Teen Drivers' Perceptions of Their Peer Passengers: Qualitative Study

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Abstract

Background—The presence of peer passengers increases teenage drivers' fatal crash risk. Distraction and social influence are the two main factors that have been associated with increased risk. Teen drivers' perceptions of their peer passengers on these factors could inform our understanding of the conditions under which peer passengers increase crash risk or promote safer

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driving. The purpose of this study was to examine teen drivers' perceptions of their peer passengers on distraction and social influence.

Method—A convenience sample of male and female drivers participated in a semi-structured interview that included questions on their perceptions of the effects of peer passengers on driving on distraction and social influence. The analysis of the interviews was guided by a grounded theory approach.

Findings—Teenage drivers were aware of the risk that peer passengers posed. Some described having passengers in the vehicle as distracting, and recognized that the level of distraction increased with the number of passengers in the vehicle. Drivers that felt responsible for the safety of their peer passengers described strategies they used to control the in-vehicle environment. Drivers described driving with passengers as a performance, and articulated direct and indirect sources of pressure, gender norms, and unspoken expectations of their passengers as influencing their driving behavior.

Conclusions—The influence of passengers is situation specific and dependent on whom the passenger(s) may be. Passenger influence may be either protective or harmful, depending on the circumstances. Some passengers exert direct influence, but often their influence appears more indirect and subtle.

Introduction

The effect of peer passengers on teenage driver's crash risk has received considerable research and attention. The majority of states (90%) in the United States limit the number of passengers in the vehicle during the first few months a teenage driver is licensed to drive independently (Insurance Institute for Highway Safety 2014). These policies are supported by epidemiological and observational studies that suggest the presence of peer passengers increases fatal crash risk (Chen, Baker et al. 2000; Ouimet, Simons-Morton et al. 2010), and risky driving behavior, particularly if those peers are young males (Simons-Morton, Lerner et al. 2005).

However, research suggests the detrimental effect of the presence of peer passengers may not hold true under all conditions. For example, simulator studies have found peer passengers increased some but not all risky driving behaviors (Ouimet, Pradhan et al. 2013), and the presence of peer passengers may improve reaction times for teenage drivers (Toxopeus, Ramkhalawansingh et al. 2011). This indicates there may be specific circumstances where peer passengers increase risk, and others where they promote safer driving depending on the circumstances.

Teen drivers' perceptions of their peer passengers' influence represents a potentially valuable source of understanding of the conditions under which peer passengers increase crash risk or promote safer driving. A previous self-reported survey study found that teen drivers did not perceive the presence of peer passengers to increase their crash risk, unless they created distractions or encourage dangerous behaviors (Ginsburg, Winston et al. 2008). Few studies have used qualitative research methods to examine teen drivers' perceptions of their peer passengers' presence in the vehicle, and their potential contribution to crash risk.

The purpose of this study was to examine teen drivers' perceptions of their peer passengers using semi-structured interviews with questions focused on distraction and social influences.

Methods

Participants

A convenience sample of 42 newly licensed male and female drivers participated in an extensive 18-month study of new drivers, including vehicle instrumentation, periodic surveys, test track driving assessment and a semi-structured exit interview (The Naturalistic Teen Driving Study) (Lee, Simons-Morton et al. 2011). Among eligibility criteria, participants were required to be younger than 17 years of age and obtained a provisional driver's license allowing independent driving within the past three weeks (see Lee et al., 2011 for more details). At the time of the study, all newly licensed teenage drivers were subject to the passenger restriction of the State of Virginia for newly licensed teens (effective in 2003), that limited the number of passengers to no more than a single passenger younger than 18 for the first 12 months of driving, and no more than three passengers younger than 18 thereafter (Insurance Institute for Highway Safety 2012)

Sampling was stratified in order to have similar numbers of males and females and of drivers sharing or not sharing the vehicle with their parents. Among the exclusion criteria, drivers with diagnosed attention deficit disorder, with or without hyperactivity, were excluded (see Lee et al., 2011 for more details). The 41 (one participant was lost to follow up) interviews analyzed in the current study were conducted at the end of the 18-month study on driving behavior. The interview was designed as an exit interview to with direct questions regarding drivers' experiences with passengers and not originally designed to provide qualitative data. A trained research assistant at the Virginia Tech Transportation Institute conducted the interviews. The protocol was reviewed and approved by the Virginia Tech Institutional Review Board for the Protection of Human Subjects; parent consent and assent for teen participation were obtained.

The semi-structured interviews included items on perceptions of their driving over the last 18 months, including participants' perception of the instrumentation of their cars, effects of passengers, secondary task engagement, and their driving skills. The focus of this report is drivers' perceptions of the effects of peer passengers on their concentration while driving. Participants were asked a series of open-ended questions about how male and female passengers affected the driver's level of distraction, concentration, with questions asking specifically whether or not passengers' comments and presence affected the way they drove (see Table 1 for core questions). Interviews were digitally recorded and professionally transcribed. The average length of each interview was 45 minutes and 58 seconds. The questions on passengers comprised one of seven sections in the interview guide; responses about passengers were coded wherever they occurred.

Transcripts were entered into ATLAS.ti software (Version 7.0). This software allows text to be coded and retrieved for ease of summarization and interpretation. (Strauss and Corbin 1998). Content analysis of participants responses was used taking an inductive approach. Our research team, including an injury epidemiologist with an expertise in young driver

research and a psychologist with expertise in qualitative methods and adolescent development, reviewed four transcripts (2 male, 2 female) to identify an initial list of themes. A coding manual was developed based on these four interviews and modified as subsequent interviews were coded. Additional codes were added to represent subthemes and to accommodate new themes that emerged as the coding progressed. Complex passages of text could be assigned multiple codes to adequately capture content.

Double coding was used to improve trustworthiness and rigor (Strauss and Corbin 1998). Two coders were responsible for coding all transcripts. Meetings among coders and senior researchers were held weekly to ensure consistency and resolve coding discrepancies. A systematic review of the text assigned to specific codes was performed after the first 10 interviews and any identified adjustments to the coding scheme were implemented with previously completed transcripts re-coded as necessary. Compilation of coded text by themes was examined by the project team and the findings summarized. All passages coded as referring to male passengers, female passengers, teen passengers, group passengers, and driving alone were reviewed for this report regardless of other codes assigned. The quotes included in this report were edited for readability (removing extra words such as "like", and "I mean"), but without changing meaning.

Results

Participants

Of the 41 young drivers, 48.7% were males, the majority were white (92.7%), and the mean age at recruitment was 16.4 (SD 0.3). All had been driving independently for the past 18 months. Two of the interviews contributed limited text due to equipment failure resulting in a loss of recording.

Themes regarding peer passengers

The report of themes that emerged from the interviews regarding young drivers' perceptions of peer passengers will be structured around the two organizing topics of distraction, and mechanisms of social influence. Included are themes that were expressed by many of the participants, as well as themes that were relevant but expressed by fewer participants. Furthermore, for several themes multiple viewpoints were expressed, often in contrast with one another reflecting diversity in the perceptions of young drivers. These findings are described below.

Distraction

Drivers responded to multiple questions about how having passengers affected their level of distraction and concentration. When asked directly, almost all drivers acknowledged that passengers were a distraction; however, most drivers described that distraction as "a little" or "not much". Some perceived the risk but also suggested they were able to manage it.

> They affected it, but… I don't think it was a big distraction, ….they really wouldn't distract me, and even if they would try, …. I'd be watching the road, so….my first awareness would be the road

A smaller subset of drivers described having passengers as very distracting. Notably, when asked about the effect of having multiple versus a single passenger, the majority of drivers recognized that multiple passengers detrimentally affected their driving, and provided vivid descriptions of the distraction that having multiple passengers can pose. Participants described losing control of the in-vehicle environment due to increased talking and movement in the vehicle, using statements like "messing around… in the backseat," "punching each other," "ridiculously loud," "definitely more hectic than a drive by myself," and "mayhem". This example is typical.

> As a group they [male passengers] were very distracting. And often they would mess around with each other, poke at the cameras a lot, especially in the beginning, and they would do it together… it was very distracting…Compared with one, I could pretty much control one, I really can't control a group

Talking was the most commonly described way that passengers distracted the driver. Talking distracted drivers in several ways, such as drawing their attention to the topic being discussed or requiring drivers to concentrate on the conversation. As described by this male driver, some noted that turning one's head to look at a passenger who was speaking required the driver to take their eyes off the road.

> I'd make eye contact in the rear view mirror … you do it too long, and you look back on the road, and you're like "oh, shoot, got a little close or fast" or something…

Loud noise and loud music were also frequently mentioned, particularly in the context of groups of passengers. Several drivers mentioned physically active behavior, such as "horseplay" or "dance parties". The following quotes from two participants are examples of how this was described.

> Just be obnoxious guy stuff… be loud, and have the window rolled down, and have to have the radio on …

> My friends are very partial to dance parties in my car so we had a lot of those-those are pretty distracting…I wasn't as focused …

Additionally, one infrequent but notably dangerous distraction was when a passenger directly interfered with the vehicle controls – some were minor such as turning on or off the windshield wipers or hazard lights, but two drivers described a passenger who grabbed the steering wheel.

Drivers were not asked how they responded to these distractions, but several offered their strategies for managing their driving with peer passengers. One strategy was to put more effort into focusing on their driving when they felt themselves being distracted. As evidenced in the following quotes, for some this was a response to being a new driver, or a concern regarding consequences of a lapse of attention.

> I [was] … just so afraid [as] a new driver on the road … I didn't want to screw up so I just focused and try not to let anything change.

> … I would just focus more so on the road because I would have to or else,
> something bad could happen…

Some responded to passenger behavior by managing the in-vehicle environment, including
requesting passengers to be quiet and turning down the music. As one driver said it "felt like
[being] a parent," referring to his efforts to get a group of passengers to settle down. Other
drivers noted that they simply ignored their passengers and concentrated on their driving.
Most indicated that as their driving skill and confidence improved, their ability to cope with
the distraction also improved. Here is an example of how they handled distractions in
response to traffic.

> If it got [to be] tight traffic, I'd be "shut up for a second, let me drive," so it affected
> it a little bit, but I think I was pretty good at handling the distraction.

Interestingly, several drivers regarded having a passenger as a responsibility. For some, this
was framed as them "worry[ing] more about others' safety than [their] own." For example,
one male driver explained he drove more risky when alone because "my life is my life, but if
somebody else is in the car it's their life that I'm taking into account as well". As indicated
in the quote below, having more passengers in the car exacerbated this sentiment.

> [When] I have more people in the car … sometimes hits me… oh my gosh, I gotta,
> pay attention, I can't get involved in what they're talking about, I need to pay
> attention. I don't want to be responsible for them.

Social Influence

In addition to the overt distractions that peer passengers posed, when asked about how
passengers affected their driving, the majority of drivers described at least one form of social
influence from their peer passengers. This included direct comments about driving and
indirect pressure in the form of social norms, and unspoken expectations from their
passengers. For example, one female described how a male passenger encouraged her to
drive over a median,

> I was with a friend who kind of encouraged it, which was probably the more
> dangerous thing, … "oh, just go over the median," 'cause, we wanted to go left, but
> we couldn't.

In contrast, a male driver described how his girlfriend discouraged his fast cornering: "my
girlfriend did say I took corners too fast, so I haven't taken corners so fast." One driver
described the negative influence of passengers on his concentration, and his driving
behavior, suggesting distraction and social influence can co-occur:

> Participant: They act like idiots. It's terrible. They affect my concentration a whole
> lot.

> Interviewer: Would you say it would be a negative or positive way?

> Participant: Most certainly negative. …, I can admit this: they get me acting more
> stupid too.

Participants also described several forms of indirect pressure from the passengers in the
vehicle. Some male drivers described driving more safely with female passengers while

being less concerned with the safety of their male passengers, as one driver explained "guys don't really care about bad driving…, or at least my friends, the passengers that I had."

Another form of indirect pressure stemmed from drivers' perceptions of their passengers' unspoken expectations or from knowledge of their passenger's driving behavior. Drivers were not asked how their driving behavior was affected, but participants mentioned the specific behaviors that they would change in the presence of passengers, "I drove faster, mainly 'cause they always drove faster". In the case of having a more experienced driver as a passenger, one driver stated:

> I would probably be a tiny bit more daring, more likely to sit at a stop sign and wait for a very large gap if I'm by myself versus if I have a passenger in the car … And more daring because they know what they're doing and you don't as much.

When drivers had knowledge of their passenger's driving behavior, these influenced their driving when those passengers were in the vehicle. For example:

> I had a friend who is kind of reckless the first year of his driving and it made me a little reckless.

> Well depending on the person that was in there, it made me already know how I should drive with them in there, that's how I would drive… Either fast or slow…

Several participants described the diminishing effects of different forms of social influence over time. One male participant described a crash as a formative experience, leading to a lower susceptibility to influence from peer passengers:

> When they were in the car, I would sometimes act a little more dumb. [Participant laughs] … I would go for the impression thing until I wrecked, […], and then I'd slow down. Before that I'd have the radio louder, I'd take turns too-too fast, drive a little bit faster. Especially on that trip where I wrecked, I was driving a lot faster than I should have.

A common theme that several drivers described was that they considered their driving as a performance. At times, this was in direct response to passengers' comments about driving, but at other times it was due to the desire to appear skilled and competent in the presence of peers. For both male and female drivers, these perceptions were heightened in the presence of male passengers: "if I was in-with another male in the car, -I'd probably pay more attention to what I was doing and …-how I was performing". Here are two more examples.

> Now I'm not as distracted when males are in my car, but, at first I would say, … [it was] intimidating to have a male [passenger], even though they'd never driven before, .. 'cause you know males know how to drive.

> I would try and drive a little bit better, …, we were all getting our license and it was kind of a competition for who was [a] more skilled driver and who was better. We didn't say any of that, …so, I don't think that I overly sped or anything like that,… I just tried to be more skilled in what I was doing. Like when I was merging on to the highway, I'd just make it seem like it was really normal and I had done it a lot 'cause I wanted to look more experienced than them.

When carrying peer passengers, some teens reported that their driving was influenced by the need to appear laidback. This may have resulted in their being less vigilant while driving, or taking risks such as rolling through a stop sign, to seem more in control. For example:

> I was more carefree with female passengers, like with my friends… I felt I was the cool one in the bunch who could drive already and take everyone everywhere … I was the same, kind of carefree and maybe didn't pay attention as much as I did when I was by myself.

A related point raised by some drivers was the desire to appear attractive to passengers of the opposite sex while driving, as exemplified by one female driver who stated that she tried to "look more pretty… more graceful" when driving with male passengers, whom she stared while driving.

Discussion

The purpose of this study was to examine teen drivers' perceptions of their peer passengers. Using interviews from a sample of newly licensed teenage drivers, and guided by a grounded theory approach to data analysis, we found that teenage drivers were aware of the potential sources of risk that their peer passengers pose. Some participants articulated descriptions of the specific mechanisms of influence and detrimental effects on driving performance, demonstrating an awareness of the risks that peer passengers can pose. In contrast, other teens did not perceive the presence of peer passengers as having an influence on their own driving behavior, whether or not they described peers as distracting.

Brown and colleagues describes four elements being involved in peer influence for teenagers: an event, activation of peer influence, a response, and generation of an outcome (Brown, Bakken et al. 2008). Several participants described the operation of these steps in relation to their peer passengers. Specifically, during events of driving, the presence of passengers would exert some influence, and participants would respond, often by driving in a riskier way to look skilled or attractive and meet their passenger's unspoken or observed expectations. Notably the influence was not uniformly to drive in a riskier way, with some participants describing safer driving in response to passenger expectations. This suggests social influences can operate indirectly through norms, which can be transmitted through modeling and verbal and non-verbal actions (Ouimet, Pradhan et al. 2013).

A recent experimental simulator study reported increased risky driving among young male drivers exposed to young male passengers, with considerable variability depending on the type of the passenger present, e.g. risk accepting or risk-averse (Simons-Morton, Bingham et al. 2014). The consistency of evidence regarding social influences on driving behavior from studies using differing methods strengthens the conclusion that social influences are operating on driving behavior in ways similar to well-known pathways found in other areas of adolescent risk behavior, such as alcohol use (Borsari and Carey 2001) and smoking (Simons-Morton and Farhat 2010).

Teen drivers described distraction and social influence as two potentially reinforcing forms of influence from peer passengers. Our findings suggest that future experimental study

designs examine the potential interaction of these sources of crash risk. Another promising avenue of examination is teen's description of driving as a performance, and their desire to appear skilled, competent, cool, and attractive while driving in the presence of their passengers. This may lead them to engage in risky driving maneuvers to demonstrate mastery or skill that may also increase crash risk. Reframing social 10 norms about skill and competence to be focused on minimizing crash risk may present a potential avenue for intervention.

Limitations

The participants in this study may represent a unique sample of teenage drivers. They were recruited to participate in a naturalistic driving study where driving behavior was recorded continuously for 18 months, completed periodic surveys about their driving behavior, and participated in two test track driving assessments. Participants may have had a heightened awareness of their own driving behavior, relative to other teens. While participants were not provided with any feedback on their driving during the course of the study, volunteering to be subjects, and participating in this research may have primed them to be more aware of safety concerns and crash risk.

Participants' descriptions of their driving behavior may be influenced by the presence of laws that restrict behaviors. During the first 12 months of licensure, all study participants were subject to the single peer passenger restriction of the State of Virginia for newly licensed teens (Insurance Institute for Highway Safety 2012). While the interview questions did not ask participants to describe the timing of behaviors, some response bias may exist; that is, participants may have been less willing to report behaviors that were illegal during the interview. Furthermore, the interview protocol was intended to elicit responses for specific circumstances and behaviors, such as distraction caused by peers. At times, the interviewer probed participants and reinforced their statements that related to risk and safety. While these instances were rare, they may have affected the participant's responses. Despite these limitations, the findings of this study represent a unique and valuable source of insight into teen drivers' perceptions of their peer passengers, and the findings could be used to inform the experimental study design, measurement development, and safety interventions.

Acknowledgments

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Table 1

Structured Interview (selected questions)

During your first year of driving, how did male/female [*] passengers effect …
Your concentration while driving?
Level of distraction while driving?
The way you were driving based on their comments?
The way you were driving based not based on any comments, but based on their presence?
Can you think of any other situation when teen male/female [*] passengers may have altered your driving:
Is there anything a male teen passenger did that affected your driving?
Thinking back about the first few months after you got your license, can you compare how your driving was affected when driving…
Alone vs. with one male/female passenger?
With one (1) teen vs. a group of teens?

[*] Questions about male and female drivers were asked separately