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Effects of Education on Speeding

Speeding continues to be a serious problem in the United States, with speeding as a contributing factor in 28 percent of fatal crashes in 2022 (NCSA, 2024). With such a high prevalence, it is important to examine countermeasures that may supplement enforcement efforts on speed management (Venkatraman et al., 2021; AASHTO, 2010). Preliminary evidence supports the effectiveness of speeding education as one such non-enforcement approach for addressing the speeding problem (Ipsos MORI, 2018; Newnam & Watson, 2009). Using a combination of naturalistic driving and self-report data, this experimental study further examines the effects of speeding education on speeding.

Method

Participants

A variety of methods were used to recruit participants in Wake County, North Carolina (e.g., social media, flyers, traffic courts). The final sample had 123 participants who were primarily female (61%) and were 18 to 74 years old (*Mean* = 36 years). Each participant received \$200 for full participation.

Intervention

Participants were randomly assigned to the speeding education or control condition, with younger (18 to 30) and older (30+ years) drivers evenly distributed across the two conditions. The 40-minute **speeding education** course consisted of watching speeding-related content, speed management, and aggressive driving (National Safety Council, 2023). In contrast, the 45-minute **control** course included five publicly available videos about car maintenance (e.g., changing oil, fixing a flat tire).

Questionnaires

In addition to completing demographic questions at enrollment, participants completed a driving-related questionnaire at three time-points: at enrollment, immediately after the intervention, and at study completion. This questionnaire contained questions on speeding-related attitudes, beliefs, and behaviors “in the past 30 days.”

Speeding Behavior

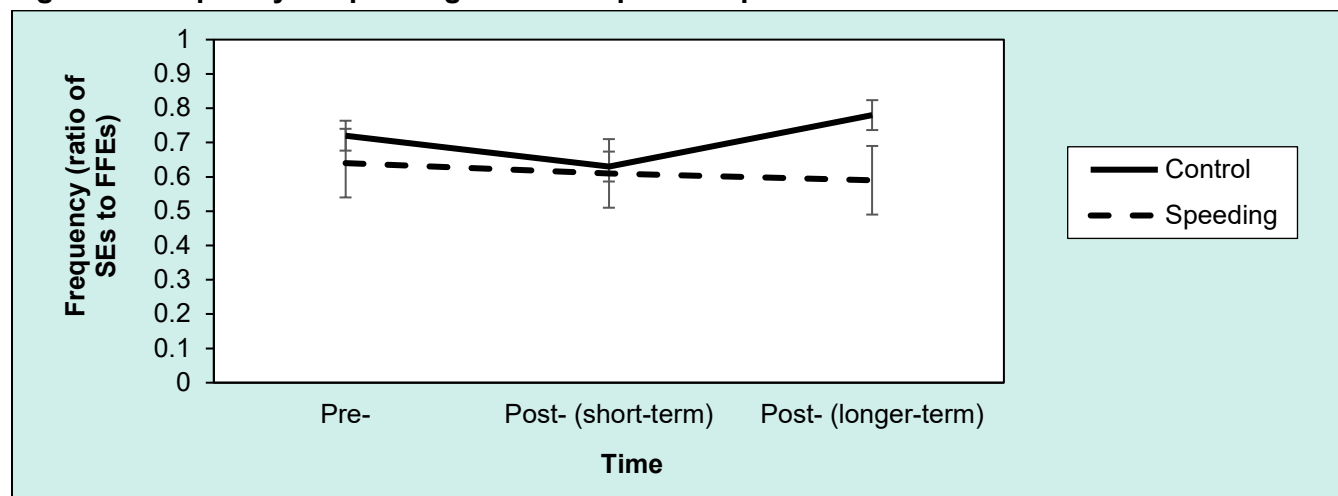
Participants’ vehicles were outfitted with GPS devices for 30 days pre- and post-intervention to capture naturalistic driving data. Opportunities to speed, or free flow episodes (FFE), were indicated when drivers drove at/near the posted speed limit (PSL) for 30+ seconds, while speeding episodes (SEs) were indicated by drivers going 10 mph+ above the PSL for 6+ seconds. Speeding frequency, duration, magnitude, and type (e.g., momentary, riskier) were then calculated as ratios of SEs to FFEs (i.e., speeding during opportunities to speed).

Results

The results showed support for speeding education as an effective intervention for changing speeding behavior, attitudes, and beliefs. While both groups similarly reduced their speeding in the short term (1-2 weeks post-intervention), the groups significantly differed in the longer term (3-4 weeks post-intervention) with the speeding education group demonstrating sustained reductions in speeding frequency and duration and the control group rebounding to earlier speeding behavior (Table 1). In addition, speeding education significantly reduced drivers’

speeding magnitude on 50 mph+ roads compared to controls; significantly reduced speeding magnitude among younger (<30 years) drivers compared to older drivers; and significantly reduced speeding duration and magnitude among drivers with no speeding citation history compared to those with a citation history.

Figure 1. Frequency of speeding behaviors pre- and post- intervention



Further, self-report survey data showed that, as compared to the control group, the speeding education group lowered their “intention to speed in the next 30 days” and increased their belief that “driving within / near the PSL (< 5 mph over) reduces their chances of a crash.” Additionally, both groups self-reported a decrease in risky driving behavior from pre- to post-intervention; however, they did not significantly differ from each other because both groups similarly decreased their risky driving behavior.

Discussion

The results show that a brief (<1 hour) online speeding education intervention can effectively change speeding-related attitudes and beliefs as well as reduce actual speeding behavior up to one month later. This provides strong preliminary evidence that speeding education is a promising supplementary countermeasure to enforcement approaches to speed management. Future research would benefit from further examining this speeding education program, such as with a larger sample size or varying the intervention length/modality, to demonstrate the full applicability and effectiveness of this speed management countermeasure.

Full Report

The full report is available to the public from the DOT, BTS, National Transportation Library, Repository & Open Science Access Portal, <https://rosap.ntl.bts.gov>.

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