Examining Alcohol/Drug Impairment Among Pedestrians and Bicyclists on College Campuses

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Youth Transportation SAFETY PROGRAM

Texas A&M Transportation Institute

Agenda

1. Program Background
2. Research Purpose and Background
3. Findings and Limitations
4. Application to real-world safety

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About YTS

Texas A&M Transportation Institute

Youth Transportation SAFETY PROGRAM

The Youth Transportation Safety Program's vision is to ensure that America's youth live long and healthy lives through safe practices in our transportation system.

PEER-TO-PEER

BEHAVIOR FOCUSED

COLLABORATIVE

YEAR ROUND

Teens IN THE DRIVER SEAT
t-driver.com

Teens IN THE JR HIGH DRIVER SEAT
t-driver.com

U IN THE DRIVER SEAT
u-driver.com

Impairment

In 2019, a NHTSA report noted that an estimated 32% of fatal pedestrian crashes involved a pedestrian with a blood alcohol concentration (BAC) of 0.08 g/dL or higher in 2017 (most recent data available). Additionally, an estimated 20% of fatal bicycling crashes had a pedacyclist with a BAC of 0.08 g/DL in 2018.

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(1) National Highway Traffic Safety Administration (2019). Pedestrians: 2017 Data. (Traffic Safety Facts. Report No. DOT HS 812 681). Washington, DC: National Highway Traffic Safety Administration. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812681

(2) National Highway Traffic Safety Administration (2020). Bicyclists and Other Cyclists: 2018 Data. (Traffic Safety Facts. Report No. DOT HS 812 884). Washington, DC: National Highway Traffic Safety Administration. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812884

Research Questions

Do college students believe impaired walking/biking is a problem on their campuses/communities? Safer alternative?

What are the factors and circumstances that may lead college students to walking/biking impaired?

What are effective platforms for educating students on the dangers & risks of walking impaired?

Does Texas crash data support the State's recommendation to develop prevention and awareness campaigns centered around impaired walking/biking?

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Methodology

Survey of college-enrolled students

- Attitudes and behaviors
- Self-reported behaviors in the past 30 days

Focus Groups

- Planning patterns
- Ride Sharing
- Recommendations on education

Crash Analysis

- Review of fatal crashes 2015-2019
- Focused on 2019 involving pedestrian/bicyclist fatal crashes

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Findings

Survey: Self-reported Walking Behavior
n=153

Behavior	Percent Who Answered "Very Often" or "Always"	Percent Who Answered "Sometimes"	Percent Who Answered "Not Often" or "Never"
Walking			
Walked after drinking 2 or more alcoholic drinks?	15%	29%	56%
Walked after using marijuana within the past 2 hours?	11%	23%	66%
Walked because you planned on drinking or using marijuana?	15%	21%	63%
Biking			
Biked after drinking 2 or more alcoholic drinks?	9%	16%	74%
Biked after using marijuana within the past 2 hours?	13%	13%	74%
Biked because you planned on drinking or using marijuana?	10%	22%	68%
Driving and Ridesharing			
Drove after drinking 2 or more alcoholic drinks?	7%	26%	67%
Drove after using marijuana within the past 2 hours?	14%	6%	80%
Used alcohol and drugs at the same time?	13%	17%	70%
Used ridesharing or other transit services because you planned on drinking or using marijuana?	17%	25%	58%

Findings

Attitudes and Beliefs

n=153

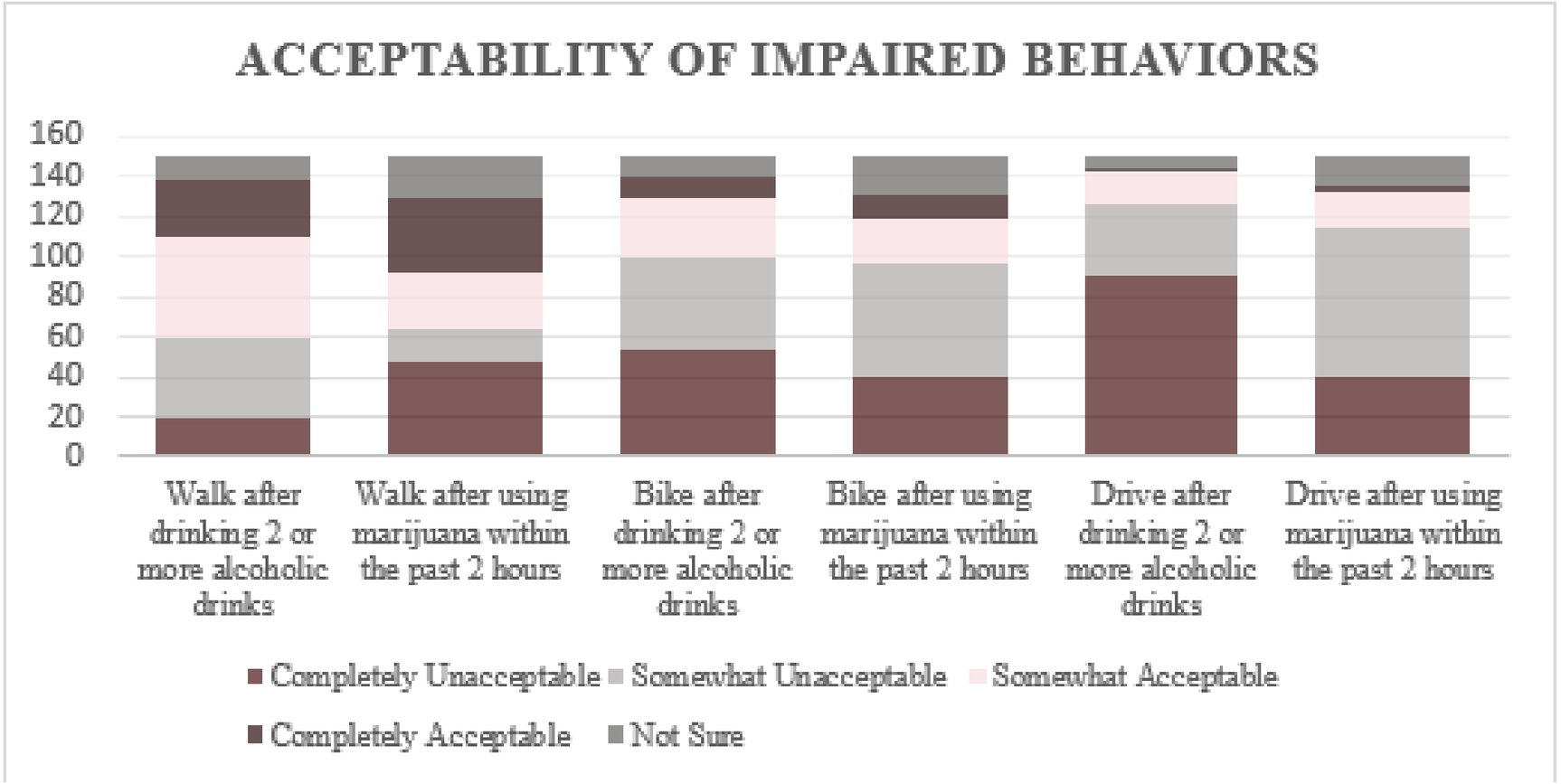

Figure 1. Acceptability of Impaired Behaviors

Focus Group Findings

Issue not seen as problematic in their campus but feel it is happening frequently.

Planning behaviors change and are impacted by many factors.

Controlled rideshare pricing, better availability, extended service

Impaired walking/biking on college campuses

Crash Analysis (2019)

Most Common Crash Injury Characteristics	Impaired Pedestrians
Crash Injury Hour	9:00 PM
Crash Injury Roadway System	Local Road/Street
Crash Injury County	Harris (27%)
Average Age of Pedestrian	43 years old
Gender	Male (75%)
Ethnicity	Hispanic (38%)
Average BAC (<0.00 g/dL)	0.19 g/dL
Average BAC (≤0.08 g/dL)	0.21 g/dL
% with a Positive Drug Result	51%
Average BAC of those with a Positive Drug Result	0.18 g/L

2019 IMPAIRED PEDESTRIAN CHARACTERISTICS

Most Common Crash Injury Characteristics	Impaired Bicyclists
Crash Injury Hour	Tie - 6:00 PM & 9:00 PM (14%)
Crash Injury Roadway System	Local Road/Street
Crash Injury County	Harris (26%)
Average Age of Bicyclist	47 years old
Gender	Male (98%)
Ethnicity	Tie - Hispanic & White (38%)
Average BAC (<0.00 g/dL)	.12 g/dL
Average BAC (≤0.08 g/dL)	.19 g/dL
% with a Positive Drug Result	43%
Average BAC of those with a Positive Drug Result	.07 g/dL
Helmet – Not Worn	98%

2019 IMPAIRED BICYCLIST CRASH INJURY CHARACTERISTICS

Limitations

LIMITED TIME

- Short time frame
- Limited to 1 year of crash analysis

COMPLEXITY OF THE ISSUE

- Determining fault - difficult to determine
- Crash narratives - accessible but difficult to analyze
- Drug Impairment flag does not indicate impairment

SAMPLE SIZE

- Recruitment was limited and thus sample size cannot be compared to general population (surveys and focus groups)

Application to Real-World Safety

Further exploration is needed

What are universities providing to students on this issue? What are possible opportunities? How can communities work collaboratively to address rideshare issues? How can national campaigns incorporate this messaging?

WE ONLY SEE THE SURFACE

Systems Innovation, 2020. Iceberg Model & Systems Thinking.

Questions?
Reactions?

Feel free to get in touch with us.

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