Rehabilitation of mis-/non-users of child restraint systems in cars in Austria
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Summary
Risk in traffic is very often related to the kind of driving style, endangering passengers and other road users. But sometimes an accident may occur without too much false behaviour of the driver and the risk for the passenger occurs because of not being aware of the sense of passive safety items like safety belts.

Severe injuries after traffic accidents with children of a very young age up to 14 years result mainly from not having been buckled up at all, or not correctly, in cars. 38% of all children who have been involved in traffic accidents in 2011 in Austria were passengers in cars. While on motorways 93% of the children are buckled up, parents seem to feel much safer in cities – here only 87% of children are secured correctly by child restraint systems.

Causes for this risky behaviour of adults – primarily parents – lie in the lack of knowledge of physical principles, ignorance of existing traffic laws, time pressure and, consequently, taking too little time to handle the buckling up correctly or at all, or "delegating the responsibility" to other technical in-car-systems like airbags which, as we know, do not protect children efficiently at all. Also not checking if the child is still buckled up while driving can cause problems.

In Austria since about four years drivers who have ignored the traffic law about using the safety devices for children, adjusted to age and height, have to undergo a kind of rehabilitation course to keep their driving licence.

The actual paper will give insight into the Austrian traffic law regarding the correct use of child restraint systems as well as information about the criteria which have to be taken into consideration while conducting rehabilitation courses with traffic offenders.

The psychological treatment will be discussed under consideration of underlying psychological theories about behaviour modification.

Introduction
In Austria children between 0 and 14 who are involved in road accidents are endangered in different ways as road users. They are most endangered as car passengers, especially if not buckled up viz. not buckled up correctly (e.g. if there is no special device installed for children of a special age). The picture below shows involvement of children in different traffic accidents.
Violating rules: Fasten seatbelts
To improve the compliance regarding the use of restraint systems in cars there have been taken some steps since 1976 in Austria.
The first remarkable step to reduce injuries and fatalities in car crashes was the law regarding the implementation of seat belts 1976. 1984 penalties were introduced and since 1990 there have to be restraint systems for all places in the car, i.e. also on the rear seats. Then, in 1994 the focus was put on safer transportation especially of children. The new law about special restraint systems for children consist of three main pillars:

- For children below 14 years the driver is responsible for looking after them regarding being buckled up – especially if they are smaller than 1.50 m,
- buckling up has to be done “correctly” e.g. there has to be a restraint system for the special height and age (see fig. 1 below), and it has to be checked now and then during the ride if the children are still buckled up correctly,
- the system has to be “approved” by TÜV

Figure 1: Examples for incorrect restraint use

But as usual, not all drivers comply with the law. In this case they have to pay a fine, and since 2009 courses for traffic offenders have been implemented in the Austrian Highway Code system.

Courses for traffic offenders in Austria
If a driver has been caught driving without using a special restraint system for children in his car, viz. has not buckled up the children correctly (e.g. the child is only sitting in the children
chair but without using the restraint system) then he has to undergo a rehabilitation course. This is a special course, lasting 4 x 50 minutes, during one day, and can be done in a group course or with a single person.

**How to change behaviour**

Taking into consideration that the advantages of an alternative behaviour have to be experienced being greater than those connected to one's usual behaviour so far, the trainers of rehabilitation courses have to be specially trained to understand different topics. In rehabilitation programmes connected to non-compliance with child-restraint regulations such items to be considered are:

- The character of habits (“habits are like steel ropes”)
- The function of extra motives (Näätänen & Summala 1976)
- A lack of problem awareness

The concept of "extra motives" refers to the fact that driving a car is often done not mainly because the driver wants to drive from A to B (= transport motive) but because he/she wants to experience fun, relaxation etc., wants to boost, or similar things. These are so-called “extra motives”, i.e. motives not directly related to driving as a means to bring one from A to B.

Also, some drivers do not think that they have been doing something very bad or problematic by not buckling up their children because, e.g., they themselves did not experience any danger. In order to motivate addressed persons to change their habits, to understand their own extra motives and to increase their problem awareness a special psychological treatment based on a scientific model is needed in order to appeal to the client and to reach his/her attention. The goal is to make him/her think about his/her behaviour and, consequently, to help him/her modify behaviour in the wished for sense.

**Transtheoretical Model (TTM)**

Prochaska & DiClemente (1992) have created a model that suggests ways to reach the client at the stage, or level, of awareness where he/she is at the moment. The model suggests a structure of five different levels of awareness and possible ways to help individuals move to the next (higher) level. It starts from pre-contemplation, where a person has no awareness of any problem regarding his/her own behaviour, moves to contemplation where a person starts to understand that there seems to be something wrong, then to a stage of preparation for a new (wished-for) behaviour, from there to real action and as a last step to the maintenance stage, when new behaviour becomes stable. On each level viz. stage of change a special treatment is needed according to the authors (see figure 2 below).
Examples of the actual treatment

If possible, the course should be led as a group course because of group dynamics (Pinto et al., 2010). This helps to exchange experience between clients. Experience has shown that this works much better than only lessons by trainers.

In order to raise attention and awareness of the clients and to find interesting topics that evoke doubts concerning their own recent behaviour it is necessary to know and to understand typical widespread thoughts and beliefs of the drivers. Those can then be taken as a starting point for discussion and supported by facts that are displayed with the help of statistics, photos or videos. Usual arguments provided by the drivers have to be met by counter arguments. In the following some arguments and responses to these arguments are listed:

"Why not fasten seatbelts?" Arguments on the pre-contemplation or contemplation level and examples of answers used in the courses:

"I'm only going to the shopping centre – it's very close."
- 80% of traffic fatalities occur within 40 km of home and under 65 km/h

"I won't be in an accident: I'm a good driver."
- You could meet a bad driver on your way

"I'll just brace myself and hold my child."
- A collision with 30 km/h could be related to a downfall from a height of four metres, one with 50 km/h to a downfall from 10 metres
- In a collision with 30 km/h you become about 30 times heavier
  Examples:
  - Man 80 kg = 80 x 30 = 2400 kg
  - Child 25 kg = 25 x 30 = 750 kg

"I'm afraid the belt will trap me in the car."
If you are thrown out of the car, you are 25 times more likely to die. And you can get out a lot faster if you haven't been knocked unconscious inside your car.

"I don't need a belt - I've got an airbag."

- An air bag increases the effectiveness of a safety belt by 40 percent.
- Air bags were never meant to be used in place of safety belts; front airbags do not protect against side impacts at all.

An important topic is the correction of misjudgements about reaction time and stopping distance. Very often also experienced drivers have no idea about the real braking distances with different speeds, also very low ones. They do not realise that although driving with new, highly technologically equipped cars, their own reaction time will not be improved. I will always be about 1 sec – no matter if one drives a small or a big car. Further arguments therefore could be:

"I can stop the car immediately because I usually go slowly/because I have a big car and new brakes"

- Also going with low speed (30km/h) reaction time is at least 1 sec
- The overall braking distance at 30km/h is at least of two cars length, there could still be considerable kinetic energy in a crash
- Even in a big car with good brakes the human reaction time remains the same and the kinetic energy that becomes virulent in case of a crash is the same

SHOW HOW TO DO IT & DISCUSS WITH PEOPLE WHO ARE ON THE LEVELS OF PREPARATION OR ACTION

![Figure 3: Inserting children seats correctly](image)

Sometimes clients have no idea how to integrate the children seat correctly. Therefore there should be a possibility to show this as well as discuss problems regarding possible misuse.

HOW TO DEAL WITH THE STAGE OF MAINTENANCE

At the moment in Austria due to the time limit of the course (4 x 50min, all on one day) no time is foreseen for establishing the stage of maintenance. If there was a possibility to deal with this stage, suggested topics could be:

**Give recommendations and let them be tried out**

First several issues have to be taken up and discussed in detail, especially with respect to correct handling of things:

- Discuss how to handle children's resistance against being buckled up – what to do (consequences like stopping the trip, giving incentives etc.)
Discuss how to organize travelling with children in general (make breaks, let children move, provide water, play games – quiz etc., no hard toys because they can hurt the children in case of a hard brake)

Hand out an information folder about relevant issues mentioned above as a reminder which could be discussed some weeks later

Then some time has to pass during which clients can try make use of the recommendations in practice, find out how they experience doing this and maybe also discover problems in doing so. At the and there is an opportunity to discuss these issues and to find kind of a personal optimum way to follow the law correctly, without too much individual resistance, or even better, fully convinced:

Let try out things at least two weeks; then organise one feedback lesson with discussion about problems and experience. “What works best for me?”

**Conclusion**

Behaviour change needs time, the length of time it takes depends in the stage of awareness of a client. I.e., clients can be allocated to different stages regarding the TTC-Model and this should be considered during a rehabilitation course, in order to be able to provide information and/or treatment which fits the very special stage they are on. This leads to better results in behaviour modification and therefore to better safety in traffic.

**References:**

