

Targeting safety recommendations for children travelling in cars through a user centric analysis - OURSE Project



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Observer sUr les Routes la Sécurité des Enfants (OURSE) (Observing Child Safety on the Road)



Partners



la fondation
renault

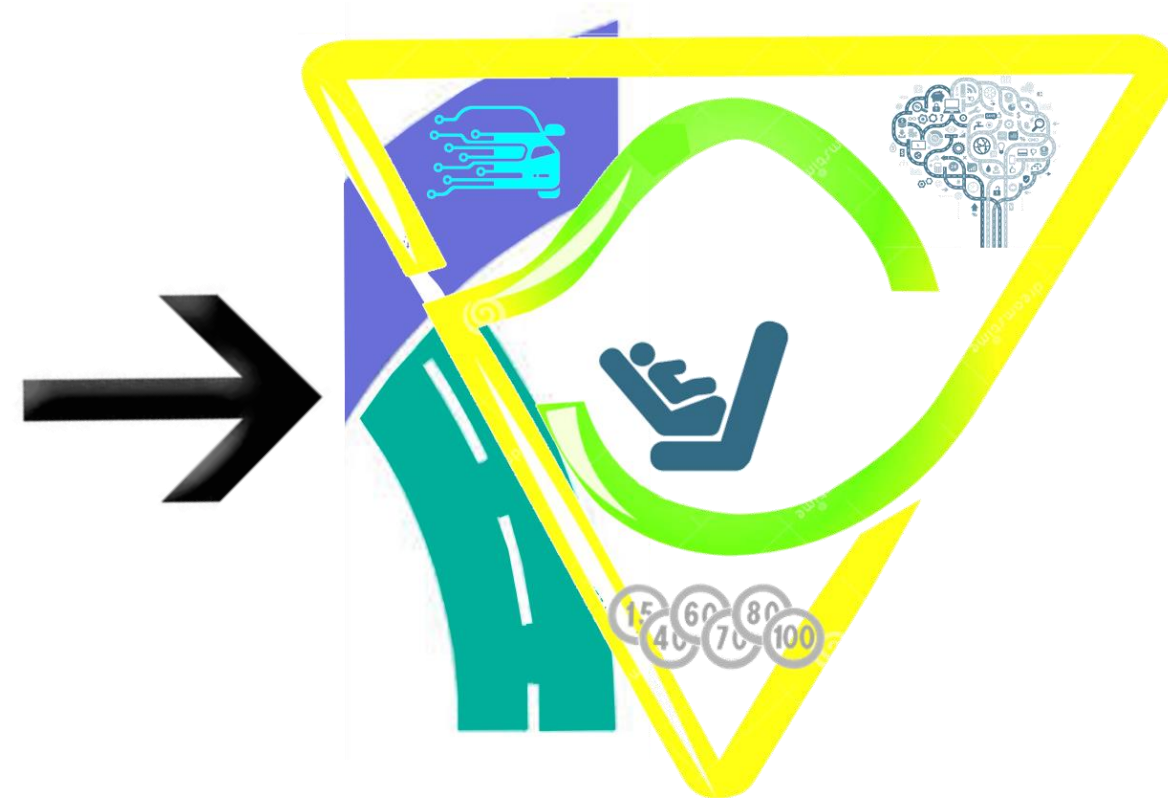
ACCIDENT DATA ANALYSIS



OBSERVATIONS and SURVEYS QUALITY OF PROTECTION



ANALYSIS OF DATA RECOMMENDATIONS



WHAT
USERS
SAY



ON-LINE SURVEY and INTERVIEWS

**USER'S
BEHAVIORS
CHANGES**



WHAT
USERS
DO

USE & MISUSE STUDY

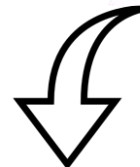
**PRODUCTS
IMPROVEMENTS**



SAFETY CONSEQUENCES

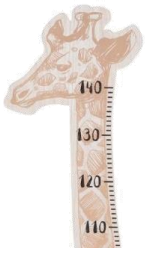
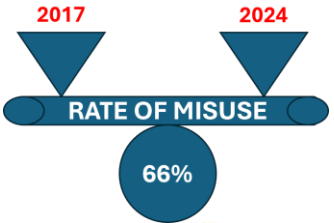
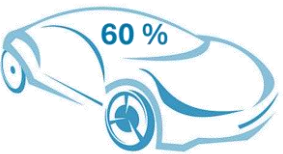
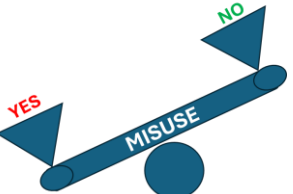


ACCIDENT STUDIES

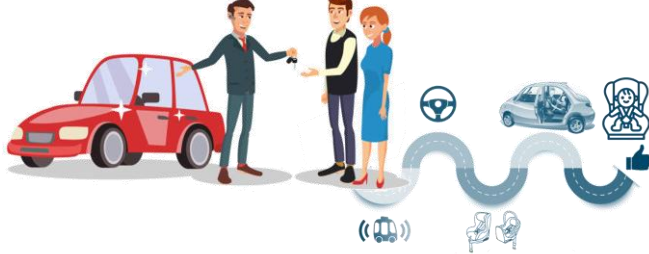
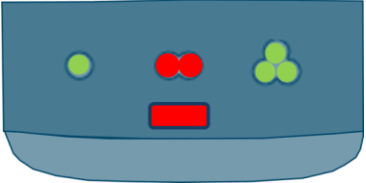
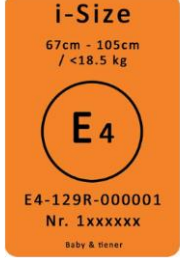
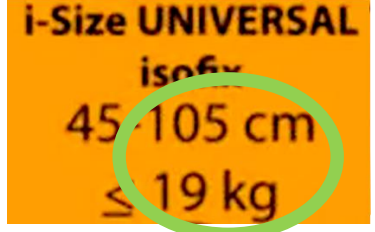


OURSE: Main study results – Children in cars



	WHAT THEY SAY 	WHAT THEY DO 	CONSEQUENCES 
	   Societal change	   	 Fatality of children  % Uninjured children
	 Information quality control  Parents are too permissive	  	FATAL ACCIDENTS   DRIVING   ADAS

OURSE: Main recommendations – Children in cars

ADULT BEHAVIOR 	          
CHILD BEHAVIOR 	       
VEHICLE IMPROVEMENT 	     
CRS IMPROVEMENT 	    

USER CENTRIC ANALYSIS - Methodology

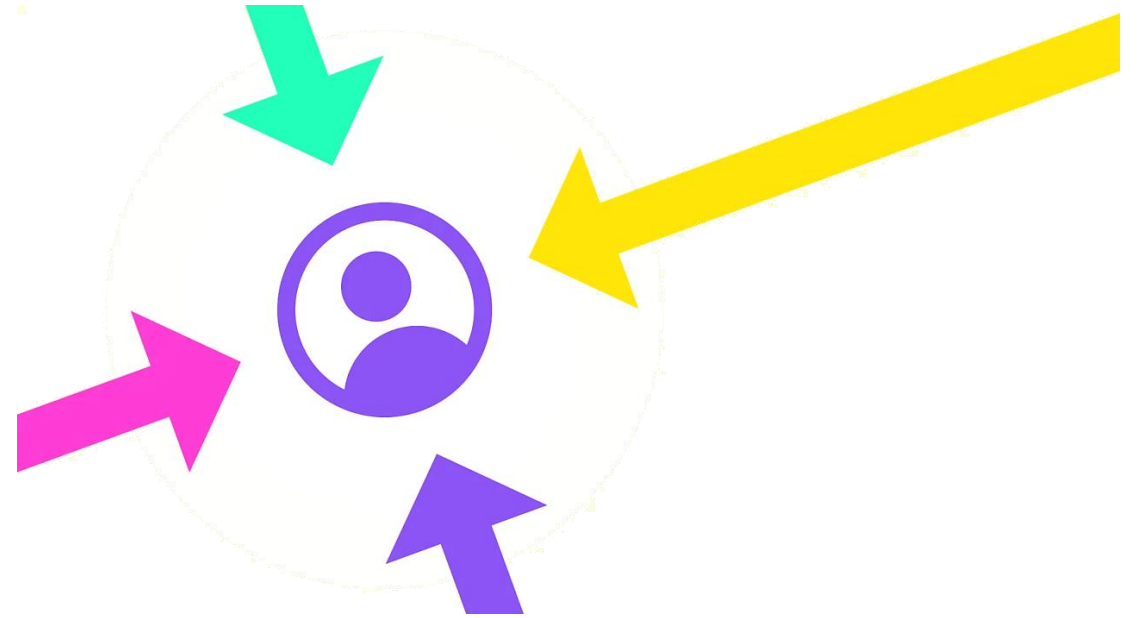
STEP1: Define user and the system

STEP 2: Define issues to be solved

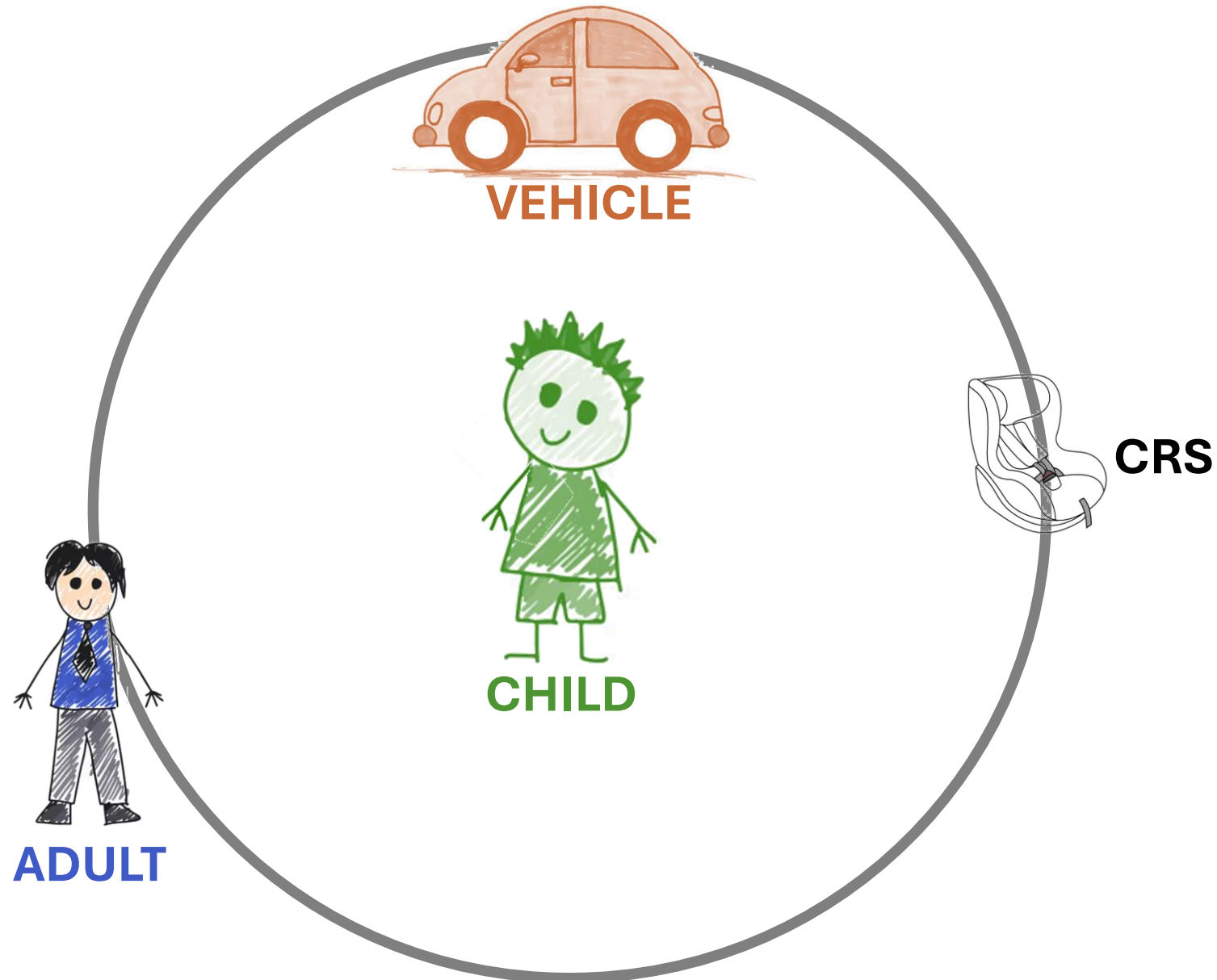
STEP 3: Search for levers

STEP 4: Create links between users/systems/issues/levers

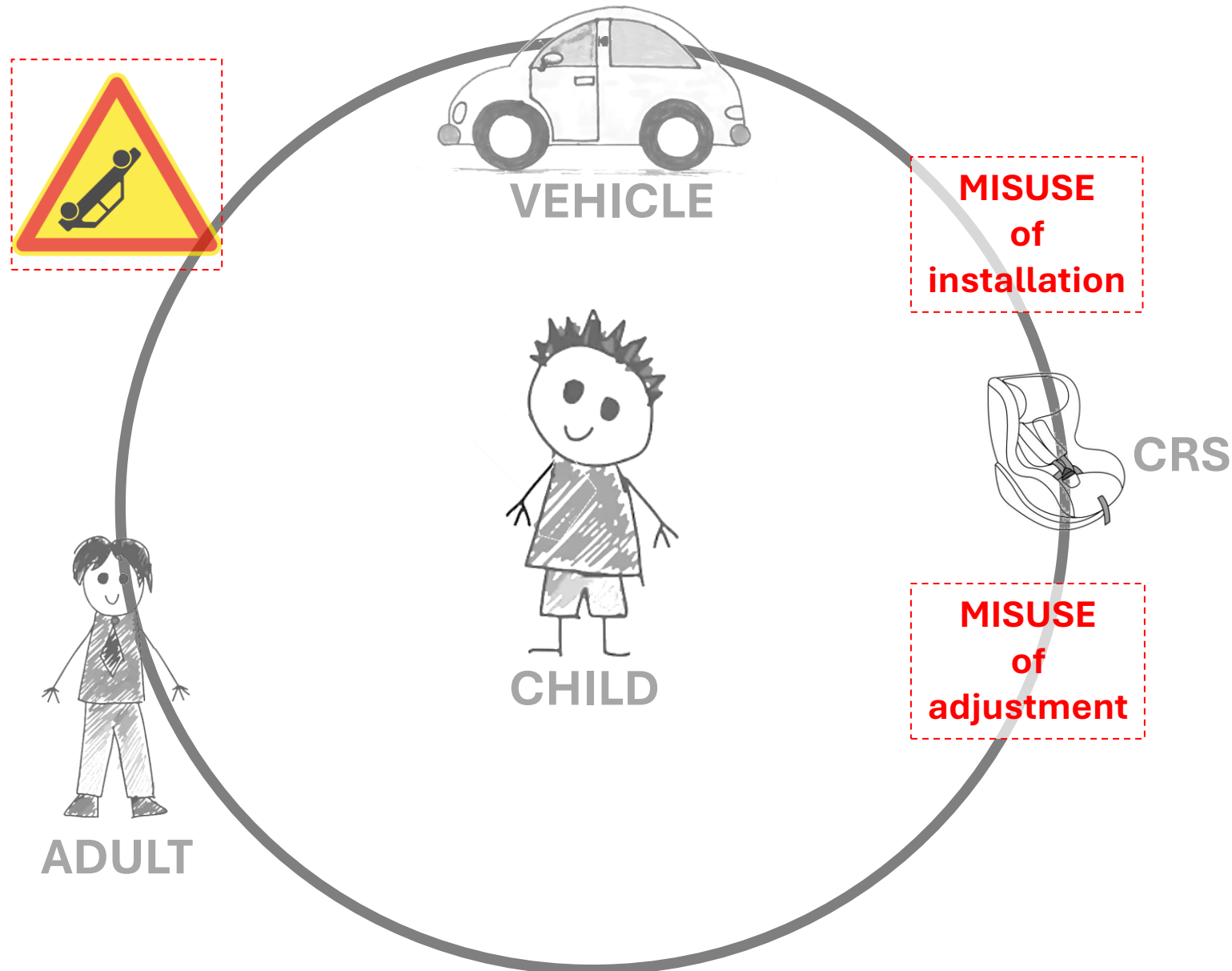
STEP 5: Consider the effect of each lever, on each issue pointed-out in the studies.



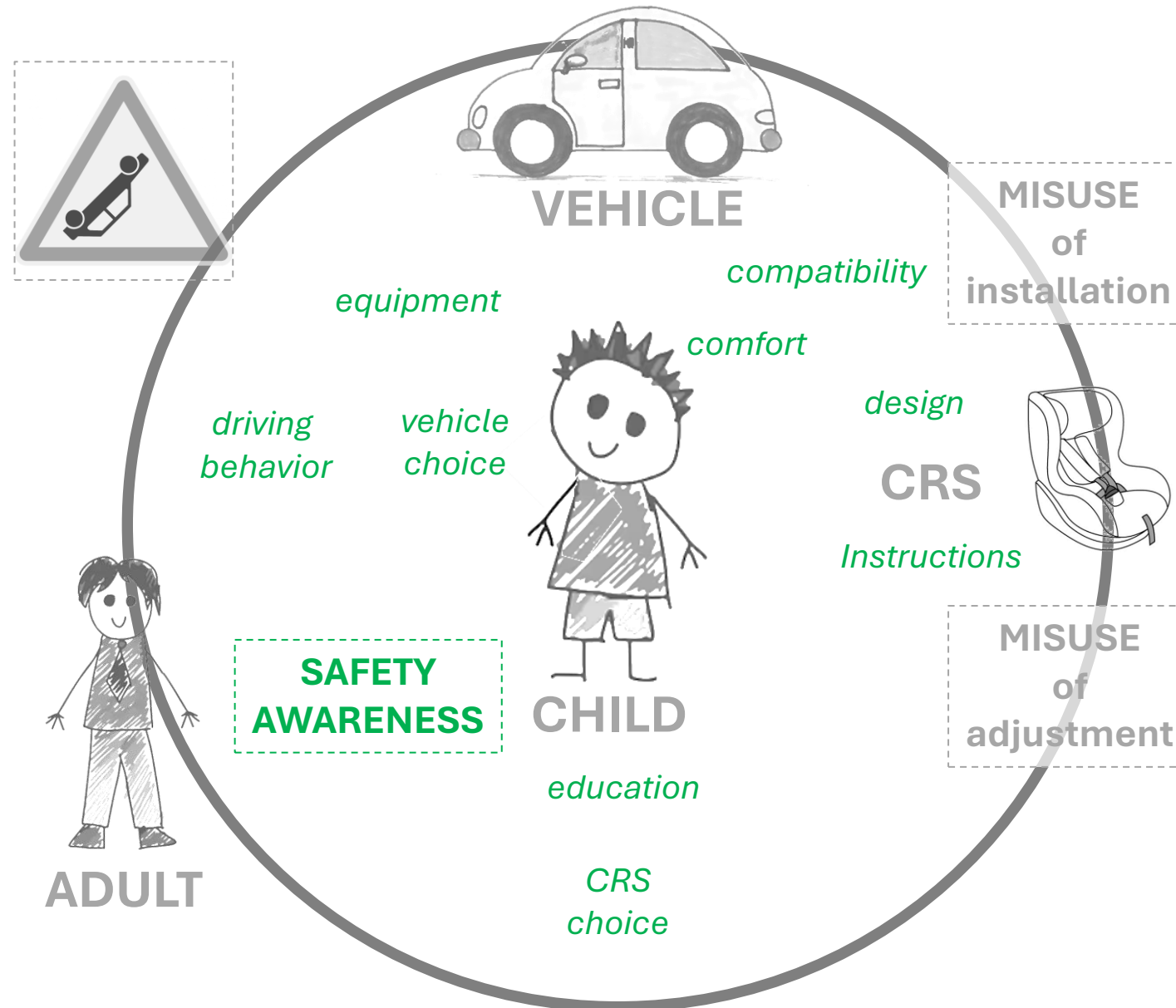
Children in Cars – STEP 1 - Define user and the system



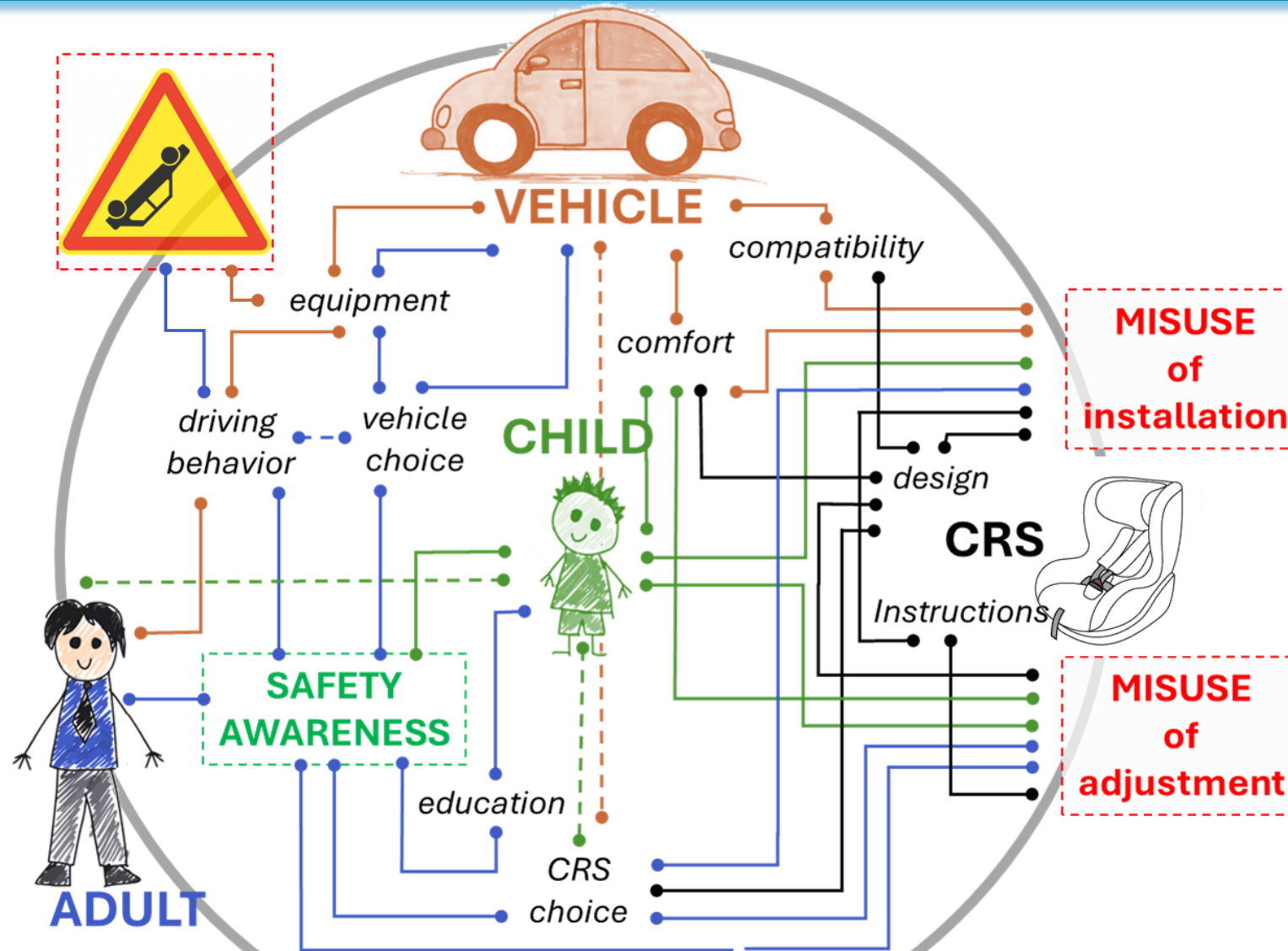
Children in Cars – STEP 2 - Define issues to be solved



Children in Cars – STEP 3 - Search for levers

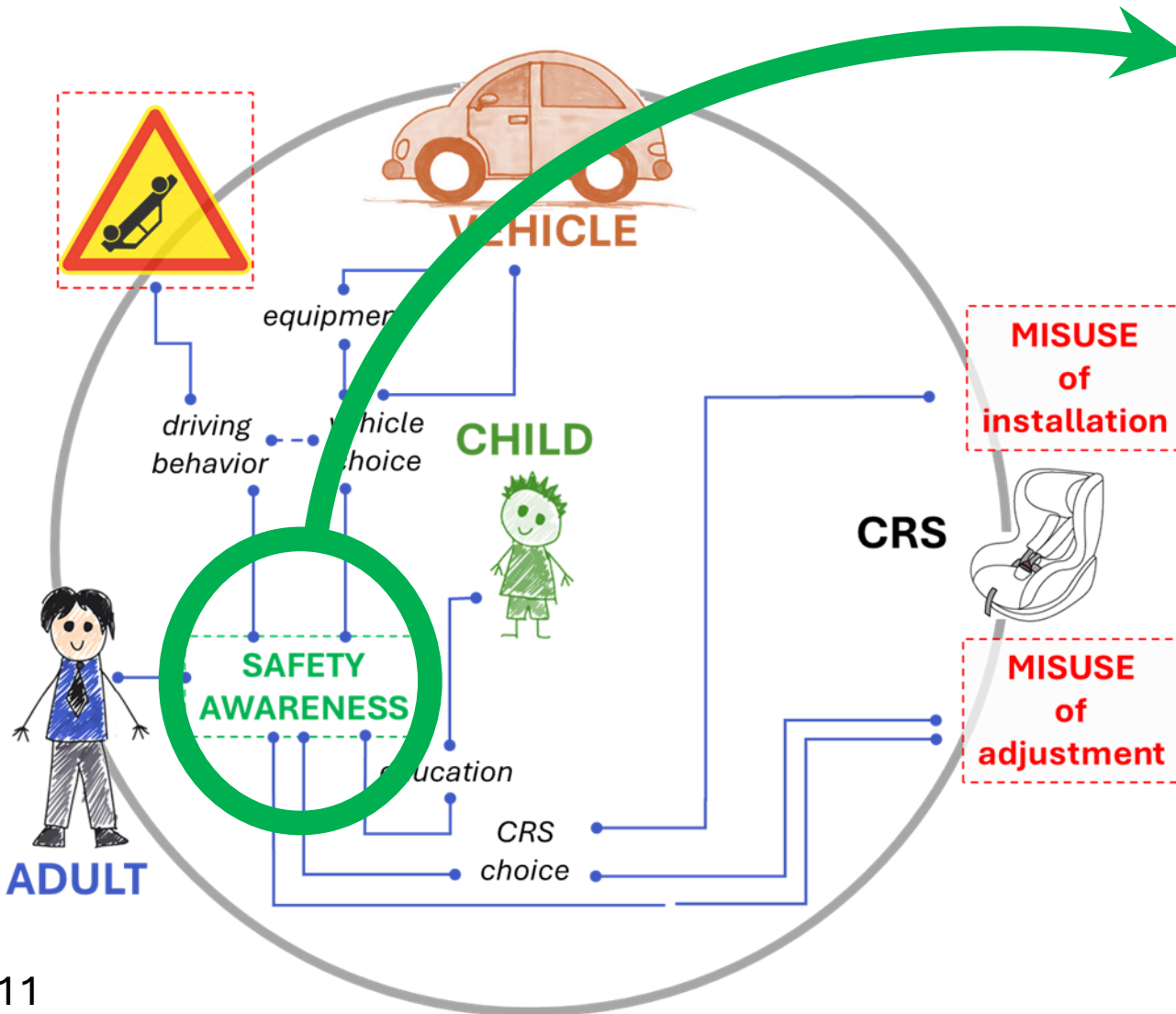


Children in Cars - STEP 4 - Link levers



Children in Cars – STEP 5 - Consider lever effect

EXAMPLE 1: Safety awareness of the adult



Choose the right (compatible) systems (vehicle and CRS):

- Be careful of WEB « unmissable opportunities »
- Prenatal safety sessions would be helpful for rising road safety awareness

Installation of CRS:

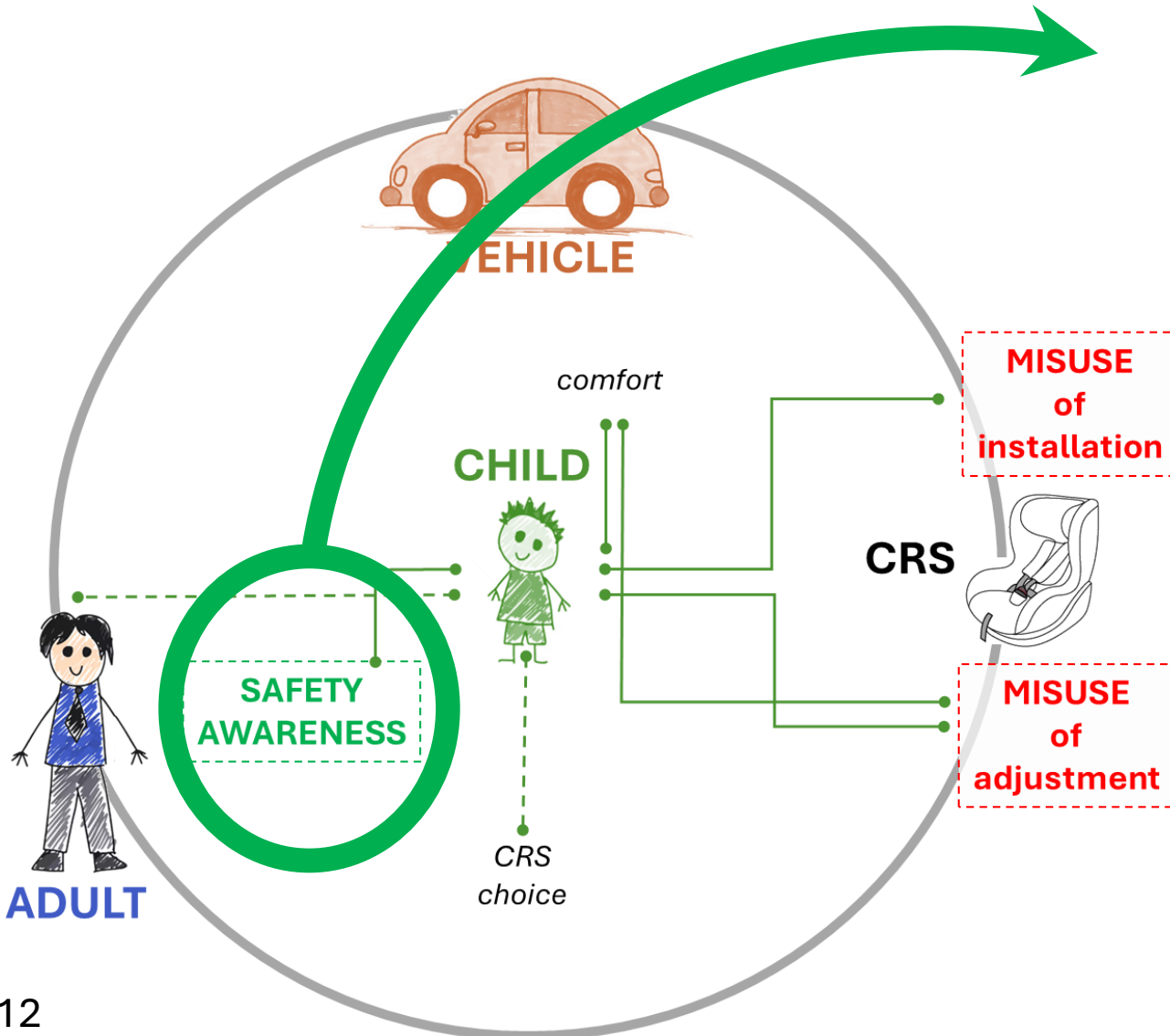
- Use CRS manufacturers instructions (user manual, videos, ...) recommended WEB site but not « homemade tutos » that often show misuse
- I-Size systems if possible (ease of use), take care of using anti-rotational device correctly.

Installation of child in CRS:

- Remove thick clothes
- Always take time to adjust the system (harness height and tension, backrest height, use of seatbelt guide,...)
- Click the harness (or the seatbelt) carefully
- Ask the child if he is comfortably installed

Children in Cars – STEP 5 - Consider lever effect

EXAMPLE 2: Safety awareness of the child



Being restrained is necessary at all times:

Child has to be aware of the reasons why he has to be restrained- (supports like cartoons or comic-books would be an option),

- *It is dangerous to unclick or remove restraint system from the body during the journey,*
- *Children buckling-up themselves*
- *School awareness sessions are necessary.*

Comfort:

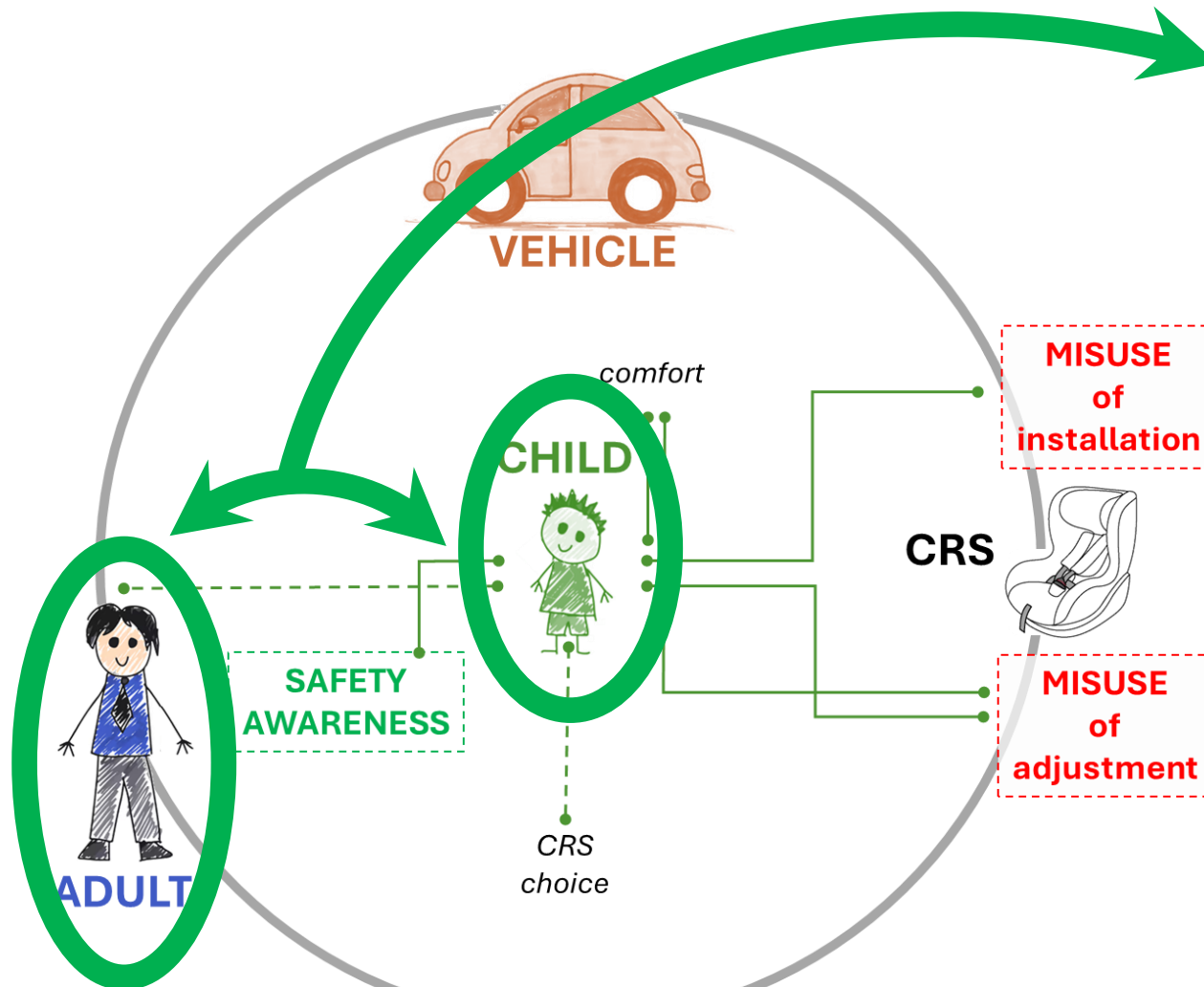
- *If there is a lack of comfort before the journey starts, it is important that the child report it to the adult.*
- *If uncomfot appears during the trip, it is preferable that the child asks the adult than changing himself the situation*

CRS are not for babies:

- *Crs are designed for children up to 135 or 150 cm, so they can adapt the restraint system until the child reaches the size of a small adult.*

Children in Cars – STEP 5 - Consider lever effect

EXAMPLE 3: Relation between the adult and the child



Parents confess that a large proportion of children is sometimes changing the restraint conditions during the journey:

- Child has to be aware of the reasons why he has to be restrained- (supports like cartoons or comic-books ...),
- It is dangerous to unclick or remove restraint system from the body during the journey,
- The role of the school or a doctor (who has a different relationship with the child than that of the parents) is important in raising awareness about road safety.

Sometimes, children do not want to be restrained:

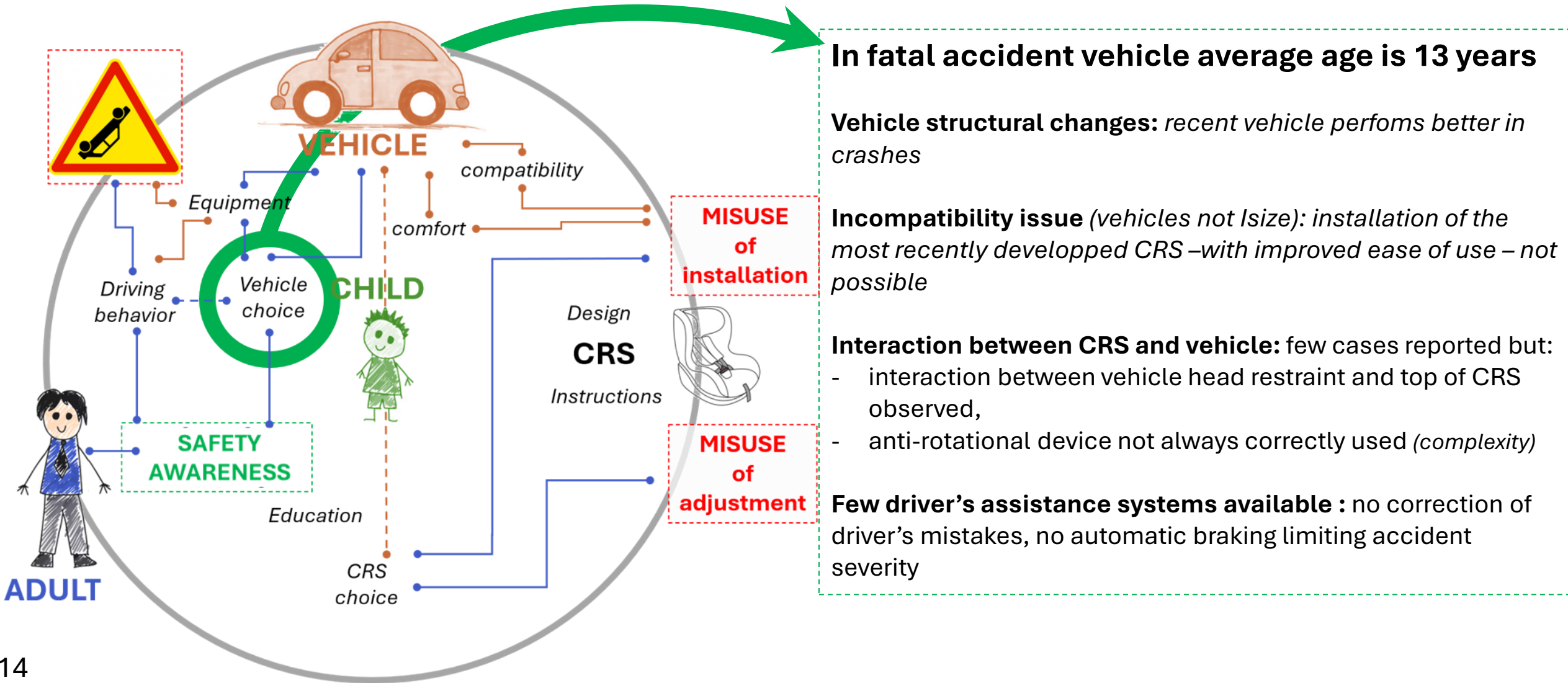
- At least that's what is reported by some parents.
- Lack of comfort can be one reason
- The image sent back to other children who might see it in his device (wow, the baby!) is not to be ignored.
- Not sufficiently aware of the reason why there is no choice

Children want to challenge adults:

- Refusing parental authority.
- Do what is forbidden can be seen as a game

Children in Cars – STEP 5 - Consider lever effect

EXAMPLE 4: the choice of vehicle



Priorisation of actions – “Zero child fatality vision”

Consider all results of the deliverables and of the user-centered analysis.

1 – Make a list of hard points seen in studies and dispatch them into categories

2 - Weigh the significance of each issue and the associated countermeasures:

Expert’s estimation knowing that problems are not independent,
and that proposed solutions also overlap.

3 - Make the analysis for each type of road user

4 - Weigh each category of road user according to accident data

5 - Sum up the countermeasures categories of all types of users

Have a global vision and target recommendations



Targeting and weighting – Children in cars



EXAMPLES OF POINTS CONSIDERED FOR THE CATEGORISATION AND WEIGHTING

The child attaches himself or changes the quality of restraint during the journey,...

80% of drivers think they are doing well, while 2/3 make mistakes, the parents realize that the child has changed the quality of restraint but do not intervene, the parents do not all use a support to install the CRS, ...

State and behavior of the driver, responsibility of not restraining child, two occupants in one seating position, use of unauthorized seating position,...

Children not restrained

Accidents out of restraint protection area, the primary safety systems solutions could help ,...

Improvement CRS fixation, improvement child attachment/restraint, improvement vehicle/CRS interface, communication CRS/vehicle/parents,...

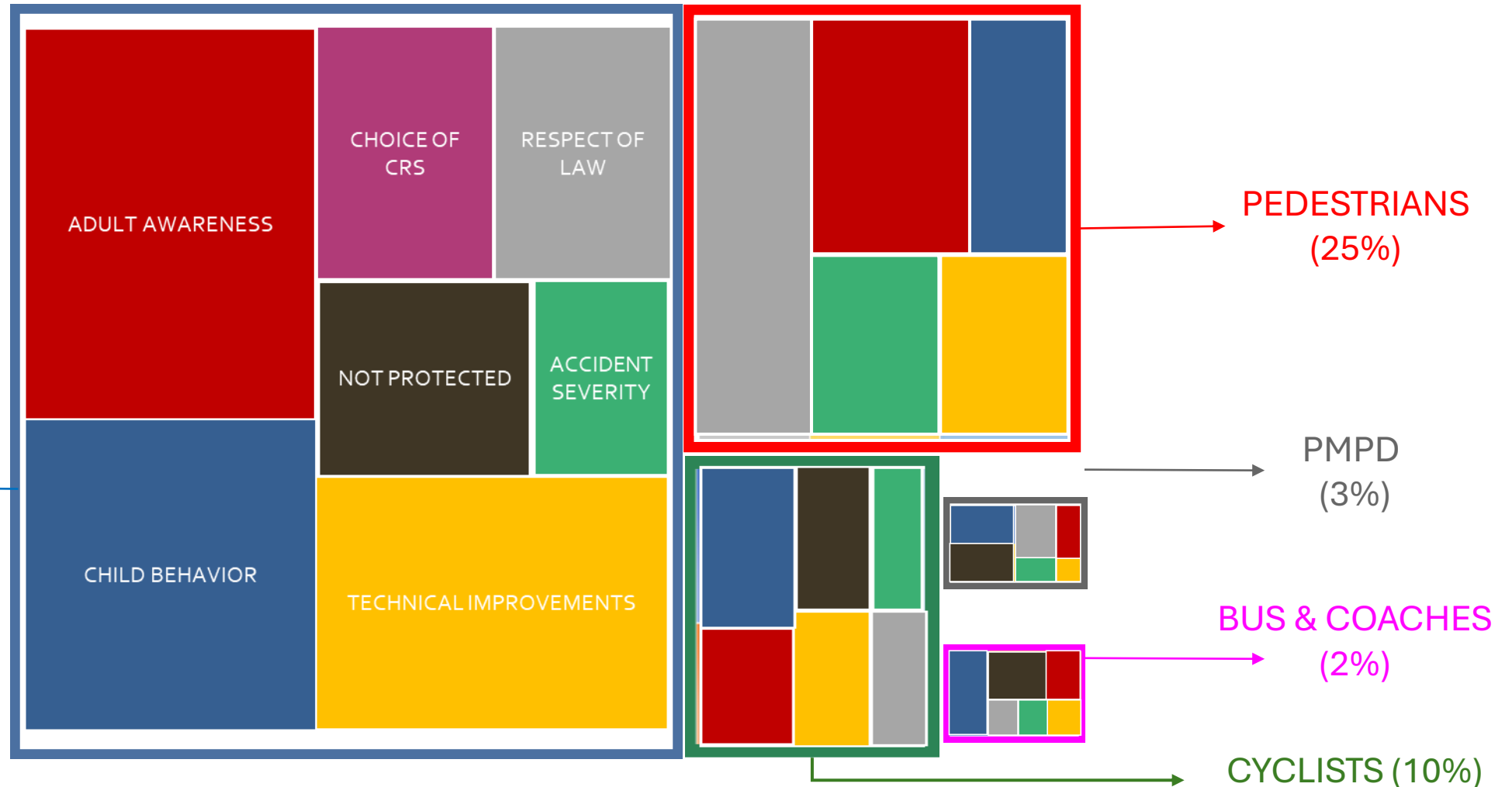
10% not using information, early switches from one seat to the next one,...



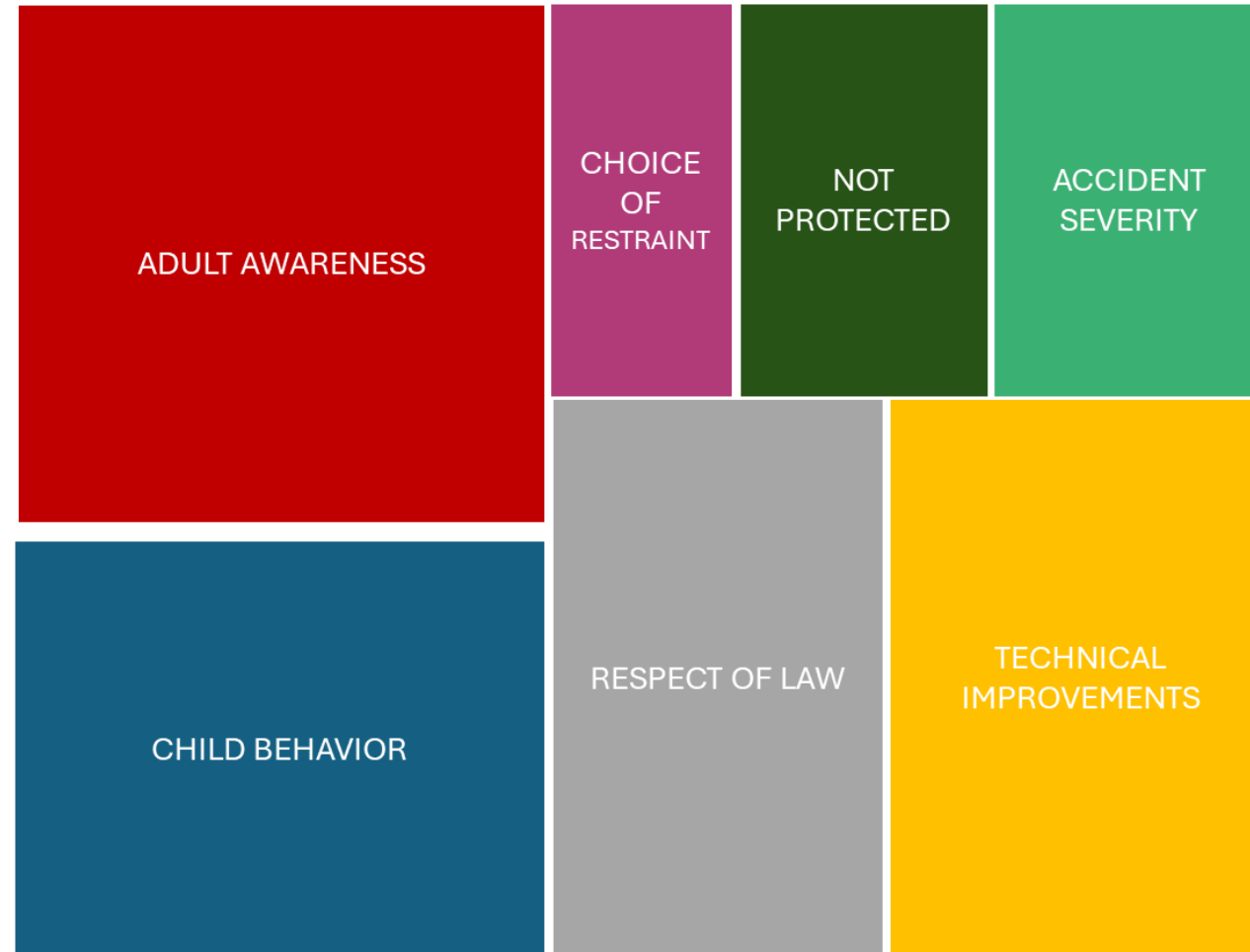
Targeting & weighting – Children: all road user categories



CARS
(60%)



Targeting & weighting – Sum of all children as road users



Limitations and conclusions

- It was our first exercise of user centric analysis applied to child safety, so the methodology used is not necessarily fully in line with what others could have done.
- Interesting approach, we will apply it on other topics (or other sets of data on children)
- Data used are exclusively coming from France, it would be nice to have similar analysis in other countries and share results.
- **CHILDREN IN CARS:** In parallel of the improvement of systems (CRSs and vehicles), the priorities to better protect children on French roads are:
 - **Araise public awareness on safety** (children and adults): « Why and how protecting children ».
 - **Respect of basic safety rules** when circulating in the public area.



Acknowledgments and questions

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QUESTIONS ?



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