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Israeli and American traffic signs similarities, differences and compliance with ergonomic principles of signs design

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What does this sign mean?

No Motorcycles
and this one…?

No Parking
Shinar, Dewar, Summala, and Zakowska (2003) compared sign comprehension of drivers of four different countries - Canada, Finland, Israel and Poland:

- There are large differences among signs in their comprehension by the drivers.
- Local traffic signs were understood by more people than non-local signs.
Background

- Ben-Bassat and Shinar (2006):
  1. Familiarity is the most significant factor affecting road signs comprehension.
Background

- Ben-Bassat and Shinar (2006):
  1. Familiarity is the most significant factor affecting road signs comprehension.
    - **Familiarity** - The frequency of the sign in the road.
    - **Compatibility** - The correspondence between the sign and the message it represents.
    - **Standardization** - the extent to which the codes used for different dimensions like color and shape are consistent for all signs.
Background

- Ben-Bassat and Shinar (2006):
  2. Significant correlations were found between comprehension level and two ergonomic design principles - compatibility and standardization.
The goal of this study

Compare Israeli road signs design (Vienna Convention) and American road signs design (MUTCD).
Method

- **Five categories of signs:**
  1. Similar in all aspects
Method

- **Five categories of signs:**
  2. Similar in shape and color but different in sign-content
Method

- **Five categories of signs:**
  3. Similar in sign-content but different in shape and color
Method

- Five categories of signs:
  4. Different in all aspects
Method

- Five categories of signs:
  5. Exists only in one country (Israel or USA)
Results

1. Great variability in road signs design between Israel and USA
Method

Rate 30 signs according to two ergonomic principles:

- Sign-content compatibility
- Standardization (according to Israel standard)

Participants: human factors and ergonomics students
Results

2. Variability in compliance to ergonomic principles.
Conclusions

- Great differences between Israel and USA in road design.
- Different standards between Vienna convention and MUTCD.
- Can create difficulty among tourist drivers to understand local signs.
Future research

- Test traffic signs' meaning among American drivers:
  - Similar in all aspects
  - Similar in shape and color but different in sign-content
  - Similar in sign-content but different in shape and color
  - Different in all aspects
  - Exists only in one country
Thank you!

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