THE POTENTIAL OF IVDR FEEDBACK AND PARENTAL GUIDANCE TO IMPROVE NOVICE MALE YOUNG DRIVERS’ BEHAVIOR

Driving Assessment, June 2013

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Young drivers’ involvement in crashes

Accompanied driving
Solo Driving

number of drivers
driving experience in months

Unpublished data from the Israeli Central Bureau of Statistics

2002
2009
2010
Young drivers’ involvement in crashes

Actual numbers
Graduated Driver Licensing System

In Israel several restrictions apply:

- **Accompanied driving** (first 3 months)
- **Number of Passengers** (first 2 years)
- **ZERO Blood Alcohol Content**
Starting July 1st, 2013

nighttime restrictions
Can technology help?
Feedback to Drivers

**Online**
In-vehicle display

**Off-line**
Web-based application
Parents
Parents and Teens
Parents and Teens
Parents

- Many parents did not make full use of IVDR technology or even rejected it completely (Farmer et al., 2010; Guttman et al., 2010);

- Parents need guidance on how to:
  - motivate the young driver to use the feedback effectively;
  - avoid conflicts with them around the feedback.

- Teens with authoritative parents are less involved in unsafe behaviors (Ginsburg et al., 2009);
Guidance to Parents

- The New Authority (NA) approach (Omer 2004, 2011)
- Vigilant Care
- Link level of involvement to the level of driving aggressiveness

- Aggressive young driver
  - Highest parental involvement
  - "Protective action"

- Intermediate driver
  - Intensified parental involvement
  - "Focused alertness"

- Moderate driver
  - Minimum parental involvement
  - "Open attention"
Guidance to Parents

- Administered in a **90 minute meeting** at the family's home;
- **Both parents and the young driver** were invited to the meeting;
- **Written material** was provided with instructions on how to implement the guidelines to increase its effectiveness and minimize escalation;
- **3-4 bi-weekly phone conversations** were initiated by the counselors to help the parents better cope with the difficulties they face.
Participants and Recruitment

- A rolling recruitment procedure was used (07/2009 – 11/2010);

**Male** young drivers

- Licensed recently (driving experience up-to 1.5 month)

- Drive the family car (i.e. do not have their own car)

- Their parents have access to the internet

- Do not have untreated ADHD

- Live in the central part of Israel
Final Sample of Participants

- 242 young male drivers and their families;
- Of these, 217 completed the one year period;
- Young drivers’ average age 17.5 (±0.8);
- Participating families received 1000 NIS (approximately $250).
Research Questions

(1) What is the impact of self-regulated feedback on the driving safety of young (male) drivers?

(2) Does family-regulated feedback affect young male drivers’ behavior more than a self-regulated feedback?

(3) Does providing parents with guidance on parental monitoring increase the benefits compared to the family feedback?
# Driving Behavior

Driving behavior is measured by the number of excessive maneuver events normalized by the number of driving hours.

<table>
<thead>
<tr>
<th>Group</th>
<th>Accompanied</th>
<th>Solo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>1.43 (2.14)</td>
<td>3.85 (4.91)</td>
</tr>
<tr>
<td>Individual Feedback No Guidance</td>
<td>1.07 (1.30)</td>
<td>2.89 (4.32)</td>
</tr>
<tr>
<td>Family Feedback Parental Guidance</td>
<td>1.56 (2.42)</td>
<td>2.01 (2.43)</td>
</tr>
<tr>
<td>Family Feedback No Guidance</td>
<td>1.13 (1.95)</td>
<td>2.43 (2.80)</td>
</tr>
<tr>
<td>Overall Sample</td>
<td>1.27 (1.77)</td>
<td>2.76 (3.28)</td>
</tr>
</tbody>
</table>

Driving behavior is measured by the number of excessive maneuver events normalized by the number of driving hours.
Driving behavior over time
Driving behavior over time

Group
- Family Feedback Parental Guidance
- Family Feedback No Guidance
- Individual Feedback No Guidance
- Control

Events rate (Events per hour) vs. Time from solo date (months)

-2 -1 0 1 2 3 4 5 6 7 8
Effects of parental guidance

![Graph showing the effects of parental guidance on events rate over months for different quantiles. The graphs compare two groups: FFPG and FFNG.](image)
Summary & What’s Next?

- it works
- parents need to be motivated and guided
- it is most effective for those who need it
- still – it is far from being widely used
- need to connect to motivations of young drivers
- needs to be simplified
Thank you

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