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## Parental and offspring assessment of driving capability under the influence of drugs or alcohol: Gender and inter-generational differences

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#### ABSTRACT

The current study set to examine whether there are inter-generational and gender-based differences between family members self-assessing their ability to drive under normal conditions and while under the influence of either alcohol or drugs. Participants were 135 young-adults and both their parents, consisting 45 family triads, who received self-assessment questionnaires relating to their driving skills in various road scenarios. Each family triad was randomly assigned to one of three groups: either requested to base the assessments on normal driving conditions, or under the influence of either drugs or alcohol, thus forming a control group, and two experimental groups (alcohol and drugs), respectively.

The findings indicate the assessments of both the alcohol and drugs groups were more severe than those of the control group. The alcohol group assessments were less strict than the drug group assessment (non-significantly). Inter-generational differences indicated that the parents' driving-skills assessments were lower than those of their offspring, corresponding with previous findings (Elkind, 1967; Finn and Bragg, 1986)

A significant within-subject interaction has been found between the respondent's gender and familial relations regarding the self-assessment of driving skills: male respondents assessed better driving skills compared to the self estimates of both parents (which did not significantly differ). In contrast, female respondents' estimates did not differ from their fathers' and both fathers' and daughters' estimates were significantly higher than that of the mothers in each family.

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#### 1. Introduction

Road accidents are events caused by a number of factors, but the most important one is the human factor. Despite the frequent occurrence of accidents and their serious consequences, drivers continue to take risks such as driving under the influence of alcohol and drugs. Road accidents are high (in 11th place) on the list of causes of death, and follow death from cardiovascular disease (World Health Organization, 2008). The involvement of young drivers in these accidents is particularly prevalent. It seems that the combination of certain aspects of personality such as risk-taking and sensation-seeking (Rosenbloom, 2003) together with lifestyle and uncontrolled alcohol consumption and drug use (Jamieson et al., 2002) constitute a high risk factor for involvement in road accidents.

The combination of alcohol consumption and driving causes dangerous behavior and becomes a major risk factor in road accidents. Driving is perceived as an automatic, routine and elemental activity but is actually a motor activity requiring, among other abilities, a high level of concentration, keen eyesight, proper motor function, a good memory, and a sound decision-making process. The driver is required to constantly absorb information, which changes continuously, about events occurring in the driving environment, and must be able to respond rapidly according to the information received. Any physical or emotional impairment will increase the risk of involvement in a road accident, or of committing a traffic offence (Evans, 1991; Jones and Lacy, 2001; Moskowitz and Fiorentino, 2000; Movig et al., 2004; Ronen et al., 2004). The alcohol consuming culture is prevalent in Israel as well, with approximately two-thirds (67%) of the population reported drinking alcohol in public places (National Road Safety Authority, 2008). However, it was found that even in small amounts, alcohol has a dangerous effect on driving (Shinar, 2001).

Studies examining consumption habits, attitudes and intention to drive following consumption of alcohol (Shinar, 2000) revealed

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that 25% of those asked drove after drinking alcohol. Further, they found that while participants were aware of the quantity of alcohol that had to be consumed to become intoxicated at a level that impaired driving, the quantity estimated by participants was greater than the actual quantity that would impair driving. Moreover, the majority of participants in these studies stated the quantity of alcohol consumed would not influence their decision about whether or not to drive.

Another risk factor relating to involvement in road accidents is driving after use of psychoactive drugs. Studies show that after alcohol, cannabis is the psychoactive drug most likely to be a factor in fatal road accidents and dangerous behavior on the roads. Furthermore, approximately half of all fatal accidents are caused by drivers who were under the influence of drugs, alcohol or a combination of them both. The damage and severity of the accident are greater when those involved were under the influence of drugs, particularly if cannabis was involved (Albery et al., 2000; Cimbura et al., 1986; Dussault et al., 2002; Jones and Lacy, 2001; Mason and McBay, 1984; Mercer and Jeffrey, 1995; Rafaelson et al., 1973; Robbe, 1994; Stoduto et al., 1993).

Despite all that is known about impaired decision-making while driving under the influence of drugs (Robbe, 1994), it is reported that the percentage of people who drive after using drugs is higher than the percentage of those who drive after consuming alcohol; however, the number of arrests made for driving under the influence of drugs is lower than the number of people arrested for driving under the influence of alcohol (Adlaf et al., 2003; Shinar, 2000). As many countries forbid the use of psychoactive drugs while permitting alcohol use, this pattern could indicate laws other than traffic laws deter people from the use of psychoactive drugs while driving. Alternatively, the lack of an effective means to conduct roadside drug-driving testing (Terry and Wright, 2005), and the fact that there is very little legal deterrent to driving under the influence of cannabis (Fergusson et al., 2008) could also explain this lack of findings.

Driving while under the influence of drugs or alcohol is an area of ever-increasing concern when it comes to public policy and road safety. It is important to examine attitudes in general in terms of assessment of ability to drive after using alcohol or drugs and in particular when actually driving, because attitudes may indicate the way in which the individual relates to his/her surroundings and the individual's behavior is a reflection of his/her attitudes (Ajzen and Fishbein, 1980). According to Holland and Hill (2007) attitudes may predict intentions towards behavior (which are good predictors of behavior itself).

When dealing with younger drivers, one must also consider the relationship between parent and child, which plays a key role in all stages of development, particularly during adolescence. The role of the family and of the parents is to create an environment that will allow the adolescent to develop their own self-identity, independence and normative behavior patterns. During the socialization process, children learn to adopt and develop beliefs, knowledge and behaviors, and the parenting style contributes greatly to their development. When parents convey a message that the use of alcohol and drugs is negative behavior, it increases the likelihood their children will also adopt this view point and act accordingly. Parental behavior is not the only factor that will influence and shape children's attitude to drug and alcohol and their inclination to use them. The way children perceive their parents' attitudes, and their assessment of their parents' use of psychoactive material, legal or otherwise, also influences their behavior (Barnea et al., 1992; Hawkins et al., 1992; Jackson et al., 1997; Petraitis et al., 1995; Windle, 1996; Zhang et al., 1997, 1999). Increase in adolescent drug use was found in families which gave a relatively low-key negative response and a significantly positive reinforcement regarding drug use (Coombs and Coombs, 1988).

The objective of the current study is to examine whether there are inter-generational and gender-based differences regarding evaluation of ability to drive while under the influence of alcohol, drugs, or when neither is being used. Behavioral, gender-based differences have been documented in the literature all over the world in all areas pertaining to driving. On average, males drive at higher speeds, overtake more, and are more frequently involved in drunk-driving offences. Furthermore, they are more likely to assess their driving as being good and safe than women drivers who assess their own driving as inferior (DeJoy, 1992). Previous studies (Taubman et al., 1996) found that when driving, women are more self-critical than men.

To date there are few reported studies on gender-based differences in attitude towards assessing ability to drive while under the influence of drugs or alcohol (SARTRE 3, 2004). However, studies have found that there is a correlation between gender and use of psychoactive material (Barnea, 1985), and that males make greater use of all types of drugs in comparison to the rate of drug use by females (Rahav et al., 1999). However, research did reveal that there was an immense threefold gap between actual consumption of alcohol as reported by the young people and the situation as the parents perceived it. This disparity indicates a lack of parental involvement in all matters pertaining to the consumption of alcohol and it may be assumed that a similar gap exists regarding drug-related matters.

The driving styles of parents and children were found to be similar, with both gender-related and age-related factors, such that and that young males were influenced by the fathers' driving style whereas young females were influenced by the driving style of both parents (Taubman-Ben-Ari et al., 2005). Additionally, as the driver's age increases the propensity to drive carefully and patiently increases as well, while the tendency to reckless driving (unfocused, angry, jittery, dangerous, and high speed) decreases. In the absence of studies about inter-generational differences regarding drugs and alcohol use, and given that parents serve as role models and also help mold behavior in the stage preceding drug and alcohol use when the adolescent is considering whether or not to use drugs, it would be appropriate to check if, in addition to inter-generational transmission regarding drug or alcohol use experiences, there is also inter-generational transmission regarding assessment of ability to drive while under the influence of alcohol and

Increased parental awareness about the extent of their influence on their children and preventing them from using drugs and alcohol is critical to prevention in this field. Knowledge that is as extensive and accurate as possible about the different generations' assessment of driving ability will contribute towards the development of unique and focused intervention and prevention programs. The drug-use phenomenon can be reduced by taking a position that negates the use of drugs. Special emphasis must be put on all aspects of driving under the influence of alcohol and drugs while also trying to minimize the phenomenon as much as possible. It is possible that strong findings on this matter will help expedite new legislation or the updating of current legislation.

The current study was set to further investigate possible relations between young adults' and their parents' self-assessment of driving skills, by exploring family members assessments of driving, either under normal conditions, or under the influence of either drugs or alcohol. Specifically, it is expected that parents' self-assessments of driving skills will be lower than their (young-adult) child's self-assessment. Furthermore, and regardless of familial relations, driving skills under normal condition will be assessed as better than driving skills under the influence either alcohol or drugs. Additionally, gender differences should arise, such that females will display a more restrictive view of their driving skills compared to males.

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