



## Street racing video games and risk-taking driving: An Internet survey of automobile enthusiasts

Evelyn Vingilis<sup>a,\*</sup>, Jane Seeley<sup>a,1</sup>, David L. Wiesenthal<sup>b,2</sup>, Christine M. Wickens<sup>c,3</sup>, Peter Fischer<sup>d,4</sup>, Robert E. Mann<sup>e,5</sup>

<sup>a</sup> Family Medicine, Schulich School of Medicine and Dentistry, the University of Western Ontario, Dr. Don Rix Clinical Skills Building, London, ON, Canada N6M 2K0

<sup>b</sup> Department of Psychology, York University, 288 Behavioural Science Building 4700 Keele St., Toronto, ON, Canada M3J 1P3

<sup>c</sup> Social and Epidemiological Research, Centre for Addiction and Mental Health, 33 Russell Street, Toronto, ON, Canada M5T 1R8

<sup>d</sup> Department of Social Labour, Institute for Experimental Psychology, University of Regensburg, Universitätsstraße 31, 93040 Regensburg, Germany

<sup>e</sup> Public Health and Regulatory Policy Section, Centre for Addiction and Mental Health, 33 Russell Street, Toronto, ON, Canada M5T 1R8

### ARTICLE INFO

#### Article history:

Received 30 March 2012

Received in revised form 13 August 2012

Accepted 13 September 2012

#### Keywords:

Street racing  
Attitudes  
Risk-taking driving  
Video games  
Internet survey

### ABSTRACT

**Purpose:** The purpose of this study was to examine the relationships among risky driving attitudes, self-perceptions as a risky driver, playing of “drive'em up” (which rewarded players for frequent traffic and other violations) and “circuit” racing video games as well as self-reported risky driving through a web-based survey of car and racing club members in relation to a socio-cognitive model of the effects of racing video game playing.

**Method:** An Internet questionnaire was developed and included: (1) self-perceptions as a risky driver scales (Driver Thrill Seeking and Competitive Attitude Toward Driving); (2) attitudes regarding street racing; (3) street racing video game playing, and (4) self-reported risky driving (Risk-Taking Driving Scale). A sequential logistic regression was performed entering age and driving exposure as control variables in the first block, self-perceptions as a risky driver in the second block, attitudes in the third block and playing “drive'em up” and “circuit” racing games in the last block to examine their effects on self-reported risk-taking driving.

**Results:** A total of 503 survey respondents were included in the analyses and only 20% reported any risk-taking driving. Higher score on the Competitive Attitude Toward Driving Scale, more positive attitudes toward street racing, and more frequent reported playing of “drive'em up” video games were associated with higher odds on the self-reported Risk-Taking Driving Scale. However, the Driver Thrill Seeking Scale and “circuit” video game playing failed to predict self-reported risk-taking driving.

**Conclusions:** Self-perceptions as a risky driver, positive attitudes toward risky driving and “drive'em up” street-racing games, but not “circuit” racing games, are associated with increased risk-taking driving. These findings are congruent with experimental studies in which games that reward driving violations increased risk taking, suggesting that risk taking may be a function of type of street racing game played by affecting self-perceptions as a risky driver.

© 2012 Elsevier Ltd. All rights reserved.

### 1. Introduction

“Drive dangerously. . . Drive like a madman through everyday traffic: swerve into oncoming lanes, cut people off and take loads

of risks—hyperventilating is part of the fun.” (Burnout video street racing game back cover promotional information)

Risky driving is a key contributor to motor vehicle injuries and deaths. Despite the potential negative consequences of risky driving, there is much risk-glorifying content in media such as in street racing video games, movies, television shows or advertisements (Ferguson et al., 2003; Fischer et al., 2011a; Sheehan et al., 2006; Shin et al., 2005; Watson et al., 2010; Vingilis and Smart, 2009). Yet only recently have risk-taking inclinations and actual behaviours been examined in relation to risk-glorifying street racing games. As Beullens et al. (2008) stated: “It is therefore remarkable that the relationship between playing such games and reckless driving has remained largely unexamined” (p. 89). Their cross-sectional survey examined the relationship between the playing of street racing

\* Corresponding author. Tel.: +1 519 858 5063x2; fax: +1 519 661 3878.

E-mail addresses: [evingili@uwo.ca](mailto:evingili@uwo.ca) (E. Vingilis), [jseeley@uwo.ca](mailto:jseeley@uwo.ca) (J. Seeley), [davidw@york.ca](mailto:davidw@york.ca) (D.L. Wiesenthal), [Christine.Wickens@camh.net](mailto:Christine.Wickens@camh.net) (C.M. Wickens), [peter.fischer@psychologie.uni-regensburg.de](mailto:peter.fischer@psychologie.uni-regensburg.de) (P. Fischer), [Robert.Mann@camh.net](mailto:Robert.Mann@camh.net) (R.E. Mann).

<sup>1</sup> Tel.: +1 519 858 5063x1; fax: +1 519 661 3878.

<sup>2</sup> Tel.: +1 416 736 2100x30114.

<sup>3</sup> Tel.: +1 416 535 501x4711; fax: +1 416 595 6899.

<sup>4</sup> Tel.: +49 0 941 943 3676; fax: +49 941 943 1994.

<sup>5</sup> Tel.: +416 535 8501x4496; fax: +1 416 5956899.

games on intention to engage in risky driving among a sample of 2193 Belgian adolescents. Playing street racing video games was a significant predictor of positive attitudes toward risky driving which, in turn, predicted intention to drive this way in the future. Similarly, Fischer et al. (2007), in his survey of 198 Germans, found that playing street racing games was positively associated with self-reported competitive driving, exhibitionistic driving, and collisions. Kubitzki et al. (2007) conducted a focus group study with young German illegal street racers and found that street racing video games were perceived by the illegal street racers to play an important role in their deviant driving.

Recent experimental, laboratory studies by Fischer et al. (2007, 2008, 2009) have also tested whether exposure to risk-glorifying video games promotes increased risk-taking inclinations similar to the negative effects found for violent video games. These negative effects have been explained by the interactional General Aggression Model (GAM) positing that aggressive video games trigger aggressive ideas which increase accessibility of other aggressive cognitions, emotions and behaviours (Anderson and Bushman, 2001, 2002; Anderson and Dill, 2000). Fischer et al. (2007), in their first paper, hypothesized that racing video games can “prime” not only other cognitions, but also affective and behavioural reactions (Fischer et al., 2007). Participants randomly assigned to play a racing game subsequently exhibited significantly more cognitions and emotions associated with risk taking than participants who played a neutral (non-racing) game. A second experimental study found that participants who played a racing game subsequently took greater risks in video-simulated critical road traffic situations than participants who played a neutral game. Subsequent studies similarly supported the findings that risk-promoting racing games, compared to neutral video games, increased accessibility of risk-promoting attitudes, were associated with self-perceptions as a risky driver and resulted in more risk-taking in video-simulated critical road traffic situations (Fischer et al., 2008, 2009).

Within the context of GAM, Fischer et al. (2011a,b) have argued that self-perception changes underlie the risky response to racing video game play. Specifically, they suggest that active participation, as opposed to passive consumption of viewing pictures or reading articles, is especially relevant as video games require self-involvement through the active control of the game character. This can affect self-perception in which the player identifies with the game character. Self-perception of being a reckless driver should occur more often among participants who play “drive'em up” racing games (e.g., Grand Theft Auto, Carmageddon, Burnout, Need for Speed) which reward traffic violations, collisions, risk-taking and dangerous driving than among participants who play either “circuit” driving Formula 1 type games (e.g. Gran Turismo, Ridge Racer, MotoGP) which includes similar imagery, but rewards accuracy instead of violations of road traffic rules or non-racing neutral video games. Indeed, Fischer et al. (2009) found that risk-promoting effects of racing games only occurred when participants were randomly assigned to play “drive'em up” racing games compared to those randomly assigned to play either “circuit” driving games or non-racing games. Moreover, they found that participants who were randomly assigned to play a “drive'em up” racing game perceived reckless driving more positively and themselves as a reckless driver more than participants who were randomly assigned to play either “circuit” or neutral games. In other words, although it is possible that those who are risky drivers with risky self-perception are attracted to video racing games, Fischer and colleagues' studies are experimental in which game playing was the manipulation used with a sample of university students. They found that self-perceptions as a risky driver only occurred after the participants were randomly assigned to play the “drive'em up” games but did not occur among the participants who were randomly assigned to play the “circuit” or neutral games.

As Fischer et al. (2011b) wrote: “the racing game effect requires the player to perceive that he or she is actively involved in breaking traffic rules, which leads to the self-perception that one is a reckless driver, and thus finally to more risk taking.” (p. 703) Despite the fact that experimental studies have found greater risk taking inclinations and attitudes among participants playing “drive'em up” compared to “circuit” racing games, it is unclear whether this experimental, laboratory effect in a controlled environment occurs in the real world. No community-based research has been conducted to examine similar relationships. Additionally, Fischer et al. (2009) did not include validated measures of self-perceptions as a risky driver. Thus it would be important to use validated measures of self-perceptions to examine the relationship between self-perceptions and risky driving and to examine the relationship among these variables in a community-based sample.

The purpose of this study was to examine the relationships among self-perceptions as a risky driver, risky driving attitudes, playing of “drive'em up” and “circuit” racing games and self-reported risky driving through a web-based survey of a sample of car and racing club members. Car and racing club members were chosen as an information rich sample of automotive enthusiasts to examine risky driving attitudes and behaviours. A population-based sample of Ontario drivers found low levels of reported risky driving behaviours such as street racing (Smart et al., 2011) or driving after drinking during the previous year (Mann et al., 2010). Thus a population-based sample would be limited in its ability to examine risky driving activities and their correlates.

The web survey focussed on car club members' opinions about, attitudes on and experiences with, various aspects of driving and traffic legislation. Additionally, information was gathered on self-perceptions as a risky driver and leisure activities, such as video game playing.

## 2. Method

### 2.1. Measures

The Internet survey was designed using the expert panel method for content validity. Using the principles of questionnaire design (Krishner and Guyatt, 1985; Weiler et al., 1993) and based on the theory to be tested, a panel of 11 traffic safety researchers, academic psychologists and/or car enthusiasts went through the process of item generation, review and reduction of a pool of questions primarily based on validated instruments or questions developed for other surveys. The Survey Monkey-based questionnaire underwent numerous revisions and was pretested and piloted. The questionnaire included the following variables: (1) *Sociodemographic* – control variables of age and driving exposure (average hours per week spent driving). As the exposure variable was positively skewed, a square root transformation was used in the analyses. (2) *Self-perceptions as a risky driver* – (i) Driver Thrill Seeking Scale, an eight item 7-point Likert-style scale, based on work of Matthews et al. (1997), cited in Stradling et al. (2004;  $\alpha = .91$ ). Each item was scored from 1 = strongly disagree to 7 = strongly agree. Items included questions such as: “I get a real thrill out of driving fast”, “I would like to risk my life as a racing driver”, “I like to raise my adrenaline levels while driving” “I sometimes like to frighten myself a little while driving”. Higher scores reflected higher driver thrill seeking; (ii) Competitive Attitude Toward Driving Scale is a five item 4-point Likert-style scale (Patil et al., 2006;  $\alpha = .81$ ). Items included: “It's fun to beat other drivers when the light changes; it's a thrill to out-manoeuvre other drivers; it's really satisfying to pass other cars on the highway; it is fun to weave through slower traffic; and, taking risks in traffic makes driving more fun”. Responses ranged from 1 = strongly disagree to 4 = strongly agree and were

Download English Version:

<https://daneshyari.com/en/article/6966699>

Download Persian Version:

<https://daneshyari.com/article/6966699>

[Daneshyari.com](https://daneshyari.com)