

Comparative Quantitative and Temporal Analysis of "Minor Violations" of Men and Women in Car Simulator

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Abstract

The main problems arise when using modern simulators is an objective control of training in the candidate driver. Proposed and experimentally confirmed by quantitative-time model developing skills of driving. The main distinguishing feature of this scheme is the mandatory training on simulators and systematic verification of qualification car simulator.

Keywords: car driving training, car simulator, minor violations, quantity, time

Introduction

Experiments were conducted to collect data for the formation of quantitative

and temporal model for car simulator practice skills, and practical testing of theoretical methods [1, 2].

Passive experiment is to obtain information on the number and the time required for the development of skills. You must create an experimental array of quantity and time required for development of skills for both men and women using car simulator and follow the steps common methodology of the study.

Experimental study

According to the controlled sample, we need to make in each direction 30 and the amount of time spent on the development of skills. The main results of observation of the preparation of candidates for the drivers, are presented in Table 1.

Table 1: Amount of time and number of "minor violations" of men and women

Ngm - the average number of attempts required to practice skills "minor violations" in women; Nmm - the average number of attempts required to practice skills "minor violations" in men; tgm - the average time it takes to practice skills "minor violations" in women; tmm - the average time it takes to practice skills "minor violations" in men

№	Ngm	Nmm	tgm	tmm
1	2	3	4	5
1.	2	1	22,43	44,65
2.	2	1	40,93	65,06
3.	2	1	41,41	69,28
4.	2	1	42,25	72,59
5.	2	1	47,87	78,96
6.	3	1	48,53	83,87
7.	3	1	58,74	85,94
8.	3	1	58,91	87,47
9.	4	1	59,92	88,99
10.	4	2	60,57	89,96
11.	4	2	61,15	93,79
12.	4	2	63,04	94,84
13.	4	3	69,32	95,19
1	2	3	4	5
14.	4	3	72,05	96,73
15.	4	3	73,67	100,94
16.	4	3	74,39	102,87
17.	4	3	76,46	109,94

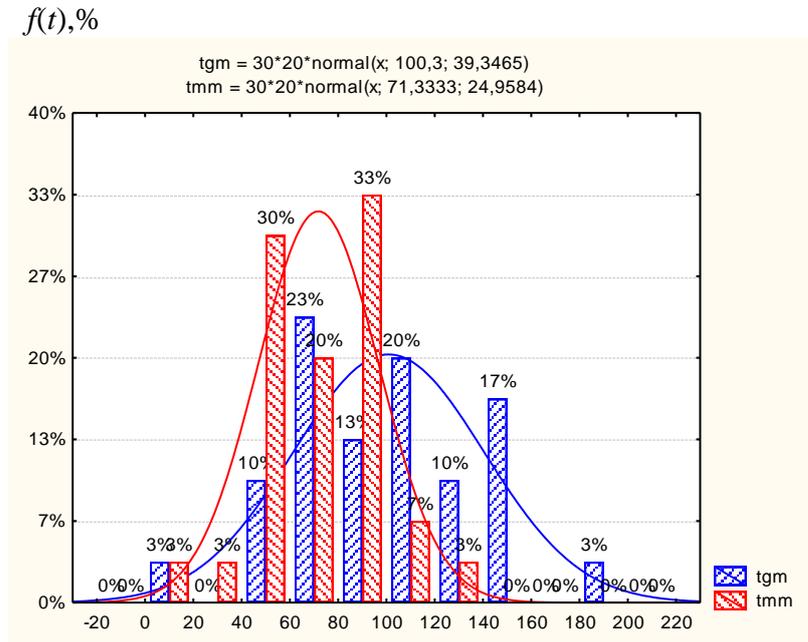
Table 1: (Continued): Amount of time and number of "minor violations" of men and women Ngm - the average number of attempts required to practice skills "minor violations" in women; Nmm - the average number of attempts required to practice skills "minor violations" in men; tgm - the average time it takes to practice skills "minor violations" in women; tmm - the average time it takes to practice skills "minor violations" in men

18.	5	3	79,76	117,47
19.	5	3	80,44	121,46
20.	5	3	82,57	126,10
21.	5	3	82,78	127,05
22.	5	3	83,33	131,95
23.	5	3	84,18	136,12
24.	5	3	85,22	136,74
25.	5	3	86,20	136,81
26.	5	3	88,02	138,13
27.	5	3	91,37	145,54
28.	5	4	97,57	146,75
29.	8	4	99,90	153,20
30.	8	5	103,03	155,60
Mean	4,2	2,433333333	70,5336667	107,799667
StdDv	1,49481864	1,10432795	19,6597875	29,056884

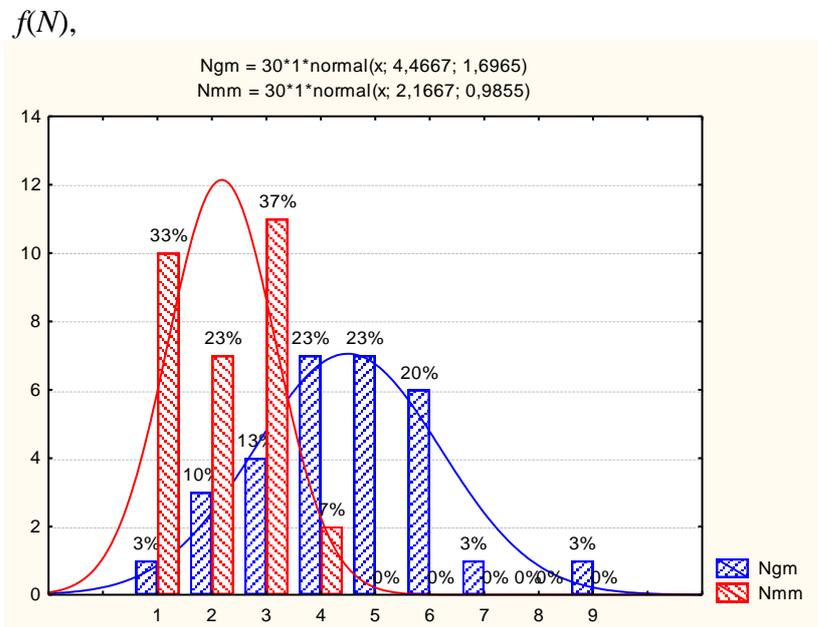
Selection of test program due to the fact that at the initial stage of the most essential skills practiced driving in the urban cycle and on busy highways, including rebuilding in heavy traffic, circular motion, distance and compliance with optimum speed, forecasting of potential accidents and timely response to them.

Results and discussion

Test results for women and men are shown in Figures 1 and 2. The analysis of time and number of attempts to perfect "minor violations" of men and women indicates that they can be described by a normal distribution.



tgm - the average time it takes to practice skills "minor violations" in women;
 tmm - the average time it takes to practice skills "minor violations" in men;
 Figure 1: Comparative time analysis "minor violations" of men and women



Ngm - the average number of attempts required to practice skills "minor violations" in women; Nmm - the average number of attempts required to practice skills "minor violations" in men;
 Figure 2: Comparative quantitative analysis of "minor violations" of men and women

Due to the fact that the group tested only the beginning of training, management skills and knowledge of traffic rules do not have enough, so the results were mixed. Comparative analysis of quantitative and temporal development of skills "minor violations" show a significant difference in the level of training of men and women in the initial period of training [3].

Men spend less time on the correct execution of the "minor violations" by 30%, and the number of attempts there is an even greater contrast - up to 55%.

Conclusion

When properly organized learning on the simulator to the students as a result of systematic training decreases the reaction time, the number of erroneous actions, properly organized attention, especially under time pressure, increased resistance to interference effects, whereby attention is unloaded.

The results of objective registration obtained by the fitness training, provide an opportunity to establish individual characteristics of learners, their typical errors in the difficult road conditions and to draw conclusions about the success of training conducted.

References

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Received: February 25, 2015; Published: March 20, 2015