The Social and Economic Context of Tobacco Use in Adolescents

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Conceptual Framework

- Community socioeconomic status
- Community social cohesion
- Community access to tobacco
- Tobacco advertising
- Family structure
- Parent supervision and support
- Parent tobacco use
- Peer tobacco use
- Rules about smoking in the home

Environment

Cognition & Affect
- Depression, anxiety, stress
- Hopelessness
- Beliefs and attitudes regarding smoking
- Ethnic identity

Tobacco Use Behaviors
- Experimentation with tobacco
- Current smoking
- History of regular smoking

Micro  

Macro
I'd like a room, please. Smoking or non-smoking?

Smoking

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Past research

• Studies have focused on proximate factors:
  – Parent and sibling smoking
  – Smoke free homes
  – Peer influences
  – Tobacco advertising
  – Norms

• Broader social and economic influences have included, e.g.:
  – Social cohesion: community is dependable, safe, helpful, friendly, etc.
  – Community SES: rates of unemployment, income, crime
  – Tobacco market place: pricing and taxation, retailers, enforcement
We were interested in

• The socioeconomic context of where teens live, specifically:
  – Relative Deprivation or Affluence
Figure 2 Income inequality and life expectancy at birth among industrialised countries (n = 21). Data are from the United Nations Development Program’s human development indicators published in 2003. The correlation presented in the figure is weighted by population size and adjusted for per capita gross domestic product (GDP) \[r(\text{crude}) = -0.415; p = 0.65; r(\text{adjusted for per capita GDP}) = -0.433, p = 0.065; r(\text{weighted by population size}) = -0.907, p<0.001\].

Source: De Vogli, Mistry et al. 2005
Fig. 2. Income inequality and mortality across US MSAs, 1990 (circles have diameter proportional to population).

Source: Deaton et al. 2003
We were also interested in

• The socioeconomic context of where teens live, specifically:
  – Relative Deprivation or Affluence

• Tobacco retailers

• Teen resilience
  – Parenting, teen mental health
What we did

• Measured the income gap within CA counties and census tracts (i.e. neighborhoods) using 2000 Census data and linked it to the 2003-2004 CSTS

• Geocoded CA public schools sampled in the CSTS and licensed tobacco retailers near these schools

• Counted the number of retailers within 1000 feet and 1 mile radius of each school.

• Linked the CSTS student data with these data.

• Compared the probability of student smoking between:
  – low to high income unequal areas
  – low and high tobacco retailer density schools
County Income Inequality is associated with current smoking

20,573 students in 39 counties

* p<0.05 in comparison to the first quartile. Multilevel regression adjusted for age, gender, race, GPA, depressiveness, peer smoking and county variables (population size, percent below federal poverty level, tobacco retailer density).
IN MY COUNTRY WE HAVE SLAVES TO DO THAT KIND OF WORK

WE HAVE SOMETHING EVEN BETTER

WHAT'S THAT?

MINIMUM WAGE
# Tobacco Retailer Density Increases Student Smoking

<table>
<thead>
<tr>
<th>Category</th>
<th>Current Smoking</th>
<th>Experimental Smoking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All California Students (N=19,431)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of retailers within a mile</td>
<td>1.02 (0.94, 1.13)</td>
<td>1.11 (1.04, 1.18)</td>
</tr>
<tr>
<td><strong>High school (N=11,887)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of retailers within a mile</td>
<td>0.99 (0.88, 1.10)</td>
<td>1.15 (1.08, 1.23)</td>
</tr>
<tr>
<td><strong>Middle school (N=7,544)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of retailers within a mile</td>
<td>1.28 (0.89, 1.83)</td>
<td>0.91 (0.77, 1.08)</td>
</tr>
<tr>
<td><strong>Urban Students (N=17,646)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of retailers within a mile</td>
<td>1.02 (0.93, 1.12)</td>
<td>1.11 (1.04, 1.18)</td>
</tr>
<tr>
<td><strong>Rural students (N=1,785)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of retailers within a mile</td>
<td>2.44 (0.90, 6.57)</td>
<td>1.07 (0.50, 2.29)</td>
</tr>
</tbody>
</table>

Adjusted for: age, gender, race/ethnicity, English language proficiency, self-reported grades, peer smoking, friends' smoking, ease of obtaining cigarettes, depressiveness, and school-level parent education.
Teen Resilience and smoking

• CHIS 2003 collects very good information on parenting practice and teen mental health.

• We examined whether teen smoking was influenced by
  – Parental supervision = generally know what child is doing
  – Parental support = general parent caring and support
  – Mental health = low levels of depressive symptoms
Parental Supervision & Teen Mental Health Decreased Smoking Risk

<table>
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<tr>
<th></th>
<th>Current Smoking</th>
<th>Odds ratios (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental supervision</td>
<td>0.47</td>
<td>(0.34, 0.67)</td>
</tr>
<tr>
<td>Parental support</td>
<td>1.52</td>
<td>(1.06, 2.19)</td>
</tr>
<tr>
<td>Mental Health Score</td>
<td>0.50</td>
<td>(0.35, 0.72)</td>
</tr>
</tbody>
</table>

Adjusted for: age, gender, race/ethnicity, years in the US, citizenship status, poverty level, parent education, parent marital status and presence of a role model; N=4010
What does all this mean

• Context matters

• Better understand and address in an integrated manner the multiple layers of influences to tackle health concerns such as tobacco use

• Need to assess health impact of policies that have not traditionally been directly linked to tobacco use and health outcomes.

• Policies could be horizontally coordinated to improve population health.
"SWEETHEART, THE PRESIDENT SAYS IT'S BETTER TO BE SICK THAN TO BE SOCIALIST."