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The determinants of driving aggression among Polish drivers

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ABSTRACT

The present study examined the relationships between narcissism, self-esteem, driving anger, and driving aggression in an Internet survey of 334 Polish drivers using the Polish versions of the Driving Anger Scale (DAS), the Driving Vengeance Questionnaire (DVQ), Rosenberg's Self-Esteem Scale, the Narcissistic Personality Inventory (NPI), and the Driving Behavior Survey (DBS). High levels of narcissism and low self-esteem predicted driving aggression. Implications for improving road safety are discussed. We compare the findings with the most recent results from North America.

1. Introduction

Poland has one of the highest rates of roadway fatalities in Europe – almost twice as high as the average for Europe and three times higher than the corresponding figures Scotland, Great Britain, and the Netherlands (Raport Krajowej Rady Bezpieczeństwa Drogowego, 2010). The United Nations World Health Organization (2009) reported 5583 traffic fatalities and 63,224 traffic injuries in Poland in 2007. By 2012, the statistics declined to 3582 and 45,094, respectively. Although these figures are decreasing, the high rate of accidents in Poland remains a concern, as it is one of the highest in the EU (Raport Komendy Głównej Policji, 2013). The main three causes of crashes are driving at a speed inappropriate for the traffic conditions, disobeying right-of-way regulations, and improper behavior towards pedestrians. In Poland, fatal accidents are caused mostly by young men aged between 25 and 39 years (Symon, 2013). When it comes to automobile ownership, Poland ranked 21st in Europe in terms of the number of passenger cars per 1000 inhabitants (UNECE Transport Statistics Database, 2009). Male drivers constitute a majority of Polish drivers and they drive more frequently than women (Centralna Ewidencja Pojazdów i Kierowców, 2011). However, this is changing as more and more women obtain driving licences. In 2011, there were over 20 million drivers, 40% of whom were women.

Another aspect that should be considered is the poor road infrastructure in Poland in comparison with other EU countries (Civic Development Forum Foundation, 2009). The Polish road network contains a small number of expressways, lacking facilities for pedestrians and cyclists (Centrum Adama Smitha, 2013); poorly designed roadways also contribute to the high number of fatalities. With the number vehicles registered in Poland increasing to 19,000,000 in 2012 (Centralna Ewidencja Pojazdów i Kierowców, 2011), road construction lags far behind demand. Since Poland joined the EU in 2004, there has been

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considerable improvement in infrastructure, but the discrepancy between Poland and other EU countries is still large. For instance, in 2009 there were about 2500 km (1,55 mi) of expressways in Poland, while Germany and France had well over 10,000 km (6,21 mi) of highways (Civic Development Forum Foundation, 2009).

Roadway aggression is an international concern and is perceived to be on the rise worldwide (Jovanović, Stanojević, & Stanojević, 2011; Lennon, Watson, Arlidge, & Fraine, 2011; Wickens, Mann, Stoduto, Ialomiteanu, & Smart, 2011; Wiesenthal, Lustman, & Roseborough, in press; Wiesenthal & Singhal, 2012). Aggressive drivers were indicated among the most serious traffic safety problems (AAA Foundation for Traffic Safety, 2008). Although, the link between the high percentage of fatalities and driving aggression has been reported (Raport Krajowej Rady Bezpieczeństwa Drogowego, 2013), there have been few empirical studies in Poland investigating the issue of driving behavior (e.g., Blachnio, Przepiorka, & Sullman, 2013; Blachnio, Przepiorka, Sullman, & Taylor, 2013; Grunt-Mejer & Grunt-Mejer, 2011; Wontorczyk, 2011). Given the scant research on aggressive driving in Poland, it seems to be important to explore the nature of aggression on Polish roads and examine both demographic and personality variables associated with driving aggression.

In the present study, the general aggression model (GAM) will serve as the theoretical framework. The GAM has already been used in traffic psychology research (cf. Blankenship & Nesbit, 2013; Hennessy, Wiesenthal, & Kohn, 2000). It assumes that a combination of situational and personality factors make up the input for aggressive behavior (Anderson & Bushman, 2002). According to the model, traits, gender, attitudes, beliefs, values, and long-term goals represent personal factors leading to aggression. Those personal predispositions that are fairly stable across time and situations are brought into a particular situation. The situational factors include aggressive cues, provocation, frustration, pain, discomfort, drugs, and incentives. All these factors from the input level can be labeled as proximate causes. The likelihood of aggression occurring depends on these factors. Personal and situational factors may influence the occurrence of aggression either separately – on their own – or interactively, via the second level, constituted by cognitive, affective, and arousal states. These are all different but interrelated routes. One route may activate or gain access to another pathway, for instance hostile feelings and the physiological arousal connected with them may awaken hostile cognitions (e.g. thoughts). These factors account for individual differences under similar conditions. People may differ in their responses to objective provocations. The third and last level is comprised of the outcomes of the appraisal and decision processes that differ in the degree of controllability. The results of interaction between person and situation enter the third level via internal states. The outcome, in the form of either thoughtful or impulsive action, influences social encounters, which have an impact on the initial input – on both personal and situational factors. The inputs, routes, and outcomes are parts of an episode: an individual action in a given situation (Anderson & Bushman, 2002). In the present study, we concentrated on first-level variables, examining the relations between personality and demographic characteristics related to driving aggression.

As Tillmann and Hobbs (1949, p. 329) observed, "a man drives as he lives," which implies a general aggressiveness trait that may be manifested in a variety of situations. Van Rooy, Rotton, and Burns (2006) obtained a correlation between driving aggression and general aggressiveness. Wilson and Daly (1985) explained the higher aggressiveness and risk among young male drivers using an insight derived from evolutionary theory. Tailgating, breaking traffic rules, or speeding are more common among this group of drivers. Wiesenthal and Singhal (2012) expanded Wilson and Daly's model by adding two types of variables: (1) societal and situational factors such as socialization practices (family, social aspects), media, and the presence of passengers, and (2) individual difference variables such as personality traits, driving skills, and others. The authors analyzed Canadian collision and fatality data from more than three decades and observed that the decline in the proportion of young males in the population was mirrored by a similar decrease in motor vehicle injury and fatality rates, supporting evolutionary theory. Lawton, Parker, Manstead, and Stradling (1997) distinguished two factors: highway code violations and aggressive violations. The former included speeding or overtaking in a prohibited manner. The latter included chasing, shooting, or assaulting other motorists. Hennessy and Wiesenthal (2001) distinguish between driving violence, as an extreme and rare act aimed at other drivers, and mild driving aggression, which is a more common act. They describe two approaches to defining aggression. One approach is to stress the driver's motivation to do harm to others as the key to this construct; therefore, in this light, accidental and unintended acts against other motorists are not included in the driving aggression category. The other approach assumes that all risky and dangerous behaviors in the driving context can be labeled as aggressive. For the purpose of our study, by aggressive driving we meant an action with harmful intent aimed at other motorists; it is, then, distinct from risky driving (Hennessy & Wiesenthal, 2002a). Exploring the issue of aggressiveness among drivers seems to be of paramount importance, given that driving anger and hostility increase the likelihood of road traffic (King & Parker, 2008).

Research (e.g., Diekmann, Jungbauer-Gans, Krassnig, & Lorenz, 1996; Wickens, Mann, et al., 2011) indicated that aggressive behavior may be related to gender, socioeconomic status, education, and age. Young drivers are more aggressive than older drivers (Krahé & Fenske, 2002; Wickens, Mann, et al., 2011) and tend to overestimate their driving skills (Gregersen, 1996). Wiesenthal, Hennessy, and Gibson (2000) indicated that younger drivers (18–23 years old) had a heightened tendency to vengeful behavior compared to older drivers (aged 24–66). Wiesenthal et al. (2000) found that less experienced drivers (0–6 years) had a higher tendency to vengeful driving than those with longer experience (6 + years), although age and driving experience are often confounded, especially given the university sample in question.

Plenty of research evidence points to gender differences in driving behavior, particularly in acts of extreme aggression. Gender differences were not found for the frequency of mild aggression but were evident in the expression of more extreme aggression (Hennessy & Wiesenthal, 2001; Hennessy, Wiesenthal, Wickens, & Lustman, 2004). Deffenbacher (2008) showed that some gender differences occurred in aggressive and risky behavior while at the same time there were no differences in driving anger. Anger was triggered by similar driving situations and with similar intensity in both women and men