



# The influence of bus and taxi drivers' public self-consciousness and social anxiety on aberrant driving behaviors

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## ABSTRACT

The study examined how bus and taxi drivers' public self-consciousness interacted with social anxiety to influence their aberrant driving behaviors. Questionnaires were distributed to 331 male and female Taiwanese bus and taxi drivers whose working environment involves frequent and direct interaction with passengers. Questionnaire statements measured drivers' dispositional public self-consciousness and social anxiety, and their intentions and driving behaviors related to speeding, errors and violations. The study utilized a mediating model and path analysis explored causal relationships between the constructs. The study found that both public self-consciousness and social anxiety explained bus drivers' aberrant driving behaviors. Female drivers reported less aberrant driving behaviors than their male counterparts did. Bus drivers reported less aberrant driving behaviors than taxi drivers. Drivers with crash involvement within three years reported higher public self-consciousness than did those without that involvement. The suitable research frameworks, which describe the influence of public self-consciousness and social anxiety on aberrant driving behaviors, fit to bus and taxi drivers are different, so as different to male and female drivers. The study findings suggest bus and taxi driver should receive special training in general attitude as a condition of their employment in order to avoid aggressive behaviors and provide a better and safer service to the public.

## 1. Introduction

On July 19, 2016, a tour bus carrying visitors from China burst into flames on a highway near Taiwan's capital, killing all 26 people on board. Bottles containing gasoline were found on the vehicle that runs on diesel fuel, and two of which had been completely destroyed in the driver's compartment. According to local prosecutors, the driver, who had been drunk while driving, had committed suicide by setting light to the bottles of gasoline, and killed all of his passengers in the process. He had been depressed due to work-related conflicts and lawsuits against him. The work of professional drivers is extremely stressful since it continuously and frequently exposes them to others' careless and aggressive driving behaviors and to an increased risk of crash involvement (Hanzlíková, 2005). As a consequence, professional drivers need to be quicker to react than the average motorist, more alert, and better able to assess risks correctly and deal with the stress of life on the road.

Driving exposed people to high levels of provocation. This provocation usually produces anger (Bettencourt and Miller, 1996). Angry, aggressive drivers are a significant psychological and health hazard on

the road (Deffenbacher et al., 2003). Millar (2007) highlighted the complex relationships existing between personality, emotion and behavior, and indicated that public self-consciousness interacts with anger to influence aggression while driving. When people are angry, less aggressive driving behavior is expected to occur when they have high public self-consciousness than when they have low public self-consciousness. People with high public self-consciousness are concerned of what other people think about them and how they appear to others (Cheek and Briggs, 1982). People who are publicly self-conscious are especially concerned about their social identities and oriented toward gaining approval and avoiding disapproval (Doherty and Schlenker, 1991). Persons with high public self-consciousness are more inclined to forced laughter and control expression and action than those with low public self-consciousness, regardless of interpersonal intimacy level (Oshimi, 2002). In Tetlock et al.'s study (1989), subjects with high scorers on public self-consciousness and social anxiety scales were especially concerned with their public image. Dula et al. (2010) found higher levels of general anxiety were related to a wide variety of dangerous driving behaviors. Shahar's study (2009) indicated that anxiety

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level had a significant direct positive effect on errors, lapses, ordinary violations and aggressive violations. [Olteal and Rundmo \(2006\)](#) found anxiety was significantly correlated to excitement-seeking and risky driving behavior, and excitement-seeking was significantly correlated to risky driving behavior and collisions.

The ABC theory of emotion provides a widely accepted model of how one's feelings and behavioral patterns are created ([Ellis, 1991](#)). "A" stands for "activating" events in people's lives. These events represent what happens, for example, other motorists' blocking a driver's path. "B" stands for people's conscious or subconscious "beliefs" about these events and their interpretation of them, such as the blocking being intentional. "C" stands for emotional and behavioral "consequences" or "concomitants" of beliefs. They represent the feelings and behavioral patterns (conduct) people have as a result, such as frustration that produces anger. The ABC theory asserts that the emotions people experience, such as frustration or anxiety, and the resulting behavior, do not come directly from the events in their lives, but from the interpretations they make of those events (i.e. from the conscious or subconscious beliefs they bring to the situation). The central proposition of the theory is that the emotional and behavioral consequence (C) is not caused by the activating event (A) directly, but by the interpretation or belief (B) the person has of the meaning of the activating event. A person's propensity to anger when driving and the kinds of situations encountered on the road undoubtedly influence emotional and behavioral reactions ([Deffenbacher et al., 2003](#)). [Lajunen and Parker's study \(2001\)](#) found that having one's parking spot taken provoked a more severe aggressive reaction than having one's rear bumper hit, although the latter act poses a far more serious risk to safety than the former.

The present study focused on bus and taxi drivers' specific work environments which expose them not only to on-road behavior for long periods of time but also to mostly unknown passengers. It is difficult to regard their vehicle as extensions of their personal space ([Deffenbacher et al., 2003](#)), and passengers may become a source of distraction and a risk-promoting factor ([Chen et al., 2000](#)). The prevalence of and the factors associated with serious crashes involving distracting activities included carrying on a conversation with passengers ([McEvoy et al., 2007](#)). Unlike trucks' carrying cargo, a significant threat to transit safety is the ever-increasing prevalence of assaults, both on bus operators and on transit passengers ([Staes et al., 2014](#)). There is evidence accumulating that driver distraction and driver inattention are the leading causes of vehicle crashes and incidents ([Regan et al., 2011](#)). Workplace hazards have also been a major cause of concern in the taxi industry ([Machin and De Souza, 2004](#)). Accordingly, the study examined the effect of bus and taxi drivers' public self-consciousness and social anxiety in a closed space on their driving behaviors using self-report methods. Applying the ABC theory of emotion, the aim of the present study was to investigate the differences between bus and taxi driver groups (e.g. female and male; taxi and bus) in terms of public self-consciousness and social anxiety and to examine the influence on their aberrant driving behaviors. The primary research questions addressed in this study were as follows:

- Do bus and taxi drivers' public self-consciousness and social anxiety explain their aberrant driving behaviors?
- Does the gender or vehicle type (bus vs. taxi) of drivers interfere with their public self-consciousness and predict their aberrant driving behaviors?
- Does the gender or vehicle type (bus vs. taxi) of drivers interfere with their social anxiety and predict their aberrant driving behaviors?

This paper will subsequently present a brief literature review on driving behavior. Section 3 describes the research methodology, research instrument, data collection procedures, and research participants. Results obtained from in-depth statistical analysis are then presented. Finally, the results are discussed and conclusions are drawn.

## 2. Literature review

This section presents a review of the literature on driving behaviors and related factors.

### 2.1. Driving behaviors and gender

[Millar \(2007\)](#) produced a list of personality and individual difference variables related to the experience of anger while driving. [Ulleberg \(2002\)](#) investigated the relationship between risk-taking preferences and accident involvement and reported that the high-risk group consisted mostly of men, characterized by low altruism and anxiety levels and high levels of sensation seeking, irresponsibility, and driving related aggression. A considerable body of research has focused on identifying the causes of aggressive and violent driving behaviors and the subsequent impact these behaviors have on road safety ([Jeremy et al., 2007](#)). One of the most frequently used instruments to measure driving style is the Driver Behavior Questionnaire (DBQ) ([Reason et al., 1990](#); [Parker et al., 1995a,b](#)). The DBQ focuses on two distinct behaviors: errors and violations. Errors consist of actions that are not planned whilst violations are considered to be deliberate deviations from safe-driving practices. Violations include such behaviors as driving through red lights, driving close to the vehicle in front, driving over the legal blood-alcohol limit, and becoming involved in unofficial races with other drivers ([Parker et al., 1998](#)). An additional factor called "slips and lapses" focuses on attention and memory failures identified by [Reason et al. \(1990\)](#). Lapses reflect behaviors associated with memory and attention problems, while errors include more serious mistakes such as failures of observation and misjudgments.

Masculinity is associated with risk-taking behavior, acceptance of risk, a disregard of pain and injury, and hazardous actions. Such actions include excessive consumption of alcohol, drug use, aggressive behavior, desire to be in control of situations, and risky driving ([Slovic, 1964](#)). Young male novice drivers are far more likely to be involved in motor-vehicle crashes than their female counterparts ([Nyberg and Gregersen, 2007](#)). Men have twice the number of crashes (per 1000 drivers) as women ([Chipman et al., 1992](#)). Men are also more likely than women to be in crashes that occur on bends, happen in the dark, or involve overtaking. Women, on the other hand, are involved in a greater number of crashes occurring at junctions than men (MOTC.). In the UK, 40% of male drivers can be classified as 'high violators', compared with 20% of female drivers.

In their study, [Matthews et al. \(1999\)](#) found that male drivers reported comparatively higher aggression and comparatively lower overtaking tension than female drivers ([Matthews et al., 1991](#)). In a study conducted by the [Social Issues Research Centre \(2004\)](#), when presented with the statement, "I disregard the speed limits late at night or very early in the morning," 22% of male drivers agreed with the statement compared with only 8% of females. Females had a stronger sense of obligation to obey traffic laws. They were also more likely to evaluate traffic laws positively. [Baker et al. \(2003\)](#) reported that senior women are significantly overrepresented in crashes that occur under the "safest" conditions: in daylight, when traffic is low (not at rush hour), when the weather is good, and when the roads are dry. The study findings presented above suggest that aberrant driving behavior differs between male and female drivers.

### 2.2. Self-consciousness

Individuals may have different dispositional tendencies to self-awareness, which has been conceptualized as self-consciousness. Self-awareness theory is based on the assumption that conscious awareness can be directed either toward the self as an object of scrutiny (objective self-awareness) or toward the external environment (subjective self-awareness) ([Duval and Wicklund, 1972](#)). [Fenigstein et al. \(1975\)](#) developed the Self-Consciousness Scale (SCS) to assess individual

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