

# **Influences on Youthful Driving Behavior: Potential for Interventions**

**Teen Driving Roundtable, June 2006**

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**Support from NIH, NHTSA  
Input from colleagues**

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## **Young Driver Crash Risk**

- **Young drivers' high crash rates**
- **More complex driving environment**
- **More cars, congestion, aggressive driving**
- **Enforcement not optimal**
- **Need to understand influences on driving**
- **Then target interventions**

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## **Presentation Outline**

- **Problem of young driver crashes**
- **Multiple influences: conceptual framework**
- **How can we reduce young driver crashes?**
  - **Interventions based on framework**
  - **Evaluation of interventions**

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## **Young Driver Crash Problem in US**

- **Youngest drivers at greatest risk**
- **Fatalities high (especially men); injuries higher**
- **Higher crash risk at night**
- **Higher crash risk with passengers**
- **Higher crash risk with alcohol**

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## **Teen Crash Risk from Alcohol**

- **Crash risk increases with increased BAC**
  - **Steeper for teens**
- **At all BAC levels, crash risk higher for teens**
  - **Especially at low and moderate BAC**
- **Teens relatively inexperienced at drinking, driving, and drink/driving**

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## **Conceptual Framework Needed**

- **Serious, complex public health problem**
- **Need to understand big picture**
- **To change behavior, ground interventions in behavioral science theory**
  - **Social Learning Theory**
  - **Problem Behavior Theory (adolescents, young adults)**

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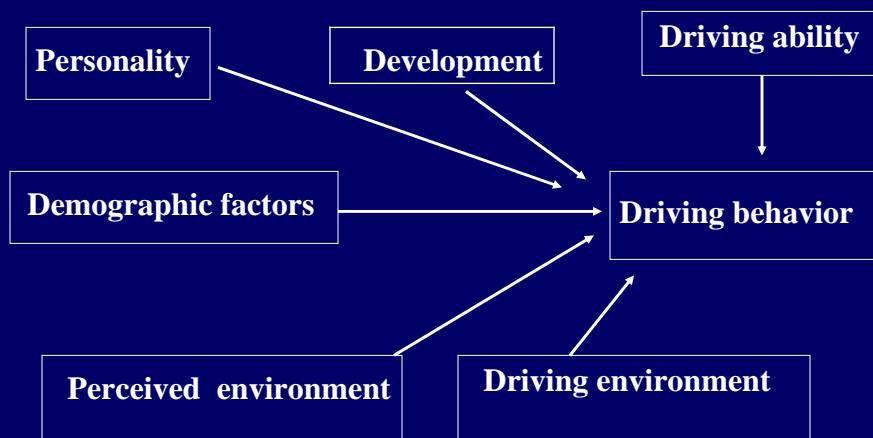
## Conceptual Framework

Driving Behavior → Crash → Injury → Fatality

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## Influences on Teen Driving Behavior



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## Influences on Teen Driving Behavior

Driving behavior  
Speeding  
Unsafe passing  
Tailgating  
Failure to yield  
Impaired driving  
Lack of safety belt use

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## Influences on Teen Driving Behavior

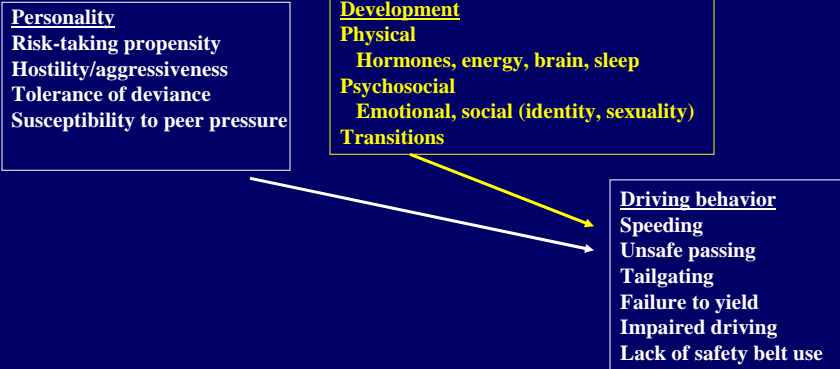
Personality  
Risk-taking propensity  
Hostility/aggressiveness  
Tolerance of deviance  
Susceptibility to peer pressure

Driving behavior  
Speeding  
Unsafe passing  
Tailgating  
Failure to yield  
Impaired driving  
Lack of safety belt use

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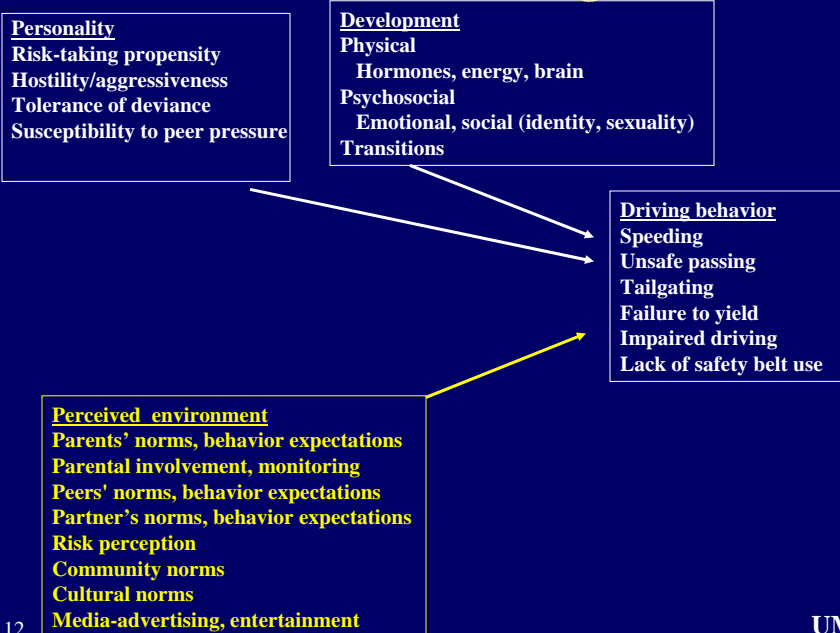
## Influences on Teen Driving Behavior



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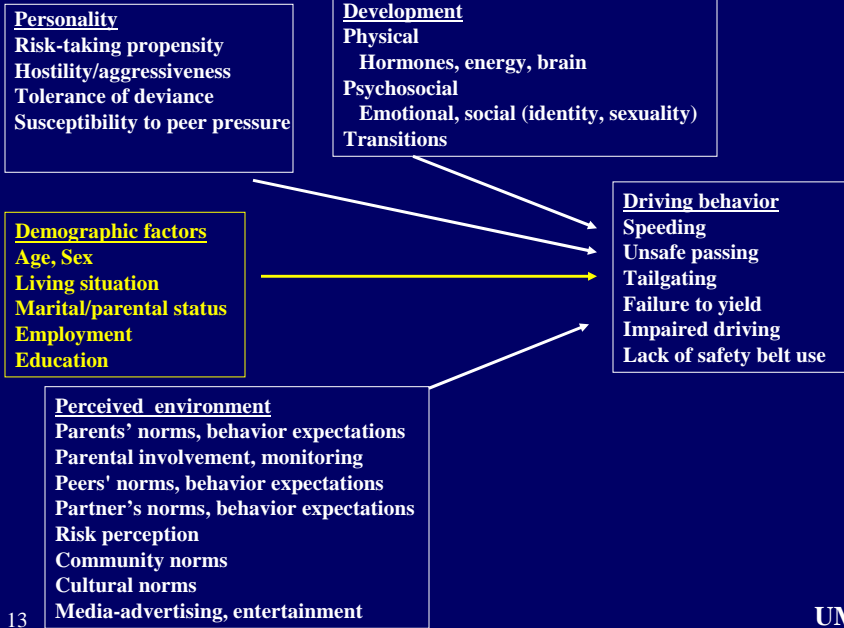
## Influences on Teen Driving Behavior



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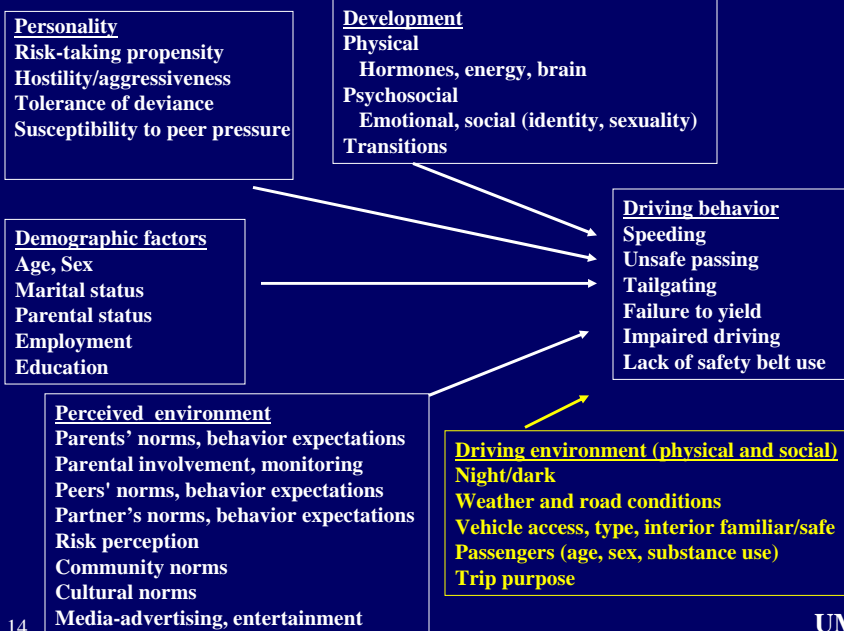
## Influences on Teen Driving Behavior



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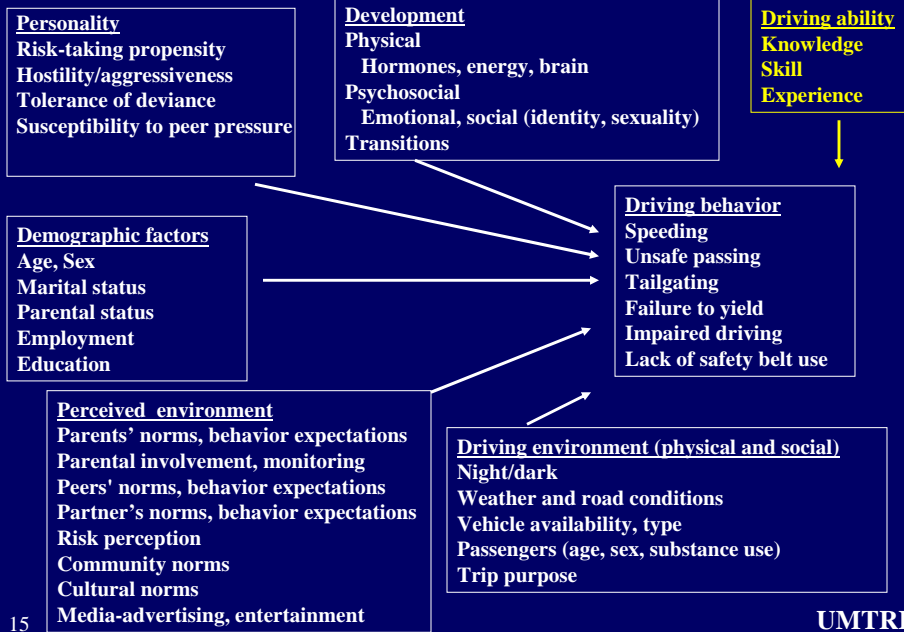
## Influences on Teen Driving Behavior



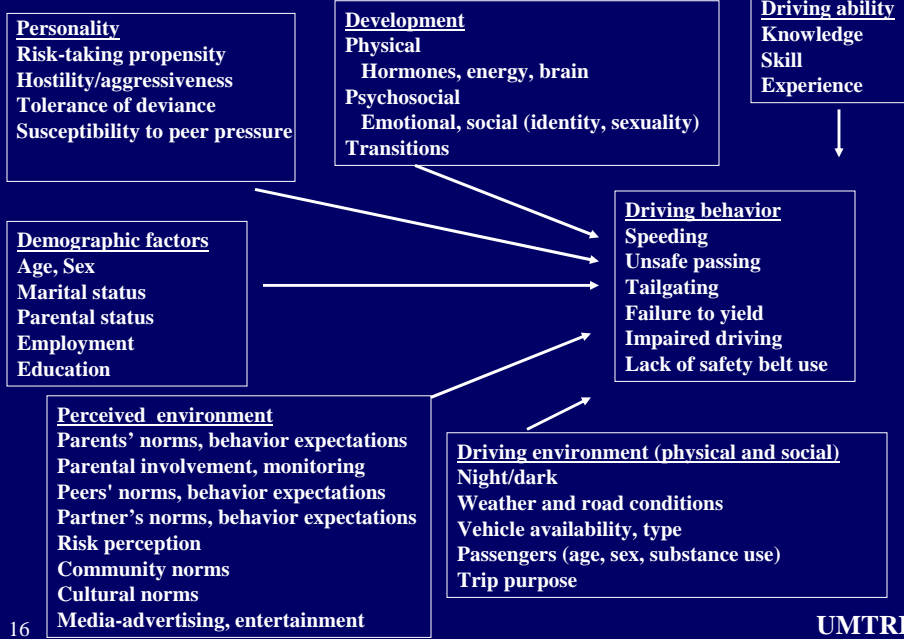
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## Influences on Teen Driving Behavior



## Where can we intervene?



## **Driving Behavior Interventions**

- **Set policy**
- **Pass legislation, laws**
- **Enforce the laws (certain, swift, consistent)**

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## **Driving Ability Interventions**

- **Identify/require adequate training**
- **Identify/require adequate practice, experience**
- **Educate about fatigue, distraction, impairment**
- **Incorporate graduated system, with competence demonstrated and privileges earned (state policy and parental oversight)**

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## **Developmental Factor Interventions**

- **Brain development: GDL restrictions**
- **Maturity: readiness to drive (parents)**
- **Sleep: GDL restrictions; school start times**

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## **Personality Factor Interventions**

- **Not likely to be amenable to change**
- **Parents should consider teens' readiness to drive**

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## **Demographic Factor Interventions**

- **Age: GDL restrictions**
- **Sex: ?**
- **Education: ?**

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## **Perceived Environment Interventions**

- **Change norms, behaviors, expectations of parents, peers, partners**
- **Encourage parental involvement, monitoring**
- **Change community, cultural norms**
- **Change media, norms**
- **Publicize enforcement**

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## **Driving Environment Interventions**

- **Restrict novice teen drivers' exposure (night, passengers, trip purpose)**
- **Restrict teens' access to alcohol**
- **Encourage/educate about vehicle availability and type**
- **Technology to manage electronic distractions**

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## **Successful Interventions**

- **Framework can suggest, guide interventions**
- **There are no simple fixes**
- **Sound basis more likely to succeed**
- **Based on young drivers' input**
- **Clarify intent/outcome of intervention**
- **Can direct intervention at intermediate factor**
- **Effective interventions must be ongoing**

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## **Evaluation of Interventions**

- **Evaluation essential**
- **Process, impact, outcome**
- **Ongoing research and evaluation adds to/refines framework**
- **Watch for unintended consequences**

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## **Summary**

- **Understand driving behavior and influences**
- **Base interventions on research results**
- **Implement well (compliance)**
- **Evaluate well**
- **Parental involvement (restrictions, contracts)**
- **Community involvement**
- **Enforcement**

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**Thank you!**

**Feedback/input/questions?**