Moffit and Caspi (2001) distinguish between anti-social behavior which develops in early childhood and is life-course persistent and what they term ‘adolescent-limited’ anti-social behaviors.

Loeber and Stouthamer-Loeber (1998) have delineated three different pathways for the development of problem behaviors and delinquency.

Jessor (Jessor, Donovan, & Costa, 1991; Donovan et al., 1988) argues that such behaviors as delinquency, substance use and sexual behaviors cluster together within individuals.
Research Questions

- Do seventh grade students exhibit differing typologies of problem behavior profiles?
- Do demographic factors distinguish group membership?
- Do these different groups of student also differ in terms of their mental health, family functioning, academic achievement and perceptions of school?
Methods

- Subjects (n = 1230) were drawn from the Maryland Adolescent Development in Context Study (MADICS).

- Problem behaviors were assessed using indicators of risky behavior, delinquent behavior (e.g. vandalism and theft), substance use and abuse, aggressive behaviors and school problems.
  - Problem Behaviors were converted to a semi-absolute scale (0 = None, 1 = Mild, 2 = Moderate, 3 = Severe).
  - The problem behavior variables were aggregated into one of six categories based on context and type of behavior.

- Parent reports of perception of youth mental health and demographic measures were used to validate the cluster membership.

- Eleven domains were examined to create a portrait of the different students’ mental health and their school and home lives.
# Measures

## TABLE 1

**Descriptive Statistics from MADIC Wave 1**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>sd</th>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Alcohol Behavior</td>
<td>1031</td>
<td>.17</td>
<td>.56</td>
<td>Problem Pill Behavior</td>
<td>1230</td>
<td>.10</td>
<td>.51</td>
</tr>
<tr>
<td>Problem Marijuana Behavior</td>
<td>781</td>
<td>.04</td>
<td>.34</td>
<td>Problem Crack Behavior</td>
<td>1225</td>
<td>.02</td>
<td>.23</td>
</tr>
<tr>
<td>Problem Cigarette Behavior</td>
<td>1220</td>
<td>.09</td>
<td>.43</td>
<td>Problem Cocaine Behavior</td>
<td>1224</td>
<td>.02</td>
<td>.26</td>
</tr>
<tr>
<td>Problem Drugs to School Behavior</td>
<td>1220</td>
<td>.08</td>
<td>.44</td>
<td>Problem Heroin Behavior</td>
<td>1225</td>
<td>.01</td>
<td>.21</td>
</tr>
<tr>
<td>Problem Class Skipping Behavior</td>
<td>1230</td>
<td>.20</td>
<td>.57</td>
<td>Problem Sent Office Behavior</td>
<td>1230</td>
<td>.64</td>
<td>.91</td>
</tr>
<tr>
<td>Problem School Skipping Behavior</td>
<td>1205</td>
<td>.11</td>
<td>.40</td>
<td>Problem Suspended or Expelled Behavior</td>
<td>1205</td>
<td>.11</td>
<td>.40</td>
</tr>
<tr>
<td>Problem Cheating Behavior</td>
<td>1230</td>
<td>.42</td>
<td>.73</td>
<td>Problem Stealing Behavior</td>
<td>1230</td>
<td>.34</td>
<td>.74</td>
</tr>
<tr>
<td>Problem Risk Behavior</td>
<td>1230</td>
<td>.70</td>
<td>1.08</td>
<td>Problem Gang Behavior</td>
<td>1230</td>
<td>.45</td>
<td>.94</td>
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<tr>
<td>Problem Hitting Behavior</td>
<td>1230</td>
<td>.75</td>
<td>1.11</td>
<td>Problem Damage Behavior</td>
<td>1218</td>
<td>.32</td>
<td>.70</td>
</tr>
<tr>
<td>Problem Lying Behavior</td>
<td>1230</td>
<td>.46</td>
<td>.92</td>
<td>Problem Stealing Car Behavior</td>
<td>1219</td>
<td>.09</td>
<td>.48</td>
</tr>
</tbody>
</table>

Note: Problems were on a 0 to 3 semi-absolute scale (0 = no problems in the domain, 3 = severe problems in the domain).
Ward Squared Euclidian method was used to perform cluster analysis on the 6 problem behavior categories to identify subgroups. Clusters were validated using parent reports of mental health functioning.

Hierarchical regressions were performed to analyze the differences between groups in terms of the eleven domains of outcome variables, with race, income, gender, age, highest level of parent education and highest occupational status as covariates. Tukey’s Honestly Significant Differences (HSD) comparison was used to determine mean difference between groups.
Wave 1 Problem Behavior Clusters

- Cigarette, Alcohol and Marijuana Use
- Hard Drug Use
- School Discipline
- School Authority
- Minor Delinquency
- Serious Delinquency
A significant relation exists between cluster membership and gender, $X^2 = 84.319; df=6; p=.000$, race, $X^2 = 50.419; df=6; p=.000$, age, $F(6, 1125) = 3.384, p = .003$, income, $X^2 (6, n = 1064) = 20.483, p = .002$ and intact family status, $F(6, 1067) = 6.251, p = .000$. 
Antisocial Behavior and Distractedness – School Authority, Multiple Problems and MP without Drugs were higher than other groups (Tukey’s HSD = < .05).

Depression – Hard Drug Use and Multiple Problems were higher than other groups (Tukey’s HSD = < .05).

Anger - Multiple Problems, MP without Drugs and Hard Drugs were higher than other groups (Tukey’s HSD = < .05).
Anger and Chances of Negative Outcomes - Multiple Problems, MP without Drugs and Hard Drugs were higher than other groups (Tukey’s HSD = < .05).

Depression – Multiple Problems, MP without Drugs, Hard Drugs and Minor Delinquency were higher than other groups (Tukey’s HSD = < .05).

Self Esteem and Resiliency - Multiple Problems and MP without Drugs were lower than other groups (Tukey’s HSD = < .05).
Achievement and Motivation

- Importance of Academic Skills and School Disengagement - Multiple Problems, MP without Drugs and Hard Drugs were lower (and higher, respectively) than other groups (Tukey’s HSD = < .05).
- Negative School Climate – Multiple Problems and Hard Drugs were higher than other groups (Tukey’s HSD = < .05).
- Teacher Regard – The No Problems Group was higher than other groups (Tukey’s HSD = < .05).
- Final GPA – School Authority, Serious Delinquency, Multiple Problems, and MP without Drugs were lower than other groups (Tukey’s HSD = < .05).
Results Summary

- Groups differed on a number of demographic variables.
  - Girls were overrepresented in Hard Drug Use and No Problems but underrepresented in Serious Delinquency, Multiple Problems and MP without Drug Use.
  - African Americans were underrepresented in No Problems, Hard Drug and Multiple Problems Groups but overrepresented in School Authority, Serious Delinquency and MP without Drugs.

- Groups differed on measures within all domains.
  - The parents of School Authority perceived that they had levels of distractedness similar to Multiple Problems and MP without Drug Use.
  - Minor Delinquency scored higher than Serious Delinquency on Anger and depression and lower on self-esteem.
  - Hard Drug Use had high anger and depression and also perceived the most negative school climate and felt that academic skills were the least important.
  - School Authority Group had a generally positive attitude toward school but a low GPA.
Conclusions

- Seventh graders can be differentiated based on the types of problem behaviors in which they participate.
- Participation in different types of problem behaviors predicts mental health, school functioning and parent attitudes.
- Complex patterns of attitudes and mental health emerge when looking at clustered behavior groups.
- These differences are meaningful in describing types of adolescents which should inform intervention and prevention.
- Differentiating types of problem behaviors allows researchers to follow patterns of behaviors longitudinally.
Selected Works Cited


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For more information about this study or to print a copy of the paper go to: http://www.rcgd.isr.umich.edu/garp