

Social psychology of seat belt use: A comparison of theory of planned behavior and health belief model

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Abstract

Despite the proven effectiveness of seat belt use in reducing injury severity in road traffic accidents, a large number of car occupants do not use a seat belt in Turkey. The main aim of the present study was to explain self-reported seat belt use among front seat passengers with the basic and extended (habit, moral norm and anticipated regret added) theory of planned behavior (TPB) model and the health belief model (HBM), and to compare the models' predictive power and fit to the data. Students ($N = 277$) completed a questionnaire including demographic information and the TPB and HBM items applied to seat belt use. Structural equation modeling (SEM) techniques were used in analysis of the data. Results showed that the basic TPB model showed a good fit to the data whereas the extended TPB model and the HBM model fitted the data poorly. Within the basic TPB model, attitudes and subjective norm had a positive relationship to seat belt use intention for both urban and rural roads. Practical implications of the results for the seat belt use campaigns and traffic safety are discussed.

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1. Introduction

International research has consistently proven the effectiveness of seat belt use in preventing and reducing fatalities and severe injuries during road vehicle accidents (Evans, 1986; IRTAD, 1995; NHTSA, 2003; Petridou, Skalkidou, Ioannou, & Trichopoulos, 1998). Evans (1986) indicated that, if all the front seat occupants in the US were to use lap/shoulder belts without changing any other behavior, then there would be a 41% reduction in fatalities. Similarly, the NHTSA (2003) reported the effectiveness of seat belt use in reducing fatalities and injuries during the previous 20 years in the US. While using seat belt saved more than 100,000 lives, over 7000 people were killed and over 100,000 people were injured due to not using a seat belt (NHTSA, 2003). Also, IRTAD (1995) has estimated that the use of seat belts has reduced the injury severity in about

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50% of road vehicle accidents, especially in accidents that would have resulted in fatal or severe injuries. Petridou et al. (1998) evaluated motor vehicle deaths in Greece that could have been avoided by the use of standard safety devices. They found that 27% of road fatalities would have been avoided if all car occupants had used a seat belt. Hence, use of seat belt as an effective safety device can be seen to play an important role in traffic safety by reducing the severity of injuries during road vehicle accidents.

Despite the enacted seat belt legislation for urban and rural roads, a large number of car occupants do not use a seat belt in Turkey (T.C. Emniyet Genel Müdürlüğü, 1999). The results of an observational study from Turkey showed that, 71% of the drivers used a seat belt on rural roads, while 21% of them used a seat belt on urban roads (T.C. Emniyet Genel Müdürlüğü, 1999). Low seat belt usage rates have been accepted as one of the main problems in traffic safety in Turkey, where fatality and injury rates in traffic accidents are very high (SWE ROAD, 2001; T.C. Emniyet Genel Müdürlüğü, 1999).

Besides car occupant characteristics and situational factors, there are also some social psychological factors such as attitudes, beliefs, and intentions affecting the seat belt use of car occupants (Chliaoutakis, Gnardellis, Drakou, Darviri, & Sboukis, 2000; Fhanér & Hane, 1975; Jonah & Dawson, 1982). Negative attitudes and beliefs about the effectiveness of seat belt use had a negative relationship to seat belt use (Begg & Langley, 2000; Fockler & Cooper, 1990). Not liking to use a seat belt and discomfort were among the main reasons for having negative attitudes towards using a seat belt (Begg & Langley, 2000; Fockler & Cooper, 1990). However, having positive attitudes, beliefs and intentions about using a seat belt were not strong predictors of actual seat belt use of drivers all the time (Chliaoutakis et al., 2000; Knapper, Cropley, & Moore, 1976; Loo, 1984). It has been reported that, although most car occupants agreed with the effectiveness of seat belt use, their actual seat belt use was low (Chliaoutakis et al., 2000; Knapper et al., 1976; Loo, 1984). This significant divergence between intentions to use seat belt and actual seat belt use was mainly explained by drivers' not having a habit of using a seat belt (Calisir & Lehto, 2002; Chliaoutakis et al., 2000; Knapper et al., 1976). As summarized by Calisir and Lehto (2002), the decision to use a seat belt was not a result of a comparison of risk against benefits all the time. Instead, seat belt use was a habitual behavior that was mainly affected by a person's gender, age, GPA and perceived usefulness of seat belts in a possible accident (Calisir & Lehto, 2002).

Social psychological theories provide potentially useful yet rarely used tools for explaining how attitudes, beliefs, and values influence seat belt use. The theory of planned behavior (TPB) and the health belief model (HBM) are the two powerful social psychological theories, which have been commonly used to understand the beliefs, values and attitudes underlying a wide range of health behaviors (Åberg, 2001; Conner & Sparks, 1996; Sheeran & Abraham, 1996; Stroebe, 2000).

1.1. The TPB and its applications to health behaviors

The TPB (Ajzen, 1985, 1991) was extended from the "Theory of Reasoned Action" (TRA), which was the earlier work of Fishbein and Ajzen (1975). According to the TPB, the immediate predictors of behavior are intentions, which are determined by attitude, subjective norm and perceived behavioral control (Ajzen, 1985, 1991; Conner & Sparks, 1996). Attitudes are a person's overall evaluations of a behavior while subjective norm consists of the person's beliefs about whether significant others think he/she should engage in that behavior (Ajzen, 1985, 1991; Conner & Sparks, 1996). Perceived behavioral control has both direct and mediated effects (by behavioral intention) on behavior and refers to the person's perception of control on engaging in that behavior (Ajzen, 1985, 1991; Conner & Sparks, 1996). The TPB has been extended with the inclusion of new constructs. The basic TPB model included only attitudes, subjective norm and perceived behavioral control as the determinants of intentions, whereas the extended TPB model additionally included moral norm, anticipated regret and habit constructs (Åberg, 2001; Manstead & Parker, 1995). In the extended TPB, moral norm refers to the individual's personal beliefs about what is right and wrong to do, while anticipated regret refers to anticipated affective consequences of breaking internalized moral rules (Manstead & Parker, 1995). Inclusion of the habit construct to the theory especially aimed to cover the habitual and autonomous behaviors like driving which might not be volitional (Åberg, 2001). The addition of these new constructs to the TPB has been found to improve its predictive power significantly (Åberg, 2001; Manstead & Parker, 1995).

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