Maria
- ○ Robert
- ○ Alice

Lequel des noms suivants n'a pas figuré dans l'article ?

- ○ Maria
- ○ Robert
- ○ Johanna

Using the 0–100 scale below, please indicate how much you like or dislike each of the following types of vehicles. We are interested in your perception and not your actual experience with these vehicles.

	Dislike a lot					Like a lot				No opinion
	0	10	20	30	40	50	60	70	80	90	100
SUV											
Pick-up											
Minivan											
Sedan											
Electric vehicle											

Pensez au niveau de plaisir et d'amusement que vous associez aux types de véhicules suivants. Nous nous intéressons à votre perception et non votre expérience réelle avec ces types de véhicules.

	N'aime pas beaucoup										Aime beaucoup	Pas d'opinion
	0	10	20	30	40	50	60	70	80	90	100	
VUS												
Camionnette/Pick-up												
Fourgonnette/Minivan												
Berline												
Véhicule électrique												

Please indicate below how likely it is that you would choose one of the following types of vehicles when **purchasing your next primary vehicle** for private use (from 1 (=extremely unlikely) to 7 (=extremely likely)).

	extremely unlikely (1)	2	3	4	5	6	**extremely likely** (7)
SUV	○	○	○	○	○	○	○
Sedan	○	○	○	○	○	○	○
Pick-up	○	○	○	○	○	○	○
Minivan	○	○	○	○	○	○	○
Electric Vehicle	○	○	○	○	○	○	○

Veuillez indiquer ci-dessous dans quelle mesure il est probable que vous choisissiez l'un des types de véhicules suivants lors de **l'achat de votre prochain véhicule principal** (allant de 1 (=extrêmement improbable) à 7 (=extrêmement probable)).

	extrêmement improbable (1)	2	3	4	5	6	**extrêmement probable** (7)
Véhicule utilitaire sport (VUS)	○	○	○	○	○	○	○
Berline	○	○	○	○	○	○	○
Camionnette/Pick-up	○	○	○	○	○	○	○
Fourgonnette/Minivan	○	○	○	○	○	○	○
Véhicule électrique	○	○	○	○	○	○	○

Think about yourself in general, and please rate how much you agree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I often do “my own things”	○	○	○	○	○	○	○
I am a unique person, separate from others	○	○	○	○	○	○	○
It is important to me to maintain harmony within my group	○	○	○	○	○	○	○
It is important to me that I respect the decisions made by my groups	○	○	○	○	○	○	○
I’d rather depend on myself than on others	○	○	○	○	○	○	○
It is important to consult close friends and get their ideas before making a decision	○	○	○	○	○	○	○

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
Je fais souvent les choses à ma façon (selon ma propre volonté)	○	○	○	○	○	○	○
Je suis une personne unique, distincte des autres	○	○	○	○	○	○	○
Il est important pour moi de maintenir l'harmonie dans mon groupe	○	○	○	○	○	○	○
Il est important pour moi de respecter les décisions prises par mon groupe	○	○	○	○	○	○	○
J'aime mieux dépendre de moi-même que des autres	○	○	○	○	○	○	○
Il est important pour moi de consulter mes amis proches et d'avoir leur opinion avant de prendre une décision	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I often consult other people to help choose the best alternative available from a product class.	○	○	○	○	○	○	○
To make sure I buy the right product or brand, I often observe what others are buying and using.	○	○	○	○	○	○	○
If I have little experience with a product, I often ask my friends about the product.	○	○	○	○	○	○	○
I frequently gather information from friends and family about a product before I buy.	○	○	○	○	○	○	○

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
Je consulte souvent d'autres personnes pour m'aider à choisir la meilleure alternative possible dans un groupe de produits.	○	○	○	○	○	○	○
Pour être certain d'acheter le bon produit ou la bonne marque, j'observe souvent ce que les autres achètent et utilisent.	○	○	○	○	○	○	○
Si j'ai peu d'expérience avec un produit, j'interroge souvent mes amis sur celui-ci.	○	○	○	○	○	○	○
Je collecte souvent de l'information sur un produit auprès de mes amis et ma famille avant de l'acheter.	○	○	○	○	○	○	○
	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

I become frustrated when I am unable to make free and independent decisions	○	○	○	○	○	○	○
I am contented only when I am acting of my own free will	○	○	○	○	○	○	○
When something is prohibited, I usually think “that’s exactly what I am going to do”	○	○	○	○	○	○	○
It disappoints me to see others submitting to society’s standards and rules	○	○	○	○	○	○	○
I resist the attempts of others to influence me	○	○	○	○	○	○	○
It makes me angry when another person is held up as a roc model for me to follow	○	○	○	○	○	○	○
I consider advice from others to be an intrusion	○	○	○	○	○	○	○

When someone forces me to do something, I feel like doing the opposite	○	○	○	○	○	○	○

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
Je deviens frustré.e lorsque je suis incapable déprendre des décisions libres et indépendantes	○	○	○	○	○	○	○
Je suis content.e seulement lorsque je peux agir de ma propre volonté	○	○	○	○	○	○	○
Quand une chose est interdite, je me dis habituellement : c'est exactement ça que je vais faire	○	○	○	○	○	○	○
Il me déçoit de voir les autres se soumettre aux standards et règles de la société	○	○	○	○	○	○	○
Je résiste les tentatives des autres pour m'influencer	○	○	○	○	○	○	○
Il me fâche devoir une autre personne considérée comme un modèle que je dois suivre	○	○	○	○	○	○	○
Je considère les conseils des autres comme une intrusion	○	○	○	○	○	○	○
Quand quelqu'un m'oblige à faire quelque chose, je veux faire l'inverse	○	○	○	○	○	○	○

Please indicate your current relationship status

- ○ single
- ○ married
- ○ divorced
- ○ widowed
- ○ in a common-law partnership

Veuillez indiquer votre état civil actuel.

- ○ Célibataire
- ○ Marié. e
- ○ Divorcé. e
- ○ Veuf/veuve
- ○ En union de fait

Do you have any children?

- ○ Yes
- ○ No

Avez-vous des enfants ?

- ○ Oui
- ○ Non

Please indicate the number of children you have.

- ○ 1
- ○ 2
- ○ 3
- ○ 4 or more

Veuillez indiquer combien d’enfants vous avez.

- ○ 1
- ○ 2
- ○ 3
- ○ 4 ou plus

Where do you live?

- ○ Rural area
- ○ Small or regional city
- ○ Suburb
- ○ Large urban population center

Où résidez-vous ?

- ○ Région rurale
- ○ Petite ou moyenne ville
- ○ Banlieue
- ○ Grand centre urbain

What is your highest level of education?

- ○ Less than secondary (high) school graduation (Grade 8 or less)
- ○ Secondary (high) school diploma or equivalent
- ○ Some post-secondary education
- ○ Post-secondary certificate, diploma or degree
- ○ University Degree
- ○ I prefer not to answer

Quel est votre niveau d'études le plus élevé ?

- ○ Inférieur à un diplôme d'études secondaires
- ○ Diplôme d'études secondaires ou l'équivalent
- ○ Études postsecondaires partielles
- ○ Certificat, diplôme ou grade d'études postsecondaires
- ○ Diplôme universitaire
- ○ Je préfère ne pas répondre

What is your gross annual household income (before taxes)?

- ○ Less than $25,000
- ○ $25,000-$49,999
- ○ $50,000-$74,999
- ○ $75,000-$99,999
- ○ $100,000-$124,999
- ○ $125,000-$149,999
- ○ More than $150,000
- ○ I prefer not to answer

Quel est le revenu annuel brut (avant impôts) de votre ménage ?

- ○ Moins de 25 000 $
- ○ 25 000 $-49 999 $
- ○ 50 000 $-74 999 $
- ○ 75 000 $-99 999 $
- ○ 100 000 $-124 999 $
- ○ 125 000 $-149 999 $
- ○ Plus de 150 000 $
- ○ Je préfère ne pas répondre

Do you have any comments about this study? Is there anything you particularly liked or disliked?

_____

Avez-vous des commentaires sur cette étude ? Y a-t-il des éléments que vous avez particulièrement aimés ou pas aimés ?

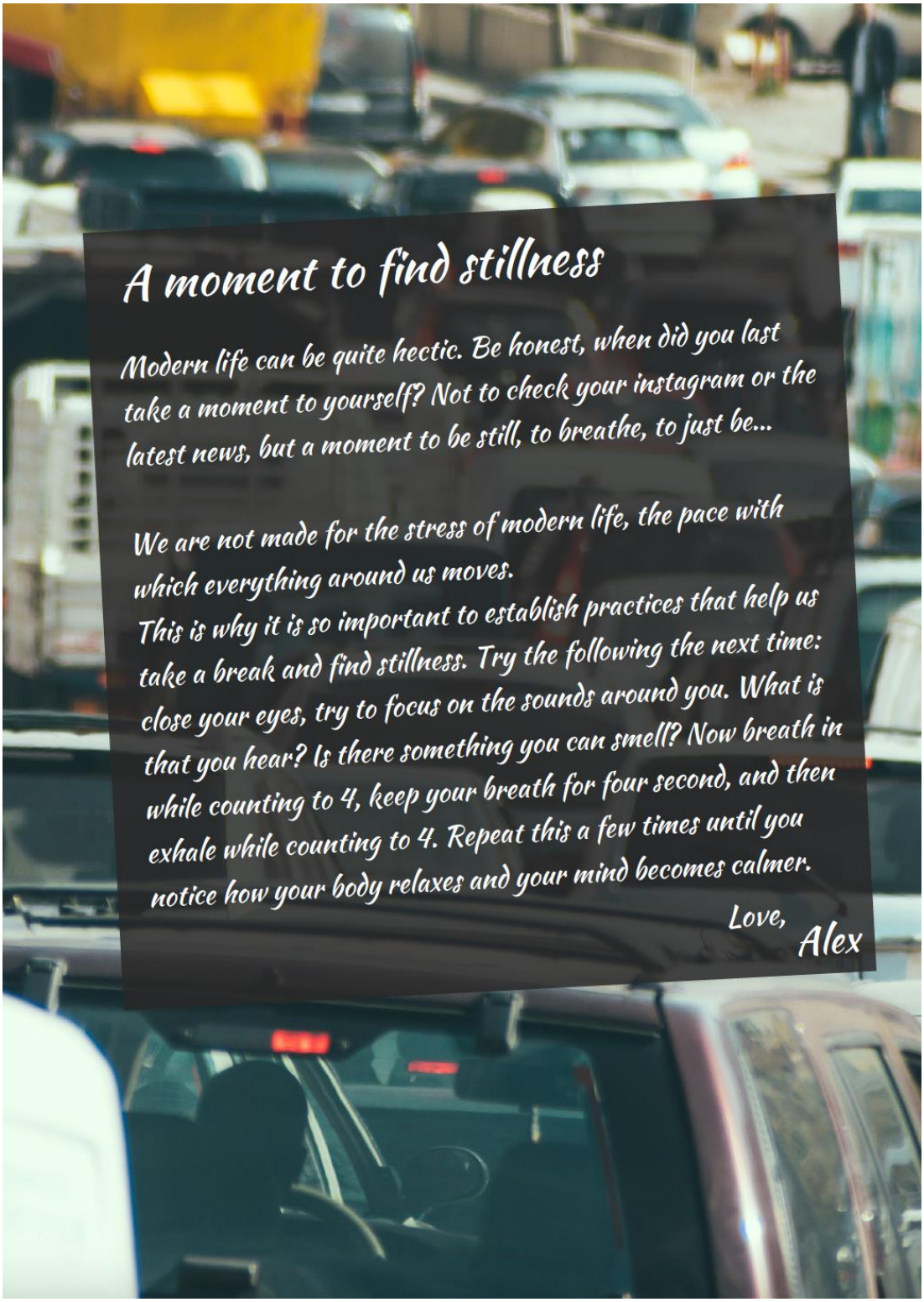
_____

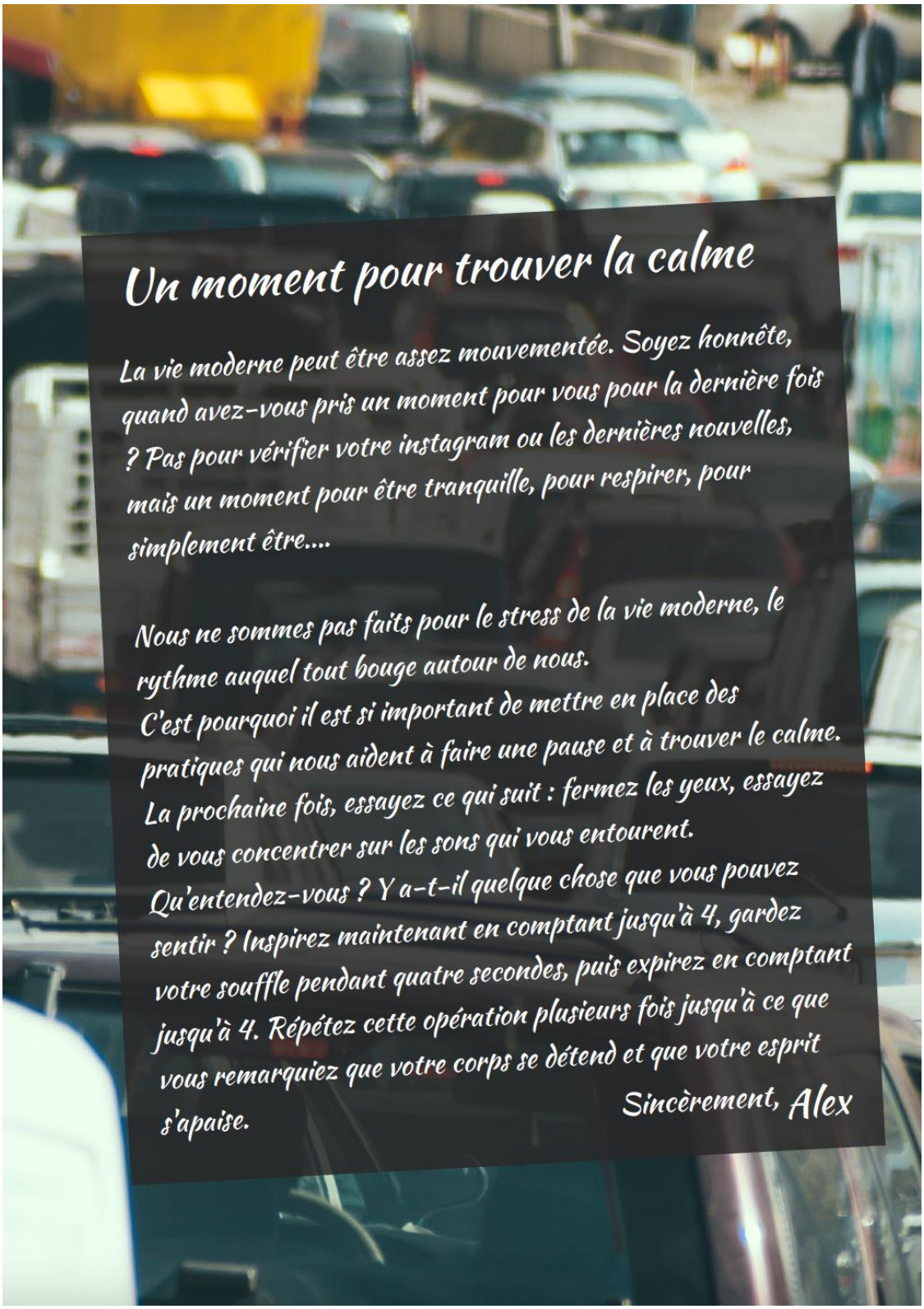
7.13 Appendix 13. Sample Characteristics – Study 2

Variable		Frequencies
Sex	Male	43.8%
	Female	55.9%
	Other/prefer not to answer	0.3%
Age	18–24	15,0 %
	25–34	15,9 %
	35–44	20,0 %
	45–54	22,9 %
	55–64	12,4 %
	65–74	10,3 %
	75+	3,5 %
Province	Alberta	7.9%
	British Columbia	14.4%
	Manitoba	5.6%
	Maritimes	8.2%
	Ontario	40.3%
	Quebec	22.4%
	Saskatchewan	1.2%
Marital status	Single	32.4%
	Married	42.4%
	Divorced	6.2%
	Widowed	3.2%
	In a common-law partnership	15.9%
Income	Less than $25,000	5.9%
	$25,000-$49,999	13.2%
	$50,000-$74,999	18.5%
	$75,000-$99,999	15.3%
	$100,000-$124,999	12.4%

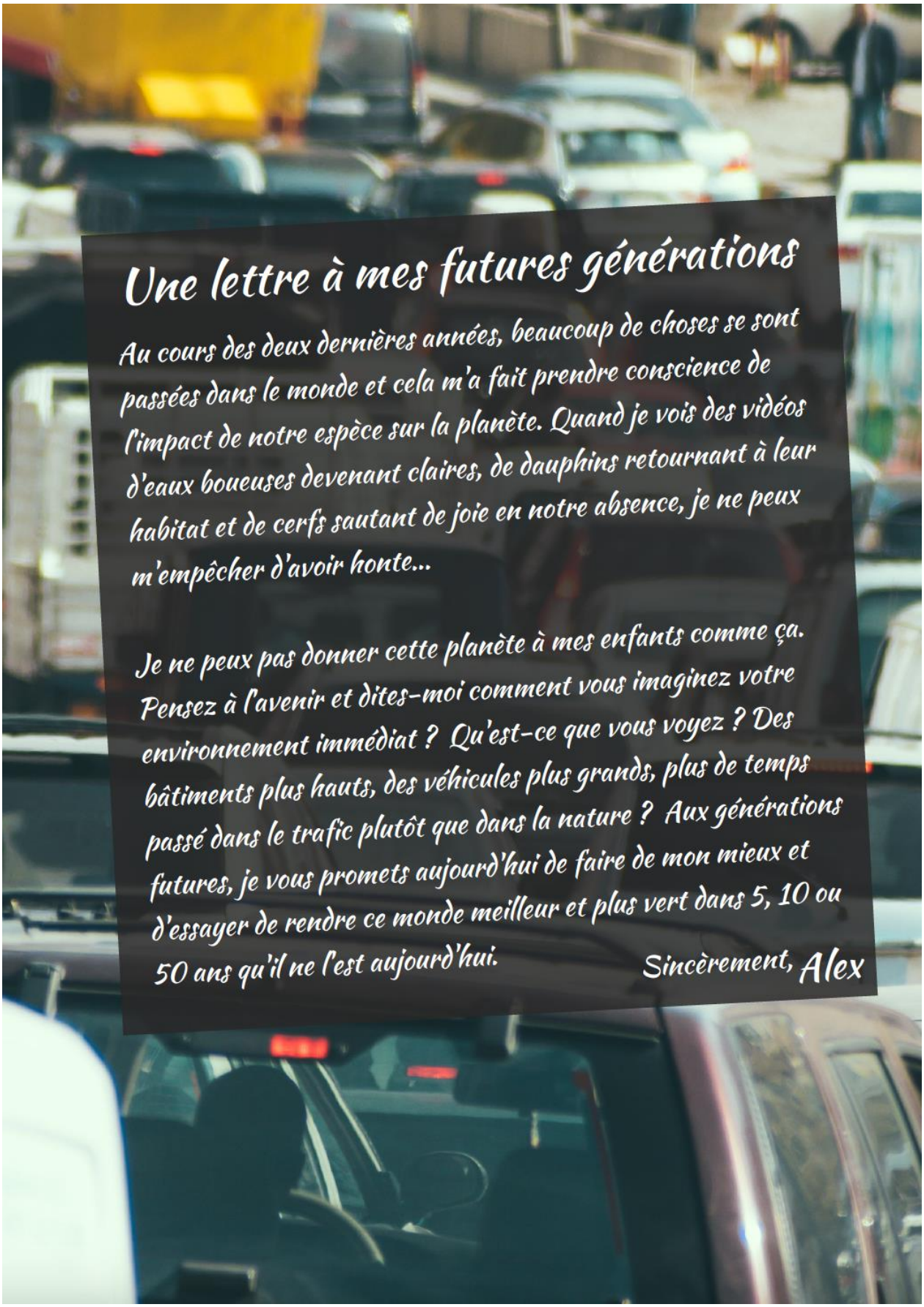
	$125,000-$149,000	11.5%
	More than $150,000	13.2%
	I prefer not to answer	10.0%
Education	Less than secondary school	0.3%
	Secondary school diploma or equivalent	10.6%
	Some post-secondary education	12.6%
	Post-secondary certificate, degree, or diploma	28.2%
	University degree	47.6%
	I prefer not to answer	0.6%

7.14 Appendix 14. Control Condition for Experiment 3 - Temporal Orientation

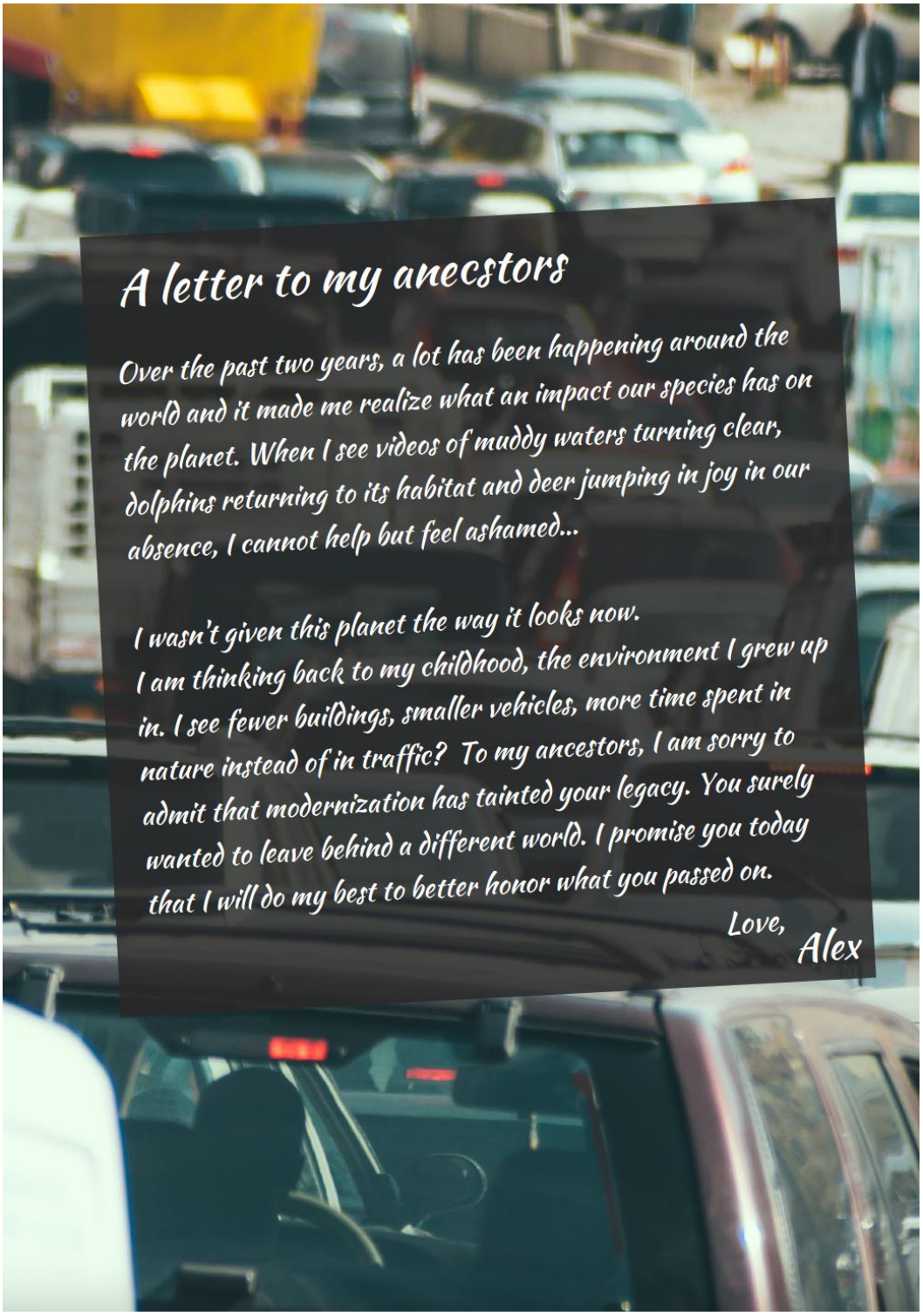


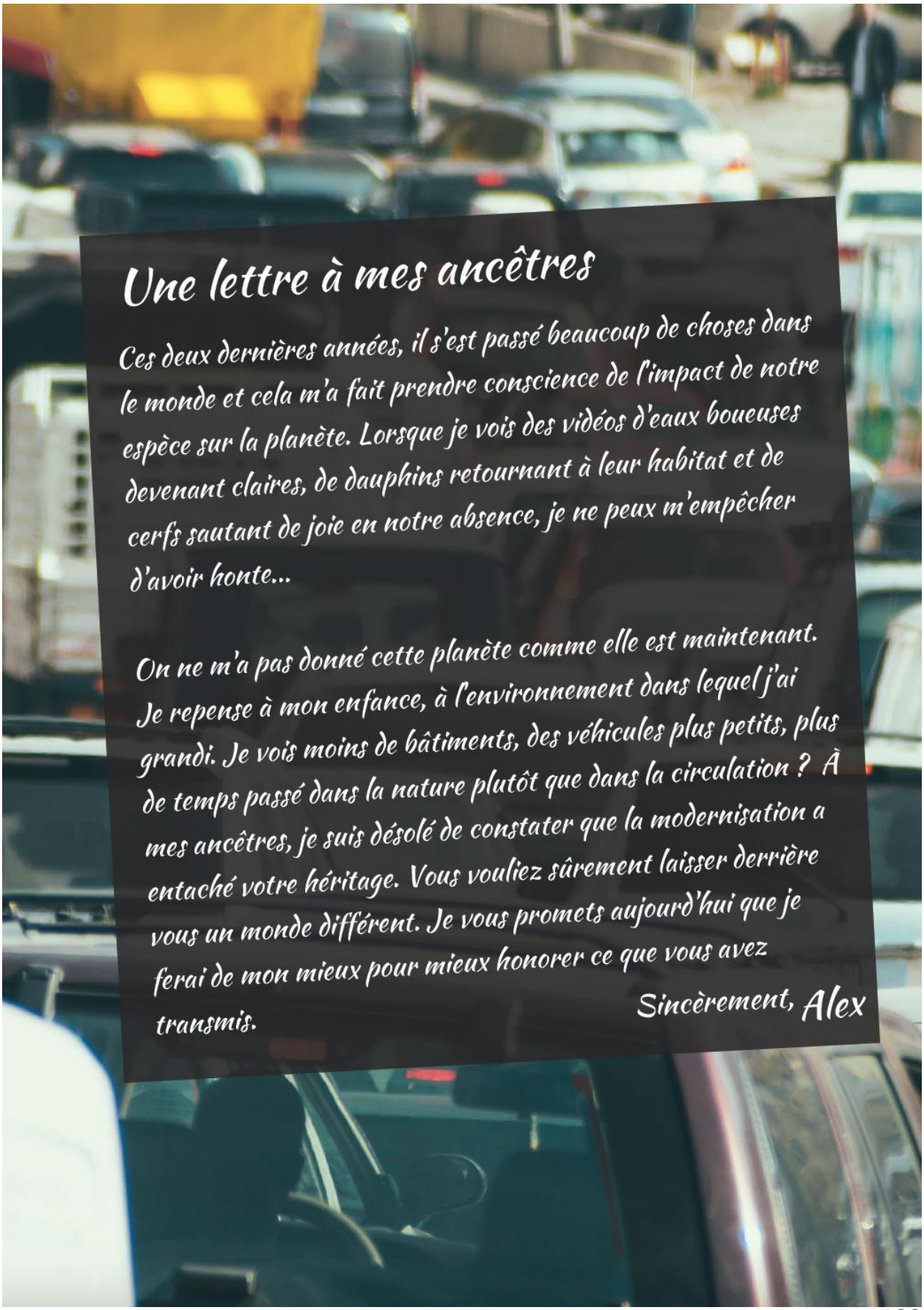

Un moment pour trouver la calme
La vie moderne peut être assez mouvementée. Soyez honnête, quand avez-vous pris un moment pour vous pour la dernière fois ? Pas pour vérifier votre instagram ou les dernières nouvelles, mais un moment pour être tranquille, pour respirer, pour simplement être....
Nous ne sommes pas faits pour le stress de la vie moderne, le rythme auquel tout bouge autour de nous.
C'est pourquoi il est si important de mettre en place des pratiques qui nous aident à faire une pause et à trouver le calme.
La prochaine fois, essayez ce qui suit : fermez les yeux, essayez de vous concentrer sur les sons qui vous entourent.
Qu'entendez-vous ? Y a-t-il quelque chose que vous pouvez sentir ? Inspirez maintenant en comptant jusqu'à 4, gardez votre souffle pendant quatre secondes, puis expirez en comptant jusqu'à 4. Répétez cette opération plusieurs fois jusqu'à ce que vous remarquiez que votre corps se détend et que votre esprit s'apaise.
Sincèrement, Alex

7.15 Appendix 15. Experimental Manipulation to Induce A Future Orientation


Une lettre à mes futures générations
Au cours des deux dernières années, beaucoup de choses se sont passées dans le monde et cela m'a fait prendre conscience de l'impact de notre espèce sur la planète. Quand je vois des vidéos d'eaux boueuses devenant claires, de dauphins retournant à leur habitat et de cerfs sautant de joie en notre absence, je ne peux m'empêcher d'avoir honte...
Je ne peux pas donner cette planète à mes enfants comme ça. Pensez à l'avenir et dites-moi comment vous imaginez votre environnement immédiat ? Qu'est-ce que vous voyez ? Des bâtiments plus hauts, des véhicules plus grands, plus de temps passé dans le trafic plutôt que dans la nature ? Aux générations futures, je vous promets aujourd'hui de faire de mon mieux et d'essayer de rendre ce monde meilleur et plus vert dans 5, 10 ou 50 ans qu'il ne l'est aujourd'hui.
Sincèrement, Alex

7.16 Appendix 16. Experimental Manipulation to Induce A Past Temporal Orientation





Une lettre à mes ancêtres

Ces deux dernières années, il s'est passé beaucoup de choses dans le monde et cela m'a fait prendre conscience de l'impact de notre espèce sur la planète. Lorsque je vois des vidéos d'eaux boueuses devenant claires, de dauphins retournant à leur habitat et de cerfs sautant de joie en notre absence, je ne peux m'empêcher d'avoir honte...

On ne m'a pas donné cette planète comme elle est maintenant. Je repense à mon enfance, à l'environnement dans lequel j'ai grandi. Je vois moins de bâtiments, des véhicules plus petits, plus de temps passé dans la nature plutôt que dans la circulation ? À mes ancêtres, je suis désolé de constater que la modernisation a entaché votre héritage. Vous vouliez sûrement laisser derrière vous un monde différent. Je vous promets aujourd'hui que je ferai de mon mieux pour mieux honorer ce que vous avez transmis.

Sincèrement, Alex

7.17 Appendix 17. Full Survey Instrument – Study 3

SUV Legacy - FINAL

Start of Block: Introduction

Welcome!

You are invited to participate in a research project by investigators from HEC Montreal. The purpose of this study is to see how people make choices. At the end we also have some demographic questions.

Your participation is voluntary and you may withdraw from the study at any time simply by closing the browser window. No identifying information will be collected with the study data, so your anonymity is ensured.
The results of this study may be published in professional and/or scientific journals. It may also be used for educational purposes or for professional presentations. When results are reported no individual respondent will be identified.

Since your first impressions best reflect your true opinions, we would ask that you please answer the questions included in this questionnaire without any hesitation. There is no time limit for completing the questionnaire, although we have estimated that it should take about 8 minutes.

Risks and Benefits
There are no risks involved in the completion of this study. While you will not directly benefit from participation beyond the stated compensation, your participation may help investigators better understand how people make decisions.
You are free to refuse to participate in this project and you may decide to stop answering the questions at any time.

By completing this questionnaire, you will be considered as having given your consent to participate in our research project and to the potential use of data collected from this questionnaire in future research.

Contacts
HEC Montréal's Research Ethics Board has determined that the data collection related to this study meets the ethics standards for research involving human subjects. If you have any questions related to ethics, please contact the REB secretary at (514) 340-7182 or by email at cer@hec.ca.
If you have any questions about this study, then please contact Verena Gruber (verena.gruber@hec.ca).

Bienvenue !

Vous êtes invité.e à participer à un projet de recherche proposé par des chercheurs à HEC Montréal. L'objectif de cette étude est de mieux comprendre comment les individus font leur choix. Il y a également des questions démographiques à la fin de l'enquête.

Votre participation est volontaire et vous pouvez quitter l'enquête en tout temps en fermant simplement la fenêtre de votre navigateur. Aucune donnée d'identification ne sera collectée avec les données de l'enquête, donc votre anonymat est assuré.
Les résultats de l'étude pourraient être publiés dans des journaux professionnels et/ou scientifiques. Ils pourraient également être utilisés à des fins académiques, ou pour des présentations professionnelles. Aucun répondant individuel ne sera identifié dans la présentation des résultats.

Puisque vos premières impressions reflètent le mieux vos opinions, nous vous demandons de répondre aux questions de cette enquête sans hésitation. Il n'y a pas de limite de temps pour compléter ce

questionnaire, mais nous avons estimé que le tout devrait prendre autour de **8 minutes**.

Risques et avantages potentiels
Il n'y a aucun risque associé à votre participation à cette enquête. Vous ne tirez pas de bénéfice mis à part la compensation fixée au préalable ; toutefois votre participation aidera les chercheurs à mieux comprendre les processus de prise de décision des invidivus.
Vous êtes entièrement libre de refuser de participer à ce projet, et pouvez décider d'arrêter de répondre aux questions en tout temps.

Si vous complétez ce questionnaire, nous considérerons que vous avez donné votre consentement à participer à notre projet de recherche, et à l'usage potentiel des données recueillies dans ce questionnaire dans toutes recherches futures.

Contacts
Le comité d'éthique en recherche de HEC Montréal a déterminé que la cueillette de données reliée à cette enquête est conforme aux standards d'éthique pour la recherche impliquant des sujets humains. Si vous avez des questions reliées à l'éthique, veuillez contacter le secrétariat du CER au (514) 340-7182, ou par courriel au cer@hec.ca.
Si vous avez des questions par rapport à cette enquête, veuillez contacter Verena Gruber (verena.gruber@hec.ca).

Do you agree to participate in this study?

- ○ Yes
- ○ No

Acceptez-vous de participer à cette étude ?

- ○ Oui
- ○ Non

Do you have a vehicle at your household that you use regularly?

- ○ Yes
- ○ No

Avez-vous un véhicule à votre domicile que vous utilisez régulièrement ?

- ○ Oui
- ○ Non

What is your sex?

- ○ Male
- ○ Female
- ○ I prefer not to answer
- ○ Other

Quel est votre sexe ?

- ○ Homme
- ○ Femme
- ○ Je préfère ne pas répondre
- ○ Autre

What is your age?

- ○ 18–24 years old
- ○ 25–34 years old
- ○ 35–44 years old
- ○ 45–54 years old
- ○ 55–64 years old
- ○ 65–74 years old
- ○ 75 years or older

Quel âge avez-vous ?

- ○ 18-24 ans
- ○ 25-34 ans
- ○ 35-44 ans
- ○ 45-54 ans
- ○ 55-64 ans
- ○ 65-74 ans
- ○ 75 ans et plus

In which province do you live?

- ○ Alberta
- ○ British Columbia
- ○ Manitoba
- ○ New Brunswick
- ○ Newfoundland and Labrador
- ○ Northwest Territories

- ○ Nova Scotia
- ○ Nunavut
- ○ Ontario
- ○ Prince Edward Island
- ○ Quebec
- ○ Saskatchewan
- ○ Yukon

Dans quelle province résidez-vous ?

- ○ Alberta
- ○ Colombie-Britannique
- ○ Manitoba
- ○ Nouveau-Brunswick
- ○ Terre-Neuve-et-Labrador
- ○ Territoires du Nord-Ouest
- ○ Nouvelle-Écosse
- ○ Nunavut
- ○ Ontario
- ○ Île-du-Prince-Édouard
- ○ Québec
- ○ Saskatchewan
- ○ Territoire du Yukon

Which of the following vehicle types do you have at your household?
Note: If you have several vehicles, please think about your primary vehicle.

- ○ SUV
- ○ Pick-up
- ○ Minivan
- ○ Sedan
- ○ Electric vehicle (please indicate the type): _____
- ○ Other (please specify): _____

Quel est le type de votre véhicule parmi ceux proposés ?
Note : Si vous avez plusieurs véhicules, veuillez penser et répondre pour votre véhicule principal.

- ○ VUS
- ○ Camionnette/Pick-up
- ○ Fourgonnette/Minivan
- ○ Berline
- ○ Véhicule électrique (veuillez indiquer le type): _____
- ○ Autre (veuillez préciser): _____

Please indicate for you many years you have been driving:

_____

Veuillez indiquer depuis combien d'années vous conduisez :

_____

As you look through the newspaper, you found in the personal ad section a letter. Please carefully read the letter and answer questions about it.

En feuilletant le journal, vous avez trouvé dans la section des annonces personnelles une lettre. Veuillez lire attentivement cette lettre et répondre aux questions qui s'y rapportent.

Please indicate how you feel about the letter:

	1			4	5	6	7	
Not at all relevant to me	○	○	○	○	○	○	○	Very relevant to me

Veuillez indiquer ce que vous pensez de cette lettre :

	1			4	5	6	7	
Pas du tout pertinente pour moi	○	○	○	○	○	○	○	Très pertinente pour moi

Have you thought about this topic before?

	1	2	3	4	5	6	7	
Never	○	○	○	○	○	○	○	Very often

Avez-vous déjà pensé à ce sujet auparavant ?

	1	2	3	4	5	6	7	
Jamais	○	○	○	○	○	○	○	Très souvent

What was the name of the person who wrote the letter?

- ○ Anna
- ○ Ali
- ○ Alex

Quel est le nom de la personne qui a écrit la lettre ?

- ○ Anna
- ○ Ali
- ○ Alex

Please imagine that in the coming weeks, you are looking to purchase a vehicle. For the purpose of this study, please assume that financing of the vehicle is not a problem.

Imaginez que dans les semaines à venir, vous cherchiez à acheter un véhicule. Pour les besoins de cette étude, veuillez supposer que le financement du véhicule ne pose pas de problème.

Using the 0–100 scale below, please indicate how much you like or dislike each of the following types of vehicles. We are interested in your perception and not your actual experience with these vehicles.

	Dislike a lot	Like a lot	No opinion

	0	10	20	30	40	50	60	70	80	90	100
SUV											
Pick-up											
Minivan											
Sedan											
Electric Vehicle											

Pensez au niveau de plaisir et d'amusement que vous associez aux types de véhicules suivants. Nous nous intéressons à votre perception et non votre expérience réelle avec ces types de véhicules.

	N'aime pas beaucoup	Aime beaucoup	Pas d'opinion

	0	10	20	30	40	50	60	70	80	90	100
VUS											
Camionnette/Pick-up											
Fourgonnette/Minivan											
Berline											
Véhicule électrique											

Please indicate below how likely it is that you would choose one of the following types of vehicles when **purchasing your next primary vehicle** for private use (from 1 (=extremely unlikely) to 7 (=extremely likely)).

	extremely unlikely (1)	2	3	4	5	6	**extremely likely** (7)
SUV	○	○	○	○	○	○	○
Sedan	○	○	○	○	○	○	○
Pick-up	○	○	○	○	○	○	○
Minivan	○	○	○	○	○	○	○
Electric Vehicle	○	○	○	○	○	○	○

Veuillez indiquer ci-dessous dans quelle mesure il est probable que vous choisissiez l'un des types de véhicules suivants lors de **l'achat de votre prochain véhicule principal** (allant de 1 (=extrêmement improbable) à 7 (=extrêmement probable)).

	extrêmement improbable (1)	2	3	4	5	6	**extrêmement probable** (7)
Véhicule utilitaire sport (VUS)	○	○	○	○	○	○	○
Berline	○	○	○	○	○	○	○
Camionnette/Pick-up	○	○	○	○	○	○	○
Fourgonnette/Minivan	○	○	○	○	○	○	○
Véhicule électrique	○	○	○	○	○	○	○

Please indicate the extent to which you agree with the below statements

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
It is important to me to leave a positive legacy	○	○	○	○	○	○	○
It is important to me to leave a positive mark on the society	○	○	○	○	○	○	○
I care about what the future generations think of me	○	○	○	○	○	○	○

Veuillez indiquer dans quelle mesure vous êtes d'accord avec les affirmations suivantes.

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
Il est important pour moi de laisser un héritage positif	○	○	○	○	○	○	○
Il est important pour moi de laisser une trace positive dans la société	○	○	○	○	○	○	○
Je me soucie de ce que les générations futures pensent de moi	○	○	○	○	○	○	○

Please indicate the extent to which you agree with the below statements

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I believe vehicles such as SUVs, pick-up trucks and minivans are more harmful for the environment compared to smaller vehicles such as sedans	○	○	○	○	○	○	○
I believe vehicles such as SUVs, pick-up trucks and minivans are more harmful for the environment compared to electric vehicles	○	○	○	○	○	○	○
I believe emissions from vehicles cause greenhouse gases	○	○	○	○	○	○	○
I believe emissions from vehicles are a cause for environmental degradation	○	○	○	○	○	○	○

Veuillez indiquer dans quelle mesure vous êtes d'accord avec les affirmations suivantes.

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
Je pense que les véhicules tels que les SUV, les camionnettes et les minivans sont plus nuisibles pour l'environnement que les véhicules plus petits tels que les berlines.	○	○	○	○	○	○	○
Je crois que les véhicules tels que les VUS, les camionnettes et les minifourgonnettes sont plus nuisibles à l'environnement que les véhicules électriques.	○	○	○	○	○	○	○
Je crois que les émissions des véhicules provoquent des gaz à effet de serre	○	○	○	○	○	○	○
Je crois que les émissions des véhicules sont une cause de dégradation de l'environnement.	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I feel nostalgic about the past	○	○	○	○	○	○	○
When I am by myself, my thoughts often drift back to the past	○	○	○	○	○	○	○
I think quite often about my life as it used to be	○	○	○	○	○	○	○
Sometimes I find myself dwelling on the past	○	○	○	○	○	○	○
I spend temporal thinking about what my future might be like	○	○	○	○	○	○	○
I think a lot about what my life will be some day	○	○	○	○	○	○	○
Many of us tend to daydream about the future. That also happens to me	○	○	○	○	○	○	○
I often think about the things I am going to do in the future	○	○	○	○	○	○	○

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
Je suis nostalgique du passé	○	○	○	○	○	○	○
Lorsque je suis seul(e), mes pensées dérivent souvent vers le passé	○	○	○	○	○	○	○
Je pense souvent à ma vie d'avant	○	○	○	○	○	○	○
Je me surprends parfois à ressasser le passé	○	○	○	○	○	○	○
Je passe du temps à penser à ce que pourrait être mon avenir	○	○	○	○	○	○	○
Je pense beaucoup à ce que sera ma vie un jour	○	○	○	○	○	○	○
Beaucoup d'entre nous ont tendance à rêver de l'avenir. Cela m'arrive aussi	○	○	○	○	○	○	○
Je pense souvent aux choses que je vais faire dans le futur	○	○	○	○	○	○	○

Please indicate your current relationship status

- ○ single
- ○ married
- ○ divorced
- ○ widowed
- ○ in a common-law partnership

Veuillez indiquer votre état civil actuel.

- ○ Célibataire
- ○ Marié. e
- ○ Divorcé. e
- ○ Veuf/veuve
- ○ En union de fait

Do you have any children?

- ○ Yes
- ○ No

Avez-vous des enfants ?

- ○ Oui
- ○ Non

Please indicate the number of children you have.

- ○ 1
- ○ 2
- ○ 3
- ○ 4 or more

Veuillez indiquer combien d’enfants vous avez.

- ○ 1
- ○ 2
- ○ 3
- ○ 4 ou plus

Where do you live?

- ○ Rural area
- ○ Small or regional city
- ○ Suburb
- ○ Large urban population center

Où résidez-vous ?

- ○ Région rurale
- ○ Petite ou moyenne ville
- ○ Banlieue
- ○ Grand centre urbain

What is your highest level of education?

- ○ Less than secondary (high) school graduation (Grade 8 or less)
- ○ Secondary (high) school diploma or equivalent
- ○ Some post-secondary education
- ○ Post-secondary certificate, diploma or degree
- ○ University Degree
- ○ I prefer not to answer

Quel est votre niveau d'études le plus élevé ?

- ○ Inférieur à un diplôme d'études secondaires
- ○ Diplôme d'études secondaires ou l'équivalent
- ○ Études postsecondaires partielles
- ○ Certificat, diplôme ou grade d'études postsecondaires
- ○ Diplôme universitaire
- ○ Je préfère ne pas répondre

What is your gross annual household income (before taxes)?

- ○ Less than $25,000
- ○ $25,000-$49,999
- ○ $50,000-$74,999
- ○ $75,000-$99,999
- ○ $100,000-$124,999
- ○ $125,000-$149,999
- ○ More than $150,000
- ○ I prefer not to answer

Quel est le revenu annuel brut (avant impôts) de votre ménage ?

- ○ Moins de 25 000 $
- ○ 25 000 $-49 999 $
- ○ 50 000 $-74 999 $
- ○ 75 000 $-99 999 $
- ○ 100 000 $-124 999 $
- ○ 125 000 $-149 999 $
- ○ Plus de 150 000 $
- ○ Je préfère ne pas répondre

Do you have any comments about this study? Is there anything you would like to share with us?

_____

Avez-vous des commentaires sur cette étude ? Y a-t-il des éléments que vous avez particulièrement aimés ou pas aimés ?

_____

7.18 Appendix 18. Sample Characteristics – Study 3

Variable		Frequencies
Sex	Male	55.1%
	Female	44.1%
	Other/prefer not to answer	0.8%
Age	18–24	7,0 %
	25–34	12,4 %
	35–44	16,9 %
	45–54	28,2 %
	55–64	12,6 %
	65–74	17,5 %
	75+	5,4 %
Province	Alberta	10.2%
	British Columbia	13.2%
	Manitoba	8.3%
	Maritimes	9.4%
	Ontario	32.8%
	Quebec	24.2%
	Saskatchewan	1.9%
Marital status	Single	20.4%
	Married	53.2%
	Divorced	8.3%
	Widowed	1.9%
	In a common-law partnership	16.1%
Income	Less than $25,000	3.8%
	$25,000-$49,999	14.8%
	$50,000-$74,999	21.5%
	$75,000-$99,999	20.2%
	$100,000-$124,999	10.5%

	$125,000-$149,000	8.3%
	More than $150,000	12.1%
	I prefer not to answer	8.9%
Education	Less than secondary school	0.5%
	Secondary school diploma or equivalent	12.9%
	Some post-secondary education	9.4%
	Post-secondary certificate, degree, or diploma	31.7%
	University degree	45.4%
	I prefer not to answer	0.0%

7.19 Appendix 19. Vehicle Choices Shown to Participants in Study 4

ALL-NEW 2021 OUTBACK	529$ /month	60 months Interest rate: 0.0% Down payment: 5,600$

ALL-NEW 2021 OUTBACK	549$ /month	60 months Interest rate: 0.0% Down payment: 5,600$

ALL-NEW 2021 OUTBACK	37 599$	OWN THE ADVENTURE SALES EVENT

ALL-NEW 2021 OUTBACK	38 299$	OWN THE ADVENTURE SALES EVENT

7.20 Appendix 20. Full Survey Instrument – Study 4 (Price Presentation)

SUV Ad infos - FINAL - Copy

Welcome!

You are invited to participate in a research project by investigators from HEC Montreal. The purpose of this study is to see how people make choices. At the end we also have some demographic questions.

Your participation is voluntary and you may withdraw from the study at any time simply by closing the browser window. No identifying information will be collected with the study data, so your anonymity is ensured.
The results of this study may be published in professional and/or scientific journals. It may also be used for educational purposes or for professional presentations. When results are reported no individual respondent will be identified.

Since your first impressions best reflect your true opinions, we would ask that you please answer the questions included in this questionnaire without any hesitation. There is no time limit for completing the questionnaire, although we have estimated that it should take about 10 minutes.

Risks and Benefits
There are no risks involved in the completion of this study. While you will not directly benefit from participation beyond the stated compensation, your participation may help investigators better understand how people make decisions.
You are free to refuse to participate in this project and you may decide to stop answering the questions at any time.

By completing this questionnaire, you will be considered as having given your consent to participate in our research project and to the potential use of data collected from this questionnaire in future research.

Contacts
HEC Montréal's Research Ethics Board has determined that the data collection related to this study meets the ethics standards for research involving human subjects. If you have any questions related to ethics, please contact the REB secretary at (514) 340-7182 or by email at cer@hec.ca.
If you have any questions about this study, then please contact Verena Gruber (verena.gruber@hec.ca).

Bienvenue !

Vous êtes invité.e à participer à un projet de recherche proposé par des chercheurs à HEC Montréal. L'objectif de cette étude est de mieux comprendre comment les individus font leur choix. Il y a également des questions démographiques à la fin de l'enquête.

Votre participation est volontaire et vous pouvez quitter l'enquête en tout temps en fermant simplement la fenêtre de votre navigateur. Aucune donnée d'identification ne sera collectée avec les données de l'enquête, donc votre anonymat est assuré.
Les résultats de l'étude pourraient être publiés dans des journaux professionnels et/ou scientifiques. Ils pourraient également être utilisés à des fins académiques, ou pour des présentations professionnelles. Aucun répondant individuel ne sera identifié dans la présentation des résultats.

Puisque vos premières impressions reflètent le mieux vos opinions, nous vous demandons de répondre aux questions de cette enquête sans hésitation. Il n'y a pas de limite de temps pour compléter ce questionnaire, mais nous avons estimé que le tout devrait prendre autour de **10 minutes**.

Risques et avantages potentiels
Il n'y a aucun risque associé à votre participation à cette enquête. Vous ne tirez pas de bénéfice mis à

part la compensation fixée au préalable ; toutefois votre participation aidera les chercheurs à mieux comprendre les processus de prise de décision des invidivus.
Vous êtes entièrement libre de refuser de participer à ce projet, et pouvez décider d'arrêter de répondre aux questions en tout temps.

Si vous complétez ce questionnaire, nous considérerons que vous avez donné votre consentement à participer à notre projet de recherche, et à l'usage potentiel des données recueillies dans ce questionnaire dans toutes recherches futures.

Contacts
Le comité d'éthique en recherche de HEC Montréal a déterminé que la cueillette de données reliée à cette enquête est conforme aux standards d'éthique pour la recherche impliquant des sujets humains. Si vous avez des questions reliées à l'éthique, veuillez contacter le secrétariat du CER au (514) 340-7182, ou par courriel au cer@hec.ca.
Si vous avez des questions par rapport à cette enquête, veuillez contacter Verena Gruber (verena.gruber@hec.ca).

Please note that your data will be anonymous and will be used only for the purpose of academic research. Do you agree to participate in this study?

- ○ Yes
- ○ No

Veuillez noter que vos données seront anonymes et ne seront utilisées qu'à des fins de recherche académique. Acceptez-vous de participer à cette étude ?

- ○ Oui
- ○ Non

Do you have a vehicle at your household that you use regularly?

- ○ Yes
- ○ No

Avez-vous un véhicule à votre domicile que vous utilisez régulièrement ?

- ○ Oui
- ○ Non

What is your sex?

- ○ Male
- ○ Female
- ○ I prefer not to answer
- ○ Other

Quel est votre sexe ?

- ○ Homme
- ○ Femme
- ○ Je préfère ne pas répondre
- ○ Autre

What is your age?

- ○ 18–24 years old
- ○ 25–34 years old
- ○ 35–44 years old
- ○ 45–54 years old
- ○ 55–64 years old
- ○ 65–74 years old
- ○ 75 years or older

Quel âge avez-vous ?

- ○ 18-24 ans
- ○ 25-34 ans
- ○ 35-44 ans
- ○ 45-54 ans
- ○ 55-64 ans
- ○ 65-74 ans
- ○ 75 ans et plus

In which province do you live?

- ○ Alberta
- ○ British Columbia
- ○ Manitoba
- ○ New Brunswick
- ○ Newfoundland and Labrador
- ○ Northwest Territories

- ○ Nova Scotia
- ○ Nunavut
- ○ Ontario
- ○ Prince Edward Island
- ○ Quebec
- ○ Saskatchewan
- ○ Yukon

Dans quelle province résidez-vous ?

- ○ Alberta
- ○ Colombie-Britannique
- ○ Manitoba
- ○ Nouveau-Brunswick
- ○ Terre-Neuve-et-Labrador
- ○ Territoires du Nord-Ouest
- ○ Nouvelle-Écosse
- ○ Nunavut
- ○ Ontario
- ○ Île-du-Prince-Édouard
- ○ Québec
- ○ Saskatchewan
- ○ Territoire du Yukon

Is the primary vehicle of your household one of the following types?

- ○ SUV
- ○ Pick-up
- ○ Minivan
- ○ Sedan

- ○ Electric vehicle (please indicate the type): _____
- ○ Other (please specify): _____

Quel est le type du véhicule principal de votre ménage parmi ceux proposés ?

- ○ VUS
- ○ Camionnette/Pick-up
- ○ Fourgonnette/Minivan
- ○ Berline
- ○ Véhicule électrique (veuillez indiquer le type): _____
- ○ Autre (veuillez préciser): _____

Please indicate for you many years you have been driving:

_____

Veuillez indiquer depuis combien d'années vous conduisez :

_____

Please indicate the combined amount of money that you have in your checking and savings account:

- ○ $0 - $100
- ○ $101 - $200
- ○ $201 - $300
- ○ $301 - $400
- ○ $401 - $500
- ○ $501 - $600
- ○ $601 - $700
- ○ $701 - $800
- ○ $801 or more

Veuillez indiquer le montant combiné de l’argent que vous avez sur votre compte-chèques et votre compte d’épargne :

- ○ 0 $ - 100 $
- ○ 101 $ - 200 $
- ○ 201 $ - 300 $
- ○ 301 $ - 400 $
- ○ 401 $ - 500 $
- ○ 501 $ - 600 $
- ○ 601 $ - 700 $
- ○ 701 $ - 800 $
- ○ $801 ou plus

Please indicate the combined amount of money that you have in your checking and savings account:

- ○ $0 - $1,000
- ○ $1,001 - $5,000
- ○ $5,001 - $10,000
- ○ $10,001 - $25,000
- ○ $25,001 - $50,000
- ○ $50,001 - $100,000
- ○ $100,000 - $200,000
- ○ $200,000 - $300,000
- ○ $301,000 or more

Veuillez indiquer le montant combiné de l'argent que vous avez sur votre compte-chèques et votre compte d'épargne :

- ○ 0 $ - 1,000 $
- ○ 1,001 $ - 5,000 $
- ○ 5,001 $ - 10,000 $
- ○ 10,001 $ - 25,000 $
- ○ 25,001 $ - 50,000 $
- ○ 50,001 $ - 100,000 $
- ○ $100,000 - 200,000 $
- ○ $200,000 - 300,000 $
- ○ $301 000 ou plus

Please imagine that in the coming weeks, you are looking to purchase a vehicle. Please assume that your budget is $38,000. In the following pages, you will see different options and always need to choose one of them.

Imaginez que dans les semaines à venir, vous cherchez à acheter un véhicule. Veuillez supposer que votre budget est de 38 000 $. Dans les pages suivantes, vous verrez différentes options et devrez toujours en choisir une.

Please choose one of the options:

- ○
- ○

Veuillez choisir l’une des options :

- ○
- ○

Using the 0–100 scale below, please indicate how much you **like** or **dislike** each of the following types of vehicles. We are interested in your perception and not your actual experience with these vehicles.

	Dislike a lot							Like a lot			No opinion
	0	10	20	30	40	50	60	70	80	90	100
SUV											
Pick-up											
Minivan											
Sedan											
Electric Vehicle											

Pensez au niveau de plaisir et d'amusement que vous associez aux types de véhicules suivants. Nous nous intéressons à votre perception et non votre expérience réelle avec ces types de véhicules.

	N'aime pas beaucoup	Aime beaucoup	Pas d'opinion

	0	10	20	30	40	50	60	70	80	90	100
VUS											
Camionnette/Pick-up											
Fourgonnette/Minivan											
Berline											
Véhicule électrique											

Please indicate below how likely it is that you would choose one of the following types of vehicles when **purchasing your next primary vehicle** for private use (from 1 (=extremely unlikely) to 7 (=extremely likely)).

	extremely unlikely (1)	2	3	4	5	6	**extremely likely** (7)
SUV	○	○	○	○	○	○	○
Sedan	○	○	○	○	○	○	○
Pick-up	○	○	○	○	○	○	○
Minivan	○	○	○	○	○	○	○
Electric Vehicle	○	○	○	○	○	○	○

Veuillez indiquer ci-dessous dans quelle mesure il est probable que vous choisissiez l'un des types de véhicules suivants lors de **l'achat de votre prochain véhicule principal** (allant de 1 (=extrêmement improbable) à 7 (=extrêmement probable)).

	extrêmement improbable (1)	2	3	4	5	6	**extrêmement probable** (7)
Véhicule utilitaire sport (VUS)	○	○	○	○	○	○	○
Berline	○	○	○	○	○	○	○
Camionnette/Pick-up	○	○	○	○	○	○	○
Fourgonnette/Minivan	○	○	○	○	○	○	○
Véhicule électrique	○	○	○	○	○	○	○

Imagine that we rolled a fair, six-sided die 1,000 times. Out of 1,000 rolls, how many times do you think the die would come up even (2, 4, or 6)?

_____

Imaginez que nous lancions 1 000 fois un dé à six faces. Sur ces 1 000 lancers, combien de fois pensez-vous que le dé sortira pair (2, 4 ou 6) ?

_____

In the Big Bucks Lottery, the chances of winning a $10.00 prize is 1%. What is your best guess about how many people would win a $10.00 prize if 1000 people each buy a single ticket to Big Bucks?

_____

À la loterie Big Bucks, les chances de gagner un prix de 10 $ sont de 1 %. Quelle est votre meilleure estimation du nombre de personnes qui gagneraient un prix de 10 $ si 1 000 personnes achetaient chacune un billet de loterie Big Bucks ?

_____

In the Acme Publishing Sweepstakes, the chance of winning a car is 1 in 1000. What percentage of tickets to Acme Publishing Sweepstakes win a car?

_____

Dans le cadre du concours publicitaire d'Acme Publishing, la probabilité de gagner une voiture est de 1 sur 1000. Quel est le pourcentage de billets pour la loterie d'Acme Publishing qui permettent de gagner une voiture ?

_____

In a sale, a shop is selling all items at half price. Before the sale, a sofa costs $300. How much will it cost in the sale?

_____

Lors des soldes, un magasin vend tous les articles à moitié prix. Avant les soldes, un canapé coûte 300 $. Combien coûtera-t-il pendant les soldes ?

_____

If the chance of getting a disease is 20 out of 100, this would be the same as having a ____% chance of getting the disease.

_____

Si la probabilité de contracter une maladie est de 20 sur 100, cela équivaut à avoir une chance de ____% de contracter la maladie.

_____

Please indicate how much you agree with the below statements

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I am extremely familiar with different models of vehicles	○	○	○	○	○	○	○
Compared to other people, I would say that I am one of the most knowledgeable people when it comes to vehicles	○	○	○	○	○	○	○
I know a lot about vehicles	○	○	○	○	○	○	○

Veuillez indiquer dans quelle mesure vous êtes d'accord avec les affirmations suivantes

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
Je connais très bien les différents modèles de véhicules	○	○	○	○	○	○	○
Par rapport à d'autres personnes, je dirais que je suis l'une des personnes les plus compétentes en matière de véhicules	○	○	○	○	○	○	○
J'en sais beaucoup sur les véhicules	○	○	○	○	○	○	○

Cheryl owes $1000 on her bank overdraft and the interest rate she is charged is 15% per year. If she didn't pay anything off, at this interest rate, how much money would she owe on her overdraft after 1 year?

- ○ $850
- ○ $1000
- ○ $1150
- ○ $1500
- ○ I don't know

Cheryl doit 1000 $ sur son découvert bancaire et le taux d'intérêt qui lui est appliqué est de 15 % par an. Si elle n'a rien remboursé, à ce taux d'intérêt, combien d'argent devra-t-elle sur son découvert après un an ?

- ○ 850 $
- ○ 1000 $
- ○ 1150 $
- ○ 1500 $
- ○ Je ne sais pas

Sarah owes $1000 on her credit card and the interest rate she is charged is 20% per year compounded annually. If she didn't pay anything off, at this interest rate, how many years would it take for the amount she owes to double?

- ○ Less than 5 years
- ○ Between 5 and 10 years
- ○ More than 10 years
- ○ I don't know

Sarah doit 1000 $ sur sa carte de crédit et le taux d'intérêt qu'elle doit appliquer est de 20 % par an, composé annuellement. Si elle n'a rien remboursé, à ce taux d'intérêt, combien d'années faudra-t-il pour que le montant qu'elle doit double ?

- ○ Moins de 5 ans
- ○ Entre 5 et 10 ans
- ○ Plus de 10 ans
- ○ Je n'en sais rien

David has a credit card debt of $3000 at an Annual Percentage Rate of 12% (or 1% per month). He makes payments of $30 per month and does not gain any charges or additional spending on the card. How long will it take him to pay off this debt?

- ○ Less than 5 years
- ○ Between 5 years and 10 years
- ○ More than 10 years
- ○ None of the above, he will continue to be in debt
- ○ I don't know

David a une dette de carte de crédit de 3 000 $ à un taux annuel en pourcentage de 12 % (soit 1 % par mois). Il effectue des paiements de 30 $ par mois et n'effectue aucun débit ni aucune dépense supplémentaire sur la carte. Combien de temps lui faudra-t-il pour rembourser cette dette ?

- ○ Moins de 5 ans
- ○ Entre 5 et 10 ans
- ○ Plus de 10 ans
- ○ Aucune de ces réponses, il continuera à s'endetter
- ○ Je ne sais pas

Please indicate your agreement to the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I do not feel comfortable about taking chances	○	○	○	○	○	○	○
I prefer situations that have foreseeable outcomes	○	○	○	○	○	○	○
Before I make a decision, I like to be absolutely sure how things will turn out	○	○	○	○	○	○	○
I avoid situations that have uncertain outcomes	○	○	○	○	○	○	○
I feel comfortable improving in new situations	○	○	○	○	○	○	○
I feel nervous when I have to make decisions in uncertain situations	○	○	○	○	○	○	○

Veuillez indiquer dans quelle mesure vous êtes d'accord avec les affirmations suivantes :

	Fortement en désaccord	En désaccord	Quelque peu en désaccord	Ni en accord ni en désaccord	Quelque peu en accord	En accord	Fortement en accord
Je ne me sens pas à l'aise pour prendre des risques	○	○	○	○	○	○	○
Je préfère les situations dont l'issue est prévisible	○	○	○	○	○	○	○
Avant de prendre une décision, j'aime être absolument sûr de la façon dont les choses vont se passer	○	○	○	○	○	○	○
J'évite les situations à l'issue incertaine	○	○	○	○	○	○	○
Je suis à l'aise pour m'améliorer dans des situations nouvelles	○	○	○	○	○	○	○
Je me sens nerveux lorsque je dois prendre des décisions dans des situations incertaines	○	○	○	○	○	○	○

Please indicate your current relationship status

- ○ single
- ○ married
- ○ divorced
- ○ widowed
- ○ in a common-law partnership

Veuillez indiquer votre état civil actuel :

- ○ Célibataire
- ○ Marié. e
- ○ Divorcé. e
- ○ Veuf/veuve
- ○ En union de fait

Do you have any children?

- ○ Yes
- ○ No

Avez-vous des enfants ?

- ○ Oui
- ○ Non

Please indicate the number of children you have.

- ○ 1
- ○ 2
- ○ 3
- ○ 4 or more

Veuillez indiquer combien d'enfants vous avez :

- ○ 1
- ○ 2
- ○ 3
- ○ 4 ou plus

Where do you live?

- ○ Rural area
- ○ Small or regional city
- ○ Suburb
- ○ Large urban population center

Où résidez-vous ?

- ○ Région rurale
- ○ Petite ou moyenne ville
- ○ Banlieue
- ○ Grand centre urbain

What is your highest level of education?

- ○ Less than secondary (high) school graduation (Grade 8 or less)
- ○ Secondary (high) school diploma or equivalent
- ○ Some post-secondary education
- ○ Post-secondary certificate, diploma or degree
- ○ University Degree
- ○ I prefer not to answer

Quel est votre niveau d'études le plus élevé ?

- ○ Inférieur à un diplôme d'études secondaires
- ○ Diplôme d'études secondaires ou l'équivalent
- ○ Études postsecondaires partielles
- ○ Certificat, diplôme ou grade d'études postsecondaires
- ○ Diplôme universitaire
- ○ Je préfère ne pas répondre

What is your gross annual household income (before taxes)?

- ○ Less than $25,000
- ○ $25,000-$49,999
- ○ $50,000-$74,999
- ○ $75,000-$99,999
- ○ $100,000-$124,999
- ○ $125,000-$149,999
- ○ More than $150,000
- ○ I prefer not to answer

Quel est le revenu annuel brut (avant impôts) de votre ménage ?

- ○ Moins de 25 000 $
- ○ 25 000 $-49 999 $
- ○ 50 000 $-74 999 $
- ○ 75 000 $-99 999 $
- ○ 100 000 $-124 999 $
- ○ 125 000 $-149 999 $
- ○ Plus de 150 000 $
- ○ Je préfère ne pas répondre

Do you have any comments about this study? Is there anything you would like to share with us?

_____

Avez-vous des commentaires sur cette étude ? Y a-t-il des éléments que vous avez particulièrement aimés ou pas aimés ?

_____

7.21 Appendix 21. Sample Characteristics - Study 4

Variable		Frequencies
Sex	Male	53.2%
	Female	46.4%
	Other/prefer not to answer	0.3%
Age	18-24	6,5 %
	25-34	14,3 %
	35-44	16,6 %
	45-54	21,8 %
	55-64	20,8 %
	65-74	13,3 %
	75+	6,8 %
Province	Alberta	10.7%
	British Columbia	12.3%
	Manitoba	7.1%
	Maritimes	4.9%
	Ontario	44.2%
	Quebec	14.0%
	Saskatchewan	6.8%
Marital status	Single	26.8%
	Married	54.2%
	Divorced	4.9%
	Widowed	3.9%
	In a common-law partnership	3.5%
Income	Less than $25,000	4.5%
	$25,000-$49,999	15.6%
	$50,000-$74,999	17.9%
	$75,000-$99,999	17.2%
	$100,000-$124,999	15.3%

	$125,000-$149,000	8.1%
	More than $150,000	11.0%
	I prefer not to answer	10.4%
Education	Less than secondary school	0.6%
	Secondary school diploma or equivalent	14.6%
	Some post-secondary education	9.1%
	Post-secondary certificate, degree, or diploma	28.9%
	University degree	46.4%
	I prefer not to answer	0.3%

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