Interactive Effects of Social Networks & Neighborhood Disadvantage on Heavy Drinking: A Longitudinal Study

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Presenter Disclosures

VANESSA AU

The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose
LEARNING OBJECTIVES

1. **Describe** how social networks moderate the effects of neighborhood SES on drinking outcomes.

2. **Identify** which aspects of the social network influence the impact of neighborhood SES on problem drinking.

BACKGROUND

- Neighborhood (NBH) disadvantage associated with alcohol outcomes\(^1\)\(^-\)\(^4\)
- Social network characteristics influence drinking outcomes\(^5\),\(^6\),\(^7\)
- No previous studies on effects of disadvantaged NBHs on problem drinking moderated by social networks
There is a direct relationship between NBH SES and alcohol drinking behaviors that is moderated by social networks.

**HYPOTHESIS**

- NBH SES at T1
  - Disadvantaged neighborhoods

- **DRINKING OUTCOME at T2**
  - Problem Drinking

**SOCIAL NETWORKS**

1. Support to reduce drinking at T1
2. Pressure to reduce drinking at T1
3. Inc of heavy drinkers in social network (T2-T1)

**ORIGINAL STUDY**

- Study conducted in Northern California
  - General population: problem drinkers, not been in treatment in past year
- Baseline data collected in 1995 & 1996
- Interviews: Baseline= in-person; Follow-up= phone
**Suggested citation:**

**STUDY BACKGROUND**

- **N=660**
- Problem drinkers (met 2 of 3 criteria)
  - Heavy drinking
  - Alcohol abuse
  - Social consequences

*Disadvantaged = living in areas with 20% of residents with income below poverty level

**SAMPLE DEMOGRAPHICS**

- **Age**
  - under 30: 41%
  - 30 - 44: 38%
  - 45 & up: 21%

- **Education**
  - < HS: 12%
  - High School: 39%
  - More than HS: 48%

- **Marital Status**
  - married, s.o.: 40%
  - sep/div/wid: 21%
  - never married: 8%

- **Ethnicity**
  - White: 71%
  - Black: 8%
  - Other: 21%

**Addiction Severity Index (ASI) for alcohol** median ≈ 0.16
SOCIAL NETWORK VARIABLES

- **Support** to reduce drinking at Baseline
  - Q: How many…actively support your effort to reduce alcohol or drug use?

- **Pressure** to reduce drinking at Baseline
  - Q: [Has anyone] said anything about your drinking or suggested you cut down in the last 12 months? Who?

- **Number of Heavy drinkers** in network at Baseline compared to 1 year later
  - Q: How many…are heavy drinkers or problem drinkers?

ANALYSES

- Generalized estimating equations (GEE)
  - Controlled for neighborhood clustering

- Logistic GEE models
  - Tested 3 separate interactions in 3 separate models

- Stratified GEE models
- Controlled for covariates
  - Age, Ethnicity, Addiction Severity Index (ASI), Education, Marital Status
Suggested citation:

### RESULTS - Interaction models

<table>
<thead>
<tr>
<th>Model 1: Support</th>
<th>AOR</th>
<th>p-value</th>
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</thead>
<tbody>
<tr>
<td>High Poverty</td>
<td>5.27</td>
<td>0.00</td>
</tr>
<tr>
<td>High Support</td>
<td>1.36</td>
<td>0.10</td>
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<tr>
<td><strong>Poverty*Support</strong></td>
<td><strong>0.21</strong></td>
<td><strong>0.02</strong></td>
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<table>
<thead>
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<th>Model 2: Pressure</th>
<th>AOR</th>
<th>p-value</th>
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<tbody>
<tr>
<td>High Poverty</td>
<td>3.16</td>
<td>0.01</td>
</tr>
<tr>
<td>Low Pressure</td>
<td>2.38</td>
<td>0.00</td>
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<tr>
<td><strong>Poverty*Pressure</strong></td>
<td><strong>0.44</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Model 3: Heavy drinkers</th>
<th>AOR</th>
<th>p-value</th>
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</thead>
<tbody>
<tr>
<td>High Poverty</td>
<td>2.00</td>
<td>0.11</td>
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<tr>
<td>Social Norms</td>
<td>1.77</td>
<td>0.00</td>
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<tr>
<td><strong>Poverty*Social Norms</strong></td>
<td><strong>1.21</strong></td>
<td><strong>0.77</strong></td>
</tr>
</tbody>
</table>

Table 1. Odds ratios & p-values of interaction analyses

Covariates: Age, Ethnicity, ASI, Education, Marital Status

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**RESULTS - Stratified models**

<table>
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<tr>
<th>Support</th>
<th>Low support</th>
<th>High support</th>
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<tbody>
<tr>
<td>High Poverty</td>
<td>5.04*</td>
<td>1.13</td>
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</table>

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Low pressure</th>
<th>High pressure</th>
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</thead>
<tbody>
<tr>
<td>High Poverty</td>
<td>3.21*</td>
<td>1.25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heavy Drinkers</th>
<th>High Heavy</th>
<th>Low Heavy</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Poverty</td>
<td>3.29*</td>
<td>2.01</td>
</tr>
</tbody>
</table>

Table 2. Odds ratios of stratified analyses

* = significant p-value

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Support is characterized by whether respondents received support to reduce alcohol/drug use

Pressure is characterized by whether respondents received pressure to reduce alcohol/drug use

Heavy Drinkers is characterized by whether there was an increase in number of heavy drinkers in the respondents’ social network at the one year follow-up

**ODDS OF PROBLEM DRINKING**
(for disadvantaged NBH)

- Only support to reduce drinking statistically significant
- Similar trend for support & pressure to reduce drinking

**Limitations**
- Recall bias
- Secondary data analyses
- Small sample size
- Mostly White sample
- Poverty variable variability

**Strengths**
- General population
- Used logistic & stratified GEE models
- Controlled for covariates
- 3 social network characteristics
CONCLUSION

- Supportive social networks can buffer effects of neighborhood poverty on problem drinking
- Prevention efforts should develop supportive social networks in disadvantaged neighborhoods

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References


