

# Person-Environment Interactions and Substance Use

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HDMA Lightning Talk Series  
12/13/2013

## • Multiple Levels of Influence

- Individual (micro)
  - Personality traits
  - Mental illness
  - Affect regulation
  - Attitudes
  - Genetics
- Social (mezzo)
  - Peer influence
  - Family
- Environmental (macro)
  - Policy
  - Access
  - Bar/Party Characteristics

## • Single focus



# New (renewed) interest in Social Ecological Models of Behavior

- Kurt Levin

- Social Psychology

$$B = f(P, E)$$

Behavior as fcn of person in environment

- Uri Bronfenbrenner

- Developmental Psychology

- Daniel Stokels

- Environmental Psychology



## Recent ATOD research (Center for Alcohol & Drug Studies)

- Interpersonal (group)/Environmental (bar)
  - Sidewalk Survey Field Study
    - Reed, Clapp, Lange, & McCabe (2010)
  - Bar/Party Field Studies
    - Reed, Clapp, Martell, Hidalgo-Sotelo (2013)
- Policy/Community
  - National Longitudinal Study of Adolescent Health
  - Secondary Analyses
    - Vesco, Reed, Clapp, & Roesch (2013)
    - Cota, Reed, Woodruff & Clapp (2013)
    - Reed (2013)

## Gene-Environment Interaction and Adolescent Smoking Behaviors

- Do policies moderate the influence of genetics?
- CHRNA6 Genetic Polymorphism
  - Regulates dopamine release
  - Low-risk, medium risk, high risk
- State-level tobacco control policy
  - Excise tax, vending machine restrictions, state FTE, tobacco control funding
- Smoking Frequency (non-daily vs. daily)
- Multilevel modeling

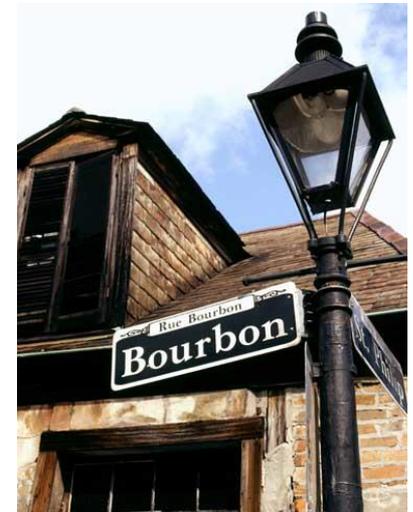


## Results

- Cross-level interactions (Genetic Risk Status X Tobacco Control Policy)
  - Excise Tax—increased tax reduced influence of gene
  - Vending Machine Restrictions—presence of restrictions reduced influence of gene
  - State FTE—higher funding **increased** influence of gene
  - State funding—NS

## Alcohol Outlet Density Studies

- Does alcohol outlet density moderate the relationship between Intrapersonal factors (i.e., genetics, impulsivity) and drinking behaviors?
  - Higher density environment potentiate the effects of intrapersonal factors on drinking





## Future Directions

- Cross-sectional study designs (problems)
- Longitudinal (better)
- Dynamic Measurement (best?)
  - Systems Perspective—Feedback Loops
  - Geospatial technology
  - Cellphone technology (SMS, apps, GPS)
  - Bi-directional influence
  - Influence of social networks

## Funding Acknowledgments

- NIAAA
- Tobacco-Related Disease Research Program
- SDSU University Grants Program