



# Design and implementation of a parent guide for coaching teen drivers<sup>☆</sup>

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## ABSTRACT

**Introduction:** Teens beginning to drive independently are at significant increased risk of motor-vehicle crashes relative to their other life stages. There is, however, little guidance for parents as to how best to supervise learning to drive. **Method:** This study sought to undertake an informed approach to development and implementation of a *Parent Guide*. We included a multi-stage development process, using theory, findings from a Delphi-study of young driver traffic-safety experts, and parent focus groups. This process informed the development of a *Guide* that was then evaluated for feasibility and acceptability, comparing a group that received the *Guide* with a control group of parent and teen dyads. Both members of the dyads were surveyed at baseline, again at the approximate time teens would be licensed to drive independently (post-test), and again three months later. **Results:** We found no difference in the proportion of teens who became licensed between those given the new *Guide* and control teens (who received the state-developed booklet); that is the *Guide* did not appear to promote or delay licensure. Teens in the *Guide* group reported that their parents were more likely to use the provided resource compared with control teens. Responses indicated that the *Parent Guide* was favorably viewed, that it was easy to use, and that the logging of hours was a useful inclusion. Parents noted that the *Guide* helped them manage their stress, provided strategies to keep calm, and helped with planning practice. In contrast, control parents noted that their booklet helped explain rules. Among licensed teens there was no significant difference in self-reported risky driving at the three-month follow-up. We discuss the challenges in providing motivation for parents to move beyond a set number of practice hours to provide diversity of driving practice.

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## 1. Introduction

Driving is one of the most complex, dynamic, and potentially harmful tasks in daily life, and learning to drive is a significant event for teens and their parents. For teens, the risk of being fatally or non-fatally injured in a crash is at its highest lifetime level during the early stages of driving independently (Masten & Foss, 2010; Mayhew, Simpson, Groseillers, & Williams, 2001), with motor-vehicle crashes (MVCs) the leading cause of death for teens (CDC, 2017). Graduated driver licensing (GDL), developed to reduce teen driver crashes, is effective in increasing safety while teens begin driving independently (Shope, Molnar, Elliot, & Waller, 2001). GDL requires that an experienced driver supervise teens' driving during the learner stage, a role usually undertaken by a parent. Appropriate parental involvement potentially enhances GDL's overall effectiveness, yet there has been little evidence-

based guidance to help parents supervise their learner teens' practice driving in a way that increases their safety later when they are driving independently without supervision (Curry, Peek-Asa, Hamann, & Mirman, 2015). This paper describes the design, implementation, and process evaluation of a theory-based guide to assist parents with not merely supervising, but effectively coaching, their teens in the learner stage of GDL so that they can be safer when driving independently.

Research indicates that increased parent involvement reduces the teens' MVC risk (Simons-Morton & Ouimet, 2006), but parents vary in their involvement, engagement, interest, and approach to coaching, supervising, and monitoring their teens' driving (Goodwin, Foss, Margolis, & Harrell, 2014; Simons-Morton, Ouimet, & Catalano, 2008). A recent review of parent-directed programs designed to improve teen driver safety suggested that active engagement by parents is a common element in the few effective programs that reduce factors associated with teen driver crash risk (the reviewed programs were focused on both the learning stage and early independent driving stage; Curry et al., 2015). The review further identified two effective programs that focus on parenting behavior in the learner stage. The program reported by Mirman et al. (2014) showed fewer assessment terminations in a practical driving assessment task (errors with the potential to seriously

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jeopardize safety). Their program involved a website of videos for skill development, and the research team provided a reminder call after three weeks without a login throughout the learner stage.

Another study of a somewhat contact-intensive program that was conducted throughout the learner stage involved a 45-minute session, four phone sessions, a DVD, and a workbook (Peek-Asa et al., 2014). The program sought to provide parents with skills to motivate their teens to make safe driving decisions through motivational interviewing, and to provide information about safety principles (e.g., traffic signals, being a safe passenger, rural driving). The evaluation showed that intervention teens who reported a high frequency of driving-related conversations reported less risky driving compared with control teens who reported few driving-related conversations as measured after 1-month and 6-months of driving independently (Peek-Asa et al., 2014). In contrast to this contact-intensive program, the project reported herein sought to develop a well-researched coaching guide for teens' learner stage of driving that was portable, convenient for parents, and required no research contact.

To date, much of the research on parent programs has focused on the intermediate stage of GDL licensure, for example with programs such as Checkpoints that has provided evidence of change in underlying theoretical constructs (of Protection Motivation Theory, PMT), and has demonstrated reduced teen risky driving behavior, traffic violations, and crash involvement (Simons-Morton, Hartos, Leaf, & Preusser, 2005; Zakrajsek et al., 2013; Zakrajsek, Shope, Ouimet, Wang, & Simons-Morton, 2009). The current project's *Parent Guide* is also based on PMT (Rogers, 1983), focusing particularly on the cognitive processes that motivate health behavior change and on parent-teen communication.

While required supervised practice driving is an effective element of GDL, and is generally accepted by parents and teens (Waller, Olk, & Shope, 2000; Williams, Braitman, & McCartt, 2011), little information is typically provided about the appropriate focus of this practice driving; therefore often parents and teens focus on the maneuvering skills that are required for passing the road test for the next stage of licensure (Goodwin et al., 2014). One of the few observational studies of the learner stage of driving found that parent supervision primarily focused on routine and unvarying routes of practice, such as to/from school (see Goodwin, Foss, Margolis, & Waller, 2010). Thus, essential experiences of more challenging roadways and complex conditions may not be obtained during the learner stage.

To be effective, intervention development is necessarily an intensive process for complex behaviors such as supervising teen's driving. As described by Campbell et al. (2000), intervention development is iterative and should include rigorous design and the conduct of an exploratory trial of the intervention (prior to large scale randomized control trials and dissemination efforts). They suggest that program development work involve defining components of the intervention for evidence-based practice, and understanding acceptability and feasibility. Issues of acceptability and feasibility include, for example, use and availability of the program, participant satisfaction (a likely precursor to future use and recommendation), as well as program differentiation (that is, the control group receives different experiences from the intervention group). Relevant findings can help refine the program for a large trial and dissemination (Buckley & Sheehan, 2004).

We sought to develop a convenient teen driving coaching guide for parents that included the motivation, basic tools, exercises, and approaches necessary to teach essential safe driving skills to their teen drivers during the supervised practice driving required by GDL. Design decisions reflected the research findings that effective programs need to be user-friendly, theory-based, and contain appropriate and relevant content. The aim of our research was centered on the program design process, that is, to (i) develop an evidence-based coaching guide for parents of teen learner drivers, and (ii) evaluate the process and implementation of the coaching guide so that future research could test efficacy.

## 2. Method

All study procedures were approved and conducted in compliance with the guidelines of the University of Michigan Institutional Review Board for Human Subjects. We begin by describing development of the *Guide*, followed by procedures for the process and implementation evaluation.

### 2.1. Development of the Parent Guide for coaching teen drivers theory

The parent coaching guide was developed according to PMT (Rogers, 1983) as it has been applied in the context of parenting programs for teen driver safety: the effective Checkpoints program (see Simons-Morton et al., 2005). According to PMT, potential health risks arise from both environmental and individual factors (Rogers, 1983). The awareness of potential risk results in concern over potential health outcomes (e.g., teens' crash-related injury), which initiates risk appraisal and coping appraisal. Risk appraisal is the evaluation of the health threat and its intrinsic and extrinsic rewards, severity, and likelihood of occurring. Coping appraisal is the evaluation of one's ability to avert the health threat (i.e., self-efficacy and response efficacy), balanced by the cost of protective action (i.e., response cost). These two appraisals provide motivation, increase intentions, and promote protective action. According to the theory, a parent is motivated through realizing that their teen's crash risk is sufficient to warrant action and that parental action can reduce that risk. Action is taken when there is a realistic appreciation of potential injury outcomes, their likelihood and potential severity, and when the coping action is sufficiently simple that parents feel confident they can perform it effectively.

The *Parent Guide for Coaching Teen Drivers* was developed to address both risk appraisal and coping appraisal. Regarding risk appraisal, the threat of MVCs for all young novice drivers is provided. Coping appraisal is addressed by the provision of reminders, suggestions, practical checklists, the benefits of suggestions, and the message that parents play a critical role in protecting their teens. Tips are provided to address efficacy and the ease of implementation.

#### 2.1.1. Driving Skills Selection for the Parent Guide

We developed the *Parent Guide* content incorporating feedback from 12 driving safety experts using a modified Delphi method. The Delphi exercise had three rounds. Round 1 sought to identify essential driving skills and objectives for the *Guide*. The following two rounds involved more detailed definitions, and an ongoing focus on skills that parents should practice with their teen during the learner stage, that is, skills that were not necessarily taught in driver education and skills that would be very important for newly licensed teen drivers. After the skills were carefully described, experts rated their priority and then elaborated on them. Table 1 provides the essential skills that were ranked by at least half the respondents as a priority.

During the first round of the Delphi process, several skills were identified (Table 1). In addition, they considered formatting, including terminology and literacy (making it suitable for a diverse mix of parents), for example "... avoid... jargon and use simple English, at a relatively basic reading level." Experts suggested that the design consider building skills (ensuring that skills could be appropriately built upon), and that guidelines and example scenarios be presented, "...guidelines as to what should be actively practiced in each situation." Some experts highlighted the need to focus on what could be practiced, "...focus only on what parents should and could help teens practice." Overall length was important, as was the balance of length and focus, for example, "I worry that if parents try to teach everything and give everything equal weight, their teen drivers won't know where it is most important to focus."

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