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The perception of the demerit point system by drivers: a comparative focus-groups' study in Israel

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ABSTRACT: The purpose of this paper is to estimate how the new point system is perceived by the Israeli drivers, in consideration of the broader context of the motives and factors that impact behaviors on the road. The study examines differences in attitudes towards the scoring method between various population groups based on group identity, nationality, age, and type of driver's license.

The study is based on a qualitative method that features the use of focus groups. In the study's framework, seven discussions were held by focus groups chosen to represent specific types of the driving population, including professional drivers, young drivers, and elderly drivers. The latter groups represent the most "problematic" groups of drivers that are at a high risk of being injured in road accidents. In addition to participating in-group discussions, group members received a closed characterization questionnaire. The questionnaire included items about their demographic and socio-economic status and questions about their attitudes towards the study's topics.

The study results show that attitudes toward the demerit point system in Israel and the refresher course varied by age, nationality, and license class. The study results show that drivers, and professional drivers, in particular, are concerned about the implications of accumulating points. However, they do not deem remedial driving courses effective as means of deterrence, or as a means of improving driving competencies.

KEYWORDS: point system; demerit; Israel; refresher course; attitudes.

1. INTRODUCTION

Road accidents carry substantial economic and social costs. Worldwide, more than 1.3 million people die each year in road traffic accidents, and between 20 and 50 million people suffer non-fatal injuries, with many incurring a disability as a result of their injury, making road traffic injuries the tenth leading cause of death in the world (WHO, 2018). A large majority of road traffic accidents have been attributed to human factors, in the form of an innocent mistake, loss of control, or a conscious road traffic violation. Based on in-depth investigations, the human factors are responsible for as much as 90% of road accidents in any given year (ITF, 2018). Thus, improving road user behavior and decreasing the number of traffic violations is an essential component of reducing traffic accidents (Jameel and Evdorides, 2021).

Governments regularly implement various penalty schemes to deter drivers from committing traffic offenses, particularly repeated offenses. These include fines of different magnitudes, suspending or revoking drivers' licenses, mandatory participation in driver rehabilitation courses, imposing a point system for infractions, community service, or imprisonment (e.g., (Assailly et al., 2012)).

Beyond the penalty cast upon drivers for committing offenses (via fines or license suspension), drivers have points imposed based on the severity of the offenses. Drivers are subjected to corrective measures based upon the number of points accumulated over specified periods. These include driving improvement courses, temporary license suspension, driving theory tests, practical driving tests, or undergoing medical examinations to reinstate license after suspension or forfeiture.

The point system is part of the state's law enforcement system. It is grounded in the assumption that adhering to traffic laws raises the safety level of the transportation system. More specifically, the point system contributes to road safety from three aspects:

- Preventing unsafe behavior for fear of accumulating penalty points (Walter and Studdert, 2015).
- Correcting risky behavior through the system's educational component(Sagberg and Sundfør, 2019; van Schagen et al., 2012).
- Screening, detaining, and penalizing drivers with offense records (van Schagen et al., 2012).

According to Elvik et al. (2009), cautious driving (resulting from fear of accumulating points and losing one's license) and reduced exposure (due to license suspension for drivers who exceeded their points' limit), decrease the number of road offenses and accidents.

There are two principal methods for calculating penalty points:

1. Penalty Point System (PPS) – when drivers obtain a driving license, they receive a quota from which points are deducted due to traffic offenses; when drivers run out of points, their license is suspended (or otherwise restricted).
2. Demerit Point System (DPS) – when drivers obtain a driving license, the point count begins at zero and can increase due to traffic offenses; when drivers reach a specific number of points, their driving license is suspended (or otherwise restricted).

While both systems use point counts linked to individual drivers, and their license to drive, and not linked to vehicle ownership, DPS is more commonly used by countries. Within either system, reference may be made to different drivers'

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groups, such as professional drivers, young drivers, and the remaining driving public (Assailly et al., 2012; Castillo-Manzano et al., 2010).

The point system was born in the USA more than 50 years ago. Today it is among the most recommended interventions for improving road safety (WHO, 2008). The system spread from the USA to Asia, Australia, Europe, and Africa and the Middle East (Castillo-Manzano and Castro-Nuño, 2012). The point system is widely supported by global public opinion, perceived as a just system that targets repeat offenders rather than simply imposing fines upon incidental offenders (Nolén and Östlin, 2008). According to ETSC (2008), the system is also more equitable than fines, whose impact on drivers is subject to drivers' financial state. The point system contributes to the reduction of severe traffic offenses that are linked with a risk of severe accidents, such as speeding, driving under the influence of alcohol, refraining from using safety restraints, and disregard of traffic lights and signage (Gras et al., 2014; Watson et al., 2015).

However, the extent of the point system's impact varies among studies and locations. For example, when the Italian media advertised the implementation of the point system, a reduction of 73% in police reports handed to drivers for speeding was noted (Benedettini and Nicita, 2009). In Queensland, Australia, however, a decrease of a mere 6% was reported in the overall prevalence of repeated speed-related offenses (Watson et al., 2015), while in the city of Al Ain in the United Arab Emirates, the point system had no appreciable influence on driving speed (Mehmood, 2010).

Studies that examined the point system's impact on road accidents and road injuries found that the system has a positive effect on safety, manifested in a 15% - 25% decrease in the number and severity of road accidents and injuries (Castillo-Manzano and Castro-Nuno, 2012; Novoa et al., 2010). However, this effect did not last beyond the first three years, and mainly even less than two years after the system's implementation. The BestPoint study (Assailly et al., 2012) found that the point system's impact on the number of road accidents and injuries lasted between 6-12 months from the beginning of system implementation. One explanation for this is that the enforcement and advertising communications that accompanied the method's initial introduction, decreased with time. The ETSC report (ETSC, 2008) also indicates that increased enforcement and public communication contributed in many places where the point system was prevalent, influencing safety for a longer time.

The BestPoint project (Assailly et al., 2012) reviewed the effects of various corrective measures on safety and concluded that previous research did not offer unequivocal scientific proof that the corrective and rehabilitative measures actually contributed to road safety. The literature reflected diverse, and at times contradictory, findings. A meta-analysis by Elvik and Christensen (2007) that focused on warning letters found that they contributed to only 1% reduction in road accidents. On the contrary, the handbook (Elvik et al., 2009) and a Canadian study (Lyon et al., 2014) found them to contribute to a 10% and a 7.5% decrease in road accidents, respectively.

Driving improvement courses are a consequence of accumulating penalty points (Assailly et al., 2012). It is interesting that enforcement authorities present the value of such courses as educational rather than punitive (Assailly et al., 2012). Driving improvement courses have been found in certain studies to contribute to safety. Elvik et al. (2009) related them a decrease of 11% in road accidents, while Delhomme et al. (2008) reported improved behavior, citing reduced speeding among course participants in France. On the other hand, American studies found that driving improvement courses did not contribute to safety (Michael, 2004); a study by Gebers (2010) found that courses had a negative impact on safety. According to SWOV's report (Maas, 2015), the international experience demonstrates that driver improvement courses are more effective when combined with license suspension. Additional studies from the US and Israel also found that license suspension contributes to safety more than other remedial measures (Elias et al., 2016; Lyon et al., 2014; Masten and Peck, 2004; Michael, 2004).

One of the principal advantages identified with the point system is the component of perceived justice (ETSC, 2008), as the system punishes repeat offenders more than incidental offenders. Some argue that the widespread perception in Israel is that the sanction associated with the point system – the driving improvement courses – is inefficient and poses no substantial threat to drivers. We, therefore, seek to explore sanctions related to the system and determine whether they are perceived as justified.

The purpose of this paper is to estimate how the new point system is perceived by the Israeli drivers, in consideration of the broader context of the motives and factors that impact behaviors on the road. The study examines differences in attitudes towards the scoring method between various population groups based on group identity, nationality, age, and type of driver's license.

This study focused on professional drivers, a considerable part of whom are Israeli Arabs, a sector over-represented in severe motor vehicle accidents, and characterized by higher risks of traffic violation records (Elias et al, 2016; Tzaig, 2012; Magid et al., 2015).

National Road Safety Authority (2017) published a report on the involvement of heavy and public transportation in road accidents. Based on the report Table 1 shows that the involvement of truck drivers in serious road accidents per 10,000 drivers in 2008, among all age groups the professional drivers from the Arab in Israel are more involved in serious accidents than the Jewish drivers.

Age category	Jewish	Arab
Up to 24	2.07	8.79
25-34	5.38	5.74
35-44	5.26	7.24
45-54	1.99	4.38
64	1.44	3.15
65 and more	0.33	0

Table 1 Involvement of truck drivers in serious road accidents per 10,000 drivers in 2008, by nationality and age groups

1.1. The demerit point system in Israel

Although first implemented in 1968, the point system has been on the Israeli public agenda since 1965. In 2002, new regulations were enacted, presenting the point system that is in use today. Among other changes, the 2002 system defined two new grades of severity (8 and 10 points, in addition to the previous 2, 4, and 6 points) and reduced the number of offenses from 300 to 73. The 2002 changes also raised the threshold for the driving improvement course from 6 to 12 points and enacted revision of the method regarding erasing points. As reported (Becker, 2015), the Ministry of Transport's position was that these changes were meant to focus intervention on drivers who repeatedly commit offenses.

According to the Traffic Regulations, the target audience of the point system is anyone with an Israeli driver's license, non-dependent on the type of license or the period of its possession (Becker, 2015). In Israel, the point system focuses on drivers who commit offenses frequently; thus, a driver convicted for many offenses in a short time will probably face corrective measures. However, drivers who commit

one violation every few years will usually not be impacted (Becker, 2015).

2. MATERIAL AND METHODS

2.1 Data collection

The study is based on a qualitative method that features the use of focus groups. As is customary with in-depth studies (Bloor, 2001; Kitzinger, 1995), we convened focus groups to thoroughly review current widespread perceptions about the components of the point system. Focus group meetings offered a platform that enabled participants to openly express and explain their choices and positions regarding the topics for discussion and raise issues that the research team initially may not have taken into account, emphasizing potential obstacles and ways to cope with them. The group's instructor held the discussions following a predetermined format and ascertained that all essential questions were answered (Bloor, 2001).

In the study's framework, seven discussions were held by focus groups chosen to represent specific types of the driving population, including professional drivers, young drivers, and elderly drivers. The latter groups represent the most "problematic" groups of drivers that are in a high risk of being injured in road accidents (Casado-Sanz et al., 2019; Elias et al., 2016; Magid et al., 2015).

Each focus group explored the motives and factors which lead people to violate traffic rules and specifically examined the impact of the point system on driving behaviors. In addition, the question of a requisite theoretic course for professional drivers was addressed as well as such drivers' attitude towards the accepted means taken in the system's framework due to an accumulation of points. Drivers' attitudes towards the remedial driving course, previously called a "refresher course," were also investigated.

In addition to participating in group discussions, group members received a closed characterization questionnaire. The questionnaire included items about their demographic and socio-economic status and questions about their attitudes towards the study's topics. The participants were asked to rate their agreement with several statements (using a five-point Likert scale), which dealt with road user behaviors, traffic offenses, and enforcement, as well as the point system.

2.2 Data analyses

A descriptive statistical analysis was employed to understand the differences in the socio economic and attitudes between the drivers' groups. We also used a Pearson Chi-Square test to provide comparisons between the drivers' groups, and a t-test and ANOVA test to compare continuous variables. Data were analyzed using SPSS.

3. MAIN CHARACTERISTICS OF THE FOCUS GROUPS' PARTICIPANTS

Table 2 delineates the main characteristics of the seven focus groups. They included: two groups of young drivers - Arab students from the Technion (8 participants) and Jewish students from the Technion (8 participants); two groups of bus drivers – Jewish (6 participants) and Arab (7 participants); two groups of professional drivers comprising mainly Arab truck drivers (7 participants) and Jewish professional drivers (9 participants), and a group of senior drivers (7 participants). A total of 52 subjects, all of them males, participated in the focus groups.

Young drivers usually held a type B license, enabling them to operate a motor vehicle with a total weight of up to 3,175 kg and a capacity of up to 8 additional passengers. One participant had a type C1 license that authorized him to operate a private minibus for up to 8 passengers other than the driver; three young drivers also had motorcycle licenses. Senior drivers usually had type B licenses, while two seniors also had type C driving licenses, enabling them to drive a truck with a net weight of 12 tons and no limit on the weight of the truck's cargo. The professional drivers also had type C licenses, or the type D licenses that are required for driving a bus. Some professional drivers also had one or more D-series license types, which authorized them to drive taxis, touring vehicles, or a public minibus with a total 5,000 kg weight and up to 16 passengers in addition to the driver. Some professional drivers also had type E licenses that, when paired with a type C license, allowed a holder of both license types to attach a cargo trailer to the type C vehicle, for an additional 3,500 kg of vehicle weight.

Based on Table 1, it is evident that, as expected, the professional drivers are middle aged (average age 42-44), while the young and senior groups are of young and old age (average ages 25 and 71, respectively). The participants all had driving experience between 5 and 60 years of driving experience.

Figure 1 shows that the average monthly household incomes of the majority of the senior driver are above the average (the groups' averages align with category 2 – "Around the average" (13,000 NIS)). In contrast, the monthly average incomes of almost the half of the young drivers are below the average. Figure 1 indicates that the average monthly household incomes of the Jewish professional drivers are lower than of the Arab professional drivers. The income of only 21.4 percent of the Jewish professional drivers is above the average, while the income of 53.4 percent of the Arab professional drivers is above the average.

We found no statistically significant differences between the demographic and socio-economic status of Arab and Jewish young drivers. Therefore, the findings are presented according to four main groups: Arab professional drivers (bus and truck), Jewish professional drivers; young drivers, and senior drivers. Most of the professional drivers were married and had children while all the senior drivers were married and had children. All the young drivers were single and childless.

As shown in Figure 2, professional drivers from both sectors drove, as expected, at least seven hours on a workday. 93% of the young drivers and 100% of the senior drivers drove as much as four hours a day. One hundred percent of the Arab professional drivers' indicated that mostly they drive outside the city compared to 64 percent of the Jewish professional

Variable		Jewish professional driver	Arab professional driver	Young driver	Senior driver
Age	Mean	42.3	43.7	25.4	71.0
	S.D.	10.8	14.1	2.7	5.1
	Min-Max	26-58	28-68	22-30	66-80
Seniority driving	Mean	17.5	25.1	7.9	42.6
	S.D.	11.4	14.5	2.8	10.0
	Min-Max	3.0-40.0	5.0-48.0	5.0-13.0	31.0-60.0

Table 2: Focus groups' participants' characteristics

drivers. In testing to see that most of the young drivers mostly drove outside the city and as expected, seniors drivers tend more to drive inside the city.

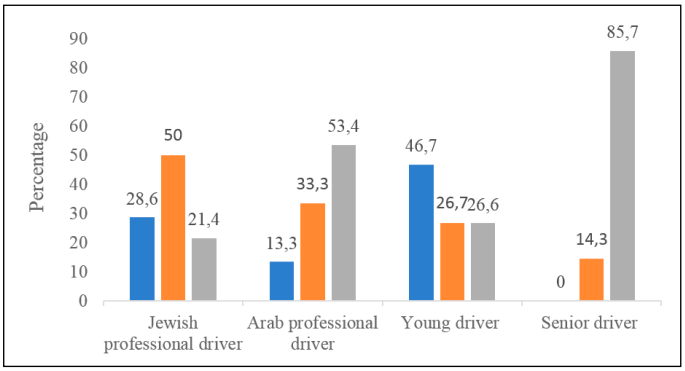

Figure 1: Income level distribution by drivers' group category

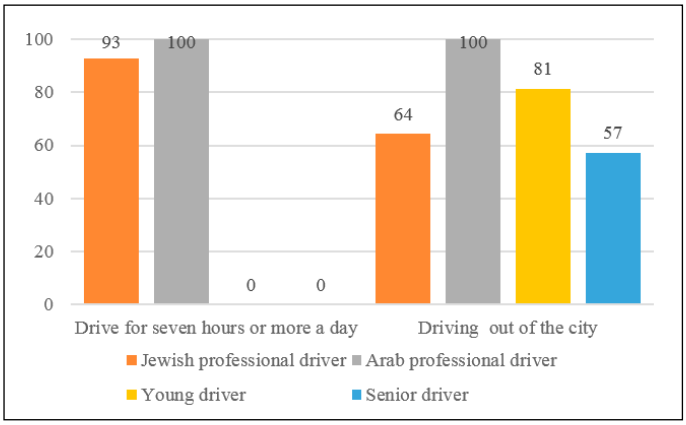

Figure 2: Daily driving scope on workdays and location of driving category, per group.

4. RESULTS

4.1 Main findings from focus group discussions

Table 2 presents the main topics which were identified in the discussions held among the focus groups. The three drivers' groups (professional, young drivers and senior drivers) differed considerably in their positions towards most of the issues raised in the focus groups' discussions.

Concerning the question: "Is it dangerous to drive in Israel? If so, please explain why." The opinions differed regarding the riskiness of driving in Israel. There was no consensus regarding the riskiness of driving in Israel, despite the widespread tendency to define driving in Israel as dangerous. One of the important findings in this respect was the comprehensive agreement that the reasons for risks lie mainly in the human factor – in drivers' behaviors rather than physical infrastructure or other factors. Some participant responses included the following:

"It is not a matter of lack of knowledge and understanding in driving. It's a matter of disrespect for people, those who do not care about others on the road and most of the things I see as dangerous things stem from such behavior".

"The driving culture is not the best here, so it increases the risk even more."

Concerning the variety of traffic offenses a driver might commit and which offenses are the most dangerous, the groups reached general agreement regarding the most dangerous traffic offences that a driver may commit. The five most dangerous offenses are running a red light, violating the right of way, crossing a double yellow line, passing on the right, and texting-related distracted driving. Discussions referred to the dilemma of using the mobile phone, with everyone agreeing it is a major cause of distraction, an offense easy to commit and hard to refrain from.

Interestingly, only the young drivers' group mentioned the offense of driving under the influence of alcohol. Some participant responses to questions in this category included the following:

"I think this [driving under the influence of alcohol] is the most common cause of accidents in the country. I know a lot of people and unfortunately also (have) friends who drive under the influence of alcohol. It is not an easy thing to deal with because the feeling that alcohol gives you is that you are the best driver in the world."

"Recently, awareness of these things is starting to spread on the radio, but I still think that driving under the influence of alcohol is the biggest offense and the most dangerous behavior a driver can perform on the road."

"Driving under the influence of alcohol and texting ... have become normal things so people, especially young people today, do not imagine that it is so dangerous; the most serious is driving after drinking alcohol ... "

The various drivers' groups gave diverse emphasis to the reasons that lead drivers to commit dangerous offenses. The young drivers' group emphasized the danger inherent, on the one hand, in inexperience, and on the other, in boldness and seeking to impress others. One participant stated: *"I have something special that most people do not have, and I am willing to travel and get around and make that impression to feel satisfied."*

The professional drivers were unique in raising issues of maintaining the integrity of their vehicles. They also claimed that private vehicle drivers are not considerate of heavy ve-

No.	Topics
1	Attitudes towards the riskiness of driving in Israel.
2	The variety of offenses a driver may commit and which are the most dangerous.
3	The main reasons drivers commit dangerous traffic offenses.
4	Learning new things throughout the years about driving in Israel, such as a new law or new driving technique.
5	Today, every Israeli driver must undergo a refresher course five years after having obtained a driving license. Should this period be shorter? Longer?
6	Views about refresher driving courses and remedial driving courses, including: • The course's ability to improve the average Israeli driver's driving competence • Can the course reduce the number of traffic offenses drivers commit? Can it improve road safety? • What are the essential topics the course should convey? Are any of the contents unimportant? • What are the main reasons that deter people from taking a refresher driving course?
7	Implications on one's daily life after ceasing to drive (for senior drivers only)

Table 2: Topics identified in focus groups' discussions

hicle drivers and that their behavior endangers the professional drivers themselves. One professional driver stated that "*A driver who overtakes and has no visual field is the most dangerous offense. Overtaking while the driver does not see what is coming in front of him, can cause the most serious accident.*."

Senior drivers noted the limitations involved with aging and the distraction caused by the presence of other adults in the vehicle, who interfered while they drove. They emphasized their judgment when sitting behind the wheel, saying, for example, that it is well-known that older drivers are more considerate of traffic laws, when signaling turns, and of others, in general.

Another senior driver response focused on having "*More discretion. I mean I decided not to cross the 120 [km/h] road. I'll stop, at that. It is the discretion of the road; the age is not yet playing*".

Regarding the main reasons why various drivers commit dangerous traffic offenses, who are the most dangerous drivers, and whether there are differences between the different groups of drivers, one can see the differences that exist in the background of the participants. The emphasis given to the reasons for committing the offenses differs from group to group. Among young people, the focus is on the risk that stems, on the one hand, from inexperience, and on the other hand, from decisions and daring that are taken into account in order to impress others. Representative responses include the following: "*Lack of experience is, in my opinion, when one does not know how to assess the various situations encountered along the way ...*," and "*I think about examining boundaries that young people would usually try, explore a little more and find more of the action and sometimes take on something they didn't think too much about*."

On the other hand, professional drivers emphasized fatigue and the pressure to complete as many trips as possible, increasing productivity. A number of drivers have indicated that they are aware that driving while tired is itself an offense. Moreover, they understand that such driving also causes them further serious offenses.

"*We are within a 12-hour limit, but there are other companies that do not have rules. If it's working non-stop for 20 hours working, you no longer know how much that person worked at all*."

The likelihood of involvement in accidents is "*... caused by fatigue .... you want first of all to please your managers, to please the company. You want to please as much as possible*."

Reactions were unanimous regarding learning new things about driving in Israel, such as a new law or a new driving technique. The vast majority of participants noted that the last time they had learned something new and of importance about driving was when they took their driving course to attain their driving license. The professional drivers said that this rarely happens, for example, when they want to upgrade their license for another professional vehicle. Other participants recounted going with an instructor to a special, lot where they learned how to control their vehicle on a slippery road.

Occasionally there is an argument that there is also no need to go and learn new things institutionally because drivers are exposed daily to new signs and new regulations, and these things are learned while the vehicle is "moving."

The professional drivers questioned the fact that they must take refresher courses at the companies where they work. When asked explicitly about these refresher courses, some tell of limited effectiveness in these courses, but most do not attach much importance to these courses. Certainly, they do not attribute to the courses the ability to teach something fundamentally new. A sentence like "*... I have not learned any new law since I was issued a license, we learn while experimenting*" is a typical sentence for this subject.

Regarding attitudes toward the refresher course in general, in today's Israel, because all drivers must take a refresher course about five years after receiving their license, the question was whether this period should be shorter or longer. The drivers generally agreed that a good time to take a refresher driving course was after five years of driving, given that the course would be improved and streamlined. The main reason for this is that most new drivers get a driving license before military service. While performing their service, they are not often available for participating in civilian driving and, even when they do, they usually do not drive or gain much hands-on experience. Because of the significant size of the non-civilian cohort, most felt it is beneficial to give them more time to drive and gain experience until the refresher course. Very few drivers thought that the course should be brought forward to three years.

Most drivers said they do not have faith in the current courses' ability to improve the average Israel driver's competence. On the other hand, although most of them agreed that practical and meaningful refresher courses were necessary, very few felt that current refresher courses were much more than "money grabs" and "a type of punishment" they must suffer.

The statements of some of the participants reinforced this position. "*My opinion on the course, that I should go to it, because I should go to study, not because I am required just because of the points I got. But if they had invited me without requiring me... I would go, and I would really learn, I would have done it for fun. They're just forcing me.*" "*I think the only thing that contributes to safety would be to require the course for those who earn points, but the courses should be more intense and with a much more serious test than what they do now*." In conclusion, today's refresher driving course is neither believed to contribute to decreased offense rates, nor road safety.

As for why people prefer to refrain from taking the refresher driving course, the professional drivers, for example, claimed that such courses bring no new information and just teach the same things time and again. They felt that most instructors for these courses do not work professionally or seriously, and that course success depends too much on often-ineffective instructors. In addition, compelling the drivers to take the course and pay for it, lowers their will and motivation to participate. One professional driver noted that "*I do not think I need any refresher regarding my form of professional driving, but there are areas, like I said, like firefighting or first aid, as I would like to get a refresher course in those*." Another complained that he did "*... them in a refresher I did it in 72. From 72 to date, it is the same, both the words and the lecturer*."

There is a call to introduce innovations into the courses, rather than repeat things that drivers already know, such as traffic signs and laws, even those recently changed. Drivers prefer learning about the practicality of driving, through simulator courses, for example, or using media such as video clips of accidents and events that can be subject to step-by-step analysis. A substantial improvement proposed the formulation of designated courses for specific homogenous groups of drivers, according to offense types and driver populations. Presently, there are heterogenic groups of arbitrarily chosen participants, and as a result, each group comprises drivers with different backgrounds, education, language, knowledge, and practical experience.

Senior drivers noted that although technically, mobility is not an issue, because there are accessible alternatives such as taxi services and public transportation, being prohibited from driving is perceived as a reduction in their freedom of choice and a formidable emotional injury.

4.2 Findings from the analysis of questionnaire responses by focus group participants

Responding to the questionnaire, the participants in all the focus groups expressed their level of agreement with various statements regarding the research topics, such as road behavior, traffic offenses, the point system, police enforcement of traffic laws (on a scale of 1-5, with "1" - "do not agree" and "5" - "strongly agree").

Figure 3 presents the mean score of the level of agreement within and between the different driver groups regarding statements that describe the drivers' attitudes towards traffic offenses. All the driver groups expressed little agreement that there is no problem with traffic offenses as long as the driver does not endanger others; professional Arab drivers have been particularly clear in their support. On the other hand, all driver groups strongly agreed "most traffic offenses result from human error." While all driver groups tended to agree that "almost hit incidents are a permanent part of driving in Israel." In addition, a medium-to-low level of agreement was expressed towards the statement that "most traffic offenses that take place are a result of unacquaintance with traffic laws," particularly among the young drivers' group. Additionally, all the driver groups, particularly the senior drivers, expressed little agreement with the statement that "my colleagues regularly commit traffic offenses." By using the ANOVA test, no statistically significant differences were found in the mean scores between the drivers' groups.

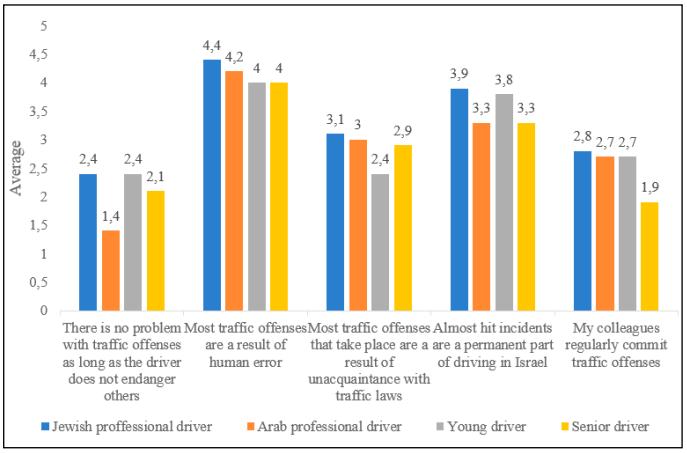

Figure 3: Drivers' attitudes towards traffic offenses

Drivers differed in their opinions about the influence of accumulating points. Figure 4 shows that among the professional drivers from the Arab sector and young drivers, there was a medium level of agreement with the statement that "accumulating points attests to the need to improve my driving skills." In contrast, senior drivers and professional drivers from the Jewish sector at most agreed more than the others did with that statement. No statistically significant differences were found in the mean scores between the drivers' groups (p=0.101). Professional drivers from both sectors strongly agreed that accumulating points made them anxious about the implications and that the fear of accumulating points deters young drivers[1] from committing traffic offenses. The young drivers decided, on a medium-to-high level, that they feared accumulating points and that concern positively affected their driving. However, senior drivers only moderately agreed with these statements.

1 *The law in Israel takes seriously a new driver who commits certain traffic offenses such as failure to grant a right of way; Speeding offenses; Improper vehicle driving, etc,. which concerns the manner in which the new driver drives the vehicle while he is not sufficiently skilled in driving it and may cause danger to passers-by. In addition to the expected punishment for the driver for each of the transfers, the new driver is expected to receive an additional punishment in the form of extending the period of his definition as a new driver.*

Statistically significant differences in the mean scores between the drivers' groups were found for the two last-mentioned statements (p=0.04, p=0.05 respectively).

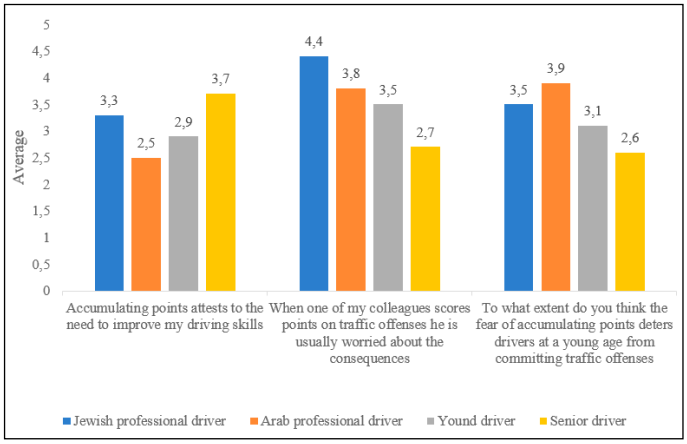

Figure 4: Drivers' attitudes towards accumulating points system.

Figure 5 presents the drivers' attitudes towards traffic police. The professional drivers from both sectors agreed, on a medium to high level, that the police tended to pull over and be stringent with professional drivers. On the other hand, the non-professional drivers moderately agreed with the claims that police enforcement and punishment were harder on professional drivers. The differences in the mean score are statistically significant between the drivers' groups (p=0.04).

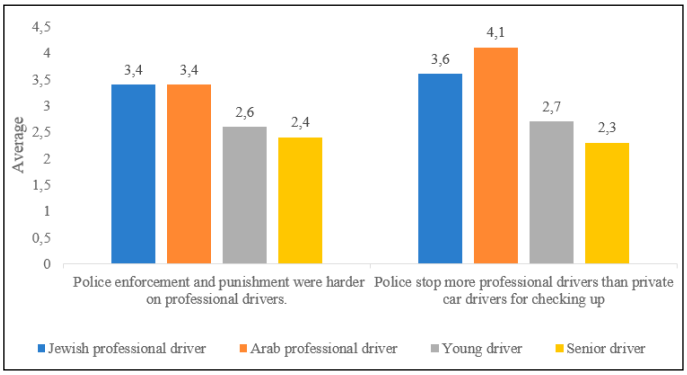

Figure 5: Drivers' attitudes towards traffic police.

Figure 6 presents the participants' positions regarding the most effective deterrent to reduce traffic offenses. Participants were allowed to select several answers, so the overall percentage is higher than one hundred percent. Among all driver groups, most drivers believe that temporary suspension of a driver's license is the most severe means of deterrence, compared to monetary fines, an obligatory remedial driving course, or lawsuit. However, most young drivers believe in the deterrence potential of monetary fines.

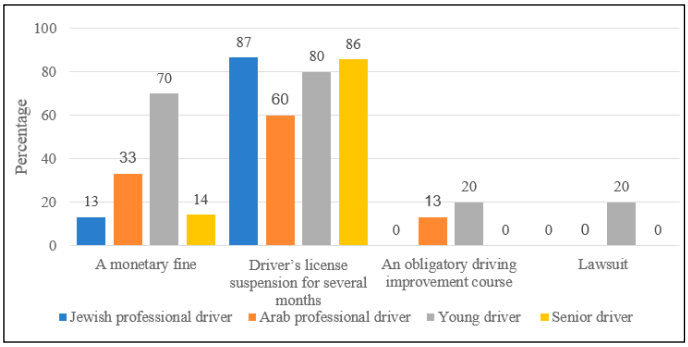

Figure 6: Participants' attitudes regarding the most effective deterrent mean for committing traffic offences.

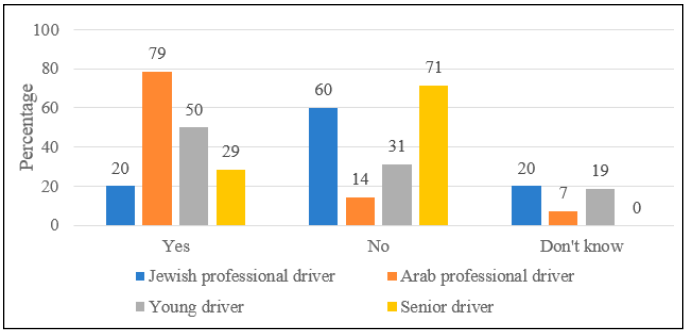

Figure 7: Participants' attitudes towards the section of the law that says that a driver who accumulated the maximal number of points committing trivial offenses should be exempted from license suspension.

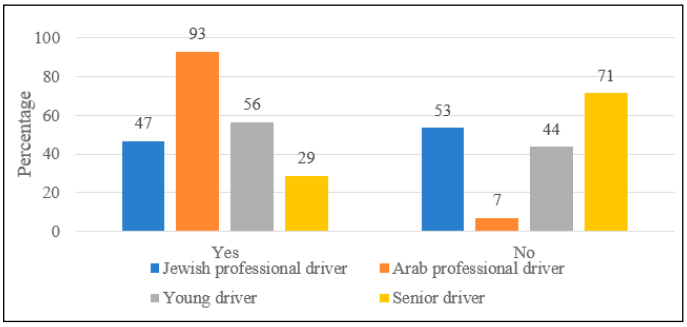

Figure 8: Participants who heard of or know a driver whose license was suspended due to accumulated points.

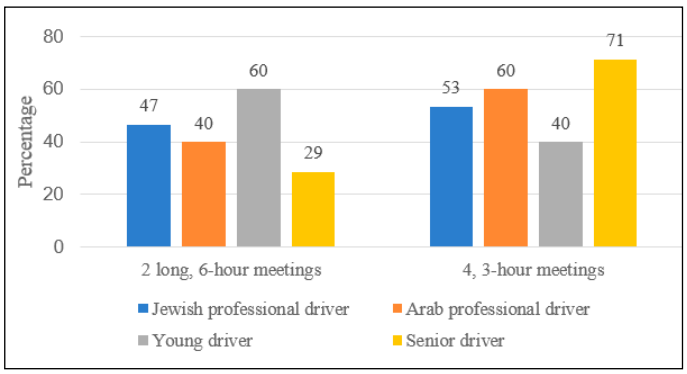

Figure 9: Participants' attitudes towards the periodical driving refresher course.

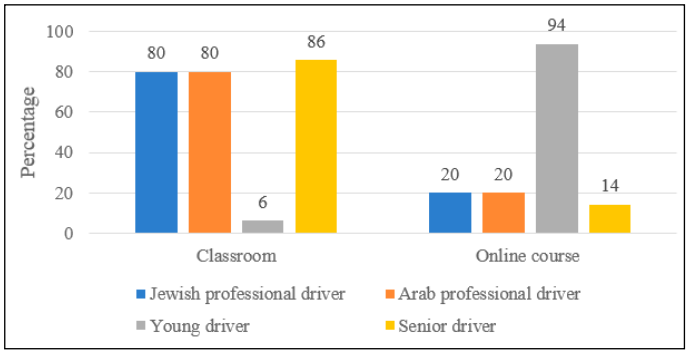

Figure 10: Participants' attitudes towards the preferred format for a driving refresher course.

Figure 7 shows that the half of the young drivers and most of the Arab professional drivers favored the option of exempting from license suspension a driver who reached the maximal number of points while having committed only trivial traffic offenses. While trivial traffic offenses are referred to offenses that do not contribute to the occurrence of an accident such as the use of a seat belt and invalid vehicle license. In contrast, both senior drivers and Jewish professional drivers opposed this possibility. Using Pearson-Chi Square we found a significant difference between the drivers' groups (p=0.012).

According to Figure 8, Arab professional drivers are significantly more familiar with someone whose license had been suspended than Jewish professional drivers are. In addition, more than half of the young drivers are familiar with someone whose license had been suspended. The senior drivers and the Jewish professional drivers had notably less personal information about people they knew. Using Pearson-Chi Square we found significant difference between the drivers' groups (p=0.016).

Figure 9 presents the opinions of the participants as to the preferred format for periodical refresher courses. It is evident that most drivers' groups, except the young drivers, hold a preference towards multiple, shorter meetings instead of two long meetings.

Likewise, as shown in Figure 10, all driver groups except the young drivers preferred a classroom rather than an online course.

5. DISCUSSION AND CONCLUSION

The present study attempts to explore how the driving public perceives the new point system in the broader context of the motives and factors that affect behaviors on the road. The study examines differences in attitudes towards the scoring method between various population groups based on group identity, nationality, age, and type of driver's license. This study focused on professional drivers, a considerable part of whom are Israeli Arabs, a sector over-represented in severe motor vehicle accidents, and characterized by higher risks of traffic violation records.

The study is based on a qualitative method that features the use of focus groups. In addition to participating in-group discussions, group members received a closed characterization questionnaire. Seven discussions were held by focus groups chosen to represent specific types of the driving population, including Jewish professional drivers, Arab professional drivers, young drivers, and elderly drivers. The latter groups represent the most "problematic" groups of drivers that are in a high risk of being injured in road accidents.

In line with other studies (Castillo-Manzano and Castro-Nuño, 2012; Chipman and Morgan, 1975; Novoa et al., 2010), our study results show that attitudes toward the demerit point system in Israel and the refresher course varied by age, nationality, and license class.

The findings from focus group discussions show, that the majority of the drivers do not believe in the power of remedial driving courses and lawsuits to deter drivers from committing traffic offenses. This result is consistent with the findings of other studies (Christie, 1996; Michael, 2004; Saffron, 1981; Watson et al., 1996). They pointed out that there is no evidence that either advanced or defensive driving courses reduce accident involvement or the commission of traffic offenses. Simons-Morton and Ehsani (2016) also observed that improving knowledge and skills does not always lead to a change in behavior among drivers. Further, there is little real-world evidence to suggest that driver training accelerates the development of hazard-perception skills or similar driving-related cognitive skills. However, these skills can be developed through real-world driving experience (Mayhew et al., 1998; Williams and Mayhew, 1999).

As to the courses' contribution to the improvement of driving competencies, on the one hand, the majority of drivers claimed that they do not believe the courses can do that in their current format. On the other hand, most drivers agreed

that there is a need to provide meaningful, effective courses. They think that the current courses should be amended and that it is unnecessary to repeat things in the courses that are already known to drivers, such as laws and road signs. Drivers prefer that the courses expose them to practical examples via simulators or media. Likewise, the drivers believed that the courses could be improved if (unlike today) they were designated for homogenous groups, targeting specific driving populations and offense types. These results are consistent with the recommendations of Hufnagi (2007) and Klipp et al. (2013). They suggested adjusting the size of the group and the course length and content, depending on the target audience of the course. In addition, suitably trained instructors should deliver the course.

The questionnaire brings out similarities and differences between the driver groups, their perceptions of traffic police, the points system, and driving refresher courses.

The findings based on the questionnaires show that temporary license suspension is the most deterring penalty, while financial penalties are deterrents that are more important for young drivers than for senior and professional drivers. This finding is consistent with Sagberg and Ingebrigtsen (2018) as well as Sagberg and Sundfør (2019). The most significant threat from the point system is license suspension due to the accumulation of points. Therefore, the introduction of a demerit point system, with license revocation as the ultimate consequence, seems to reduce the propensity to repeat violations and the risk among drivers, in general, to commit violations in the first place (Sagberg and Sundfør, 2019).

It is not surprising that the positions of the professional drivers regarding traffic police were different from that of the other groups. A majority of this group thought they are pulled over more often by police officers and suffer more severe treatment at their hands, while the young and senior drivers were less inclined to agree with these claims. Their exposure, measured by annual mileage, increases the likelihood of committing traffic violations (Aberg and Rimmo, 1998; Davey et al., 2008; de Winter and Dodou, 2010; Elias, 2018; Lawton et al., 1997; Mesken et al., 2002; Parker et al., 1995), either in the form of receiving financial infringements or increasing their accumulated demerit point totals (Davey et al., 2007).

A considerable part of the Arab professional and the young drivers' groups saw no relation between accumulating points and requiring improved driving competence. In contrast, seniors and Jewish professional drivers did see a connection between the two. Likewise, large proportions of Arab professional drivers and young drivers thought drivers who accumulated points by committing minor offenses should be exempted from license suspension. In contrast, the remaining drivers were much less supportive of the exemption.

The young drivers differed from the other groups in their preferred format for a driving refresher course, opting for an online course, with fewer and longer meetings, while professional and senior drivers would rather take a course in a classroom, with more, but shorter sessions.

To conclude, it is evident that drivers and professional drivers in particular, are concerned about the implications of accumulating points. However, they do not deem remedial driving courses effective as means of deterrence, or as means of improving driving competencies. It may be that the concern from the implications of accumulating points, and the reluctance to attend driving courses, may deter drivers from committing traffic offenses. Suggesting effective courses by improving them in terms of content and adjusting them for the different age groups can increase the support of drivers in these courses, which can improve the efficiency of the drivers and accordingly their driving skills.

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