Comparative Optimism and Traffic Accident Perception in Professional Driving

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Abdallah Lafhal abdellah.lafhal.etu@etu.univh2.ma

Adil Ghazali adil.ghazali@univh2c.ma

Department of Psychology, University Hassan II, FLSH -Mohammadia

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Abstract

This research sought to understand the link between causal attribution and comparative optimism in both professional and semi-professional transport drivers. Using a sample of 401 drivers (200 professional taxi drivers and 201 app-based semi-professionals using personal cars), the study factored in age, professional category, years of experience, and education. The central hypothesis proposed a strong relationship between heightened optimism and attribution style following traffic incidents. Two questionnaires facilitated this exploration: one on causal attribution for accidents, modeled after the translated Levinson Scale (1972), and the other on comparative optimism, based on the LOT by Scheier and Carver (1985). Findings revealed a notable correlation between comparative optimism and attribution style. Specifically, a high optimism level corresponded with external attribution and vice versa. The results emphasize the pivotal role of various factors and suggest that drivers' self-perceived competencies influence how they attribute accident causes. This provides valuable insights for authorities aiming to educate drivers and preemptively mitigate potential accidents.

Keywords: causal attribution; comparative optimism; traffic accident; professional and semi-professional drivers.

Introduction

The road is the primary space for individuals and traffic to move and travel. It has been an important field for psychological studies, especially with regard to the psychology of risk, as individuals using the road find themselves facing a set of risks in order to reach their destination. In this regard, traffic accidents have always been a source of concern for a group of public agencies and policies, and we find manifestations of these concerns through economic and social statistics regarding the repercussions of accidents. In this context, professional drivers, in particular, of small taxis (urban taxis) constitute a population at risk, given their regular use of the road. the statistics published by the NARSA (2021) concerning the involvement of vehicles in accidents in Morocco show that automobile drivers achieve a rate of 25.21% which is the 2nd in terms of deaths, in the framework, therefore, from this state of affairs, the question of the perception of drivers of small taxis arises regarding the uses reserved for the road and circulation by these professionals, and consequently at the level of the perspective modalities animating driving at home. The objective of the present research is to highlight the relationship between the bias of comparative optimism and the causal attribution of the road accident when it occurs among professional drivers (petit taxis) and semi-professional drivers (driver uses applications and its own vehicle). We will see how the attribution style variable is related to comparative optimism through a group of sociodemographic factors related to the driver who is the subject of the study. So, during this study, we started from the concept of danger, risk and accident. The concept of danger refers to an event or situation that could cause negative consequences and losses that affect the individual or the environment, while the concept of risk refers to the possibility that an event or situation will lead to serious consequences under specific circumstances. In other words, risk is the possibility of an undesirable adverse event occurring, that is, the possibility that the risk will actually lead to damage and losses, under certain circumstances (Leplat, 2000). The concept of a traffic accident is defined as an accident involving at least one vehicle on a road open to public traffic in which at least one person is injured or killed.

Traffic accidents are complex events that can have significant psychological and emotional repercussions for individuals involved. Understanding how people attribute causes to traffic accidents and how they maintain optimistic outlooks in this context is essential for improving road safety and mitigating the negative consequences of accidents. The theoretical framework presented here combines causal attribution theory and comparative optimism theory to explore these phenomena.

Causal Attribution Theory

Internal vs. External Attribution: In the context of traffic accidents, individuals may attribute the cause of an accident to either internal factors (e.g., their own driving skills, e.g., distraction) or external factors (e.g., road conditions, other drivers' behavior) (Heider, 1958).

Fundamental Attribution Error: Despite external factors often contributing to accidents, individuals may exhibit a fundamental attribution error by overemphasizing internal attributions when judging others involved in accidents. This bias may influence legal processes and insurance claims (Ross, 1977).

Impact on Emotional Responses: Causal attributions in traffic accidents can significantly affect individual's emotional responses. Those who attribute the accident to external factors may experience less guilt and distress compared to those who attribute it to internal factors (Weiner, 1985).

Comparative Optimism Theory

Optimism Bias in Traffic Accidents: Comparative optimism suggests that individuals tend to perceive themselves as less likely to be involved in a traffic accident and more fortunate in avoiding accidents compared to others (Shepperd et al., 2002; Weinstein, 1980).

Unrealistic Optimism: This bias often leads individuals to believe that they are less vulnerable to accidents and their consequences, such as injuries or financial burdens, compared to the general population or specific others (Sharot, 2011).

Integrating Causal Attribution and Comparative Optimism

Causal Attribution's Role in Comparative Optimism: Individual's causal attributions for traffic accidents may influence their comparative optimism. For example, someone who attributes a recent accident to external factors may bolster their comparative optimism by viewing it as an isolated incident unlikely to recur.

Emotional Outcomes: The interplay between causal attribution and comparative optimism can impact emotional outcomes. Those who attribute accidents to external factors may experience less negative emotional distress and maintain a more optimistic outlook about their future driving experiences.

Cultural Variations: Cultural norms and values may affect both causal attributions and comparative optimism in the context of traffic accidents. Some cultures may emphasize personal responsibility, while others may stress the influence of external factors (Choi & Nisbett, 1998).

Understanding the dynamics of causal attribution and comparative optimism in traffic accidents can inform interventions and policies aimed at improving road safety. Strategies may include educational programs addressing attribution biases and promoting safe driving practices. This integrated theoretical framework synthesizes concepts from causal attribution theory and comparative optimism theory to provide a comprehensive understanding of how individuals perceive and respond to traffic accidents. It highlights the importance of addressing attribution biases and promoting realistic risk assessment in efforts to enhance road safety. The main question of this study is "is there a significant relationship between the style of attribution that the driver's product toward the traffic accident and the comparative optimism produces by the drivers in light of sociodemographic factors?". In order, to investigate this problematic, the following hypothesis were formulated:

- The style of attribution is related to social and professional factors;
- The comparative Optimism is influenced by social and professional factors;
- The higher the optimism rate, the greater the external attribution method when a traffic accident occurs.

Method

Participants

This study included a research sample consisting of 401 drivers who were randomly selected, and distributed according to the following factors:

Table 1

Distribution according to professional factors

Professional Category		**Years of Seniority**				**Exposing an accident**	
Pro	Semi-pro	Less than 1 y	1 to 9 y	10 to 19	More 10 y	Yes	No
49,9%	50,1%	9,2%	57,9%	24,7%	8,2%	50,1%	49,9%

Table 2

Distribution according to social factors

Gender		**Age**				**School level**			
Male	Female	18 -24 y	25-34 y	35- 44 y	+ 45 y	Primary	Secondary	High school	University
79,6%	20,4%	26,1%	38,2%	21,2%	14,5%	8,7%	14%		32,2%

Material

A questionnaire was distributed to measure the process of causal attribution for traffic accidents, inspired by the translation of the Levinson scale (The Internal Powerful Others and Chance Scale, 1972), translated into French by Loas & coll, and I translated it into Arabic language and it was reviewed by a group of PhD students and professors of psychology and French language. This questionnaire consists of 15 items that must be answered according to a rating from 1 to 5 (1 = strongly disagree, 5 = completely agree) (For example, Whether I get into an accident or not depends on how skilled I am at driving). The last paragraph of the questionnaire concerns the assessment of the degree of comparative optimism, inspired and adopted by the LOT (Life Orientation Test) developed by Scheier and Carver (1985). The procedure was used by Weinstein (1980), which is commonly used to assess comparative optimism, and contains 9 items that are answered on a scale ranging from very weak to very high (I am always optimistic in the way I drive). Questions were asked about sociodemographic factors, such as age, gender, profession category, years of seniority, history of exposure to an accident, and educational level.

Results

In analyzing the results of this study, we relied on the SPSS 25 program, and on the results of the T-test, in order to confirm the hypotheses.

Attribution style

The rate of causal attribution after analysis reaches (27.59) and the more the items relate to internal explanations for traffic accidents, the higher the percentage of drivers who do not agree with them. As an example of this, we find that 60.8% do not agree that their behavior caused the accident, compared to 82%. They agree that the accident will happen with or without them, that is, despite their behavior. We also find that 87% do not consider themselves deciding whether an accident will occur, compared to 78.1% who consider fate to be the one that determines the occurrence of the accident. From the results of the table 3, the general tendency to explain the causality of an accident is exogenous.

Table 3

Regression analysis of Causal attributions and sociodemographic factors

	Coefficients	**Erreur standard**	**Student**	**Sig**
(Constante)	31,019	0,999	31,036	0,000***
professional category	-6,178	0,504	-12,253	0,000***
Age	1,024	0,334	3,066	0,002***
School level	0,635	0,259	2,448	0,015**
years of seniority	-2,307	0,447	-5,163	0,000***
F-Stat		100,053		
Sig		0,000***		
R^2		0,503		

***significant at 1%

**significant at 5%

During this study, we worked on a type that is considered new in the field of professional driving, namely drivers who use electronic applications such as (Uber, Indrive, Heetch) to obtain delivery requests using their own cars. Through the results of the research, it was found that this category obtained a significantly high causal attribution rate of 31.43 compared to professional drivers 23,74, in other words, professional drivers explain the causes of traffic accidents by internal factors (their behavior, mechanical inspections, their error, attention, compliance with the laws, decision-making, law enforcement, and their driving skills), unlike

small taxi drivers who They tend to explain traffic accidents by external factors (fate, luck, others, road conditions, coincidence). For them, the accident is not related to what they do, so the issue of its occurrence is not related to the actions they take. According to the table 3 it is clear that there is a significant relationship between the causal attribution and professional category factor. When the age factor was included in the analysis of the causal attribution process among drivers, it was found that the higher the age rate, the more the attribution method tended toward internal explanations, as young drivers obtained the highest average rates of 29.8 and 27.32, and this rate reached 27.60 among drivers. Middle-aged people, while the lowest rate recorded among elderly drivers remains 24.29. Obtaining a smaller rate for the causal attribution variable means attributing the causes of the incident to what is external, and the higher the rate, the more the attribution tends to explain the causes of the incident to what is internal. From table 3 it is clear that the relationship between the causal attribution and the Age factor is significant at the 0.05 level.

The school level can play an important role in how the driver realizes the cause of the traffic accident when it occurs, because this factor correlates with the degree of awareness and sense of responsibility and the extent of its impact on that. According to the results of the study, the higher the educational level of the drivers, the higher the rate of causal attribution. Drivers with an elementary level obtained the lowest rate of 23.51, followed by drivers with a preparatory educational level of 24.02, then the secondary level of 25.86, and finally, drivers with a university level had the highest rate of 30.61. From Table 3 it is clear that the relationship between the causal attribution variable and Education level factor is significant at the 0.05 level. But, when it comes to the factor of years of seniority, the results shows that more years accord to decrease in means of causal attribution. New drivers received a high rate (34,08), while the drivers with years of seniority between 1 and 9 years (27,91), between 10 and 19 years (26,28), and more than 20 years (22) have the lowest mean, Which can be clearly explained by the fact that years of seniority makes the driver more aware of the extent to which his commitment, taking preventive behaviors, and his vigilance are linked to avoiding a traffic accident, and this is the result of the experience he has accumulated over the years, which makes him feel responsible for causing an accident. From Table 3 it is clear that the relationship between the causal attribution variable and years of seniority factor is significant at the 0.05 level. As can be seen from the value of R^2, which is 0.503, we can consider that the factors studied among this sample of drivers can predict 50.3% the style of attribution that drivers will adopt with regard to explaining the causality of the accident when it occurs. In conclusion, the factors studied during this study can outline the interpretations that professional and semi-professional drivers make when they are faced with a traffic accident, which constitutes a clearer understanding of how they perceive the socio-cognitive reality of the accident, so this finding confirms the first hypothesis.

Comparative Optimism

According to the results, the comparative optimism score for the drivers reaches the mean of 20.09 which is barely high, through this, it becomes clear that the sample of drivers studied shows relatively high optimism about their driving skills, and a tendency to believe that it is unlikely that they will get into an accident or cause it. To give an example of this, we find that 45.4% believe that it is very weak or weak with regard to the item related to the possibility of causing an accident, and 64.9% believe that the probability of them falling asleep while driving is very weak or weak, and 51% are very optimistic about their abilities and the way they drive the car.

Table 4

Regression analysis of Comparative Optimism according to sociodemographic factors

	Coefficients	Erreur standard	Student	Sig
(Constante)	19,404	1,240	15,653	0,000***
Professional category	-6,070	0,625	-9,707	0,000***
Age	3,145	0,414	7,595	0,000***
Education level	-0,979	0,322	-3,043	0,002***
years of seniority	1,527	0,554	2,755	0,006***
F-Stat		82,086		
Sig		0,000***		
R^2		0,453		

***significant at 1%

As we saw previously with regard to the causal attribution variable, we considered the professional category factor as one of the influential factors. In this regard, we find that professional drivers record relatively low optimism (18.93) compared to semi-professional drivers (21.25). Despite the closeness between them, this closeness is mediated by the general average. For the sample as a whole, it is 20.09, and this leaves us with an optimistic group versus a somewhat pessimistic group. Depending to the table 4 it is clear that the relationship between the comparative optimism variable and professional category factor is significant at the 0.05 level. After analyzing the results of the comparative optimism variable, taking into account the age factor, it becomes clear that there is a positive relationship between them, whereby the higher the age, the higher the rate of optimism (Young drivers between 18 and 24 years old have a rate of 16.5, drivers between 25 and 34 years old have a rate of 19.12, drivers between 35 and 44 years old have a rate of 89, and finally the drivers aged over 45 years have the highets rate of 30.91). We can explain this by saying that the more a driver gets used to driving, the more he considers himself to be a barrier to traffic accidents, and this makes him optimistic about his skills and abilities behind the wheel. From Table 4 it is clear that the relationship between the comparative optimism variable and Age factor is significant at the 0.05 level. Among the factors studied during the research, we find the factor of educational level, and the results showed that drivers with an elementary level recorded significantly higher optimism (31.49) compared to the rest of the other educational levels, and this has implications for the level of qualitative analysis, as the higher the educational level, the greater the driver's awareness of responsibility, which makes himself more cautious and less optimistic about his possibility of falling into or causing an accident. According to the table 4 it is clear that the relationship between the comparative optimism variable and education level is significant at the 0.05 level.

Finally, we find that the factor of years of seniority in its relationship to comparative optimism also plays a role in explaining the driver's pessimism or optimism. Through the results of the study, it turns out that new drivers are pessimistic about their abilities and how they drive their cars 17.76. As the number of years increases, the rate of optimism also increases, reaching among drivers who have a number of years of seniority (32.67 among drivers with more than 20 years of seniority). As can be seen from the value of R^2, which is 0.453, we can consider that the factors studied among the sample of drivers subject to the study can predict by 45.3% the way of evaluating their abilities and skills of driving, which lead them to be optimistic or pessimistic about having an accident, so this finding confirms the second hypothesis.

Causal attribution and Comparative optimism in professional driving

By analyzing the results of the study with regard to the process of causal attribution and comparative optimism in relation to professional driving, it was found that there is significant

relationships between the two variables. The more the driver is optimistic about the way he drives, his abilities, and his skill, the more his interpretation of the causes of the accident when it occurs to him tends to external causes. So, professional drivers who have accumulated more years of experience are more optimistic, and this is also related to an internal attribution method in explaining traffic accidents. We may explain this as a kind of balance between the driver's self-confidence through his optimism about his driving abilities, and at the same time his awareness and responsibility in explaining the reasons leading to the traffic accident. When it comes to the age factor, we find that high age is associated with relative optimism and also with internal attribution, and this is consistent with the years of seniority factor. As for the factor of educational level, we find that drivers who did not exceed the elementary level recorded a high rate of optimism compared to their explanation of the causes of the accident when it occurred due to external factors, which makes us emphasize the importance of study, awareness, and awareness-raising in changing false beliefs. Finally, professional drivers versus semi-professional drivers are keen to explain the causes of accidents with factors related to them, although they are optimistic about their driving abilities compared to professional drivers. Through all of these results, it has been shown that the relationship between the causal attribution variable and comparative optimism exists, as the high rate of optimism is linked to the external attribution method. However, the interpretation may differ when the factors explaining these rates are taken into account, and this confirms the third hypothesis.

Discussion

Although the accumulated literature in the field of social psychology has shown the relationship between causal attribution and comparative optimism, studies that have tested the relationship between these two variables among professional drivers are very scarce. However, there are studies related to causal attribution among truck drivers. In one study conducted by Gao, Li and Li, in China in 2019, where they focused on analyzing the attribution of safety-critical incidents among truck drivers. The study used a questionnaire to collect data from 1,000 truck drivers and analyze the attribution made by the drivers to safety-critical incidents such as accidents and near-death cases. And transgressions and violations of the law. The study found that drivers tend to attribute critical safety events to external factors, such as road conditions and other drivers, rather than attributing them to internal factors, such as their behavior or skills. The study also found that drivers' characteristics are affected by their age, experience, and safety training. This goes in the same context as the results reached in this study, where drivers generally tend to attribute the causes of the accident to external factors. This confirms the first hypothesis, which assumes that drivers attribute the reasons for being involved in an accident to external causes.

The results of a study by Palat & Delhomme (2018) reached the same conclusions as the study found that highly educated drivers tend to attribute near-crash events to internal factors, such as their own behavior or skills, rather than to external factors, such as the behavior of other drivers or circumstances of the road (Palat & Delhomme, 2018). While other studies did not find any significant relationship between the educational level factor and the attribution style of drivers (Kouabenan, 2001). Regarding the factor of the number of years of seniority and its relationship to causal attribution in the sample, the results of the research concluded that drivers with more than 20 years of experience link the causes of traffic accidents to internal factors, which is, they make internal attribution. The reason for this may be due to their experience and maturity with regard to driving behavior, at least for the sample, which was the subject of the study, and this also contradicts the study conducted by Ettouzani (2014), where it was concluded that the external causal attribution for the causes of traffic accidents is linked to a low number of years of seniority, less than 5 years, while drivers with

a number of years of seniority of more than 10 years do by attributing the causes of the traffic accident to internal factors, i.e. internal attribution (Ettouzani, 2014).

The results of this study found that the drivers subject to the study have high optimism in general, meaning that their method of driving does not allow them to get into a traffic accident or cause it. This is in line with the study conducted by Ghazali (2014), where he found that professional drivers of heavy vehicles have high optimism regarding their driving behavior (Ghazali, 2014). A study by Palat & Delhomme (2018) showed that drivers do not consider that internal factors related to their skills or behavior are what causes the accident, which makes them optimistic about their way of driving (Palat & Delhomme, 2018), while another study by Zhang et al. (2018) also found that the drivers studied were optimistic about their driving style (Zhang et al., 2018).

Regarding the age factor and its relationship to the comparative optimism of the drivers who were the subject of the study, the results concluded that the higher the age factor, the higher the rate of comparative optimism and this is what the study confirms. Conducted by Ghazali & Belhaj (2014), the study found that young and elderly drivers have high comparative optimism compared to middle-aged drivers (Ghazali & Belhaj, 2014). Another study by Sulluman et al. (2008) examined the perception of risk among elderly drivers and found that they still showed relative optimism, albeit to a lesser extent than younger drivers and this is in line with the study results (Sulluman et al., 2008).

Among the factors that were paid attention to in this study was the comparison of the comparative optimism variable between two types of professional and semi-professional drivers. According to the results, it was concluded that the comparative optimism score among semi-professional drivers (mean = 20.09) is high compared to professional drivers (mean = 18.93), so the interpretation of the results obtained is due to the way in which the professional driver perceives himself, that is, that professional driving is his field of work, which makes him see himself as exposed to socio-professional accidents, and therefore he is not optimistic about his method of driving because his driving behavior is not the only one responsible for the occurrence of whether the accident occurred or not, while the semi-professional driver's perception as an ordinary driver extends to professional driving, and this makes him perceive his driving behavior as falling within normal behavior and not related to socio-professional accidents. It must be emphasized that this interpretation of the results requires conducting an in-depth comparative study on socio-professional accidents and driving. A study by DergiPark (2022) found that professional drivers rated their driving skills higher and engaged in lower risk-taking behaviors compared to non-professional drivers (DergiPark, 2022), while a study by Pietruska and Armony (2013) found that trait anger has varying effects on optimism and risk-taking behavior, but the study did not specifically examine differences between professional and semi-professional drivers. There are many studies that examined comparative optimism among professional drivers in general, but these studies did not address comparative optimism among semi-professional drivers, which calls for conducting studies in this field, taking into account the factor of the professional category.

Regarding the relationship between the educational level factor and the comparative optimism variable, the results found that drivers with a low educational level (primary, middle school) have the highest rates of optimism according to this factor, which are as follows: (31.49 and 20.68), while we find that these rates are low for drivers who have a high level of education (secondary, university), and are as follows: (17.31 & 19.17). This means that the lower the comparative optimism rate, the higher is the academic level. No studies have been found on this topic, namely the factor of academic level and its relationship to the variable of comparative optimism among professional drivers. There are studies that discuss the concept of academic optimism and its relationship to achievement among students (Ladd & Dinella, 2009).

It was shown through the results of the study that the results of comparative optimism among the drivers subject to the study increases steadily with the increase in the number of years of seniority. Dejoy (1989) believes in his study of the age factor and years of seniority that experience has adverse effects on optimism bias according to age: Among young drivers, optimism bias increases in the first years of driving (due to the speed of perceptual learning engines, and confidence in their knowledge) and then decreases in older drivers. Task complexity, according to this author, has an opposite effect on bias. For Fuller (1984 cited by Assailly, 2006) the driving experience will reduce the level of fear we feel and, therefore, it increases self-confidence and finally enhances the optimism tendency, "Just as the road forgives our mistakes and transgressions, and learn to have accidents" (Assailly, 2006). Experienced drivers not only have effective experience that allows them to perform professional driving tasks, but also have a subjective assessment of their driving abilities compared to other drivers (Delhomme & Meyer, 1999; Rutter et al., 1998), as a result of which the driving experience appears complex and multimodal (Delhomme, 2000), and from this standpoint, and for various reasons, we have observed this bias in optimism even among the most experienced drivers, and these have, during their careers, implemented adaptive or compensatory strategies (Labelle, 2001) which allows them, for example, to avoid driving at night or in bad weather (McGwin et al., 1999). "But because they adopt these strategies, it is possible that older motorists believe they are safer than they actually are and underestimate their risks, even though these strategies do not make them completely safe." Accident statistics (Spitzenstetter & Moessinger, 2008) show that another reason lies in the fact that driving activity, even at a more advanced age, represents for these drivers a link of professional, to some extent social, integration (Moessinger et al., 2001), they seek to consider themselves less risky than others, in order to maintain a good self-image, reassured regarding the personal ability to continue this activity (Razon et al., 2003).

It was shown through the results of this study regarding the relationship of the causal attribution variable to comparative optimism that there is a statistical significance linking these two variables, as the higher the level of optimism among the professional driver, the more the causes of the traffic accident are explained by external factors (other drivers, road conditions, fate, coincidence). These results can be interpreted by saying that the driver, who considers himself a professional and has confidence in his driving skills, when he is involved in an accident, tends to explain its causes away from himself, that is, from the factors associated with it. He makes external attributions, and therefore his awareness of his driving skills and abilities will not be responsible for causing the accident. There is a kind of balance between these two variables. Optimism in the way of driving is linked to external attribution, and the more we tend towards pessimism and doubt in our own abilities and skills to drive, the more the causes of the accident when it occurs are attributed to internal subjective causes, that is, concerning internal attribution, a study by Palat and Delhomme (2018), shows that comparative optimism regarding the driver's driving skills was positively related to the likelihood of attributing a controllable cause to near-miss crashes behind the wheel, meaning that the driver, in his interpretation of the reasons for the impending accident, the higher his optimism, the more he attributes the causes of this imminent accident to causes that can be controlled. However, this does not necessarily mean internal reasons related to it, but rather what is meant here are these reasons, the factors in which a person can intervene. In treating it, it may be internal (internal attribution) (protective behavior) or external (external attribution) (road condition). It can be seen that the relationship between the causal attribution variable and comparative optimism is a somewhat complex relationship, as there are many factors that can interfere in this relationship, and in another study (Cutello et al., 2021), that examined reducing the optimism bias in the driver's seat and its relationship to risky driving behaviors, it was found that optimism bias associated with the pursuit of sensation may

contribute to the participation of young drivers in road accidents. Through the results of the study, it was found that the age factor plays a fundamental role in the adoption of risky behaviors among young people, due to its association with the optimism bias of them. This group's desire to search for a feeling of excitement makes young drivers engage in dangerous behaviors while driving, and their optimism has been observed high. However, the results of this study contradict the results that have been reached, and we may explain this by the fact that the group of young people in this study belongs to semi-professional drivers, as we saw previously, showed low optimism regarding their driving abilities and skills, and internal attribution for the causes of the accident when it occurs. We are dealing with a group that feels responsible, so to speak, with regard to driving behavior, as they consider themselves professionals more than ordinary drivers.

Conclusion

In conclusion, it is vital to highlight the fundamental importance and relevance of the psychological approach to accident risk, within which this study is positioned. One of the significant contributions of this research is to provide avenues to alter drivers' attitudes and behaviors based on risk perception and to contribute to the development of strategies for prevention and awareness campaigns. This entails considering social and professional factors in the social perception of risk and in the training of professional drivers. Furthermore, this study suggests that road safety officials and stakeholders incorporate psychotechnical tests as a professional criterion to assess driving skills and consider data, beliefs, and cultural differences in this initiative.

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