Accident Analysis and Prevention 73 (2014) 53–64

Contents lists available at ScienceDirect

Accident Analysis and Prevention

journal homepage: www.elsevier.com/locate/aap

The effect of family climate on risky driving of young novices: The moderating role of attitude and locus of control

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ARTICLE INFO

Article history:
Received 19 March 2014
Received in revised form 28 July 2014
Accepted 5 August 2014

Keywords:
Family climate
Parental influence
Socio-cognitive factors
Risky driving

ABSTRACT

The aim of the study was to examine the relative importance of young novice drivers' family climate on their driving behavior. A sample of young novice drivers ($N = 171$) between the age of 17 and 24, who held their permanent (or temporary) driver's license for no longer than one year, participated. The questionnaire included items related to the participants' family climate, 3 socio-cognitive determinants (i.e., attitude, locus of control and social norm), and risky driving behaviors. We expected both family climate and the socio-cognitive determinants to exert a direct effect on risky driving. Furthermore we hypothesized that the socio-cognitive determinants would moderate the impact of family climate on risky driving. The results showed that the effect of family climate on risky driving only originated from one single factor (i.e., noncommitment). Besides that, the results confirmed the importance of the three socio-cognitive determinants to the degree that attitude, locus of control, and social norm significantly predicted the self-reported risky driving. In line of what we hypothesized, attitude moderated the relationship between noncommitment and risky driving. Lastly, we found an unexpected three-way interaction which indicated that locus of control moderated the relation between noncommitment and risky driving only when young drivers' attitude was risk-supportive. We recommend scholars and practitioners to take into account the interaction between external sources of influence (such as an individual's family climate) and more personally oriented dispositions (such as an individual's attitude, social norm and locus of control) when trying to explain and change young novices' risky driving.

1. Introduction

1.1. Parent-offspring socialization

As can be derived from Bandura's social learning theory (Bandura, 1986), behavior can be modified by learning from others. Such learning can be done directly (for instance, through verbal persuasion), as well as indirectly (i.e., through vicarious experiences) and thus observing the behavior of others. Over the last few years we see an increase of interest in these social influences, and more specifically the influence of parents on the risky driving of their children.

Because of their educative responsibility, parents can influence their children's driving behavior through family socialization (Taubman-Ben-Ari et al., 2005). Parent-offspring socialization has been explored for a variety of traffic safety related behaviors (Lam, 2001; Loubeau, 2000; Morrongiello and Barton, 2009), but mainly in samples of young novice drivers (Bianchi and Summala, 2004; Ferguson et al., 2001; Hartos et al., 2002; Miller and Taubman-Ben-Ari, 2010; Scott-Parker et al., 2009; Shope et al., 2001; Simons-Morton et al., 2002; Taubman-Ben-Ari and Katz-Ben-Ami, 2012). An important finding within this research domain is that violation and driving records of parents translate into similar driving records of their children (Brookland et al., 2014; Ferguson et al., 2001; Wilson et al., 2006). Ferguson et al. (2001) indicated that the driving records of children are related to those of their parents, since children were more likely to be involved in at least one crash if their parents had more than 3 crashes. Not only crash and violation records but also driving styles transmit from parent to

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http://dx.doi.org/10.1016/j.aap.2014.08.005
0001-4575/

child. Miller and Taubman-Ben-Ari (2010) demonstrated that the driving style of parents and their children correlate significantly. Bianchi and Summala (2004) found indications for parent-offspring behavior transmissions, since they concluded that the self-reported driving behavior of parents explained the self-reported behavior of their children. In similar vein, the study of Prato et al. (2010) found an association between the risk taking behavior of young novice drivers on the one hand and their parents' driving behavior, the amount of supervised driving and the level of parental monitoring on the other hand. Besides supervision and monitoring, there are several other factors that underlie a parent-child connection such as for instance modeling of driving behavior or parental teaching and communication skills (Schmidt et al., 2014; Goodwin et al., 2014). A longitudinal study by Shope et al. (2001) discovered that negative influence of parents such as the levels of parental monitoring, family connectedness, nurturing and lenient attitude toward young people's drinking, increased young drivers' risk of collision and driving violations. A study by Hartos et al. (2002) demonstrated that risky driving of young drivers at the follow up measurement was, among others, predicted by parental restrictions. In another light, Scott-Parker et al. (2009) revealed that instead of parental restrictions, it was anticipated parental reward that significantly explained youngsters' risky driving.

Although the impact that parents have on their children's driving behavior has been made evident, further research on how these parental driving behaviors are transmitted is still required. The major objective of this study is to examine the underlying mechanisms of parental influence and its impact relative to other determining (intrinsic or environmental) factors, since these aspects provide a better understanding of the process of parent-child socialization in traffic safety.

1.2. Family safety climate

Social learning, intergenerational, and socialization theories have placed significant emphasis on familial processes of behavior transmission and focused more particularly on parents as offspring role models (Schneewind, 1999; Taubman-Ben-Ari et al., 2005). Starting from the idea that parenting practices are strongly embedded in a somewhat broader 'family context', Taubman-Ben-Ari and Katz-Ben-Ami (2013) recently added the concept of 'family safety climate' to the literature on parenting. In an exploratory study, Taubman-Ben-Ari and Katz-Ben-Ami (2013) proposed 7 domains that shape the family climate for road safety (FCRS) concept. Together, these 7 dimensions cover the 2 basic mechanisms of *direct* and *indirect* parental behavior transmission. This follows from the seminal work on social learning by Bandura (1986), in which these two types of learning processes are elucidated. In case of the FCRS concept, 2 dimensions (i.e., modeling and noncommitment) can be related to *indirect* social learning processes, and 5 dimensions (i.e., monitoring, limits, feedback, messages, and communication) to *direct* social learning processes.

With regard to the *direct* learning processes it can be noted that there are some factors that are to some extent related to each other. Although the factors 'feedback' and 'messages' closely relate to each other, they address two different aspects of parent–child interaction. On the one hand, 'feedback' refers to the encouragement and positive comment parents provide on their children's driving. 'Messages' on the other hand, relates to parents explicitly verbalizing their own personal opinion on the importance of road safety, also outside the context of discussing or evaluating their children's driving behavior. Two other related factors are monitoring and limits. While monitoring relates to the level up to which parents supervise their children's driving behavior, the factor 'limits' stands for the extent to which parents really set clear restrictions. The relevance of these two factors is derived from studies showing that parental monitoring and imposing proper restrictions (e.g., night time driving, driving with peer passengers) both have an influence on the driving behavior of adolescents (Beck et al., 2001; Hartos et al., 2000, 2002; Shope et al., 2001). Interestingly, for driving restrictions to be effective, it is important that parents and their children are in agreement with each other (Beck et al., 2001). In addition, it appears to be best to actively involve children in negotiating driving limits since low autonomy-supportive parental environments have been shown to associate with strong extrinsic aspirations, with the latter being significantly related to an increased propensity to engage in high-risk behavior (Williams et al., 2000).

The factor 'communication' in turn, stands for still another qualitative aspect of direct parent–child interaction, namely, the level at which they maintain open and direct contact with each other. The importance of open and direct parent–child communication for the prevention of risky behavior has been assessed recurrently for a multitude of impaired health-related behaviors such as smoking, substance abuse, unsafe sex, etcetera (Harakeh et al., 2005). Also, as demonstrated by Sherman et al. (2004), open communication is important to avoid misunderstandings with respect to the application of any eventual rules and restrictions related to children's driving.

The two remaining factors, i.e., 'modeling' and 'noncommitment' both are to be considered as forms of *indirect* social learning. Modeling is about the example parents set through their own attitude and driving style. The study by Cestac et al. (2014) showed that merely asking your teen not to take a risk is certainly not enough. Parents must set an example for their children. The importance of modeling in driving behavior is undeniable, as research shows that driving behaviors of children mirror the driving behaviors of their parents (Bianchi and Summala, 2004; Ehsani et al., 2014; Lahatte and Le Pape, 2008; Miller and Taubman-Ben-Ari, 2010; Taubman-Ben-Ari et al., 2005), and that crash rates and violations of parents can predict those of their children (Brookland et al., 2014; Ferguson et al., 2001; Wilson et al., 2006). The factor 'noncommitment' refers to parents' tendency to be actively involved in and committed (or not) to road safety. Research indicates that more outspoken engagement of parents in road safety increases desirable attitudes and driving behavior (Ginsburg et al., 2009; Laird, 2014).

In order to measure these 7 factors, Taubman-Ben-Ari and Katz-Ben-Ami (2013) developed a questionnaire (i.e., the Family Climate for Road Safety Survey). They were able to identify them as the conceptual backbone of 'family safety climate' by means of factor analysis in a sample of Israeli young novice drivers. Moreover, they explored the predictive validity of their FCRS-model, and found that 2 out of the 7 underlying dimensions significantly predicted Israeli young novice drivers' commitment to safe driving. Additionally, 4 out of 7 dimensions also predicted a set of self-reported driving violations. As will become clear, the current study uses this measurement scale in order to assess the effect of family climate on the behavior of young novice drivers in Flanders. However, before passing to the more precise aims and hypotheses of this study, we first elaborate on the potential of an individual's personally held dispositions to moderate the effect of family safety climate on risky driving.

1.3. Moderation of family safety climate effects

In the field of traffic safety as in other (health related) domains, it is a widely acknowledged idea that the formation of behavior is a process where external factors (such as FCRS) interact with more personally held dispositions (Green and Kreuter, 2005). Yet, despite the popularity of this contention, there is not much empirical work available on the more precise nature of this interaction. Walker and Frimer (2007) together with Hardy and Carlo (2005) also concluded this when reviewing the domain of moral