Substance Use Across the Lifespan and Across Generations: Continuity and Change

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Evolution of Three Studies

Oregon Youth Study – 1983

Explaining risk and protective factors particularly as related to antisocial behavior/delinquency and substance use for boys.
Focus on understanding influence of romantic relationships on men’s behavior.
OYS-Three Generational Study – 1995

• Focus on examining intergenerational transmission of substance use, conduct problems, depressive symptoms, and related risk behaviors.
NIH Funding

- National Institute of Drug Abuse (NIDA)
- National Institute on Alcohol Abuse and Alcoholism (NIAAAA)
- National Institute of Child Health and Development (NICHD)
Oregon Youth Study (OYS)

- 206 boys
- At risk for delinquency given neighborhood
- Annual assessments ages 9 to 38 years
- ≥ 90% participation at every wave
Theoretical Approach

- Dynamic Developmental Systems approach where key to understanding behaviors is to study them over time, including connections to other behaviors, and to understand change.

- Comprehensive models including context, social influences, developmental history and prior behavior, and biology.
This Be the Verse
Philip Larkin

They mess you up, your mum and dad.
   They may not mean to, but they do.
They fill you with the faults they had
   And add some extra, just for you.

But they were messed up in their turn
   By fools in old-style hats and coats,
Who half the time were soppy-stern
   And half at one another’s throats.

Man hands on misery to man.
   It deepens like a coastal shelf.
Get out as early as you can,
   And don’t have any kids yourself.
# Rise in Substance Use Across Adolescence

<table>
<thead>
<tr>
<th>Grade</th>
<th>Any alcohol</th>
<th>Volume of alcohol</th>
<th>Any marijuana</th>
<th>Average grams marijuana</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>53%</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>49%</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>58%</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>63%</td>
<td>27</td>
<td>17%</td>
<td>53</td>
</tr>
<tr>
<td>10</td>
<td>66%</td>
<td>90</td>
<td>20%</td>
<td>171</td>
</tr>
<tr>
<td>11</td>
<td>79%</td>
<td>153</td>
<td>28%</td>
<td>176</td>
</tr>
<tr>
<td>12</td>
<td>84%</td>
<td>165</td>
<td>35%</td>
<td>151</td>
</tr>
</tbody>
</table>
### Substance Use in Adulthood

<table>
<thead>
<tr>
<th></th>
<th>Men 21-22 years</th>
<th>Men 37-38 years</th>
<th>Women 37-38 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>93%</td>
<td>81%</td>
<td>84%</td>
</tr>
<tr>
<td>Heavy Drink</td>
<td>31%</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>Tobacco</td>
<td>64%</td>
<td>49%</td>
<td>37%</td>
</tr>
<tr>
<td>Marijuana</td>
<td>47%</td>
<td>31%</td>
<td>21%</td>
</tr>
<tr>
<td>Other drug</td>
<td>22%</td>
<td>21%</td>
<td>20%</td>
</tr>
</tbody>
</table>
## Polysubstance Use in Men: Ages 37-38 years

<table>
<thead>
<tr>
<th>Substance Use</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No substance use</td>
<td>11%</td>
</tr>
<tr>
<td>Alcohol use only</td>
<td>26%</td>
</tr>
<tr>
<td>Tobacco use only</td>
<td>5%</td>
</tr>
<tr>
<td>Alcohol and tobacco</td>
<td>19%</td>
</tr>
<tr>
<td>Alcohol w/ marijuana or other drugs</td>
<td>9%</td>
</tr>
<tr>
<td>3 or 4 domains of substances</td>
<td>30%</td>
</tr>
</tbody>
</table>
## Substance Disorders in Men: Lifetime Prevalence Ages 37-38 years

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol disorder (abuse, dependence)</td>
<td>63%</td>
</tr>
<tr>
<td>Nicotine dependence</td>
<td>37%</td>
</tr>
<tr>
<td>Marijuana abuse or dependence</td>
<td>31%</td>
</tr>
</tbody>
</table>
Marijuana Use and Problem Behaviors in Adulthood

• Connections have been found in adolescence between marijuana use and both association with deviant peers and antisocial behavior.

• Little work has looked at whether involvement in marijuana use “feeds back” by contributing to these behaviors in adulthood.
Characteristics of Marijuana Use in the 20s

- In the U.S. population, declines have been found for marijuana use in the 20s.

- Recent work suggests that this decline masks considerable individual differences in patterns of marijuana use across this period.
Predictions to Outcomes for OYS Men

- Expected that at age 36 years men who were in the highest marijuana use class during their 20s would be less likely to be employed and married, have higher abuse/dependence, and higher levels of antisocial behavior, deviant peer association, and depressive symptoms.
Probability of Use of Marijuana

- Chronic, $N = 56$ (27%)
- Decreasing, $N = 81$ (40%)
- Little or no, $N = 68$ (33%)

Graph shows the probability of use of marijuana by age.
Associations of Marijuana Classes and Adjustment at Age 36 Years

• The men in the highest use class in their 20s showed significantly poorer outcomes at age 36 years than men in either of the other two classes, controlling for earlier risk factors.

• The men were higher in antisocial and criminal behaviors and in spending time with men with similar behaviors.

• They also showed higher levels of depressive symptoms than the no/low use men, and were less likely to have married.
Intergenerational and Partner Influences on Fathers’ Negative Discipline

• It has long been assumed that many of our parenting behaviors were learned from our parents. Most evidence for this was retrospective, or one agent reporting on both generations.

• In the last 10-15 years, prospective studies have found such an association, but relatively modest.

• Thus, there are influences on parenting in addition to the family of origin.
Intergenerational and Partner Influences on Fathers’ Negative Discipline

• Predicted that intergenerational transmission of poor discipline would be partially via risk context and developmental risk of the G2 father and mother (assortative partnering).

• Also predicted specific influence from the partner – or the effect of the young mother’s discipline practices on those of her partner.
Findings for Path Coefficients and Significant Covariances among the Predictor Variables

G2 Aged 9 – 12 Years

G1 Parents Poor Discipline

G2 Parents SES

G2 Father Age at First Birth

G2 Father Risk Behavior

G2 Mother Risk Behavior

G2 Mother Poor & Harsh Discipline

G2 Father Poor & Harsh Discipline

< G2 as Young Parent >
Intergenerational Substance Use Risk

• Is father’s early problematic substance use – early onset, use of multiple substances – related to their children’s early problematic use?
Adolescent Onset of Alcohol, Tobacco, and Other Drug Use (Ages 11-13 to 17-19): Tests across Generations

• Work by Tiberio et al. (under review).

• Expected that early onset groups would be likely to be polysubstance users.

• Expected associations in timing of onset and relatedly polysubstance use across generations.
Groups for Children

– Early Onset Group (13%) essentially all onset on ATM by mid adolescence, and 62% had onset for other drugs by late adolescence.

– Later Onset Group (87%) one half had onset for alcohol by mid adolescence, fewer tobacco and marijuana users, and < 5% onset for other drugs across period.
Test of Intergenerational Associations

- Children were more likely to be in the earlier versus later onset group if their father was in the early polysubstance use onset group.
Conclusions

• Over one half of the men in the study used two or more substances in midlife. Polysubstance use is thus common. We don’t adequately understand effects of polysubstance use on health and functioning.

• Higher marijuana use in the 20s for men predicted poorer adjustment in midlife.

• Intergenerational associations are complex and occur through a number of mechanisms – genetic, social context, parenting, and modeling.

• The new family involves two parents who influence each other.

• There was evidence for intergenerational associations from fathers to children both in timing of onset of substance use and in severity in terms of polysubstance use.
Implications

• Given what we know of negative health effects of use or overuse of individual substances, we need to learn more about effects of polysubstance use and communicate those. Polysubstance use is a major public health issue.

• Marijuana use can have long-term detrimental effects. Will this change when it is legal?

• Parental substance use affects the children in many ways, including in relating to their starting to use multiple substances by mid adolescence.

• Parental heavy substance use should be a high treatment priority.