

Patterns of Youth Substance Use: Methods and Policy Implications



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Introduction



- Existing research in prevention focuses on individual substances.
- Most adolescents use multiple substances.
- This poster will:
 - Identify major sub-groups of adolescents based on their pattern of use.
 - Examine predictors of the progression from no use to more serious use.

Substance and Subjects



- >9,000 Illinois students (7th-12th grade)
- 3rd statewide youth survey on substance use (I-SAY© 1995)
- Self-report of lifetime use, last use and frequency of use for 12 substances

Methods



■ Indices of Use:

12 indices based on standardized lifetime use, frequency of use and last use of: alcohol, tobacco, marijuana, inhalants, uppers, downers, LSD, heroin, cocaine, crack, PCP, and designer drugs.

■ Cluster Analysis:

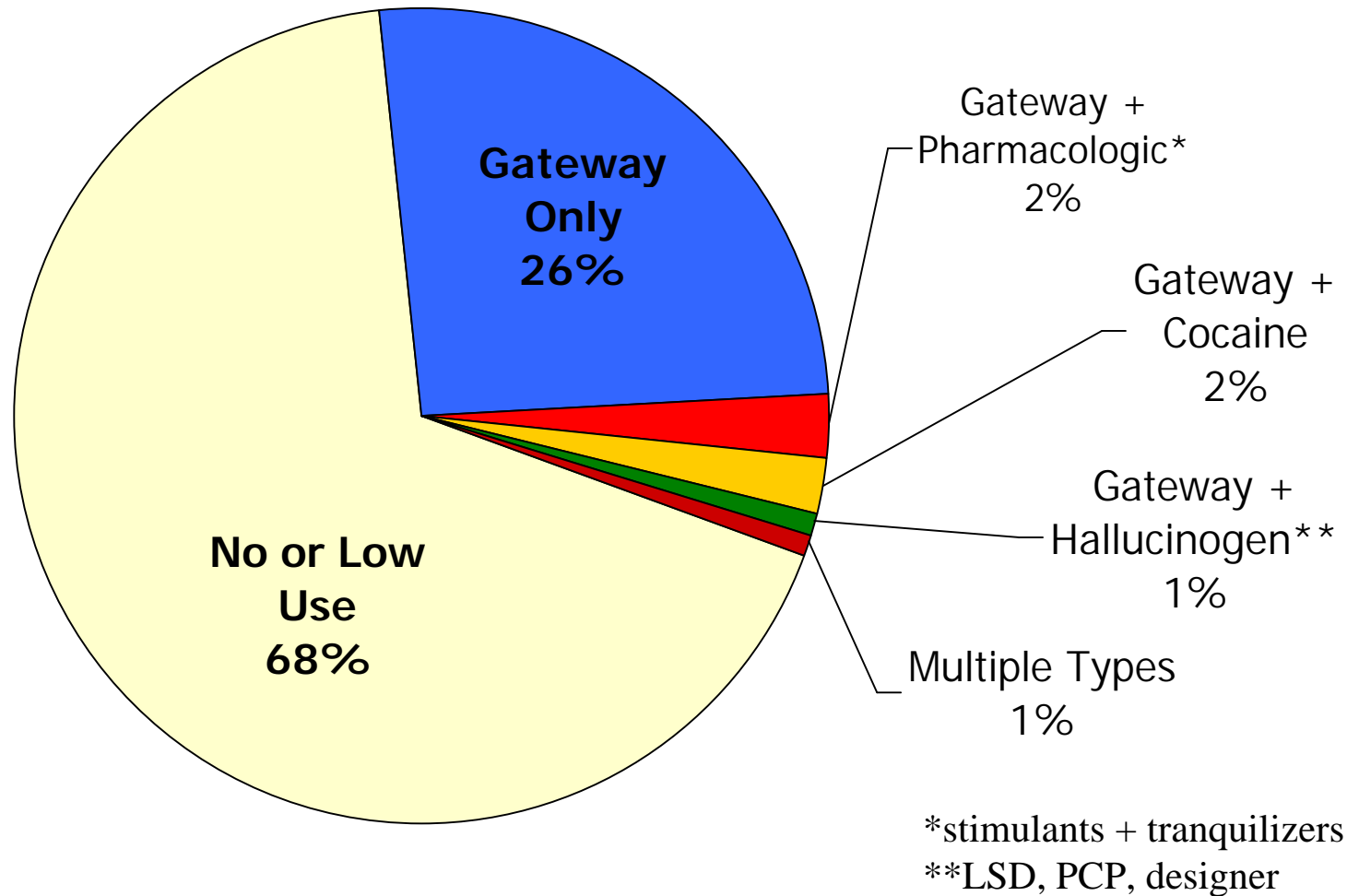
of indices to identify subgroups of students with similar patterns of use.

■ CHAID* Analysis:

to predict movement between clusters (patterns of use) using risk and protective factors.

***Chi-Square Automated Interaction Detector**

Subgroups (Cluster Analysis Results)



Comparisons (CHAID Analysis)



- No/Low vs. Gateway Only

Predictions of any use

- Gateway Only vs. Gateway + other

Predictions of moving to more serious use

- Between the 4 Gateway + other groups

Predictions between levels of serious use

Variables Included In CHAID Analysis

Demographic Variables

- **Race**
- Gender
- **Grade or Jr/Sr High**
- Region of the state/Size of community
- **Live with both parents**
- **Mother's** and father's education

Peer Variables

- Has friends
- Closest friend is: no one, sibling, school friend, older student, neighborhood friend, church friend
- **# Gateway drugs friends would stop you from using**
- **# Other drugs friends would stop you from using**

Note: Items in **Red and Bold** appear as a predictor in one of the CHAID analyses

Drug Perception Variables Included In CHAID Analysis

- Source of drug information: **friends**, parents, other adults, teachers/counselors, brothers/sisters, others
- Best reason not to use gateway drugs is that a) they are addictive, b) they are illegal, c) parents have rules against, d) school has rules against, **e) friends disapprove, f) they are harmful.**
- Best reason NOT to use other drugs a) they are addictive, b) they are illegal, **c) parents have rules against**, d) school has rules against, **e) friends disapprove, f) they are harmful.**
- Reason people start using drugs is **a) to impress others, b) to be one of the group**, c) to be like their parents, d) to feel better, e) to forget something unpleasant, **f) to be different from their parents**
- # of gateway drugs that are harmful with **regular use** or occasional use
- # of other drugs that are harmful with **regular use** or **occasional use**
- Ease of getting gateway drugs or **other drugs**

School Variables Included In CHAID Analysis

- Typical grades received
- Absences in a year
- Likelihood of graduating from high school
- After school activity (usually do/like to do): **sports**, school-organized activities, community organized activities, **job**, **watch TV**, **homework**, **hangout**, home duties/chores/other
- Description of school: teachers know my name, most care about other students, teachers are helpful, teachers are fair, parents are involved, school activities are interesting
- **Times suspended in the past year**
- School drug education training and activities, drug policies, parental involvement
- School type (public/private), size and boundary (neighborhood, wide area)

Other Variables Included In CHAID Analysis

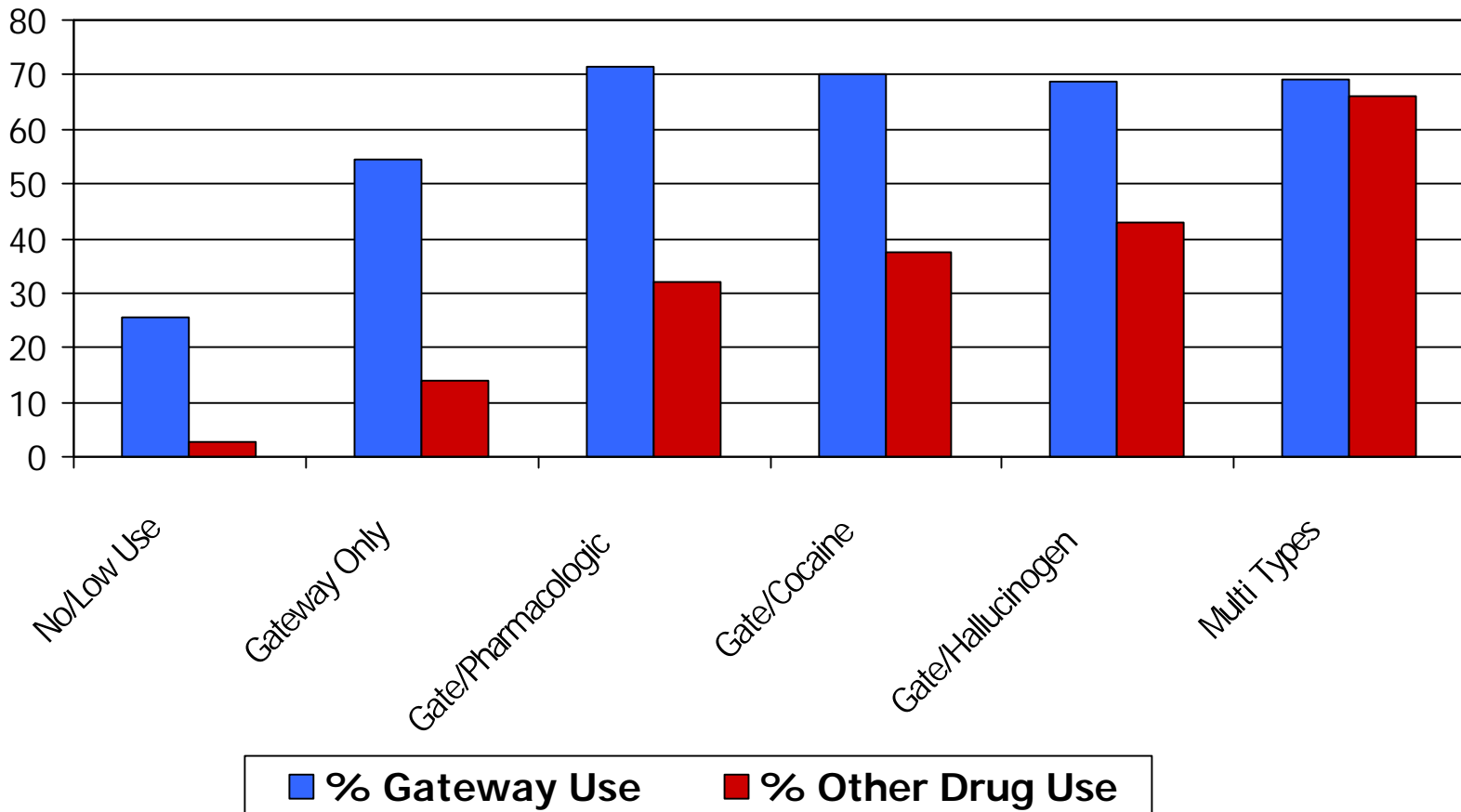
Behavior variables

- **Fought with someone intending to hurt him/her**
- **Ever beaten up**, beaten up at home or going home from school
- Times vandalized property in past year
- **Times stole something in the past year**
- Ever done anything with a gang/pressured to join a gang
- Times brought a weapon to school
- Mean level of negative feelings (depressed, lonely, worried, angry, hungry, tired)

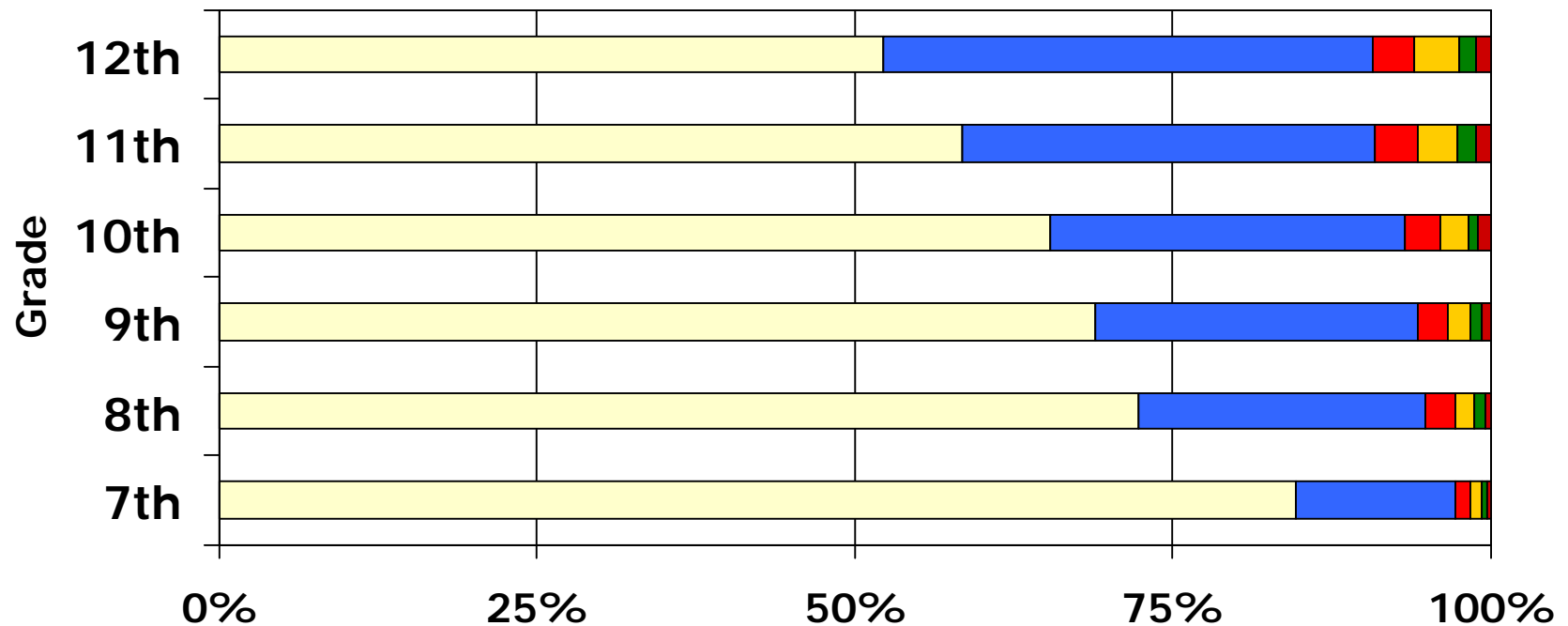
Community and Family Variables

- **Has a religion**
- Parent's opinion of: student using alcohol, **student using marijuana**
- Number of types of people you can talk with about problems
- Number of different problems you can talk about with someone
- Who is home after school (time alone after school if no one is home)
- Feelings about parents, siblings, religion

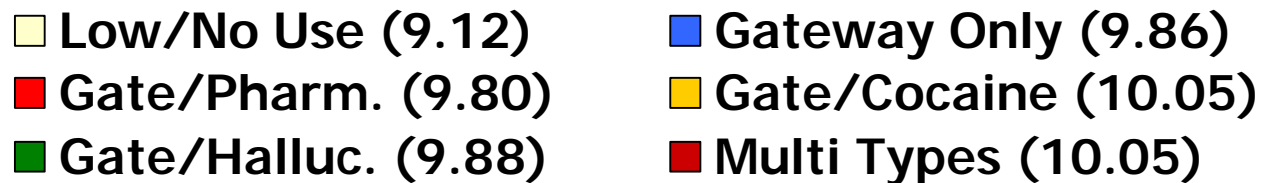
Drug use Prior to Grade 7

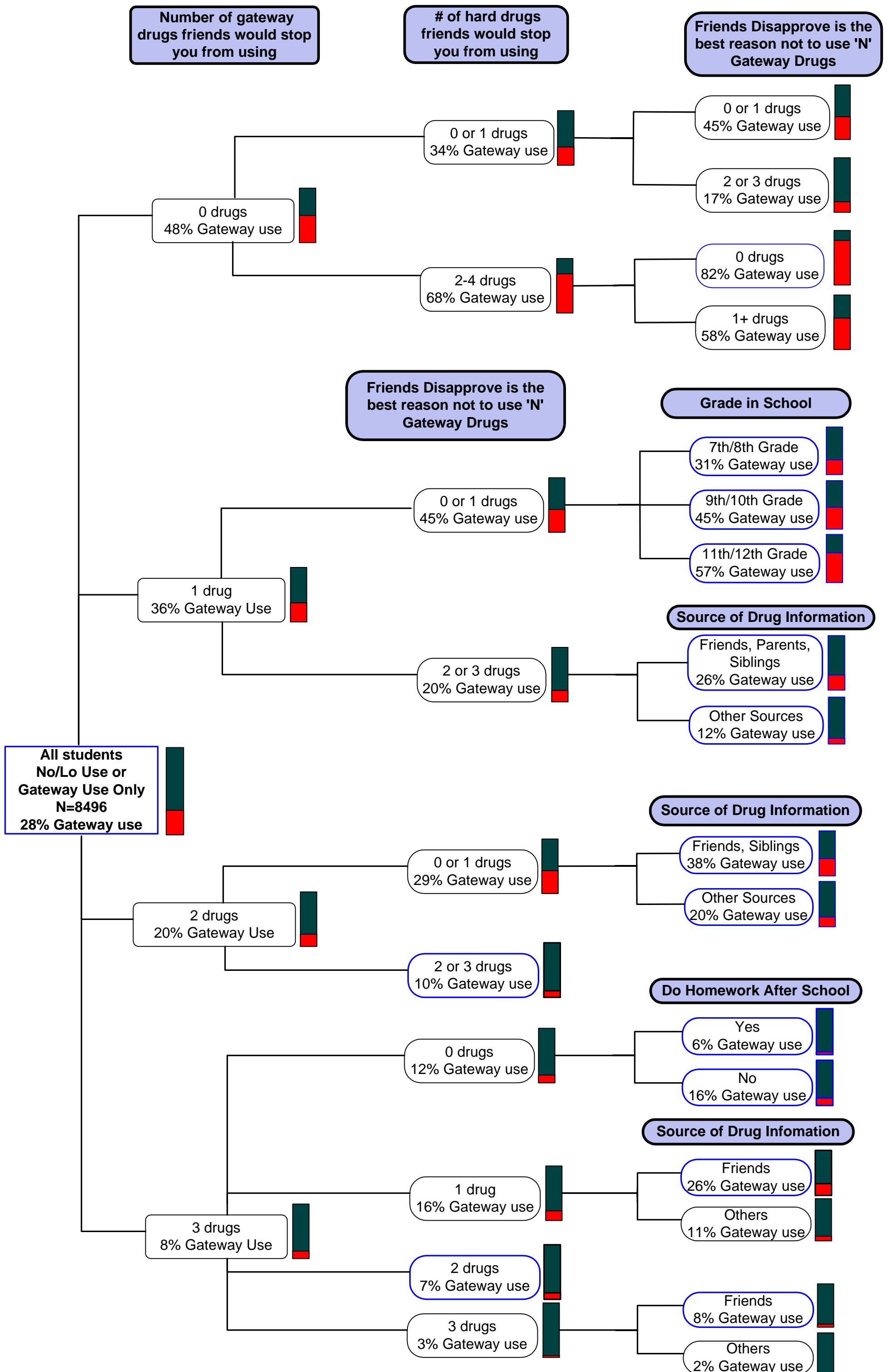


Grade Level by Cluster



Cluster
(mean grade)





Boxes outlined in color are 'terminal nodes'. Additional 'splits' have been identified for black-outlined boxes

Level 1
Predictors

Level 2
Predictors

Level 3
Predictors

Level 4
Predictors

Gateway drugs
friends would stop
you from using
(More = Less Use)

Hard drugs
friends would stop
you from using
(More = Less Use)

Friends Disapprove=
Why Not Use
(Yes = Less Use)

Source of Drug
Information
(**Friends**=More Use)

Friends Disapprove=
Why Not Use
Gateway Drugs
(More = Less Use)

Grade in School
(8th=Less Use)

Most begin using to
be one of the **group**
(No=More Use)

Source of Drug
Information
(**Friends**=More Use)

Like to have a job
after school
(Yes=More Use)

Low/No Use
vs
Gateway Use

Does homework
after school
(Yes=Less Use)

Jr vs. Sr High
Jr=Less Use

Predictors of Gateway compared to No/Low Use

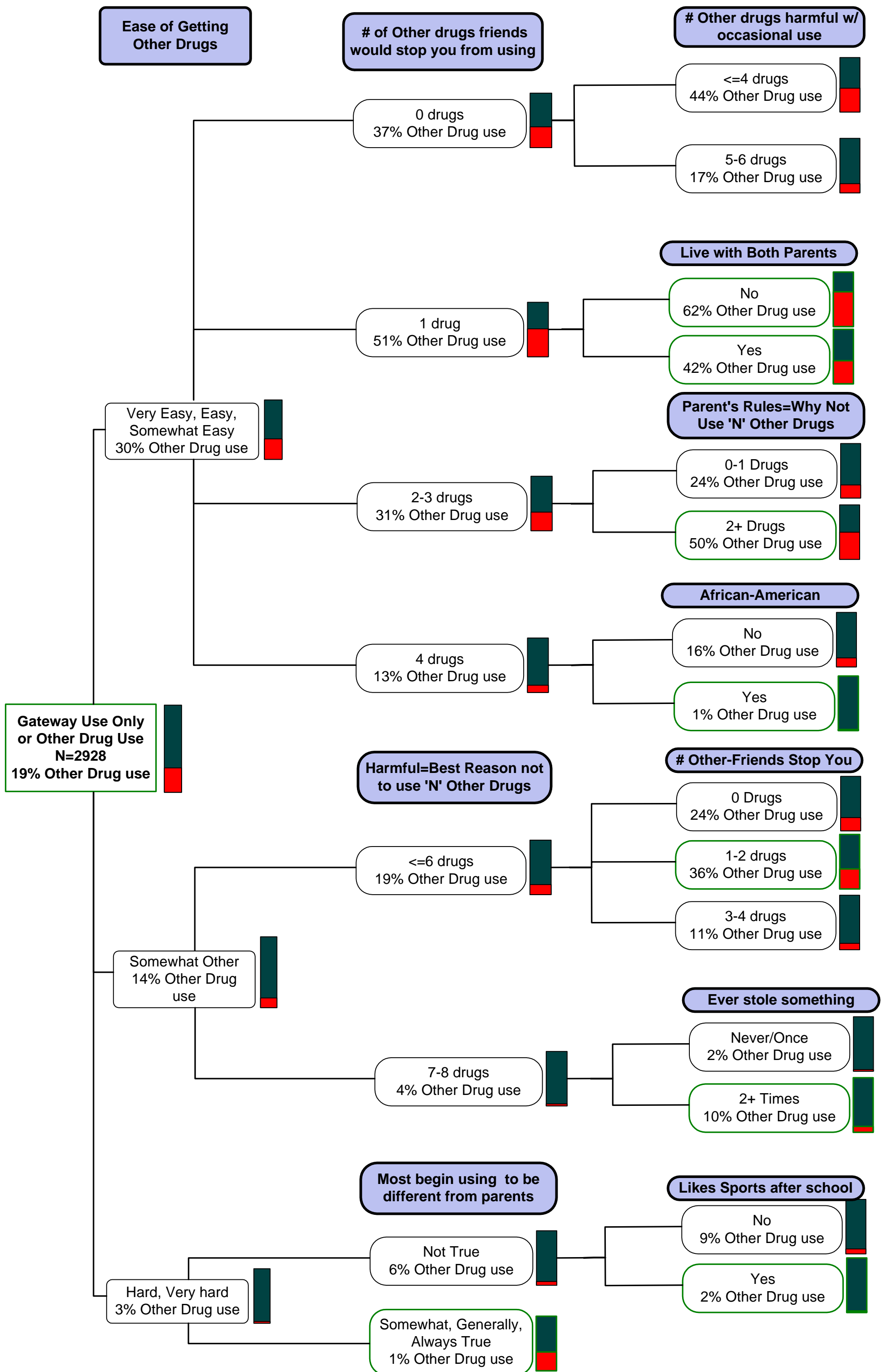


Highest Gateway Use

- Friends would not stop any gateway use
- Friends would stop use of 2-4 other drugs
- The best reason not to use is that friends disapprove is true for 0 gateway drugs

Lowest Gateway Use

- Friends would stop use of all 3 gateway drugs
- The best reason not to use is that friends disapprove is true for all 3 gateway drugs
- Source of drug information is NOT friends
- Would not like to have a job after school



Boxes outlined in color are 'terminal nodes'. Additional 'splits' have been identified for black-outlined boxes

Level 1
Predictors

Level 2
Predictors

Level 3
Predictors

Level 4
Predictors

Ease of getting
hard drugs
(Easier=
More HDU)

Hard drugs
friends would stop
you from using
(More = Less HDU)

Hard Drugs: Occasional
use=Harmful
(More=Less HDU)
Live with both **parents**
(Yes=Less HDU)

Parents opinion of marijuana use
(Not OK=Less HDU)
Watch TV after school
(No=More HDU)

Harmful= Why Not
Use Gateway Drugs
(More = Less HDU)

Parents' Rules= Why Not
Use Hard Drugs
(Yes = Less HDU)

Mother's education
(College=Less HDU)

Most begin to be
different from **parents**
(No=More HDU)

African American
(Yes=Less HDU)
Hard Drugs **friends**
would stop you using
(Yes=Less HDU)

Has a religion
(Yes=Less HDU)
Hard drugs harmful w/
occasional use
(More=Less HDU)

Gateway Use
vs

Hard Drug Use

Times stole something
(More=More HDU)

Like to hang out after school
(Yes=Less Use)

Like Sports after school
(Yes=Less HDU)

Most begin to impress others
(Yes=More HDU)

Predictors of Other Drug compared to Gateway Use

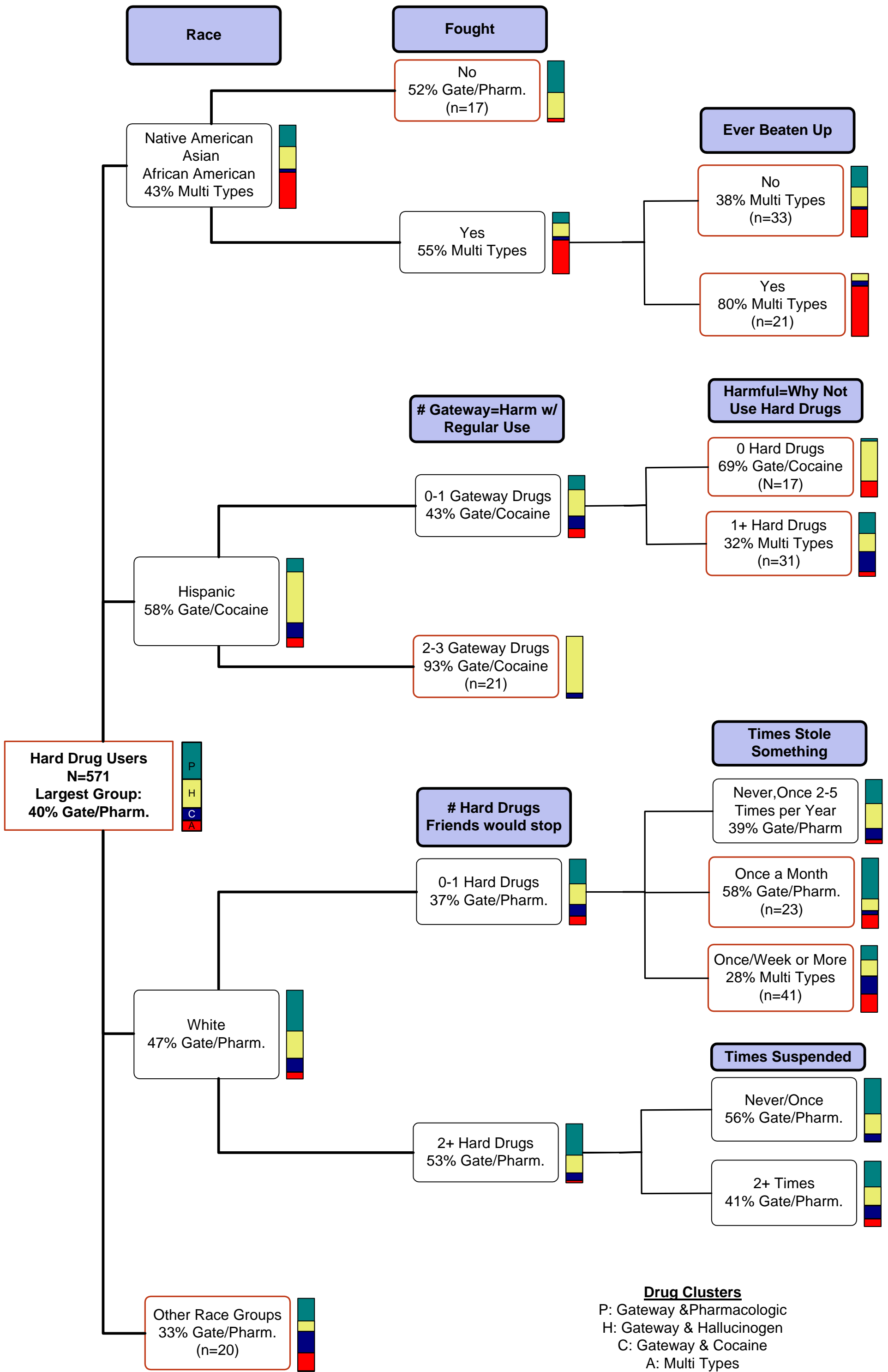


Highest Other Drug Use

- Very easy, easy, somewhat easy to get other drugs
- Friends would not stop use of any other drugs
- 4 or fewer other drugs are harmful with occasional use
- Do not have message that parents think marijuana use is not OK

Lowest Other Drug Use

- Somewhat hard to get other drugs
- The best reason not to use is that they are harmful is true for 7-8 other drugs
- Never stole anything or stole only once
- Like to hang out after school



Boxes outlined in color are 'terminal nodes'. Additional 'splits' have been identified for black-outlined boxes

Level 1

Predictors

Level 2

Predictors

Level 3

Predictors

Level 4

Predictors

Race

Fought with
someone

Ever Beaten Up

Grade in School/
Jr or Sr High

Gateway Drugs
harmful w/regular
use

Harmful=Why not
use hard drugs

Times stole
something

Hard Drugs
Friends would stop
you from using

Times Suspended

Hard Drug
Clusters

Predictors of being in Multi Types cluster



Highest % in Multi Types

- Native American, Asian or Black
- Fought on purpose to hurt someone in the past year
- Been beaten up or hurt by someone

Lowest % in Multi Types*

- ① Hispanic, 2-3 gateway drugs are harmful w/regular use
- ② White, friends would stop use of 2 or more other drugs, suspended 0-1 times.

*Multiple groups showed 0%

Method Conclusions



- Cluster analysis clearly identified separate groups for different patterns of use including: no/low use, gateway only use, and use of other drugs.
- Early use comparisons indicate that fewer in the no/low use & gateway only clusters started using before grade 7.
- The no/low use cluster is younger than most other clusters.
- As grade increases, so does the size of each drug cluster.

Policy Conclusions



- The four most powerful approaches to primary prevention include:
 - reduce the perception of peer approval
 - limit access to drugs
 - increase the perception of harm
 - increase parental support of drug-free norms

Policy Conclusions (cont.)



■ The effect of additional efforts including:

- increasing positive roles for adolescents
- providing drug information from adult sources
- and reducing deviance and violence

is increased by also addressing:

- peer influence and
- perceived risk of harm.