

A Coaching Program for Recently Licensed Young Drivers in the Netherlands: Which Drivers are Attracted?



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Overview

1. Introduction
2. Design principles
3. The DX program
4. The coached drive
5. Research data
6. Results
7. Conclusions

Fragment "Mirko"



now you know

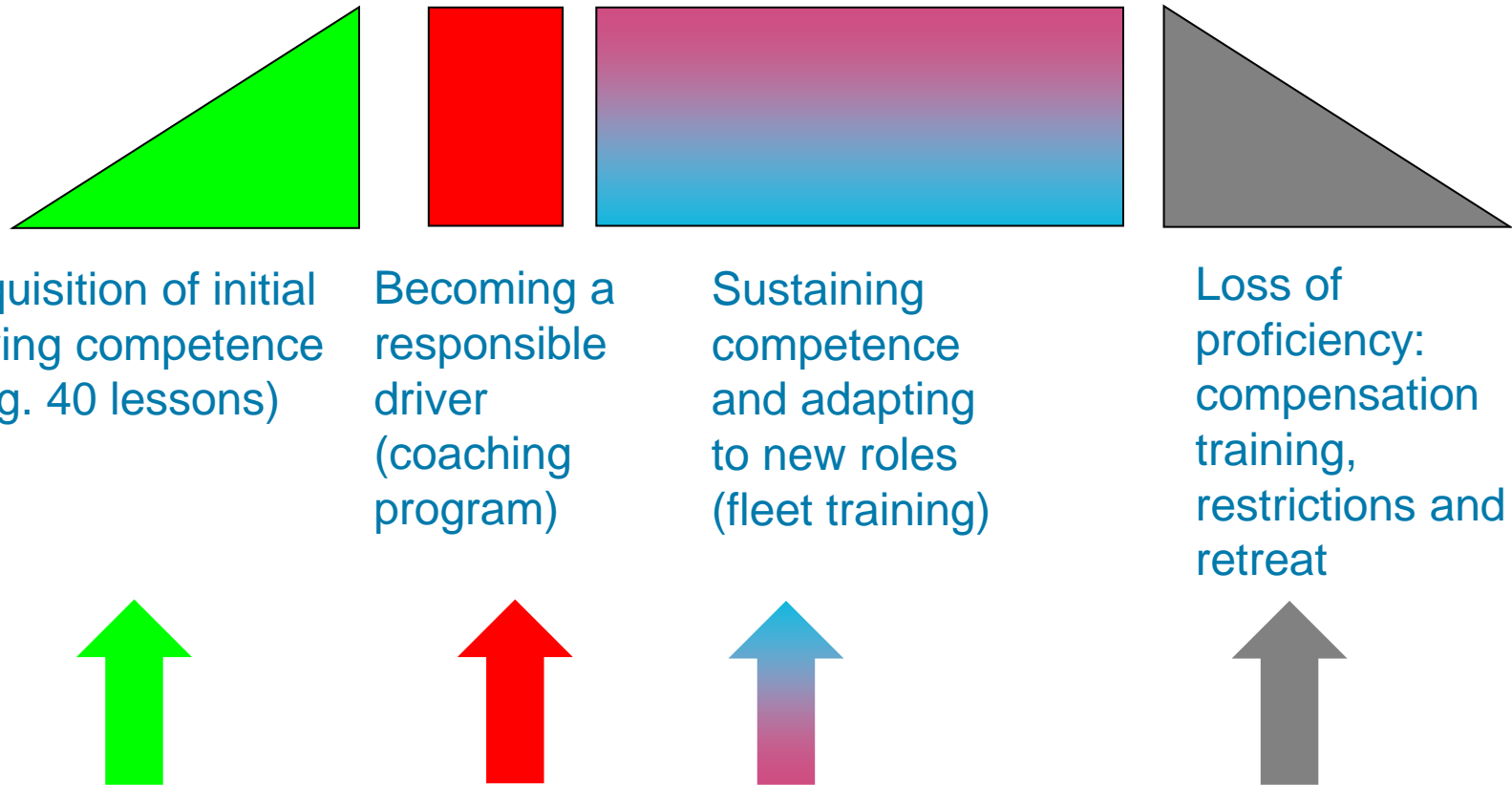
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Introduction



now you know

1.1 Dutch view on driving competence: permanent learning



Permanent learning

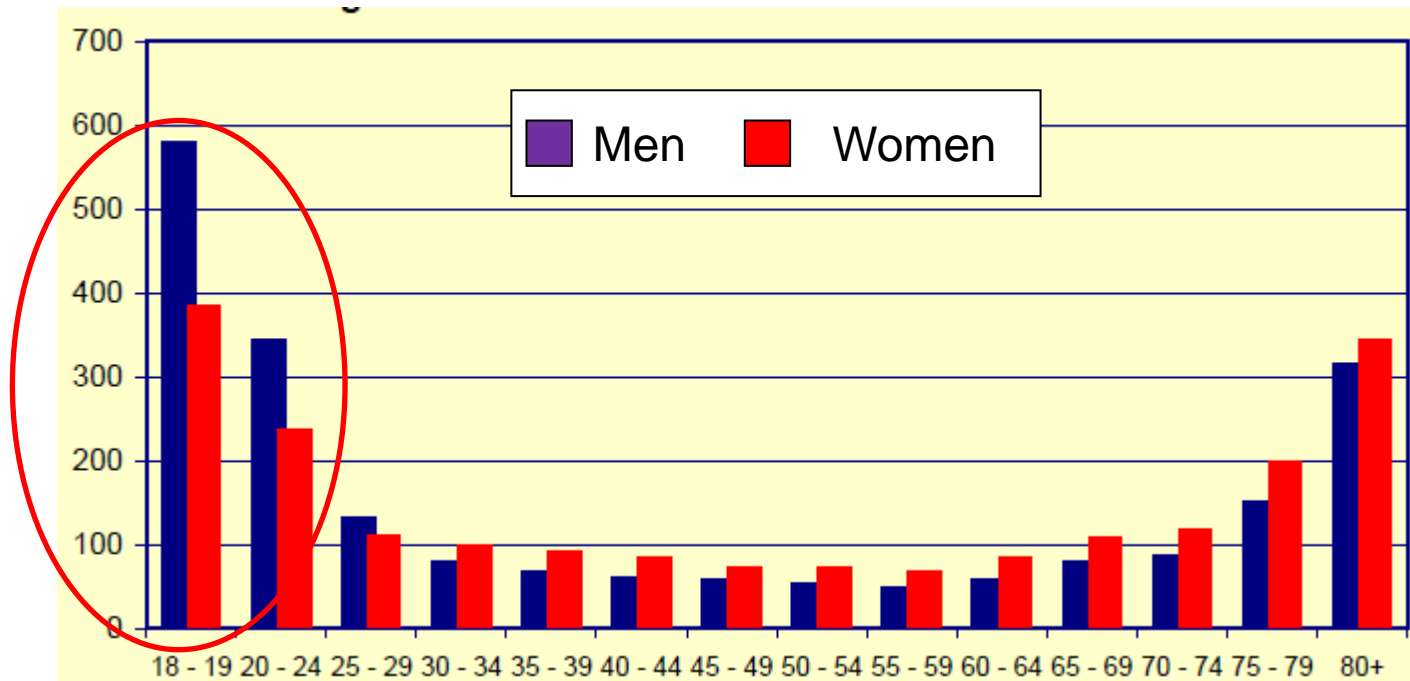
Nobody is a competent driver for life



now you know

1.2 General aim coaching program

- **Target group:** novice drivers (age 18-24) who held their driving license for about 6 months
- **Aim:** Lowering the typical peak in accidents that novice drivers have at this point in their driving experience



- **Means:** giving them support during this most dangerous phase

1.3 Some facts about the program

- Introduced in 2003 as part of a EU-project
- Participation is free and on voluntary basis
- In 3/12 provinces about 2,000 young drivers per year
- In 2013: 5 provinces

2 Design principles



now you know

2.1 Address 4 task levels

- Life tasks: may interfere with actual driving
- Strategic tasks: planning and preparing, will affect lower levels of driving
- Tactical tasks: participation in different tasks conflicting with levels of competence
- Operational tasks: necessary but insufficient basis for driving; affected by choices at higher levels

(Hatakka, Keskinen, Gregersen & Glad in Gadget, 1999)

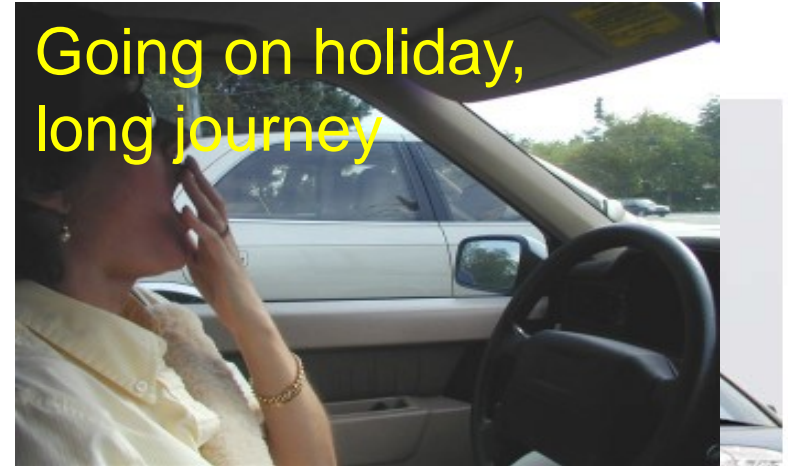


now you know

Life tasks (1): may interfere with driving



Celebrating



Going on holiday,
long journey



Socializing



Delivering
things



Going on holiday,
long journey

Life tasks (2): may interfere with driving



Strategic: buying and maintaining a car

Energie		Personenauto
Fabrikant Model	Merk X Model Y 3-drs hatchback handschakeling Benzine	
Brandstof		
Brandstofverbruik	7,2 liter / 100 km = 1 liter op 13,9 km	
Zuinig		
Onzuinig		
CO ₂ -uitstoot	173 gram / km	
2007		



Strategic: choice of alternative transport



Strategic: preparing a route

UK Traffic Map



Current Traffic Incidents

A34 northbound between M4 and A4185 | Northbound | Congestion
On the A34 northbound between the junctions with the M4 and the A4130, there are currently delays of 15 mins due to heavy traffic. Normal traffic conditions expected from 10:00 am.More details

M67 westbound between J2 and J1 | Westbound | Congestion

M56 eastbound between J9 and J7 | Eastbound | Congestion

A453 northbound between M1/A50/A6 and A52 | Northbound | Congestion

A66 eastbound between A595 South and A595 North | Eastbound | Congestion

M6 southbound within J4 after M42 J7A northbound access | Southbound | Congestion

M4 eastbound between J8 and J7 | Eastbound | Congestion

More Traffic Services

Journey Planner

Use Transport Direct's journey planner tools to

Traffic Information Services

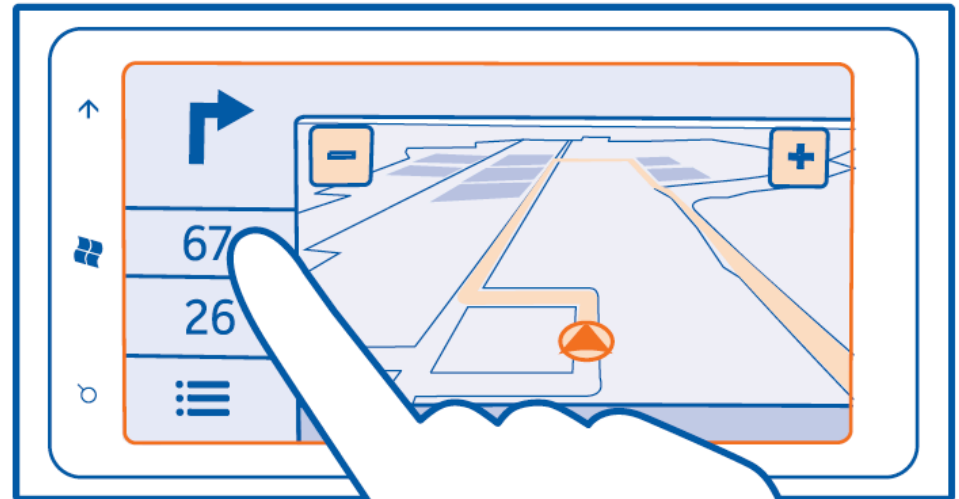
Find out how we can help you or your business: services, RSS and widgets.

Mobile Services

Stay in touch with our latest information and traffic news via our mobile and iPhone app.

Seasonal Advice

Check out our seasonal advice on planning your journey.



Tactical tasks: participate in traffic



Operational tasks: vehicle control



Steering, accelerating



Manoeuvring

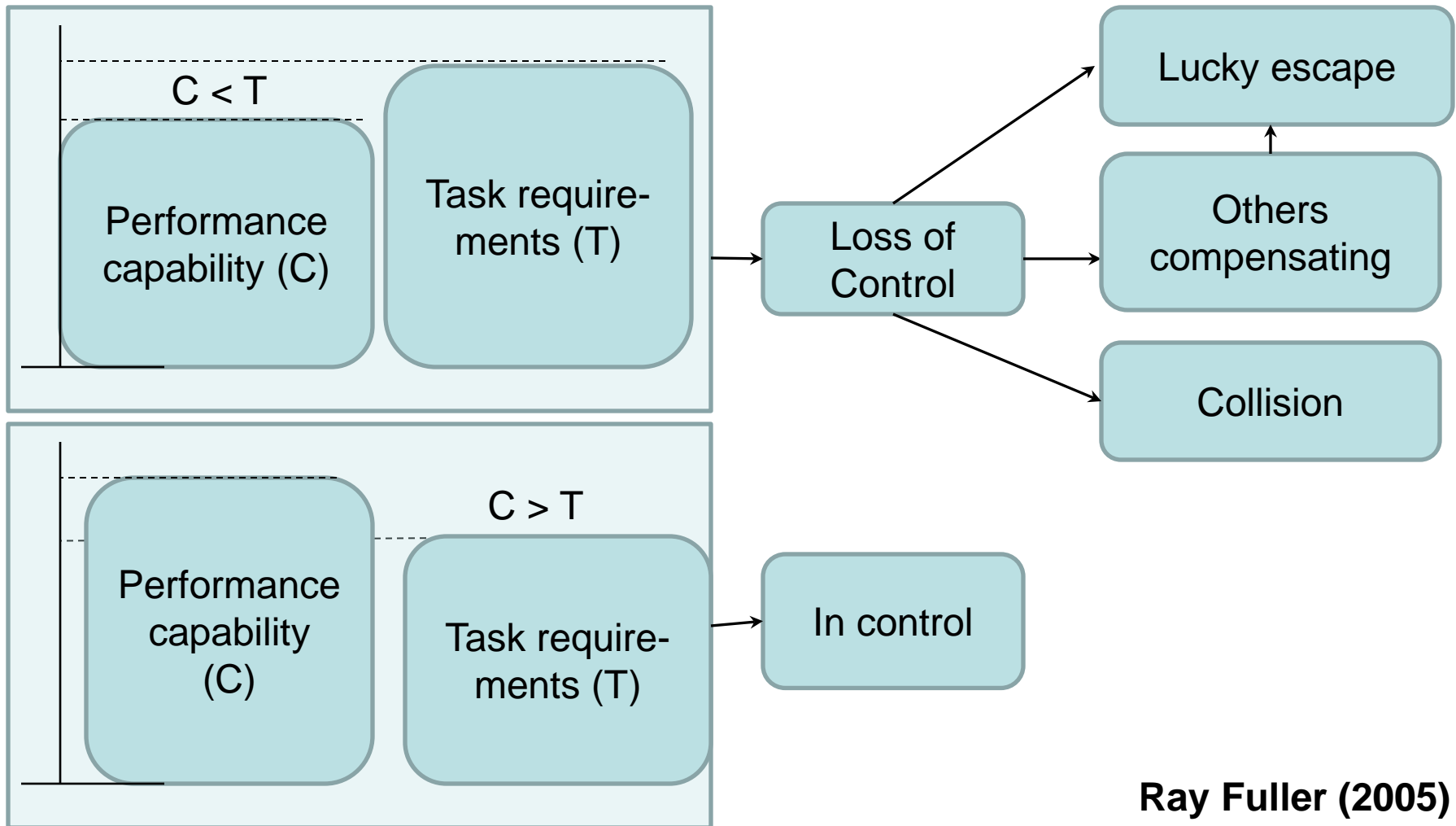


Decelerating

thienzieyung, Flickr

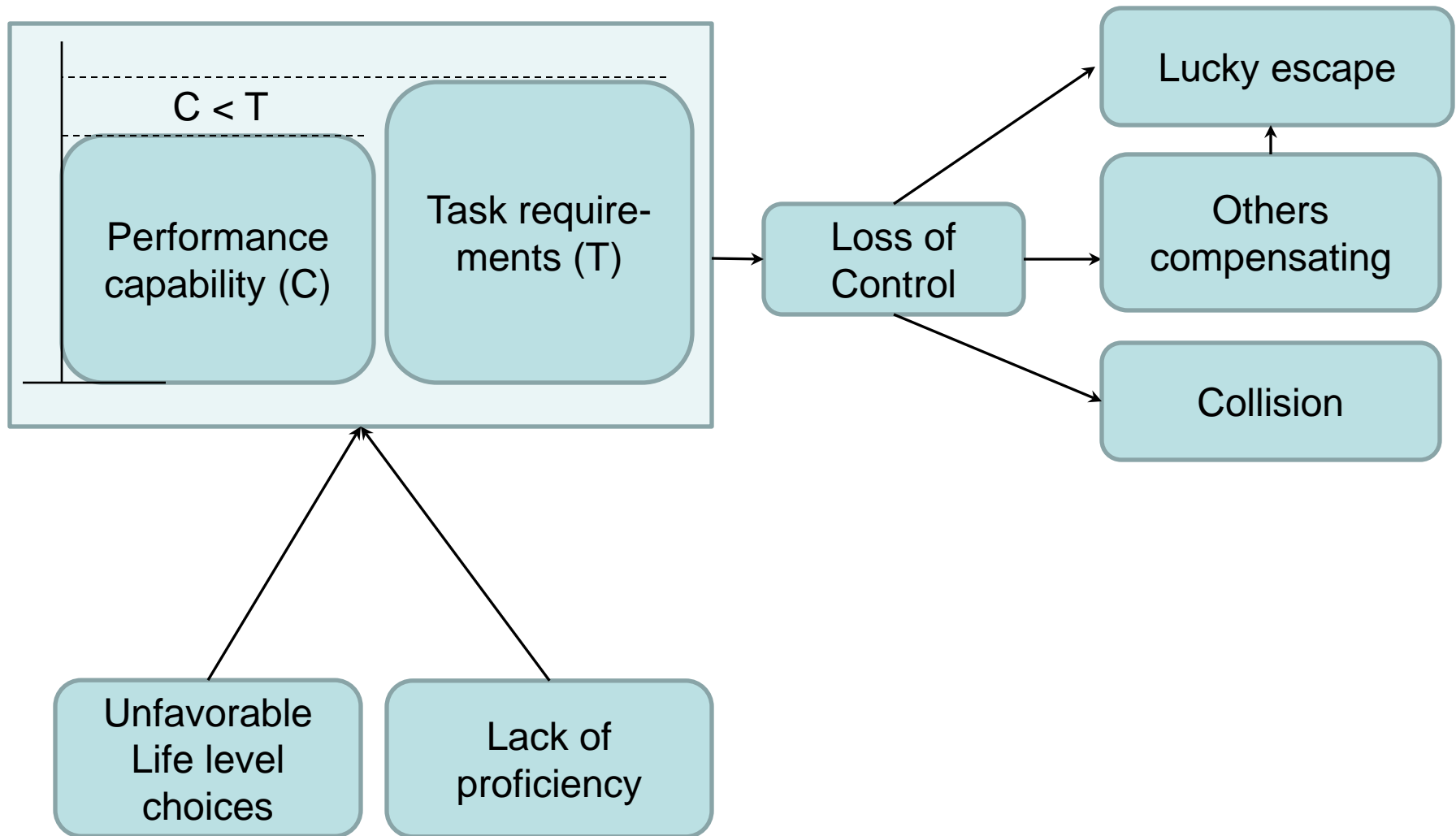


2.2 Balancing capability and task requirements (Calibration skills)



Ray Fuller (2005)

Personal risk factors influence task capability



3 The DX program



now you know

3.1 Program components

Life task level
Strategic level
Tactical level
Operational level



now you know

3.1 Program components

	Track exercises
Life task level	
Strategic level	
Tactical level	
Operational level	



3.1 Program components

	Track exercises	Coached trip
Life task level		
Strategic level		
Tactical level		
Operational level		

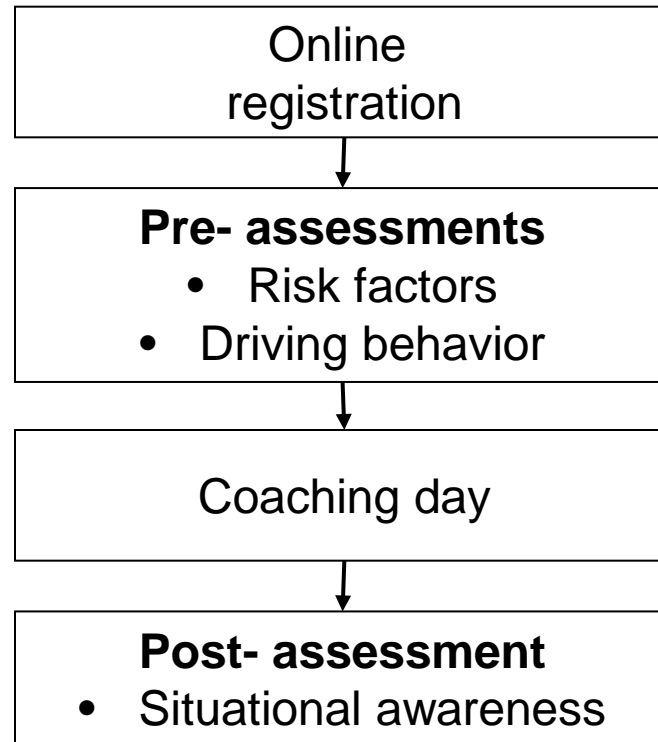
3.1 Program components

← 7 hours →

	Track exercises	Coached trip	Group discussion
Life task level			
Strategic level			
Tactical level			



3.2 Flow of the DX program



3.3 Online Driving assessments

Question: 040 of 119

Speed

How fast do you tend to drive on 120 km/h roads if there is a lot of traffic (but no jams)?

- ☐ Up to 120 km/h
- ☐ 120-125 km/h
- ☐ 125-130 km/h
- ☐ 130-135 km/h

Driver Risk Assessment:
119 questions

Driver background: mileage, active/passive accidents, fines received

Behavioral risk factors: speed choice, lane preference, alcohol, anger, distraction and fatigue



now you know

3.3 Online Driving assessments

CitoDrive - Driver self-assessment

Question 4 of 45



Do you get irritated by other road users' mistakes?

(Almost) always ☒ (Almost) never

Driver self- assessment:
45 illustrated questions

Driving tasks: strategic, tactical and operational behavior, errors committed
Criteria: safety, flow, social behavior, control, environment

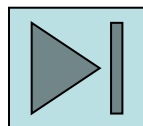




4 The coached drive

4.1 Drive-preparation

- Coach discusses driver profile
- Driver selects personal learning goals; coach assists
- Coach prepares a route fitting with the driver profile and the personal learning goals
- Coach and driver jointly select appropriate observation points for the observing passengers
- All participants change turns, carry out two drives which are discussed, based on observations
- Driver draws up a personal development plan



4.2 Personal driving profile (data feedback)

Personal score card



Personal details

Personal

Name
Gender
Organisation
Department

Name K
Gender Male
Organisation ROVG
Department

Driver risk

Total score
Personal
Situation
Speed
Alcohol

Driver self assessment	Scored points from total	Improvement needed	Sufficient	Good
Safety	73 / 100			
Social	54 / 100			
Traffic flow	82 / 100			
Environment	30 / 100			
Control	63 / 100			
Anger/aggression	22 / 50			
Distraction/concentration	2 / 50			
Fatigue	0 / 50			

now you know

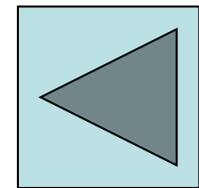
4.3 Personal goals

Points to be observed during the on-road coached trip:

Speed choice at intersections

Maintaining safe spaces

Take perspective of other road users



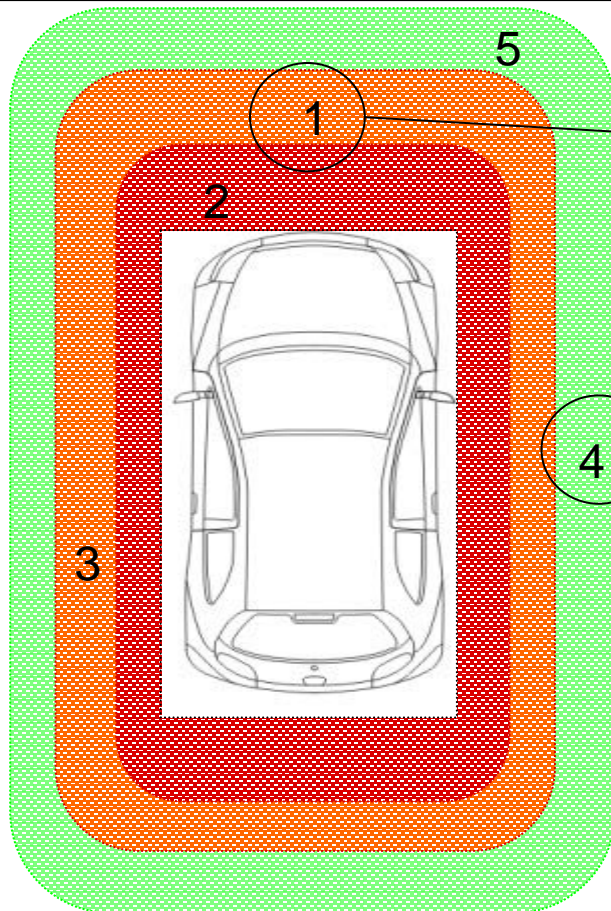
4.4 Observation card coached drive

Driver: *Peter*

Observer: *Bob*

- ☒ Safe space
- ☒ Safe speed
- ☐ Nobody is hindered

- ☒ Allotting space to others
- ☐ Communicating with others
- ☐ _____



Explanation (be specific!):

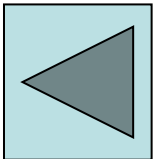
1 Close following Renault on motorway

2. Close approach car in front on road outside built-up area

3. Speed difference with cars on main lane high!

4. Cyclist overtaken with large space cushion

5. Reduced speed at intersection



4.5a Parts of a personal development plan (Peter)

Points to be observed during the on-road coached trip:

Speed choice at intersections

Maintaining safe spaces

Take perspective of other road users

Strong points that I would like to keep:

Keep using the road efficiently (all available lanes)

Speed: keep driving below speed limit

Points I would like to improve:

Driving behaviour:

- Scan more thoroughly at intersections*
- Slow down at intersections*
- Following distance: at least two seconds*



now you know

4.5b Parts of a personal development plan (Peter)

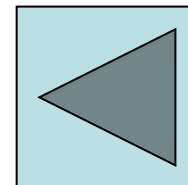
Points I would like to improve:

Risk factors and driving:

Impatience: leave earlier from home

Distraction: settle arrangements with friends already at home

Prevent driving through built-up areas if I don't need to be there.



now you know

5 Research data: Entry characteristics



now you know

5.1 Driver coaching approach

Coaching:

- Encourages the learner to learn actively
- Raises the responsibility of the learner
- Raises awareness and self-reflection on the part of the driver:
 - values, motives and attitudes regarding driving
 - knowledge, skills and habits regarding driving

5.2 Research

- Challenge: how to deal with different driver entry characteristics? —————→
- Who is attracted:
 - What type of driver is the DX participant: driving style, self-perception, fines & accident history?
 - How does the DX group look like?
 - How are participants motivated?

*Intrinsic
motivation*

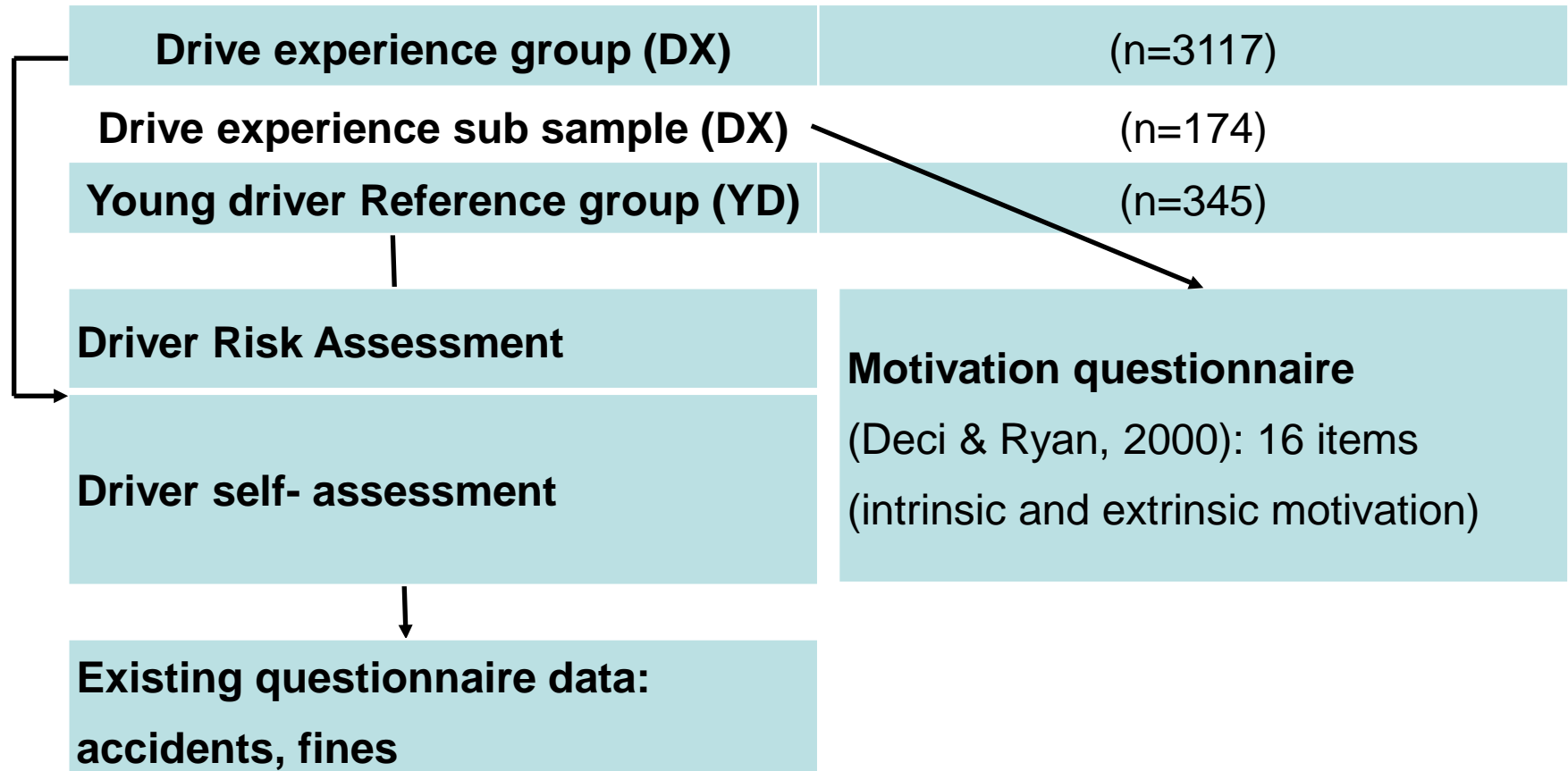
Amotivation

*Extrinsic
motivation*



now you know

5.3 Subjects and instrumentation



6 Some results



now you know

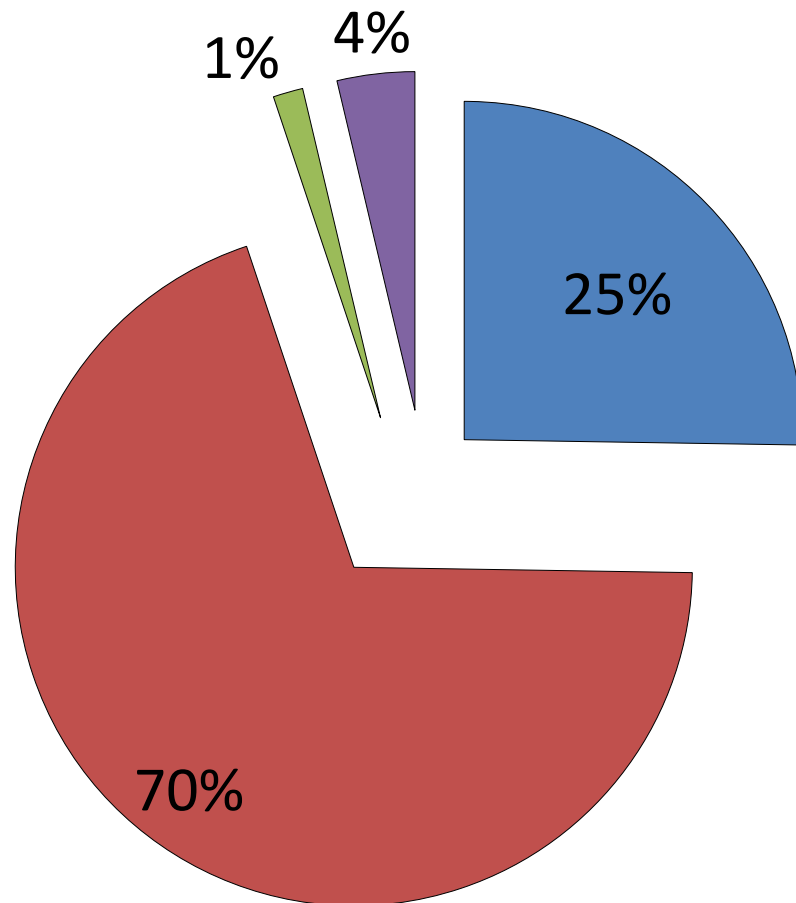
Entry characteristics:

Driving history

Driving behavior



Clusters of DX participants



- Rule following calm drivers (n=477)
- Average DX participants (n=1315)
- Fast and aggressive drivers (n=27)
- Erratic and distracted drivers (n=70)

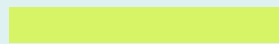
Driving characteristics

	<i>Speed violations</i>	<i>Outer lanes</i>	<i>Driving errors</i>	<i>Driving in a hurry</i>	<i>Loose calmness towards others</i>
<i>Average DX drivers</i>	15	35	18	48	28

Proportion scale:
1 - 100



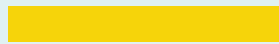
Rarely (1-16)



Occasionally (17-33)



Sometimes (34-50)



Rather often (51-67)



Very often (68-84)

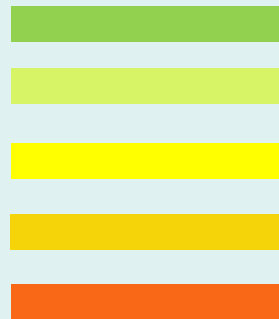


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Driving characteristics

	<i>Speed violations</i>	<i>Outer lanes</i>	<i>Driving errors</i>	<i>Driving in a hurry</i>	<i>Loose calmness towards others</i>
<i>Average DX drivers</i>					
<i>Rule followers</i>	7	22	12	20	14

Proportion scale:
1 - 100



Rarely (1-16)

Occasionally (17-33)

Sometimes (34-50)

Rather often (51-67)

Very often (68-84)



now you know

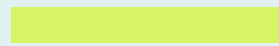
Driving characteristics

	<i>Speed violations</i>	<i>Outer lanes</i>	<i>Driving errors</i>	<i>Driving in a hurry</i>	<i>Loose calmness towards others</i>
<i>Average DX drivers</i>					
<i>Rule followers</i>					
<i>Fast & aggressive drivers</i>	48	60	25	84	63

Proportion scale:
1 - 100



Rarely (1-16)



Occasionally (17-33)



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Rather often (51-67)



Very often (68-84)



now you know

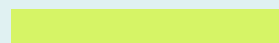
Driving characteristics

	<i>Speed violations</i>	<i>Outer lanes</i>	<i>Driving errors</i>	<i>Driving in a hurry</i>	<i>Loose calmness towards others</i>
<i>Average DX drivers</i>					
<i>Rule followers</i>					
<i>Fast & aggressive drivers</i>					
<i>Erratic and distracted</i>	26	50	37	66	44

Proportion scale:
1 - 100



Rarely (1-16)



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Rather often (51-67)



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now you know

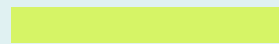
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<i>Average DX drivers</i>	15	35	18	48	28
<i>Rule followers</i>	7	22	12	20	14
<i>Fast & aggressive drivers</i>	48	60	25	84	63
<i>Erratic and distracted</i>	26	50	37	66	44

Proportion scale:
1 - 100



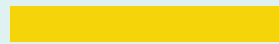
Rarely (1-16)



Occasionally (17-33)



Sometimes (34-50)



Rather often (51-67)



Very often (68-84)



now you know

Driving history

Cluster	Active		
	Fines*	collisions*	Mileage
Rule following calm drivers	38	24	5
YD-Ref group (n=345)	49	22	10

* Per million kilometer



now you know

Driving history

Cluster	Active		
	Fines*	collisions*	Mileage
Rule following calm drivers	38	24	5
Average DX participant	78	19	8
Fast and aggressive drivers	120	46	22
Erratic and distracted drivers	139	41	8
YD-Ref group (n=345)	49	22	10

* Per million kilometer



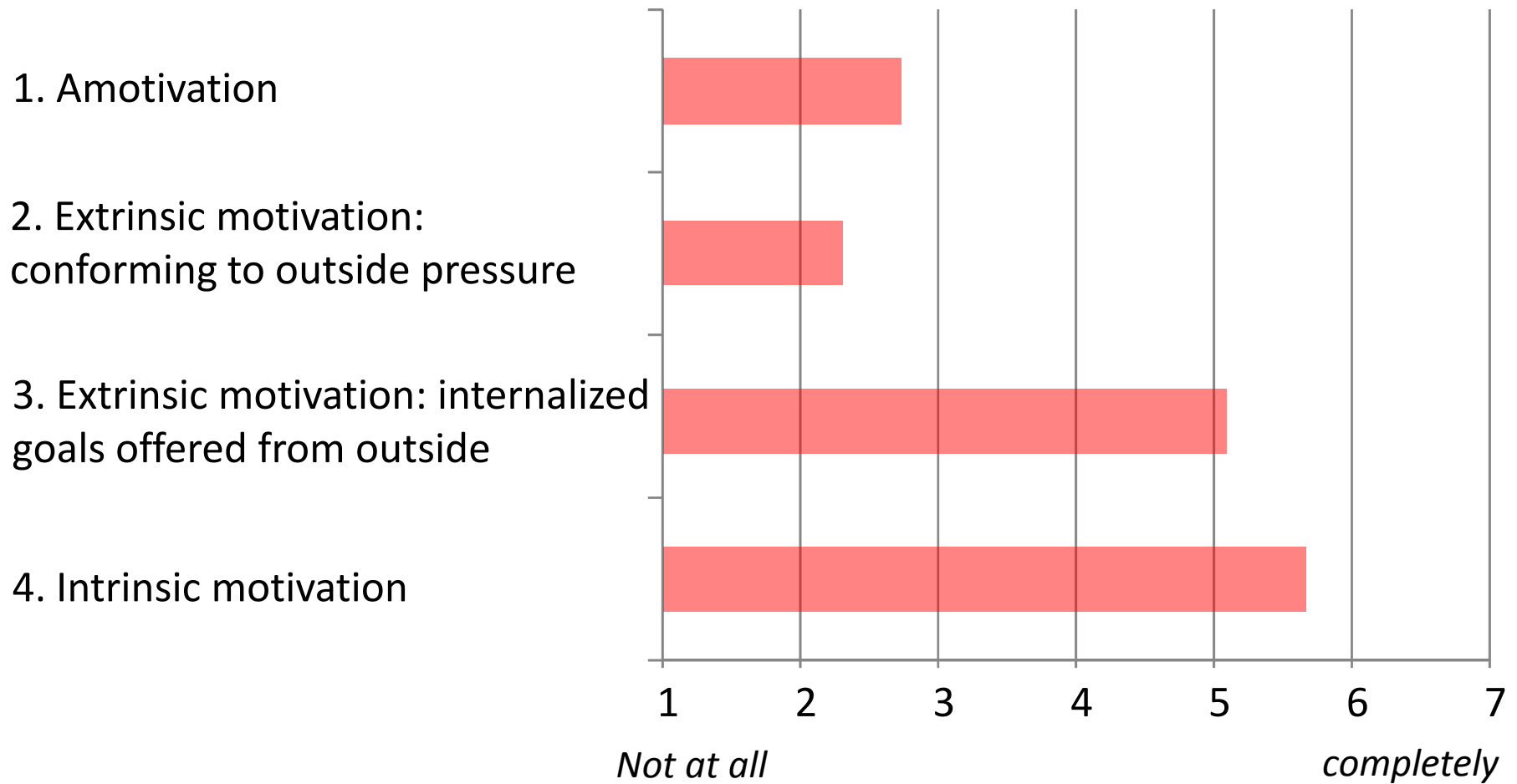
now you know

Participant motivation



now you know

Scores on Deci's scales of motivation (n=174)



Does it apply?



now you know

Motivation and undesirable driving behaviors

	Amotivation	Extrinsic motivation: outside pressure	Extrinsic motivation: internalized goals	Intrinsic motivation
Driving errors		.19*		-.19*
Driving in a hurry	.19*		-.29**	
Perceived driving proficiency	-.32**	-.27**	.26**	.32**
Speed violations	.19*		-.37**	
Driving on outer lanes			-.24**	

7 Conclusions



now you know

7.1 Overall conclusions: entry characteristics

- The DX program attracts a wide range of young drivers; among them problematic drivers (fines, accidents)
- Majority is intrinsically motivated or has internalized goals offered from outside
- Special challenge for coaches to address:
 - Participants with unclear motives
 - Participants with high-risk behavior *and* **not** conscious of their erratic behavior
 - *Consciously* low proficient participants



7.2 Follow-up activities

- In-depth study of coaching interactions during drives
- Degree of active participation (self-regulation)
- Changes in attitude and driving behavior

Long term effects on crash involvement: evaluate the effects of combined measures in driving education

Thank you for your attention

