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# Drivers' psychological and physical reactions after motor vehicle accidents

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**Abstract**

The purpose of this study was to investigate if drivers that reported being in at least one motor vehicle accident (MVA) within the past five years would report greater psychological and physical reactions than drivers not being in an accident. Of particular interest were psychological conditions such as greater fears for personal safety, worries about driving, driver stress, exhaustion, and disproportional negative physical symptoms such as headaches and sleeplessness. A second research goal was to determine the role of gender in drivers' post-accident reactions. The study was conducted using 124 drivers. The results, using MANOVA, showed the drivers that reported being in a MVA within the past five years reported significantly greater fears for personal safety, worries about driving, exhaustion, and negative physical symptoms than did drivers not being in a MVA. Female MVA victims reported greater personal safety concerns and disproportionate negative physical symptoms than did the male drivers.


*Keywords:* Motor vehicle accidents; Automobile accidents; Driving; Traffic accidents; Traffic psychology

## 1. Introduction

Driving motor vehicles is accepted as being essentially unavoidable for most people around the world. This acceptance comes despite the fact that driving is known to be hazardous. For example, in 1998 in the United States 2,070,000 accidents were reported, which resulted in 41,471 fatalities and 3,192,000 injuries and in the United Kingdom 246,410 accidents were reported, which resulted in 3581 fatalities and 335,033 injuries (UN/ECE Transport Division).

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The typical motor vehicle accident (MVA) survivor experiences grief, guilt, and a sense of demoralization after the accident. He or she often experiences some psychological trauma regardless of the severity of MVA (Mayou, 2001; Smith, 1989). Smith describes two types of psychological reactions after a MVA. They include early psychological trauma and delayed psychological reactions.

Early psychological trauma occurs close in time to the MVA, typically within a day or two, but not more than a week. However, the duration and severity are not predictable (Smith, 1989). Smith notes that with early psychological trauma three groups of symptoms are often present. He describes the first group as being most closely related to the aspects of the MVA itself. These involve nervous tension and apprehension that intensifies during driving, recurring images of the MVA, and dreams or nightmares of the MVA. The symptoms are reflective of an anxiety disorder caused by the MVA. Smith describes the second group of symptoms as being related to mild trauma to the brain and involving dizziness, confusion, loss of concentration, memory difficulties, nausea, depression, irritability, lower frustration tolerance, vertigo, blurred vision, and sleep disturbances. If the MVA survivor experienced severe head injuries, even more symptoms may occur. Smith describes the third group as involving physical symptoms that are disproportionate to the physical injuries caused by the MVA. These can include headaches, neck pain, insomnia, and fatigue. He notes that the symptoms often are exacerbated by nervous tension and anxiety.

Delayed psychological reactions, the second type of psychological reactions to a MVA, involve delayed reactions. Smith defines these reactions as "an adverse secondary adaptation to the 'situation' created by the accident/injury" (1989, p. 11). The situation includes pain, feelings of vulnerability, new family and financial demands, new perspectives on work and driving to and from work, treatment, and legal concerns. Smith notes that these factors can lead to prolonged psychological symptoms for MVA victims such as depression, reactive somatoform disturbances, hostility, and chronic and generalized anxiety. He adds that less common symptoms can include post-traumatic stress disorder (PTSD), psychotic episodes, and malingering or exaggerations of symptoms.

PTSD following MVAs has been widely studied (e.g., Blanchard et al., 1996; Blanchard et al., 1995a; Blanchard, Hickling, Taylor, & Loos, 1995b; Blanchard, Hickling, Taylor, Loos, & Gerardi, 1994; Blanchard et al., 1995c; Brom, Kleber, & Hofman, 1993; Bryant & Harvey, 1995; Feinstein & Dolan, 1991; Goldberg & Gara, 1990; Green, McFarlane, Hunter, & Griggs, 1993; Hickling & Blanchard, 1992; Jones & Riley, 1987; Kuch, Cox, Evans, & Shulman, 1994; Kuch, Evans, Watson, & Bubela, 1991; Kuch, Swinson, & Kirby, 1985; Mayou, Bryant, & Duthie, 1993; Mayou, Ehlers, & Bryant, 2002). See Table 1 for more information about those studies and studies about other psychological topics and MVAs. Bryant and Harvey (1995) reported that PTSD occurs in 10–50% of the MVA survivors depending on the research being reviewed. They reported that both objective and subjective factors play a role in the development of PTSD. First, PTSD is associated with stressor-related factors such as how violent the MVA was and the extent of the injuries. Second, PTSD is influenced by the perception of the trauma severity. Third, PTSD is influenced by compensation issues. Fourth, avoidance behaviors often are a reaction to intrusive thoughts of the accident and can prolong the PTSD.

Several researchers have studied MVA survivors and their driving phobias. Blanchard et al. (1995b) interviewed 158 drivers involved in MVAs and found that 6% percent reported having a driving phobia. Kuch et al. (1994) interviewed 55 drivers involved in a MVA and found 38% to be