



Evaluation of L17 and driving Test

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**A study in the framework of the VISA project
In cooperation with the Federal
Traffic Institute (Austria)**



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**A research project in the framework of the “VISA^{*}” project in cooperation with
the Federal Traffic Institute**

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^{*} **VISA:** Vertikale Integration von Straßenverkehrsteilnehmern aller Altersstufen (vertical integration of road traffic users of all ages)

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1. Summary

4011 novice drivers were randomly selected nationwide and anonymously surveyed via questionnaire.

L17 trainees are more likely to pass the practical driving test at the first attempt, but are involved in significantly more accidents in the first months of solo driving compared to L18 trainees (taking into account average mileage).

A recommendation is thus to address this theme in driving school training and to introduce the first post-test feedback drive (§ 4a FSG) for L17 drivers as well.

88% pass the practical driving test category B the first time.

2. Introduction and aims

Since 1 March 1999, youngsters in Austria have, according to law § 19 FSG, the possibility to apply for a category B driving licence at the age of 17 and thereafter to drive solo. Training can already begin from 16 onwards, accompanied by a lay instructor (father, mother...). A theory and practice based driving school training has to be taken first, and then the learner has to drive at least 3000kms during which 3 on-road & discussion sessions are held in a driving school. The 3000kms covered should be recorded in a logbook and should take at least 2 weeks to complete. The total package provides for a minimum 6-week training timeframe before, from 17 years old onwards, taking the driving test. On successful completion of the test, the driver can drive solo. This distinguishes the Austrian model from that of Sweden, where solo driving can only take place at 18.

Originally, a lower speed limit was in place for 17 year old licence holders until their 18th birthday (motorways: 100kmh instead of 130kmh, rural roads: 80kmh instead of 100kmh). This rule was abolished in October 2002 and replaced by the obligation for L17 drivers to have an L17 sign clearly displayed on their car until their 18th birthday. These L17 plates are also necessary for the pre-test accompanied practice period. Regrettably, these plates block out a not inconsiderable portion of the front and rear windscreens. No experienced, safety-conscious driver would drive in this way.

The time between the driving test and the driver's 18th birthday counts as an additional probationary period. So L17 drivers generally have a probationary period of about 3 years, instead of 2.

L17 trainees are not required to undertake the first of 2 post-test feedback drives which are part of the 2nd phase training (§ 4a) introduced in Austria in January 2003.

The objective of this study, which is part of the VISA project (vertical integration of road traffic users of all ages), is to evaluate the accident involvement of L17 drivers in

comparison to drivers who have followed the standard driving school training, referred to hereafter as “L18“. (The model with on-road practice drives is included here).

3. Methodology

4011 novice drivers were anonymously surveyed via questionnaire at the end of the psychological group discussion within the 2nd phase training programme (§ 4a FSG). The survey was carried out by psychologists from Institut Gute Fahrt. The group presence (on average 10 participants) guaranteed anonymity which encourages the respondents to be as frank as possible with their answers. This group discussion takes place between the 3rd and the 9th month after passing the category B driving test.

The selection of the L17 and L18 samples thus took place randomly.

Data analysis was carried out using SPSS.

4. Description of samples

A total of 4011 novice drivers were surveyed via questionnaire in the period July to September 2006.

The distribution of the sexes was representative: 48.9% were female, 48.6% were male and this information was missing in 2.4% of cases.

The distribution of the survey respondents per federal state is presented below (according to where the driving test was taken) and compared to the proportion of the population per federal state (Population 2004 – Statistik Austria):

Distribution within study	Population within Austria 2004
Burgenland: 9%	Burgenland: 3.4%
Kärnten: 9.8%	Kärnten: 6.8%
Lower Austria: 13.1%	Lower Austria: 19.1%
Upper Austria: 30.8%	Upper Austria: 17.0%
Salzburg: 2.1%	Salzburg: 6.4%
Steiermark: 16.8%	Steiermark: 14.6%
Tirol: 0.1%	Tirol: 8.4%
Vorarlberg: 3.8%	Vorarlberg: 4.4%
Vienna: 13.7%	Vienna: 19.7%
missing: 0.9%	

The results show that Tirol is clearly under-represented in the study. This should be borne in mind when interpreting the results in a few minor cases. But in general it should not be assumed that the fundamental results of this study, such as those

concerning their driving tests or their accident involvement, should be any different for novice drivers from Tirol than the other regions.

The average age of the respondents was 19.5 years old. 80% were between 17 and 19 years old. 20 year olds accounted for 7.5%, 21 year olds for 2.6% and 22 year olds for 1.5%.

L17 drivers made up 23% of the total sample. This percentage is likely to be representative for Austria as a whole, because the sample was randomly selected.

5. Results

Driving test

Pass rate

84.9% of the surveyed novice drivers reported that they had passed the theory test at the first attempt. 12% passed at the second attempt and 2.4% at the third attempt. Only 0.7% needed 4 or more attempts to pass.

There is a significant mean difference in the average attempts at the theory test between men and women (T-Test, $p=.01$). The total mean was 1.19 attempts at the test. Men had on average 1.21 attempts at the test, and women had 1.17 attempts. 86.3% of women passed at the first attempt, compared to 83.7% of men.

87.6% of respondents reported that they had passed the practical test at the first attempt. 10.5% passed on the second attempt and 1.2% at the third attempt. 0.5% needed 4 attempts or more.

The difference between the sexes is also significant with regard to the practical test (T-Test, $p=.000$). The total mean was 1.15 attempts at the test. Men had on average 1.11 attempts at the test, and women had 1.18 attempts. 85.2% of women passed at the first attempt, compared to 90.3% of men.

Pass rate at the first attempt of the category B driving test, according to federal state (based on novice driver survey):

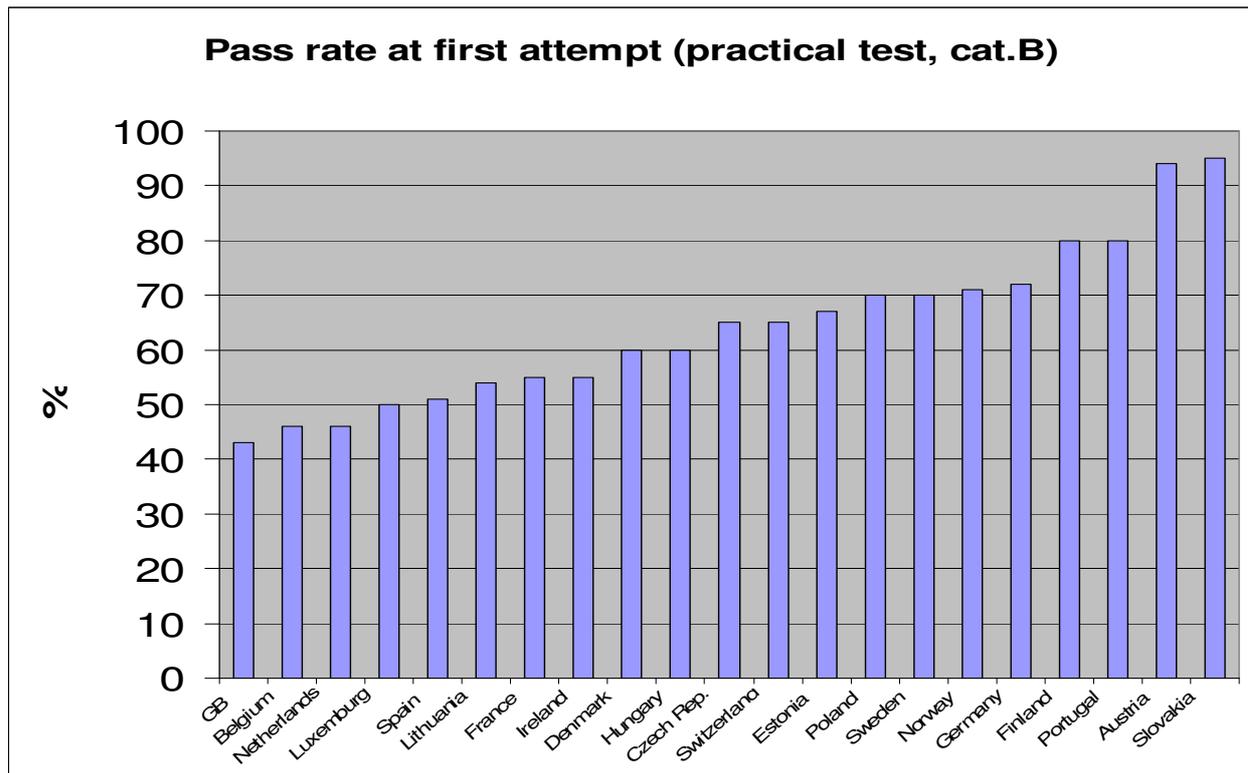
Federal state	N (Theory) Total surveyed	Theory test passed first time	N (Practical) Total surveyed	Practical test passed first time
Burgenland	357	87.1%	355	91.3%
Kärnten	389	79.7%	390	91.3%
Lower Austria:	521	84.8%	522	87.0%
Upper Austria	1219	84.9%	1.215	92.0%
Salzburg	85	80.0%	84	89.3%
Steiermark	666	88.9%	668	93.0%
Vorarlberg	149	91.9%	149	85.9%
Vienna	536	81.7%	541	68.2%

Austria	3922	84.9%	3.924	87.6%
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Tirol is not listed above, because only 5 respondents from Tirol passed the test.

The much lower pass rate in Vienna is worthy of note.

In an international comparison of pass rates at the category B practical driving test by Bönninger, Austria's pass rate of over 90% is considered by CIECA (international testing association) to be extremely high. The pass rate from this current study of 88% is within the same range. In Great Britain, Netherlands, Belgium and Luxembourg the pass rate is under 50%, as shown in the figure below:



Tolerated errors in the practical test

On average, the surveyed novice drivers thought they had made 1.3 errors in each practical driving test. 26.8% stated they had not committed any errors; 34.9% that they had committed one error and 26.4% said two errors.

59.2% of novice drivers stated that they had passed the test because they had driven very well; 33.6% said they only passed because the examiner had overlooked some small errors. 5.5% said they had been very lucky to pass; 1.5% thought they only passed because the examiner was being very lenient and only 0.2% thought they should actually not have passed.

Pass rate: L17 versus L18

The practical driving test is passed by L17 drivers after significantly less attempts at the test (mean: 1.06 attempts) than L18 drivers (mean: 1.18 attempts), T-Test: $p=.000$.

The mean differences in the theory test are not significant (L17: 1.18 and L18: 1.19).

95% of L17 drivers passed the practical test at the first attempt, whereas only 85.5% of L18s passed the practical test first time.

85% of both L17 and L18 drivers passed the theory test first time round.

Accident involvement

An average of 9 months had passed since the novice drivers had passed the driving test until the time of the survey (standard deviation: 6 months). In this average period the survey respondents had driven on average 9648kms: females on average 6837km and men on average 12075kms.

72.7% reported that they had had no accidents up until the time of the survey. So 27.3% had had one or more accidents. 21.3% had had one accident and 6% two or more.

A total of 1094 novice drivers reported accidents. The absolute number of accidents was asked in an additional question. This showed that only 1.8% of the respondents were involved in more than 2 accidents.

The 1334 reported accidents can be divided according to accident gravity and sex of driver, as follows:

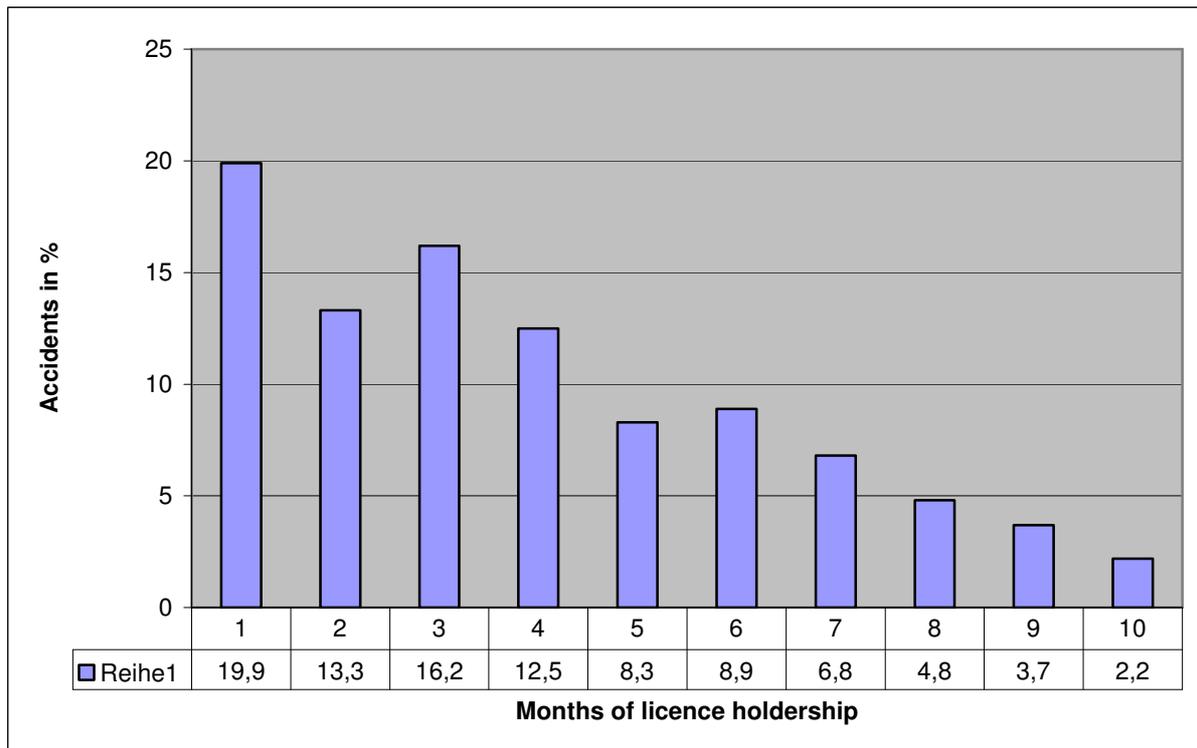
	Total		Female		Male	
	N	%	N	%	N	%
Light material damage up to 500EUR	909	68.14%	411	72.49%	477	64.81%
Moderate to heavy material damage	367	27.51%	130	22.93%	228	30.98%
Personal injury	58	4.35%	26	4.59%	31	4.21%
Total:	1334	100%	567	100%	736	100%

31 accidents are included in the total number for which no sex was given.

Women were involved in 43.5% of accidents and 56.5% for men. However, men reported having driven on average almost twice as much as women.

Accident distribution according to months of licence holdership

The distribution of accidents shows that the accident risk begins to fall from the first month onwards (with respect to the first accident):



Accident involvement: L17 versus L18

65.9% of the 911 L17 drivers surveyed in this study reported that they had had no accident up until the time of the survey (average of 9 months after the driving test). Of the 3082 L18 drivers, 72.1% had had no accident. 34.1% of the L17 drivers had had at least one accident compared to only 27.9% of L18 drivers.

Accident involvement L17 / L18

	L17		L18	
	N	%	N	%
No accident	600	65.9	2222	72.1
At least 1 accident	311	34.1	860	27.9
Total:	911	100.0	3082	100.0

If the total number of reported accidents is taken, this adds up to a mean of 0.46 accidents for L17 drivers and of 0.40 for L18 drivers. This comparison of mean values is not significantly different in a T-Test ($p = .312$).

L17 drivers had driven on average 9027km until the time of the survey, compared to 9835kms for L18 drivers. This comparison of mean values is also not significant (T-Test: $p = .102$).

But in a univariate analysis of variance, in which mileage is kept constant, the results show that L17 drivers are involved in significantly more accidents. (ANOVA, $p = .025$).

Accident gravity: L17 versus L18

The accident involvement of L17 and L18 drivers does not appear to differ with regard to the gravity of the accidents.

Accident gravity (max. 2 accidents per person)	L17: Number of accidents reported by 311 drivers		L18: Number of accidents reported by 860 drivers	
	N	%	N	%
Light material damage up to 500EUR	245	68.8%	653	67.6%
Moderate to heavy material damage	93	26.1%	273	28.3%
Personal injury	18	5.1%	40	4.1%
Total:	356	100%	966	100%

Length of licence holdership L17 / L18

With respect to the average duration of licence holdership until the time of the survey, there is a difference of about 1 month between the L17 drivers involved in accidents and the L18s involved in accidents:

	Average duration of licence holdership	Standard deviation
L17	8.955 months	5.27 months
L18	10.244 months	10.52 months

This reinforces the main result in which L17 drivers are involved in more accidents: although the L18 drivers have had their driving licence for a little longer, they are involved in fewer accidents than L17 drivers.

Time-related accident distribution

51.8% of reported accidents involving L17 drivers had already occurred within the first 3 months of owning a licence. The equivalent percentage for L18 drivers was 48.3%. Apparently, no fundamental difference can be observed here between L17 and L18 drivers.

About half of all accidents in an average observation period of 9 months after licensing take place in the first 3 months.

Age of driver

As one would expect, L17 drivers who reported accident involvement are over a year younger than the L18 driver who also reported accidents.

	Average age at time of survey	Standard deviation
L17	17.646 years old	1.32 years old
L18	19.334 years old	3.05 years old

Sex distribution

An analysis of sex distribution shows that L17 tends to be chosen more frequently by men. However, this does not explain the higher accident involvement of L17 drivers, as the percentage involved in accidents for both sexes of L17 drivers are clearly higher than for L18 drivers:

	L17					L18				
	Total sample		Drivers involved in accidents		Accident involvement %	Total sample		Drivers involved in accidents		Accident involvement %
	N	%	N	%		N	%	N	%	
Fem.	396	44.1%	124	40.4%	31.3%	1563	52.1%	396	47.3%	25.3%
Mal.	501	55.9%	183	59.6%	36.5%	1438	47.9%	441	52.7%	30.7%
Total	897	100.0%	307	100.0%		3001	100.0%	837	100.0%	

6. Discussion of results

The fact that L17 drivers were found to be more involved in accidents in relation to mileage in the first few months after licensing was already reported in the EU BASIC project[†]: only after 6 months – according to the BASIC project – does the accident risk of L17 male drivers fall quicker than for L18 drivers. L17 did not seem to have any influence on women following BASIC. The higher pass rate at the practical driving test of L17 drivers was also established in the BASIC project. BASIC also reported that there is no difference in the circumstances of the accidents of L17 and L18 drivers

Some 3 years later, this current study has produced similar results. This underlines the problematic nature of the L17 programme.

Possible interpretations include,

1. that 17 year olds are not as mature as 18 year olds which leads to less responsible driving behaviour and therefore more accidents.
2. that L17 drivers over-estimate themselves because they think they belong to a better trained group and therefore take more risks when driving.

[†] Hatakka M. et al (2003): Basic driver training: New models. EU-project, final report, University of Turku, Finland, Department of Psychology (S. 179 to 181).

3. that L17 drivers assume the mistakes of the lay instructors, which can be problematic with relatively untrained learner drivers.
4. that L17 drivers drive more frequently with their parent's car and not with one they have earned themselves (which would increase their readiness to take responsibility for it).

Immediate recommendations to solve this situation are:

1. In the course of L17 initial training the learner driver should cover this subject and shall find out in which way these result may concern him/herself personally so that the learner's risk awareness is intensified.
2. L17 drivers should, like all L18 drivers, be obliged to attend the first feedback drive (according to § 4a FSG) within the first few months after licensing.
3. Lay instructors drivers should be made aware of this problem by driving instructors.

The extremely high pass rate at the driving test in comparison with the other EU-countries appears to be a result of not testing objective and strict enough. Education and further education of driving instructors shall optimise this aspect in Austria.