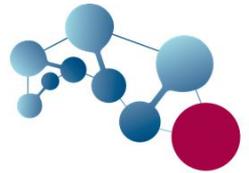# RISK BEHAVIORS OF BRAZILIAN DRIVERS ACCORDING TO SOCIODEMOGRAPHIC CHARACTERISTICS

Luana Gross, BA

Nucleus for Studies and Research on Traffic, Alcohol and Drugs,
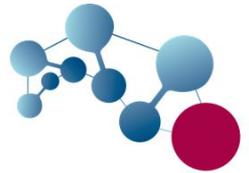Porto Alegre - Brazil

INTRODUCTION

Brazilian data indicate that around 47,000 people die annually due to traffic crashes

Traffic injuries ▢ Economic, social and psychological consequences

Studies have reported that **driver behaviors** are the main cause for fatal traffic collisions
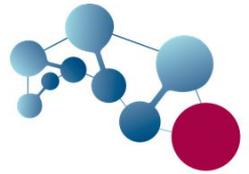
Brazilian Ministry of Health, 2017; Word Health Organization, 2018
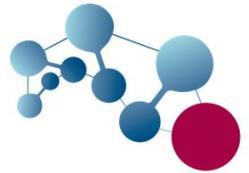
INTRODUCTION

Risk behaviors responsible for traffic injuries

INTRODUCTION

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International studies indicate that engaging in risk behaviors can be associated with certain gender and age profiles

Rhodes & Pivik, 2011

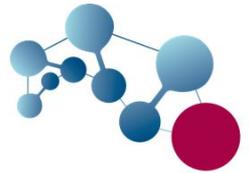# INTRODUCTION

International studies indicate that engaging in risk behaviors can be associated with certain gender and age profiles

Little is known about the profile of risky drivers in Brazil
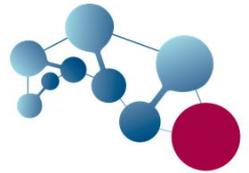
Rhodes & Pivik, 2011

INTRODUCTION

Despite preventive efforts, exposure to these risk behaviors is still highly prevalent

Mancinko, 2015
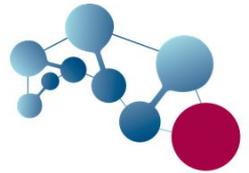
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26%
Drinking and driving

Mancinko, 2015

Despite ese risk

High risk drivers may not benefit from interventions implemented in Brazil

OBJECTIVE
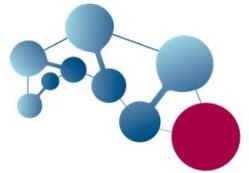
To investigate different driving risk behaviors according to sex, level of education and age groups in a sample of Brazilian drivers

METHOD
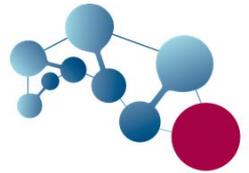
Cross-sectional study ⯀ convenience sample of drivers from five brazilian capitals chosen by the "Vida no Trânsito" [*Life in Traffic*] road safety program

Improve road safety and the reduction of accidents in 10 countries

METHOD
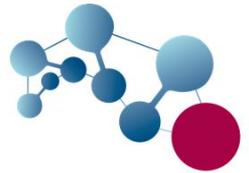
➡ Data were collected from August 2011 to November 2014

➡ Investigators from the the Johns Hopkins International Injury Research Unit and our team

METHOD
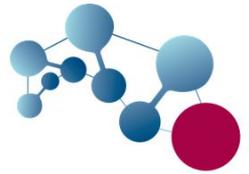
One capital per region

METHOD
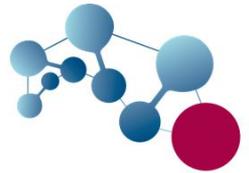
➡ Data collection teams identified locations that were easily accessible and safe to approach drivers

➡ Exclusions: drivers who had reported not driving in the past 12 months or under the age of 18

9,724

METHOD
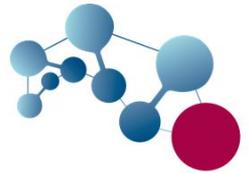
KAP (knowledge, attitudes and practices) survey → **Risk behaviors in traffic**

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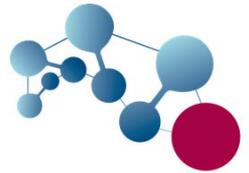
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"In the last year, have you been fined for speeding?"

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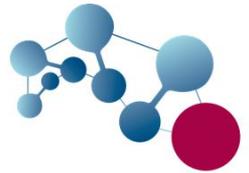
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"In the last year, have you been fined for speeding?"

"In the last year, did you drive within an hour of consuming alcohol?"

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KAP (knowledge, attitudes and practices) survey

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"In the last year, have you been fined for speeding?"

"In the last year, did you drive within an hour of consuming alcohol?"

"In the last year, have you been fined for not wearing a seat belt while driving?"

main traffic risk behaviors identified in Brazil

KAP (knowledge, attitudes and practices)

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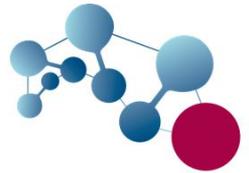
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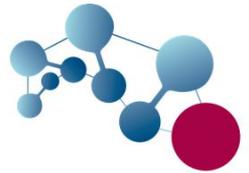
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➡ Data analysis 🡺 SPSS version 1.8

➡ Association between risk behaviors and demographics verified through Chi-Square test.

RESULTS

Table 1. Sociodemographic data

	Total n = 9,724 (100%)	Male n = 6,532 (67.2%)	Female n = 3,192 (32.8%)	p-value
Mean age (years) [1]	38 [29;65]	38 [30;66]	36 [28;66]	<0,005
Education [2]				
Elementary school	1,114 (11.5)	999 (15.3)	115 (3.6)	
High school	3,735 (38.4)	2,758 (42.2)	977 (30.6)	
College degree	3,772 (38.8)	2,179 (33.4)	1,593 (49.9)	<0,005
Post-graduation	929 (9.6)	484 (7.4)	445 (13.9)	
Income [1]	2200 [1300;10000]	2400 [1500;10000]	2000 [1100;8000]	<0,005

[1] Values expressed by median [Interquartile range], Mann-Whitney test;

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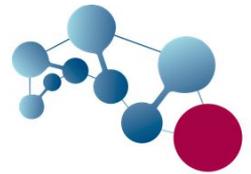[2] Values expressed by n (%), Chi-Square test.

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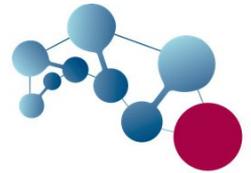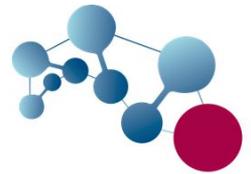[2] Values expressed by n (%), Chi-Square test.

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Table 2. Traffic risk behaviors and sociodemographic characteristics

	Tickets for not wearing seat belts	Tickets for speeding	Driving under the influence of alcohol
Sex			
Male	5029 (77%)*	1245 (19%)*	2308 (56%)*
Female	734 (23%)	353 (11%)	486 (33%)
Age (years)			
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Values expressed by absolute frequency (%) Chi-Square test

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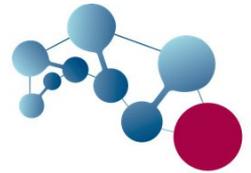
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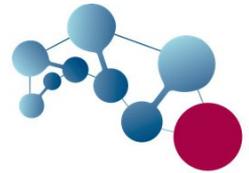
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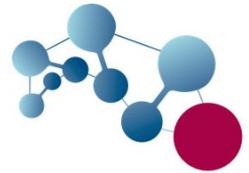
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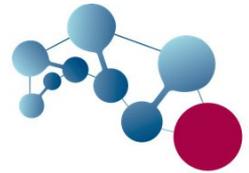
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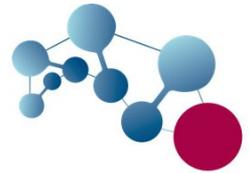
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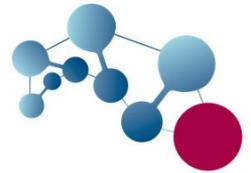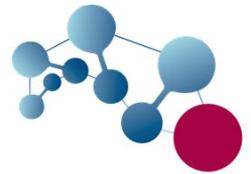
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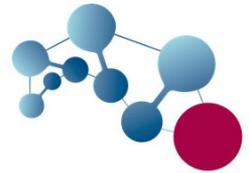
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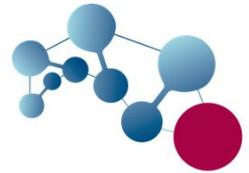
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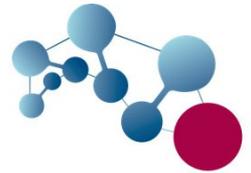
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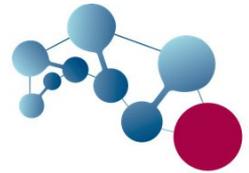
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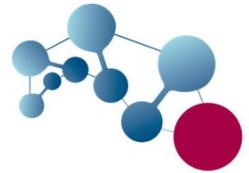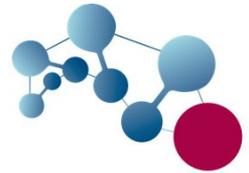
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30 - 59	241 (3.9%)	1015 (17%)	1712 (49%)
≥ 60	39 (3.3%)	201 (17%)	155 (31%)
Education			
Elementary school	89 (8%)	156 (14%)	479 (43%)
High school	1643 (43.9%)*	523 (14%)	1942 (52%)*
College degree	1433 (38.3%)	679 (18%)*	1923 (51%)
Post-graduation	74 (8%)	213 (23%)*	455 (49%)

Values expressed by absolute frequency (%) Chi-Square test

Prevalence of variable in the columns within the categories in the rows

* Significant at p<0,001 level.

RESULTS

Table 2. Traffic risk behaviors and sociodemographic characteristics

	Tickets for not wearing seat belts	Tickets for speeding	Driving under the influence of alcohol
Sex			
Male	5029 (77%)*	1245 (19%)*	2308 (56%)*
Female	734 (23%)	353 (11%)	486 (33%)
Age (years)			
18 - 29	144 (5.7%)*	382 (15%)	927 (57%)*
30 - 59	241 (3.9%)	1015 (17%)	1712 (49%)
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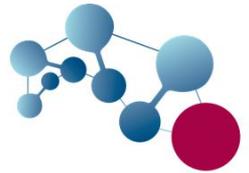
* Significant at $p < 0,001$ level.

DISCUSSION
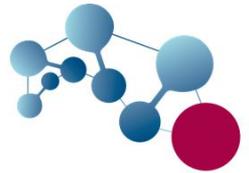
Men and women have different behaviors in traffic ▯ males reported more engagement in risk-taking behaviors
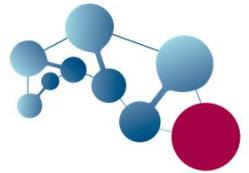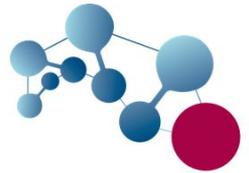
DISCUSSION

Men and women have different behaviors in traffic ⮕ males reported more engagement in risk-taking behaviors

Sex-related factors are known to play an important role in traffic behavior

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Men and women have different behaviors in traffic ⬜ males reported more engagement in risk-taking behaviors

Sex-related factors are known to play an important role in traffic behavior

Important issue for Brazilian enforcement

DISCUSSION

Sex ▯ previous studies corroborate our results, which show that **men** tend to drive in a more dangerous way compared to women

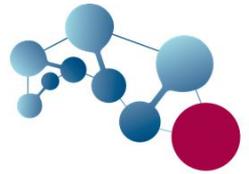Oltedal & Rundmo, 2006; Whissell & Bigelow, 2003; Pechansky et. al., 2009; Rhodes & Pivik, 2011
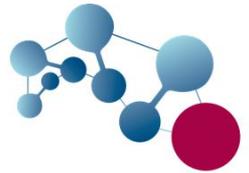
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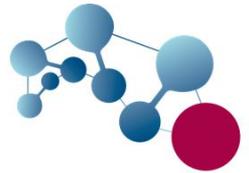
High mortality rates of men,
consistently higher than women

Oltedal & Rundmo, 2006; Whissell & Bigelow, 2003; Pechansky et. al., 2009; Rhodes & Pivik, 2011

DISCUSSION

Even though women presented lower rates of DUI when compared to men, the prevalence of this risk behavior was still significant
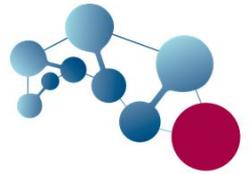
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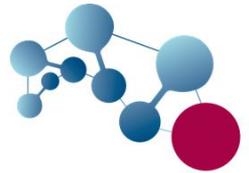Few studies have been conducted exclusively with female drivers

Little is known about the characteristics of women who drink and drive

Lapham et. al 2000; Welsh & Lenard, 2001

DISCUSSION

Age ⬤ Prevalence of DUI was higher among **young drivers**

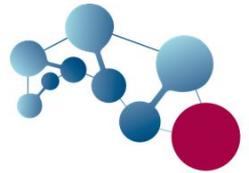Borowsky, Shinar, & Oron-Gilad, 2010; McKnight & McKnight, 2003

DISCUSSION

Age ❓ Prevalence of DUI was higher among **young drivers**

Studies associate factors related to age to the increased risk of traffic injury

Borowsky, Shinar, & Oron-Gilad, 2010; McKnight & McKnight, 2003

DISCUSSION

Age 🡪 Prevalence of DUI was higher among **young drivers**

Studies associate factors related to age to the increased risk of traffic injury

Level of education 🡪 drivers with **high levels of education** tend to engage in risky traffic behaviors: DUI and speeding

Borowsky, Shinar, & Oron-Gilad, 2010; McKnight & McKnight, 2003
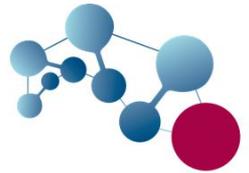
CONCLUSION

Adapt measures that are currently used in other locations in order to prevent engagement in risky situations in Brazil
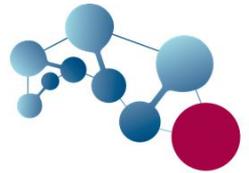
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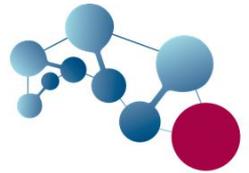
Studies indicate that other factors seem to influence the engagement of risk behaviors in traffic

LIMITATIONS

Convenience sample

Self report

Interviewer present

Not controlled by kilometers driven

Cannot generalized, the sample collected convenie

One of the first studies to analyze the profile of Brazilian drivers according to sociodemographic characteristics using a significant sample size

by ven ants

Thank you!

Luana Gross

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CPAD

Centro de Pesquisa
em Álcool e Drogas