Available online at www.sciencedirect.com

ScienceDirect

Transportation Research Procedia 72 (2023) 1467–1474

Transportation Research Procedia

www.elsevier.com/locate/procedia

Transport Research Arena (TRA) Conference

Towards a better understanding of arguments in favour or against transport policies. The example of road safety.

Wouter Van den Berghe[a]*, Nicola Christie[b]

[a]*Tilkon BV, Poolse-Winglaan, 1130 Brussels, Belgium*
[b]*UCL (University College London, Gower Street, London WC1E 6DE, UK*

Abstract

Studies that analyse public support for a policy measure often arrive at a range of specific arguments that are used in favour or against that particular policy measure. A solid categorisation of arguments that could be used for different types of measures is lacking. The research undertaken has led to a first outline of such a framework, based on an analysis of interviews with experts and policy-makers in road safety. The classification scheme includes five 'supportive argument areas' and five mirroring 'opposing arguments', each including more specific arguments. Analysis shows arguments used to support a policy measure are often of a different nature than those used to oppose it. The scheme also appears to be useful in other policy areas. It can help policy-makers in understanding resistance to measures and for better communication to increase public support.

Keywords: Public Support; Transport policy; Arguments; Road safety

1. Introduction

For a given societal challenge, different types of policy measures and interventions can be considered. Choosing between different alternative interventions is not straightforward, given the range of perspectives adopted by different stakeholders. Understanding the nature of arguments used to support or oppose (potential) policy measures may help policy-makers in finding a compromise between different interests and concerns. This applies in particular for transport policies. In this paper we use arguments used in relation to road safety as an example for categorizing arguments. It is believed that most conclusions also apply to transport policy and to other policy areas as well.

* Corresponding author. Tel.: +32 497 51 53 18
E-mail address: wouter@tilkon.be

10.1016/j.trpro.2023.11.612

Arguments for supporting or opposing policy measures are often linked to the perceived consequences of the measures. Eby et al. (2017) found that support for lowering the blood alcohol concentration (BAC) limit for drink driving was partially tied to beliefs about the impacts of a change in BAC standards. In relation to making alcohol interlock systems mandatory in the vehicles of people convicted for driving under the influence of alcohol, McCartt et al. (2010) found that most people favouring the measure thought that it would prevent alcohol-impaired driving, save lives, or prevent crashes. Tapp, Nancarrow and Davis (2015) identified reasons to support or to oppose 20-mph speed limits in urban areas. The main reasons to support this intervention were fewer serious crashes, children who could play safely, and streets that are more pleasant to live in; opposition was mainly related to the expectation that the limit would not be respected, that the measure would not be enforced effectively and that it would lengthen travel times. Molin and Brookhuis (2007) showed that the understanding of the effects of speeding, the support for the policy goal and the perceived effectiveness were among the factors increasing the acceptability of ISA. Vlassenroot (2011) concluded that factors such as the perceived effectiveness of ISA, as well as equity of penetration, effectiveness of ITS and personal and social aims had the largest total effect on the acceptability of ISA.

Policy choices often have an ethical dimension; in some cases one could even speak of an ethical dilemma. Carnis (2015) argues that road safety policy makers are almost always confronted with dilemmas since whatever measure is taken benefits differ for different groups of people. Dilemmas may also result from the tension between the benefit/harm of individuals and the overall good for society. This is often the case in road safety. Elvebakk (2015, p.300) states: *"The individual driver […] will relate to accidents as a matter of personal risk, and this risk, for any given individual at any given time, is actually very low […]. Thus measures that can easily be justified on the aggregate level, as saving tens of lives every year, might, to the individual driver, represent a significant limitation of individual liberty or privacy, and only a very marginal reduction of individual risk."*

Preserving freedom is an important concern in road safety policy-making, since many measures are seen or perceived as a restriction of freedom and even paternalistic. Typical examples of road safety measures that some perceive as paternalistic are the obligation to wear seatbelts (in cars) or helmets (on motorcycles). The case for paternalism becomes stronger when the obvious benefits in terms of harm reduction for society outweighs the restrictions in personal liberties (Bachynski, 2012).

Some studies use theoretical frameworks and models for explaining the opposition to policy measures. Examples of such frameworks are theories on cognitive dissonance (De Vos & Singleton, 2020; Festinger, 1957), technology acceptance (Davis, 1989) and psychological reactance (Steindl et al., & Greenberg, 2015; Ward et al., 2021). Eriksson, Garvill & Nordlund (2006, 2008) developed a model for the acceptability of transport measures, combining the value-belief-norm theory (Stern, 2000) with policy specific beliefs (perceived fairness and perceived effectiveness), problem awareness and personal norms. What is absent, however, is a solid categorization of the types and the nature of arguments that are used.

2. Methodology

2.1. Overall approach

In the context of a PhD project on public support for policy measures, 40 road safety experts and policy-makers from five countries (Austria, France, Greece, Sweden and the UK) were asked whether they would support or oppose eight possible measures in road safety, and to justify why they took that position. A classification scheme was developed that allows to categorise the arguments used, facilitating the synthesis of answers given.

2.2. Selection of contentious measures

The main mechanism used to analyse the nature of arguments for supporting/opposing measures was to confront the interviewees with a number of 'contentious measures' in road safety and identify the factors that where associated with their views on these measures. A measure is 'contentious' when strong opposition from certain stakeholders can be expected and/or because it is perceived by some to violate established rules or principles. Those who benefit are often different from those who lose. Road safety measures can be contentious because a compromise has to be sought between health considerations – the measure could lead to more or less injuries or modify the physical health of the population – and mobility considerations – the measure could lead to changes in people's individual mobility. Another trade-off that often arises is between the overall benefits for society and the restriction of individual rights.

The main criteria for inclusion of the measures in the interviews were:

(1) be implementable (in principle) over the next decade in the countries of the interviewees (to avoid respondents regarding it as an imaginary measure)
(2) make sense in all the countries in which the interviews were conducted (to avoid rendering international comparisons meaningless)
(3) be neither too controversial (so that almost everyone would oppose it) nor too obvious (so that almost everyone would support it)
(4) include at least one aspect that could be considered 'unfair' by certain stakeholders.

Moreover, when considered together, the set of measures should target different road users – not just motorists – and they should cover different trade-offs and concern a range of ethical issues, such as avoiding harm, freedom, equity and responsibility.

Table 1 includes the formulation of the policy measures that was used in the interviews. The three letters in the first column are codes that are used for the analysis and appear in tables and graphs in this paper.

Table 1. Code and formulation of the policy measures used in the interviews

Code	Formulation of the policy measures in the interviews
ZER	Zero tolerance for driving under the influence of alcohol (0,0‰ blood alcohol concentration) for all drivers of vehicles (cars, trucks, motorcyclists, cyclists, …).
30K	In all urban areas and villages the speed limit should be 30 km/h (20 mph) for all vehicles (except on main thoroughfares).
SCR	All people aged 70 or more should be screened on a 5 yearly basis, in order to decide whether they are still allowed to drive a car or not.
PAY	Fines that people have to pay after they have committed a traffic offence should be proportional to their income.
ALC	All cars should be equipped with an alcohol ignition interlock system (which prevents starting and driving the car if the driver's alcohol concentration is above the legal BAC limit).
HEL	All cyclists should wear a helmet.
RFL	Pedestrians should wear retroreflective clothing, shoes or bags when walking in the dark on public roads.
ISA	All cars should be equipped with an Intelligent Speed Assistance (ISA) system that automatically limits the speed of the car to the maximum speed limit.

2.3. Interview approach

The interviewees were from five European countries: Austria, France, Greece, Sweden and the UK. The choice of these countries was based on the following criteria: (1) sufficient variety in terms of road safety performance; (2) sufficient variety in terms of culture and traffic law enforcement; and (3) interviewees with mother tongue or high language proficiency in English, French, Dutch or German, so that they could express their opinion accurately.

The target group for the interviews were policy-makers and experts in the field of road safety. In each country eight persons were interviewed, 40 in total. The interviewees had the following profiles: parliamentarians involved or interested in road safety and/or transport issues; senior public servants responsible for a road safety related department; directors or senior employees of a road safety agency, research centre, …; and members of a road safety stakeholder organisation with experience in lobbying. The possible interviewees has been identified by professional acquaintances in the countries considered. The characteristics of the interviewees can be summarized as follows:

- about half of the interviewees (19/40) worked for a public authority (11) or were a politician (8); eleven worked in a research institute and five in a university
- on average, the interviewees had been 21 years involved in road safety
- about half of the interviewees (21/40) had a degree in Engineering or Transport
- one third of the interviewees was female (13/40)
- the median age of the interviewees was 55 years

The core of the interviews were the arguments used by the interviewees for the support for, or opposition against, eight contentious measures, as well their perceived fairness.

2.4. Codification of the arguments

A first set of codes for the arguments had been developed based on the written notes of the interviews. This scheme was further developed in an iterative way based on the transcripts of the interviews. First, labels were assigned to the arguments and meanings used by three interviewees. These labels were then used for the other interviews. When the existing set of labels was not adequate, new labels were added. The initial argument classification scheme was modified many times as the coding of the transcripts progressed: some of the labels were renamed, others were split into two labels and some were merged when progressing with the coding.

This approach is in line with the two key stages in coding identified by Charmaz (2006): initial coding which is quite detailed and where codes are assigned to provide initial impressions of data, followed by a more focused coding stage, in which some of the initial codes are dropped, modified or merged.

3. Results

3.1. Classification scheme

The classification scheme developed groups types of arguments into five 'supportive' areas and five mirroring 'opposing' areas. The scheme is shown in Table 2.

Table 2. Classification of arguments for supporting and opposing measures

Supportive arguments	Opposing argument
Equity	**Discrimination**
Equity (general)	Discrimination (general)
	Discrimination by road user
	Discrimination by age
	Discrimination by gender
	Discrimination by wealth
	Discrimination by group
Difficult to cheat/evade/not comply	Easy to cheat/evade/not comply
Preserving human liberties	**Restricting human liberties**
Proportionate, right, just	Disproportionate
Preserving liberties (general)	
Preserving freedom	Restricting freedom
Preserving mobility	Restricting mobility
Preserving joy in life	Reducing joy in life
Assuming responsibility	Reducing responsibility
Avoiding burden	Increasing burden
Protecting privacy	Reducing privacy
Limited costs for people	Expensive for people
Relevance	**Limited added value**
Reducing/avoiding harm	Not reducing/avoiding harm
Effective in meeting its purpose	Ineffective in meeting its purpose
Addresses an important problem	Other problems are more important
Good solution to the problem	Other measures are better
Gives the right message	Gives the wrong message
Positive side effects	Negative side effects
Feasibility	**Practical obstacles**
Easy to implement	Complex, difficult to implement
Easy to enforce	Complex, difficult to enforce
Efficient for society	High costs for society
Political arguments	**Political considerations**
Public support	Public opposition
Regulation is useful	Regulation is not the right approach
Transparency	Lack of transparency
In agreement with the law	Against the law

Each positive argument area has a mirror area on the negative side – and this is also the case for most of the specific arguments themselves. As an example, the mirror area of the argument area 'Equity' is 'Discrimination" and the mirror argument of the argument 'Strong, clear message' is 'Wrong message'. The 'Pro' and 'Contra' areas are not perfect mirrors. 'Equity' has several negative mirror arguments; this reflects the fact that when someone states that something is equitable it covers all these forms of non-discrimination. Also, some interviewees used the arguments of 'Preserving human liberties', without specifying which liberties.

Each of these 'argument areas' includes more specific arguments. For example, the area 'Relevance' covers the following types of arguments: 'Avoids or reduces harm'; 'Is effective in meeting its purpose'; 'Addresses an important problem'; 'Is a good solution to the problem'; 'Gives the right message'; and 'Has positive side effects'.

3.2. Example 1: arguments used and literal quotes in relation to "Limited added value".

Many labels in this table may appear a bit cryptic at first; they are explained in detail in Van den Berghe (2022). In this section we illustrate the meanings for one argument area: 'Limited added value'. The following types of arguments fall under 'Limited added value':

- *'Ineffective'*: there is no belief that the measure will reduce road crashes or other intended benefits
- *'Other problems are more important'*: addressing this particular problem (e.g. visibility of pedestrians in the dark) is considered of low priority compared to other problems (e.g. dangerous footpaths)
- *'Other measures are better'*: to address a problem (e.g. cyclist injuries) other measures are felt to be more appropriate (e.g. separate cycle lanes).
- *'Gives the wrong message'*: implementing the measure would make certain undesirable views more acceptable (e.g. that traffic infractions can be traded in for money), or could be interpreted as blaming the victim.
- *'Negative side effects'*: (strong) negative effects might be expected such as changing behaviour, cheating or reduced use of active travel modes.

Table 3 illustrates these meanings with some literal quotes from the interviewees. Quotes in French and German have been translated into English.

Table 3. Quotes in relation to 'Limited added value'

(30K) "Just changing the speed limit doesn't change the speed." (UK, Manager)
(30K) "Because I think you can hinder a lot of this stuff anyway by making roundabouts." (Sweden, Parliamentarian) (HEL) "There's no evidence that it improves safety because it also reduces the numbers of cycling cyclists." (UK, Official) (HEL) "The helmet is practically useless when you are at 80-90 km/h" (France, Researcher)
(PAY) "The level of the fine is probably less important than all the other things like the immediacy and the certainty of being caught". (UK, Researcher)
(PAY) "There are other solutions and the demerit points system is a proven solution." (France, Researcher) (SCR) "Basically the evidence on this is that actually it doesn't increase safety." (UK, Official)
(ZER) "The alcohol issue is not about 0.4 or 0.3; the alcohol issue is about doses beyond 0.5." (France, Researcher) (ALC) "You achieve more effect with awareness raising than with an alcohol interlock system." (Austria, Official) (RFL) "There are ways of doing things other than by law. And this is one example of that." (Sweden, Researcher) (RFL) "Because, this is anti the Safe System." (Austria, Consultant)
(ISA) "I think that is a measure of yesterday. Now we can do geofencing." (Sweden, Parliamentarian)
(ISA) "But it is a problem that the maximum speed is also not appropriate in certain circumstances." (Austria, Official)

3.3. Example 2: distribution of arguments used to support or oppose compulsory ISA systems in cars

Figure 1 shows the distribution of the number of interviewees that used a particular argument in relation to ISA. The arguments are grouped by argument area. To avoid cluttering, the names of the argument areas have been replaced by labels in this chart: P1: Equity; C1: Discrimination; P2: Preserving human liberties; C2: Restricting human liberties; P3: Relevance; C3: Limited added value; P4: Feasibility; C4: Practical obstacles; P5: Political Arguments; and C5. Political considerations.Most arguments used for supporting mandatory installation of ISA systems in cars are within the ' area (P3). The most frequently used prime arguments for supporting ISA are 'a good solution to the problem' (16 interviewees), followed by 'effective' (7) and 'addresses an important problem' (5). 'Equity (general)' was used

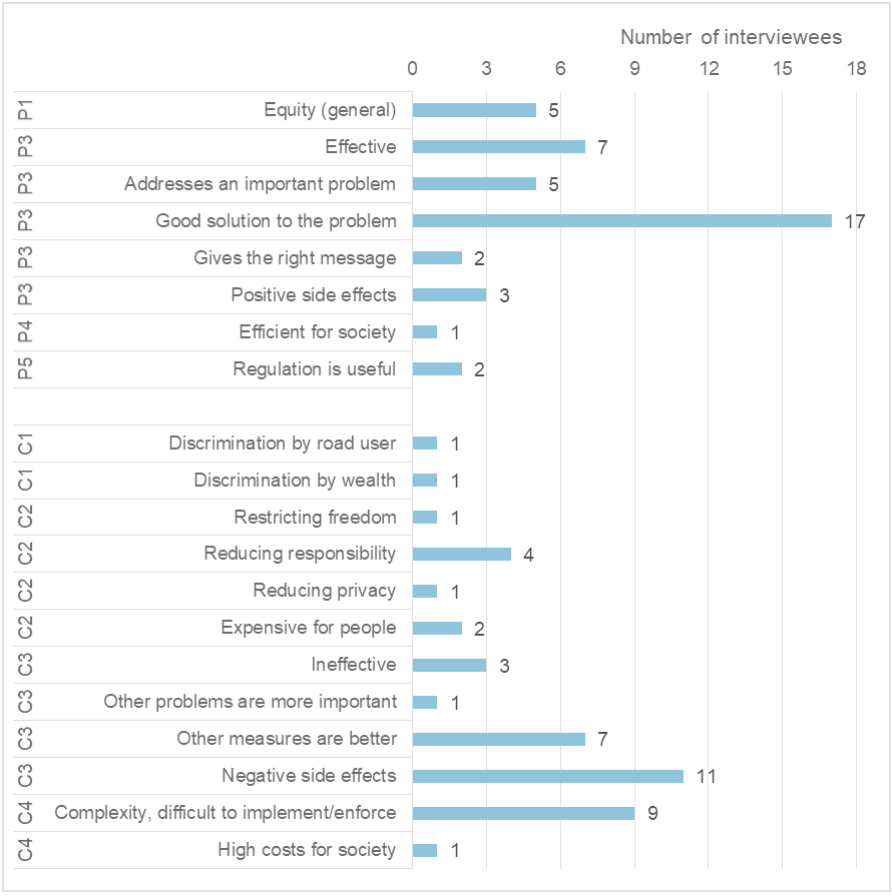

Figure 1. Number of interviewees using particular arguments in relation to ISA

by a supportive argument by five interviewees. The largest number of counterarguments are in 'Limited added value' (C3), which is the 'mirror area' of 'Relevance'. It concerns mainly 'negative side effects' (11 interviewees) and 'other measures are better' (7). Other arguments used against ISA are the practical obstacles, in particular 'complexity/ difficult to implement/enforce' (9 interviewees) and human liberties, in particular to the reduction of responsibility
(4). Interestingly, only one interviewee used the argument 'restriction of freedom'.

3.4. Distribution of arguments for the measures considered

Figure 2 shows for each policy measure the distribution of the argument areas used by the interviewees. If interviewees used two or more arguments within the same argument area, this area was only counted once. Figure 2 illustrates the following findings:

- Five measures have a quite similar distribution of argument areas: 30K, ALC, HEL, ISA and ZER. For all of them, 'Relevance' is the most important supportive argument area. On the counter side, there is a more balanced presence of the argument areas 'Limited added value', 'Restricting human liberties' and 'Practical obstacles'.
- Negative arguments are more numerous than positive ones.
- For six measures, 'Limited added value' is the argument area with most negative arguments used. For RFL and ALC the arguments that are related to 'Restricting human liberties' were used slightly more.
- PAY has a more balanced distribution of the different arguments areas. Although 'Relevance' is the argument area used most, there are almost equal numbers of interviewees using arguments related to 'Equity' and 'Preserving human liberties'.

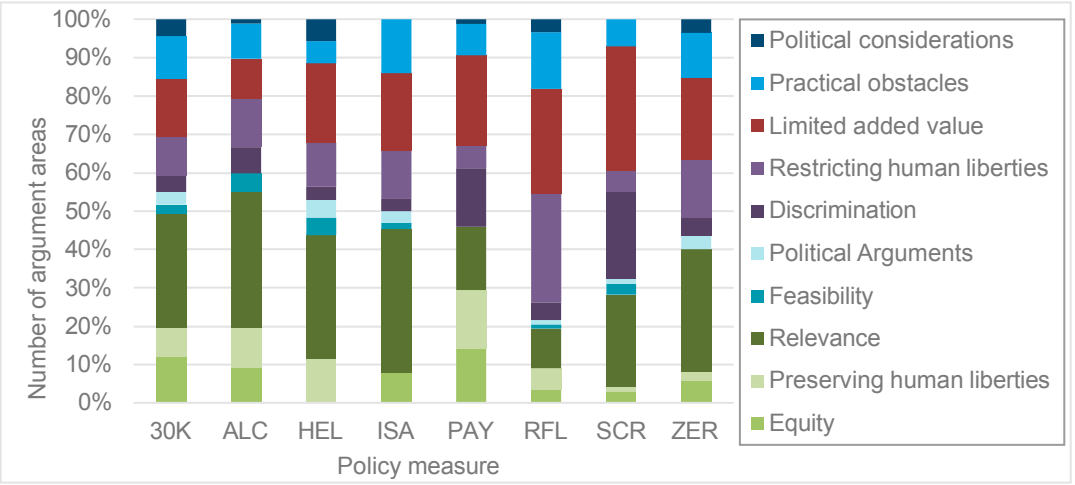

Figure 2. Distribution of arguments by argument area and measure

Although the distribution of argument areas varies across the policy measures, all types or arguments could be captured with the classification scheme developed. Figure 3 shows the average number of supportive and opposing arguments by level of support. It can be observed that when opposing a measure, the number of opposing arguments used is much higher than the number of supportive arguments used by interviewees when supporting one. Moreover, when opposing a measure interviewees rarely recognise positive arguments; those who support a measure more frequently recognise that there are counterarguments.

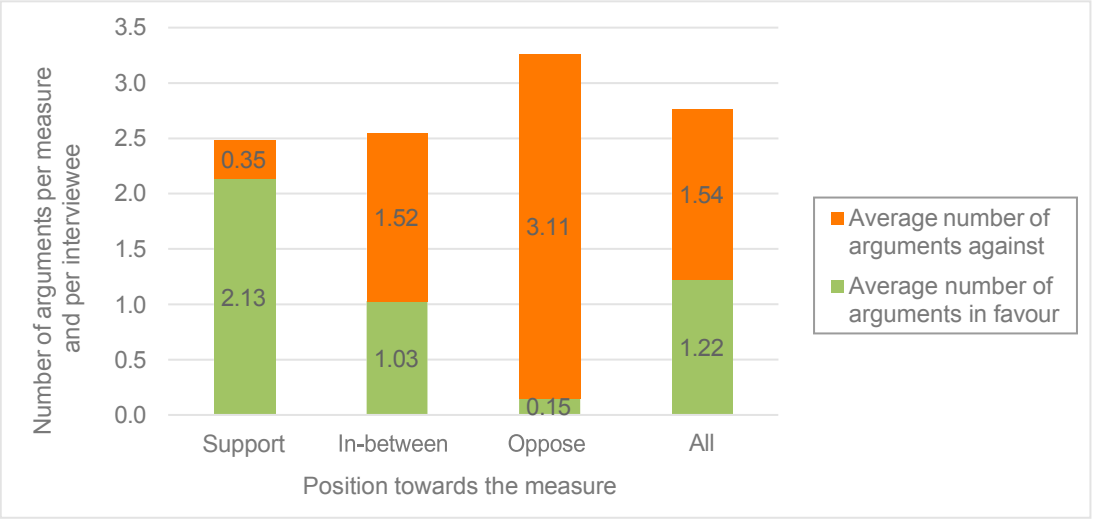

Figure 3. Average number of arguments in favour or against the measures, by level of support

4. Conclusion

Although it is common sense that arguments in favour or against policy measure are influenced by beliefs on whether the measure is likely to be effective, and by ideological views. This has also been shown in numerous studies. Yet, a sold classification of arguments was lacking. With this research, a first version of a classification scheme has been developed that is useful for categorising the nature of the arguments that people use to support or oppose policy measures – whether they are experts, policy-makers or ordinary citizens. It was developed in the context of road safety but it appears that, with minor adaptations, this scheme could also be used in many other policy areas such as transport, environment, education and health. For instance, understanding whether resistance to measures is rooted in the disbelief of its effectiveness, in ideological concerns (e.g. restriction of freedom, unequal treatment) or concerns about feasibility, may help policy-makers in correcting perception errors and/or adapting the measure in order to get broader

public support. For instance, if the main argument against would be the presumed poor effectiveness, then providing evidence for the expected effects should be given higher priority in the communication about the measure.

Analysing the nature and distributions of arguments used by the interviewees leads to a number of 'meta-results', that are likely to be applicable to other policy areas as well. One important observation is the asymmetry in the nature of arguments used. Arguments that are used to justify opposition to a measure, often belong to different argument areas than the arguments used in favour. A common situation is where one interviewee used the argument 'Relevance' to support a measure and another interviewee 'Practical obstacles' to oppose it. Another interesting meta-result is that the number of negative arguments used by interviewees when opposing a measure, is much higher than the number of positive arguments when supporting one. Thirdly, when opposing a measure interviewees rarely recognised positive arguments; those who supported a measure more frequently mentioned counterarguments.

There is scope for further research. First, it would be useful to examine the applicability of the scheme – and the need for adaptation – across a wider range of policy measures and policy areas. Secondly, the arguments should also be related to other dimensions and characteristics of people, including the level of expertise/knowledge about the topic and the notion of bounded reality, to what extent the arguments are based on objectives facts (versus subjective judgements), the level of self-interest in the measure being implemented (or not) and ideological views on the matter.

References

Bachynski, K. E., 2012. Playing hockey, riding motorcycles, and the ethics of protection. American Journal of Public Health, 102(12), 2214–2220. https://doi.org/10.2105/AJPH.2012.300721

Carnis, L., 2015. Éthique et sécurité routière: enjeux et conséquences pour l'évaluation des politiques publiques. In G. Blanchard & L. Carnis (Eds.), Évaluation des politiques de sécurité routière. Méthodes, outils et limites. (pp. 217–242). Paris: L'Harmattan.

Charmaz, K., 2006. Constructing Grounded Theory: A Practical Guide through Qualitative Analysis. London, UK: SAGE Publications.

Davis, F. D. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly: Management Information Systems, 13(3), 319–339. https://doi.org/10.2307/249008

De Vos, J., & Singleton, P. A., 2020. Travel and cognitive dissonance. Transportation Research Part A: Policy and Practice, 138(July), 525–536. https://doi.org/10.1016/j.tra.2020.06.014

Eby, D. W., Molnar, L. J., Kostyniuk, L. P., St. Louis, R. M., Zanier, N., Lepkowski, J. M., & Bergen, G., 2017. Perceptions of alcohol-impaired driving and the blood alcohol concentration standard in the United States. Journal of Safety Research, 63, 73–81. https://doi.org/10.1016/j.jsr.2017.08.013

Elvebakk, B., 2015. Paternalism and acceptability in road safety work. Safety Science, 79, 298–304. https://doi.org/10.1016/j.ssci.2015.06.013

Eriksson, L., Garvill, J., & Nordlund, A. M., 2006. Acceptability of travel demand management measures: The importance of problem awareness, personal norm, freedom, and fairness. Journal of Environmental Psychology, 26(1), 15–26. https://doi.org/10.1016/j.jenvp.2006.05.003

Eriksson, L., Garvill, J., & Nordlund, A. M., 2008. Acceptability of single and combined transport policy measures: The importance of environmental and policy specific beliefs. Transportation Research Part A: Policy and Practice, 42(8), 1117–1128. https://doi.org/10.1016/j.tra.2008.03.006

Festinger, L., 1957. A theory of cognitive dissonance. Stanford, CA, USA: Stanford University Press.

McCartt, A. T., Wells, J. K., & Teoh, E. R., 2010. Attitudes toward in-vehicle advanced alcohol detection technology. Traffic Injury Prevention, 11(2), 156–164. https://doi.org/10.1080/15389580903515419

Molin, E. J. E., & Brookhuis, K. A., 2007. Modelling acceptability of the intelligent speed adapter. Transportation Research Part F: Traffic Psychology and Behaviour, 10(2), 99–108. https://doi.org/10.1016/j.trf.2006.06.008

Steindl, C., Jonas, E., Sittenthaler, S., Traut-Mattausch, E., & Greenberg, J., 2015. Understanding psychological reactance: New developments and findings. Zeitschrift Fur Psychologie / Journal of Psychology, 223(4), 205–214. https://doi.org/10.1027/2151-2604/a000222

Stern, P. C., 2000. Toward a coherent theory of environmentally significant behavior. Journal of Social Issues, 56(3), 407–424. https://doi.org/10.1111/0022-4537.00175

Tapp, A., Nancarrow, C., & Davis, A., 2015. Support and compliance with 20mph speed limits in Great Britain. Transportation Research Part F: Traffic Psychology and Behaviour, 31, 36–53. https://doi.org/10.1016/j.trf.2015.03.002

Van den Berghe, W., 2022. The influence of fairness and ethical trade-offs on public support for road safety measures. An international and intercultural exploration. Thesis submitted to University College London (UCL) for the degree of Doctorate of Philosophy

Ward, N. J., Finley, K., Townsend, A., & Scott, B. G., 2021. The effects of message threat on psychological reactance to traffic safety messaging. Transportation Research Part F: Traffic Psychology and Behaviour, 80, 250–259. https://doi.org/10.1016/j.trf.2021.04.013