

SPEED-02: On the efficiency of a psychological rehabilitation program

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The rehabilitation program Speed 02 – the acronym stands for „**S**icherheit durch **P**rävention: **E**rfahrungen mit und **E**ngagement gegen **D**rogen“ (Safety through Prevention: Experiences and Engagement against Drugs) – is a behavior-therapeutically based measure aiming at rehabilitating of drug drivers. The target group is motorists who were driving under the influence of cannabis or amphetamines but with the addition that neither an addiction (according to ICD criteria) nor a drug-abuse is existent which would require a therapy (Sulzbach & DeVol, 2002). The main object of SPEED-02 is to reduce the probability of a relapse of drug driving by developing behavior alternatives to drug consumption and integrating these into everyday life. Under provisional permission, SPEED-02 was applied in different German federal states. After successful participation the driver's license is re-granted without further assessment.

To estimate the efficiency of SPEED-02 as is demanded by the § 70 an evaluation study was conducted by the Zentrum für Evaluation und Methoden (ZEM) at the University of Bonn from 2002 to 2009. The fundamental questions being assessed were, whether the intervention objectives defined by the authors (Sulzbach & DeVol, 2002) were achieved and whether the program can therefore be judged as efficient in terms of the legislator. According to the guidelines of the Bundesanstalt für Straßenwesen (Federal Highway Research Center) a program can be judged as efficient if the recidivism rate in the group of participants is not significantly higher than within the control group (BASt S. 325). The research design as well as the results including the data regarding the documented relapsing rate is described in the following.

1. Research design

The criteria for the analyses of efficiency of § 70 programs recommended by the BASt (2002) are:

- attitudinal and behavioral change, increase of knowledge and acceptance of the measure;
- assessment of the participants by the psychological instructors;
- relapse rates according to the CITO-data (Central Index for Traffic Offenses).

According to these criteria, ten scales to survey the participants of SPEED-02 were developed (see Hilger & Rudinger, 2009) including demographic data as well as attitudes, experiences, knowledge and acceptance. In correspondence to the program timetable the participants were surveyed twice (see figure 1): at the beginning of the first and at the end of sixth session. Additionally in the sixth session the program instructors were asked to judge the adequacy of assignment, cooperation and change motivation as well as the success of each participant.

		Kursfahrplan SPEED-02																		
Woche		1	2	3	4	5	6	7	8	9	...	16	...	28	...	113	...	165	...	217
Sitzung		1	2	3	4				5	6		7		8						
Screening																				
Bescheinigung									I.					II.						
		Evaluationserhebungen																		
Teilnehmer		F1								F2										F3
Moderator									Bb											
VZR-Auszug																				

Figure 1: Course-timetable and experimental design

The relapse rate was calculated on the basis of two sources. On the one hand, all (attainable) participants were interviewed by telephone three years after the course, on the other hand two or four years after the program ended reoccurrence of drug driving was examined by CITO data. The telephone interviews were run and the questionnaire data collected without a control group design. Whereas legal relapse rates of the participants were compared with the data of those drug drivers who were examined positively in the MPA. As a further reference, the data of the evaluation of another program (DRUGS: Biehl & Birnbaum, 2004) were compared. A sample size of 500 persons for both treatment and control group was aimed at.

3. Results

3.1 Questionnaire results

The results based on the answers of 403 participants serve as indicators of the desired effectiveness of the SPEED-02 program. After participation

- successful attendants judged their drug consumption more critically;
- participants specified more positive effects of drug abstinence
- participants were able to answer more questions concerning drugs and driving.

However, for the subjects of relapse, behavior and desire for drugs, no fundamental changes were found:

- both before and after attending SPEED-02 the relapse risk was judged as low;
- the demand for drugs was nearly negated prior to the program as well as afterwards;
- participants did not name used methods to prevent a relapse.

Possible explanations for these findings are an assumed tendency of dissimulation (in particular for the first measurement point), prevalent observed ground effects as well as the relatively short-term questioning period (of nine weeks). Further, a fundamental constraint of the questionnaire data is the absence of an adequate control group.

At the second measurement point, at which the participants already experienced the course and are holding the certificate, their openness concerning the course might be greater. Their evaluation of the course concept and its moderation indicate a high degree of acceptance of SPEED-02 program.

3.2 Telephone interview

98 % of the SPEED-02 attendants agreed to participate in the telephone interview. These information and the CITO data are in strong agreement so that the validity of this follow-up survey (n = 228) can be rated as high. According to the respondents 8% of the successful participants have lost their driver's license within the following three years after the SPEED-02 program because of a drug related offense (see figure 2). Further 7% of the participants have lost their driver's license for different reasons.

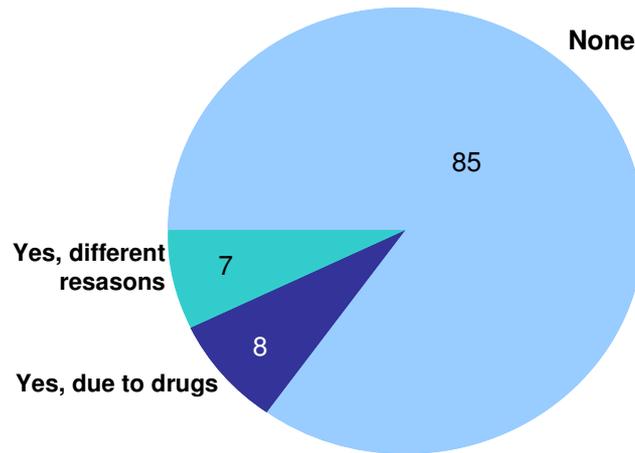


Figure 2: Percentage of withdrawal of driver's licenses after successful SPEED-02 participation

Two other results of the telephone interview are remarkable: The majority of the attendants (68%) restrained from the consumption of cannabis entirely. Finally, three years after finishing SPEED-02 the acceptance of the course can be described as good.

3.3 Assessment of the participants by the program instructors

For about 70% of the attendants, their involvement as well as their engagement with regard to the course contents can be described as active and intense. The motivation to change can be rated as high for 2/3 of the attendants. Such a relation between 2/3 of persons who are not at risk and 1/3 who are at risk to relapse can be also retrieved in the subjective participant statements (see above). However, because of anonymity of the survey, it cannot be clarified if the one-third of vulnerable participants is the same in both groups.

The rate of drop-out and/or exclusion of SPEED-02 are located at an 11% level. It must be remarked, that exclusion is mostly based on positive screening results. According to the instructors, the rate of false assignments is 16%. However, in the group of unsuccessful attendants, this rate is located at 78%. This indicates that by a more severe application of the assessment criteria, the exclusion rate can be further reduced.

4. Relapse rate

In order to assess the relapse rate a legal probation period of November 2006 to October 2008 was defined. Within this time period the relapse data of both the SPEED-02 participants and those MPA-clients who were evaluated positively were collected. According to the BAST evaluation criteria the probability of relapse should be examined for a period of three years. The comparison group was recruited randomly out of the TÜV Nord portfolio of MPA reports, based on the following criteria:

- positive MP assessment;
- no addiction diagnoses (alcohol, drugs or other psychoactive substances);
- no consumption of hard drugs.

No further parallelization to the SPEED-02 treatment group was possible to realize in retrospective. This resulted in differences between both samples exist regarding age and gender: The comparison group is on average three years older (mean = 27 years) and holds a greater percentage of female participants (9%) in comparison to the SPEED-02 group (4%).

In order to identify the probability of relapse over time, the time span between beginning of probation and date of offense was calculated. In case of an existence of equivalent massive offenses, the date of the first one was captured. The renewal of the driver's license after the end of the rehabilitation program or MPA assessment defines the onset of the probation period. A relapse, the withdrawal of the driver's license for any other reasons or the date of the CITO defines the end of the probation period.

To improve the comparability of estimation, in particular with regard to the 3-years-recidivism probability, different procedures can be applied. The most appropriate seems an incident focusing analytic approach, with which it is possible to include all cases into the calculation until their individual assessment endpoint. Here, the Kaplan-Meier estimator provides an adequate method.

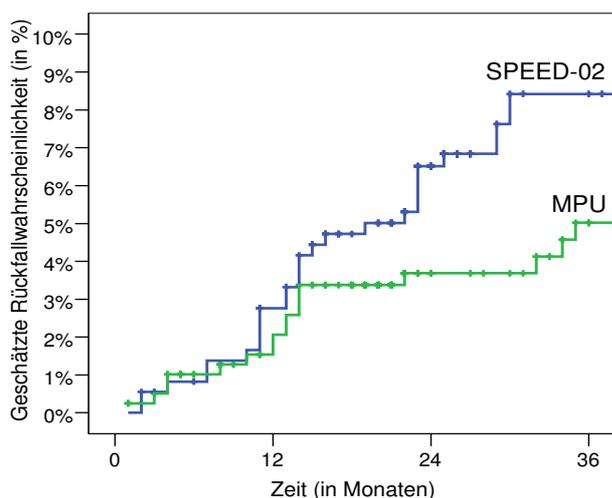


Figure 3: Estimation of relapse probability for the SPEED-02 group (n = 365) and MPA control group (n = 397)

Figure 3 shows the accumulation of relapse incidents for a probation period of up to 36 month. Drivers, whose assessment period ended without an appearance of relapse, will be treated as so called censored data. For these cases it is known that no relapse has occurred until a certain point of time. As can be seen by the curve progressions, for both groups the probability of relapse within the first

12 month can be described as quite similar. In the second and third year the SPEED-02 group shows more relapses in relation to the comparison group. According to this analysis, an estimated probability of relapse of 8.4% in the group of participants is resulting within a period of three years. However, the relapse probability of the MPA-group is located at 5.0%. As a further reference value to evaluate the relapse rate of the SPEED-02 participants, the rate of attendants of a similar § 70 program (DRUGS: Biehl & Birnbaum, 2004) can be cited, which shows a value of 8.8%. This is a comparative level in relation to the SPEED-02 participants.

Since the computation of a critical significance level to assess the difference between treatment and control group is not required the hypothesis testing of significance of differences is not possible in a reasonable way. Therefore the specification of confidence intervals seems more adequate. Figure 4 shows the 95% confidence interval (Agresti & Coull, 1998) of the relapse probability for the SPEED-02 and MPA group as well as the reported values of DRUGS participants.

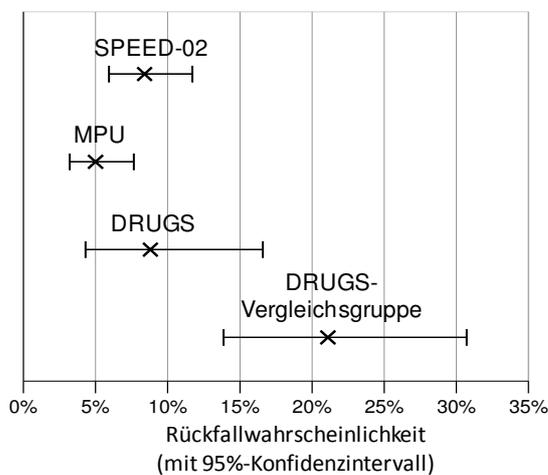


Figure 4: Recidivism probability of SPEED-02, DRUGS and the MPA-group

According to this, the recidivism probability of the SPEED-02 group lies between 5.9% and 11.7% and that one of the MPA group between 3.2% and 7.6%. Because of a small sample size, the interval of the DRUGS-Study turns out to be broader. For the 91 participants of the DRUGS-treatment group the interval ranges from 4.3% up to 16.6%, for the comparison group with a probability of relapse of 21.1% and 90 attendants, the limit values are reaching from 13.9% to 30.7%.

5. Conclusions

The following main results of the present study prove the **rehabilitative efficiency** of the SPEED-02 program:

- (1) The results of the questionnaire reveal the desired effects “awareness of the problem”, “positive experience of abstinence” as well as for “gain of knowledge”.
- (2) The acceptance of the course - also in a retrospective view - can be rated as high and the rate of abstinence can be evaluated as satisfactory.
- (3) The judgment of the psychological instructors suggests the suitability of the participants.
- (4) The probability of relapse lies within the common limits of § 70 courses.

As an additional result: The minor recidivism rate of the positively assessed MPA-attendants proves also the high selective efficiency of the Medical-Psychological Assessment (at least for the present sample).

Literature

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