



Published in final edited form as:

Accid Anal Prev. 2013 May ; 54: 114–121. doi:10.1016/j.aap.2013.02.010.

Teen driving in rural North Dakota: A qualitative look at parental perceptions[★]

Simerpal K. Gill^{a,b,*}, Ruth A. Shults^c, Jennifer Rittenhouse Cope^{a,d}, Timothy J. Cunningham^{a,e}, and Brandi Freelon^f

^aEpidemic Intelligence Service, Centers for Disease Control and Prevention, United States

^bNational Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention, United States

^cNational Center for Injury Prevention and Control, Centers for Disease Control and Prevention, United States

^dNorth Dakota State Field Assignments, Centers for Disease Control and Prevention, United States

^eNational Center on Chronic Disease and Health Promotion, Centers for Disease Control and Prevention, United States

^fNational Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of Adolescent and School Health, Centers for Disease Control and Prevention, United States

Abstract

Motor vehicle crashes are the leading cause of death among teens in the United States. Graduated driver licensing (GDL) programs allow new drivers to gain driving experience while protecting them from high-risk situations. North Dakota was one of the last states to implement GDL, and the current program does not meet all of the best practice recommendations. This study used qualitative techniques to explore parents' perceptions of the role teen driving plays in the daily lives of rural North Dakota families, their understanding of the risks faced by their novice teen drivers, and their support for GDL. A total of 28 interviews with parents of teens aged 13–16 years were conducted in four separate rural areas of the state. During the face-to-face interviews, parents described their teens' daily lives as busy, filled with school, sports, and other activities that often required traveling considerable distances. Participation in school-sponsored sports and other school-related activities was highly valued. There was nearly unanimous support for licensing teens at age 14½, as was permitted by law at the time of the interviews. Parents expressed that they were comfortable supervising their teen's practice driving, and few reported using resources to assist them in this role. Although few parents expressed concerns over nighttime driving, most

[★]Disclaimer: The findings and conclusions in this paper of those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

^{*}Corresponding author at: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, 4770 Buford Highway, NE, MS F 62, Atlanta, GA 30341, United States. Tel.: +1 770 488 4638; fax: +1 770 488 1317. rshults@cdc.gov (S.K. Gill).

Contributorship

All authors participated in creating and refining the questionnaire, conducting interviews, and data analysis. SKG and RAS drafted the manuscript. All authors revised the manuscript.

parents supported a nighttime driving restriction with exemptions for school, work or sports-related activities. Despite many parents expressing concern over distracted driving, there was less consistent support among parents for passenger restrictions, especially if there would be no exemptions for family members or school activities. These findings can assist in planning policies and programs to reduce crashes among novice, teen drivers, while taking into account the unique perspectives and lifestyles of families living in rural North Dakota.

Keywords

Graduated driver licensing; Teen driving risks; Parental perceptions; Qualitative analysis

1. Introduction

Motor vehicle crashes are the leading cause of death among teens in the United States (Centers for Disease Control and Prevention, 2010). Crash risk is highest during the first years of independent driving (Ferguson et al., 2007). Driver inexperience and immaturity affect all novice teen drivers; whereas, other factors such as risk-taking propensity and distracted or alcohol-impaired driving affect a subset of teens, putting them at even higher crash risk (Williams, 2003; Shope and Bingham, 2008; Centers for Disease and Control Prevention, 2009; Braitman et al., 2008). To help address the increased crash risk among novice teen drivers, states have implemented graduated driver licensing (GDL) programs. These programs extend the learner's permit phase, usually up to 6–12 months, and initially limit teens' independent driving under various high-risk conditions, such as nighttime driving or transporting teen passengers (Ferguson et al., 2007). GDL programs are widely credited for reducing crashes among the youngest drivers by roughly 20–40% (Shope, 2007). Because parents are the primary enforcers of GDL, these programs are more effective when parents implement the restrictions and teens comply (Simons-Morton et al., 2008; Brookland and Begg, 2011).

North Dakota is one of five states in which teens can obtain their learner's permit as early as their 14th birthday (Insurance Institute for Highway Safety, 2012), and, until January 1, 2012, North Dakota teens could obtain a full license at age 14 years 6 months (North Dakota Department of Transportation, 2011). The Minor Drivers License Law that was passed during the 2010–2011 legislative session increased the learner's permit phase from 6 months to 1 year for teens under 15 years of age; those 15 years of age must hold their learners' permit until they turn 16 or a minimum of 6 months, whichever is longer (North Dakota Department of Transportation, Safety Division, 2012). During the permit phase, only supervised driving with an adult who has had a license for longer than 3 years is permitted. The law also introduced a nighttime driving restriction for those under 16 years of age, and a ban on cell phone use while driving (North Dakota Department of Transportation, Safety Division, 2012). However, it did not include a teen passenger restriction during the intermediate licensing phase as a more comprehensive GDL program would (North Dakota Department of Transportation, Safety Division, 2012). Whereas previously, drivers' education was not a requirement, the Minor Drivers License Law requires that teens under 16 years of age complete drivers' education that includes both classroom and behind-the-

wheel instruction prior to road-testing (North Dakota Department of Transportation, Safety Division, 2012). Additionally, 50 h of supervised driving experience is required of teens 14 and 15 years of age (North Dakota Department of Transportation, Safety Division, 2012).

Surveys in several rural states demonstrate that parents of teens support GDL, and that support in rural areas tends to be equivalent to urban areas within a given state (AAA Kansas et al., 2008; Center for the Study of Young Drivers, University of North Carolina – Chapel Hill, 2010; University of Iowa Injury Prevention Research Center, 2010; University of North Carolina, Highway Safety Research Center, 2001). However, the Kansas and North Dakota surveys identified some differences between urban and rural residents. In Kansas, rural parents were more likely to support teens beginning the learner permit phase at age 14 years rather than 15 years (AAA Kansas et al., 2008). In North Dakota, parents living in rural areas indicated less support for increasing the learner permit phase and restricting nighttime driving (Center for the Study of Young Drivers, University of North Carolina – Chapel Hill, 2010).

Research suggests that parental support for GDL is somewhat dependent on their knowledge of the driving environment and conditions in their area, in addition to their understanding of driving risks in young, inexperienced drivers (Keating and Halpern-Felsher, 2008; Simons-Morton et al., 2008; Williams et al., 2006). However, the North Dakota telephone survey did not inquire about parental perceptions of their teens' driving environment or their understanding of teen driving risks (Center for the Study of Young Drivers, University of North Carolina – Chapel Hill, 2010). Furthermore, the telephone survey, which contained structured, closed-ended questions, did not attempt to identify unique aspects of rural North Dakota life that may influence parental perceptions of the need for teens to drive, and the crash risks that novice teen drivers face (Center for the Study of Young Drivers, University of North Carolina – Chapel Hill, 2010). In the current study, these topics were explored through semi-structured interviews with parents of teens who lived in four rural communities in North Dakota.

2. Aim

This study aimed to: (1) gain a better understanding of rural North Dakota life and the role teen driving plays in the daily family routine; (2) explore parental perceptions of teen driving crash risks; (3) inquire about specific parental concerns with their teen driving; and (4) explore parental support for GDL nighttime and passenger restrictions. In order to descriptively capture parental views in their own words, qualitative methods were used.

3. Methods

3.1. Study questionnaire

A semi-structured questionnaire with open-ended questions was developed and reviewed by all members of the study team and an external subject matter expert. The questionnaire was designed to cover 4 study aims: how teen driving fits into daily rural life, initiation of teen driving, teen driving practices, parental concerns about driving risks for their teen, and support for GDL nighttime and passenger restrictions in North Dakota (Table 1). The

questionnaire included general questions such as “To help us understand how your teen’s driving affects your daily life, can you tell me about how you spend a typical week day?” and “Are there any driving situations or conditions that you think are particularly risky for teenage drivers in your area?”, and more specific questions such as “Do you have concerns about your teen having their friends in the car while he/she is driving? What types of concerns?” (Table 1). Parents were also encouraged to express any views or thoughts that may not have been covered. In addition to the questions listed in Table 1, rapport-building questions were asked and demographic information on the teen was collected.

The study protocol and questionnaire were reviewed and approved by the Institutional Research Board of the North Dakota Department of Health. The questionnaire was pilot-tested with five parents of teen drivers to determine length of interview and appropriateness of language. Based on the pilot-testing, the interview length was determined to be between 30 and 45 min. Upon completion of the pilot testing, members of the study team conducted practice interviews with each other to gain familiarity with the questionnaire.

3.2. Sample selection

Four communities in rural regions of the state were selected as interview sites; communities were located in the south-west, south-central, north-east and north-central regions of the state. These communities were chosen because they are recognized as farming or ranching areas.

Purposive sampling was used to collect names of parents with teens between 13 and 16 years of age. Employees of the North Dakota Department of Health or their family members, who grew up in the selected regions, were asked to identify parents of teens in their hometowns, or teachers and other community workers who could recommend potential candidates for interviews. Parents were eligible to be interviewed if they had at least one child between the ages of 13 and 16 years, whether or not the teen had begun to drive, had a learner’s permit or driver’s license. Once telephone numbers were obtained, parents were contacted by phone to confirm eligibility and to request an interview. Parents were informed of the study’s aims, and as part of the verbal consent procedure, parents were informed that participation was voluntary. No incentive to participate was provided.

3.3. Data collection

Face-to-face interviews were conducted either at the parents’ homes or at convenient locations such as workplaces or local restaurants. To facilitate rapport, interviews began by asking the parent(s) about the area, and how long he/she has lived there before progressing into more personal questions like “To help us understand how your teen’s driving affects your daily life, can you tell me about how you spend a typical week day.” Interviews continued until all questions in the aforementioned 4 study aims were covered and concluded by asking the parent(s) if they knew of any other parents with teens who might be interested in talking with us about this topic.

There were five team members in total. Two team members participated in each interview in order to allow one person to conduct the interview in a conversation-like manner while the other took notes and asked for elaboration, if necessary. Each team member alternated in the

role of primary interviewer and note-taker among interviews, and would alternate teams to ensure that ideas that were brought up in previous interviews could be mentioned in future interviews. Interviews were recorded with a digital voice recorder if oral consent was given. Notes were taken in case the recordings were not audible, if a parent did not agree to audio recordings, and to include non-verbal communication. All interview notes were converted into electronic format. Each interview was assigned a number to identify it and link it to the corresponding voice recording, while maintaining the parents' confidentiality.

3.4. Analysis

We conducted analysis of the interview data using a general inductive approach adapted from Thomas (2006) and Patton (1990). According to Thomas (2006), the primary purpose of the inductive approach is to "allow research findings to emerge from the frequent, dominant, or significant themes inherent in raw data, without the restraints imposed by structured methodologies." Analysis began after the first set of interviews and continued simultaneously as interviewing continued in order to allow later interviews to explore topics identified by the initial interviews. One question was added to the questionnaire after the first day of interviews to query parents about any resources that they might have used in preparing their teen to drive. Due to the open-ended nature of the questions in the study questionnaire, no other changes were required; however, during subsequent interviews, views on certain topics that had been mentioned by parents from earlier interviews were prompted.

Team members reviewed the electronic forms and voice recordings of each interview to gain a broad understanding of themes expressed in the interviews that related to the study aims. The team met daily to discuss the interviews, and each team member was required to give his/her impression of the main themes for each interview, and identify any representative quotes. As themes and sub-themes within those themes were identified, consensus among the team members was obtained through discussions and reviewing audio recordings as a group, and words and phrases were classified into the different sub-themes. Using key words or phrases, main concepts within each sub-theme were identified. Within this process, a given piece of text could be categorized into more than one theme or sub-theme. Similar and dissimilar sub-themes were identified; similar sub-themes were collapsed into broad themes. After conducting credibility checks through discussion with stakeholders, including a member of the North Dakota Coalition for Graduated Driver Licensing, and further review of electronic forms and recordings, broad themes and sub-themes were refined and main findings within each theme were summarized.

4. Results

Interviews were conducted from April 25, 2011 to May 3, 2011; average interview duration was 40 min. In total, 40 names of parents were identified of which 28 (70%) agreed to participate; 27 of these interviews were recorded. The sample consisted of 31 participants, including three couples. Of the 25 interviews with only one parent, 20 (80%) were with the mother. All 28 families lived in a rural area; 15 lived in one of several small towns, 7 lived on a working farm or ranch, and 6 lived outside of town but not on a working farm or ranch.

Several families who lived in town operated working farms or assisted extended family members with their farming activities.

Almost all parents had spent the majority of their life living in North Dakota, and most of their children had been born and raised in North Dakota. The majority of parents were employed either full-time or part-time, and conducted farm- or ranch-related activities before and after work, if they had a functioning farm or ranch. Of the 28 families, 27 had more than one child, of which, 23 had at least one child older than the teen the interview was primarily focused on, and 10 families had at least one child who was younger.

Five main themes emerged from the interviews: (1) importance of teens being able to drive at a young age in rural North Dakota; (2) early initiation of driving in rural North Dakota; (3) access to alternative motor vehicles at young ages; (4) parental concerns for their teen driver's safety; and (5) GDL exemptions are necessary. The findings are organized by theme, and are supported by representative quotes from the transcripts.

Theme 1: Importance of teens being able to drive at a young age in rural North Dakota

Subtheme: Parental views on teen licensing at age 14½ years—Nearly all of the parents reported that their teen obtained their learner's permit at age 14 and driver's license at 14½ years, as permitted by North Dakota licensing law at the time of the interviews. A few teens delayed getting their license because they needed to take drivers' education first, which was offered only in the summer. Also, a few teens delayed licensure because their parents did not want the teen to be newly licensed during the winter because of snowy road conditions. Once teens were licensed, many drove without an adult supervisor on a daily basis.

The overriding view expressed by parents was that, because of their rural location, teens should be able to drive at age 14. One parent expressed the common view in this statement:

“I think that in our situation it's been very helpful that he has a license to drive. I think there needs to be that choice because we are so rural. And, to get to so many of our events and our different things, you do have to have limited driving. Does he need to drive in a big city? No. Does he need to drive in another state? Probably not. But, around here, it is very nice.”

Subtheme: Teen activities and driving distances—Teens' daily activities did not vary substantially among families, and included attending school and various religious, extracurricular or social activities after school and on weekends. Families who lived outside of town drove as long as 35 min to school and 45 min to the nearest shopping area. Additionally, some teens had part-time jobs during the school year, and many had summer jobs that required them to drive into town. Most teens drove to their jobs themselves. Two parents expressed commonly held views about their teens working in these statements:

“Once she got her license, our daughter was able to work in [town]...How can they have a job if they can't drive themselves? You know, at 14 or 15, do they need to work? Well, probably not. It sure helped our girls out...I think any kid that wants to work at that age should be able to and not be restricted.”

“Our daughter had a job in [town] when she was 15. That was, like, 20 miles (pause) plus 15, so 35 miles back and forth... We would coordinate our schedules, but there were times when she just had to drive by herself... So for work for these kids, if they want to work off the farm, it’s going to involve a lot of driving for us. You know, and it’s not like you can just run your kid into town, go back home, and then go get them. It’s not practical.”

Many teens were also involved in multiple after-school sports throughout the school year. One parent explained:

“You know, in a smaller town like this, your kids are involved in a lot more... You have a smaller school, so it takes all of the kids you have to run your activities... They’re busy, but that’s okay (laugh!)”

Some schools participated in a cooperative arrangement whereby a sports team would be composed of students from a couple of different schools; in these circumstances, teens often had to drive substantial distances for practices and games. In some communities, there was bus service to away games and practices, but many teens typically drove and carpooled to these events.

Other common driving trips for teens involved extracurricular activities such as 4-H, Future Farmers of America, music lessons, and church activities. These trips could involve distances of up to 35 miles each way. In families with younger children, the teen driver sometimes drove his/her younger siblings to school and extra-curricular activities. One parent explained:

“My 15 year old has been taking his two younger siblings to [town] to school because they get about 45 minutes to an hour more of sleep if they don’t have to ride the bus... If they ride the bus, they are the first ones on the bus and last ones off. It’s about an hour bus ride. [It makes a big difference], especially for the 9 year old.”

Theme 2: Initiation of teen driving in rural North Dakota

Some parents reported that they began driving between 10 and 12 years of age, usually in a pick-up truck; therefore, they thought it was only natural to let their own teen start learning to drive before the teen obtained a learner’s permit. One parent described the learning process as follows:

“Even if it’s in the pasture, that’s how they learn... They learn you know, whether or not they should be, they’re learning. For the most part they’re with you and you let them. Or they follow you slowly. 5–10 miles per hour.”

When asked what resources, if any, families used to better prepare their teen to drive, most parents reported only that the teen took drivers’ education and studied the booklet provided by the Department of Motor Vehicles. Several parents mentioned using resources from insurance agencies such as driving log books. In describing the use of log books, one parent reported:

“There is a program through [insurance company] called [name of program]...it’s a trip log. I believe that there are 20 lessons in there, if I’m correct. He’s got one to go. So, we’ve been going through that. We visit a lot when he drives...what to do in different situations...Most insurance companies have something similar, I think...I like it, it’s a good program.”

Most parents expressed that they were comfortable supervising their teen driver during the learner permit phase. One parent described his approach to supervision, as follows:

“I just took them on roads that I knew what to expect...familiar places for me to drive and places where I knew that they would be driving...And, I knew what I was exposing them to at different steps.”

Sub-theme: Teens' level of maturity and readiness to drive independently—

When describing what types of things were important to consider when deciding if a teen was ready to begin driving on their own, most parents talked of the need for the teen to demonstrate a certain level of maturity and responsibility in their daily lives. Parents described:

“How responsible they are in other aspects of their life...How responsible they are especially with completing homework, taking care of pets, other life things. I think respect towards parents and other adults...Those are good indicators of maturity and self-control which you need a lot of both to be a responsible driver.”

Several parents mentioned the need to develop basic vehicle handling skills such as cornering and always using turn signals. Most teens took drivers’ education, and parents viewed drivers’ education as a valuable component of their teens’ learning-to-drive process. Lastly, several parents reflected on the importance of driving experience. One parent commented:

“Maturity is important to some point. Maturity level is a tough thing to define. I think in the end, they need experience...The only way my kids’ [driving] got better was to do more of it.”

Subtheme: Lifestyle differences and their influence on driving: town versus country—

Most parents reported that teens living in town did not have the same driving needs as teens living outside of town in the country. The most common perception was that youth who live on a farm or ranch begin driving farm vehicles and equipment by age 10–12; whereas, youth in town typically wait to begin driving with any regularity until they get their learner’s permit at age 14. Indeed, most parents who farmed or ranched expressed the need for their teens to start driving as soon as possible to assist parents with various chores. As stated by one parent:

“In a rural area you just need to have the kids licensed, to send them to town to get a part for dad while he is working.”

Some of these parents reported that their teens drove pick-up trucks or farm vehicles before they were licensed, but driving was restricted to within the farm/ranch or the back roads for farm-related activities. In reflecting on such situations, a parent described this example:

“From our own experience, it was very few and far between. Lets say let’s say, that we had to take an implement from one field to another, and it was gravel roads in between, then we’d probably have him follow us in the vehicle...But we tried to limit that, you know, as much as we possibly could.”

Another parent talked of the need for children on farms to know how to drive at an early age, explaining:

“I have had [daughter’s name] drive already, and that was last year (pause) she was 12. Yep, just in case, you know, something happens, they actually need to know how to drive...It’s a 2 mile stretch from the highway to the farm, so she just drove from the highway to the farm.”

Theme 3: Access to alternative motor vehicles at young ages

Youth who lived in the county or had access to farms (e.g., grandparents’ farm) commonly began driving farm equipment and other motorized vehicles (tractors, All Terrain Vehicles, dirt bikes, skid steer/skid loaders, snowmobiles, and water-craft) by 8–10 years of age. One parent stated:

“I’m sure that my son was driving the tractor at age 10, you know, just under supervision, but still, you know, there’s not always someone in there with them.”

The majority of parents thought that driving these alternative vehicles helped teens develop skills that would transfer to driving automobiles such as being more aware of surroundings and more confident. One parent stated:

“My kids have been driving snow mobile for years, been driving four-wheeler for years. They were probably 12 years old when they started. We have jet skis and boats. That acclimates them to driving, too.”

Theme 4: Parental concerns for teen driver safety

The most common safety concerns expressed by parents for their teen drivers were distractions and winter driving conditions. Nearly one-half of parents expressed concerns over distractions while driving, particularly when carrying teen passengers:

“[With] friends in the car, they are too easily distracted. You can be distracted for even a minute, and that’s all it takes.”

When asked if they have any concerns with their teens being driven by other teens, the majority of parents did say they are concerned. In general, parents tended to trust their teen’s driving ability more than that of their friends because they knew their teen’s driving ability. Some parents reported not allowing their teen to ride with certain friends as they did not view these teens as being very responsible. For example, one parent stated:

“I worry about her been driven by other teens. Yes, yes, yes, yes. Very much so....She can drive with one friend. [Friend’s name] is a good driver. When they’re out, we’ve gone to check on them. And [Friend’s name] lives 10 miles out of town...She drives at night...and in the winter. We don’t really worry about it...”

They are several people with whom [teen's name] is not allowed to drive with. They're not responsible kids. I can't see them being good drivers."

Parents stated that snow and ice on roadways are a concern for all drivers, but especially new drivers who have limited experience driving in wintry conditions. Some parents reported restricting their teen's driving in severe snowy or icy conditions or when roads were icy or snow packed. Only a few parents reported taking their teen out to practice driving on snowy roads.

Cellular telephones were also frequently mentioned as a potential distraction. Some parents stated that they knew or strongly suspected that their teen talks on a cellular phone, or sends and reads text messages while driving; these parents stated they had discussed these concerns with their teen.

Sub-theme: Driving in remote areas—Most parents viewed driving in remote areas with little traffic as relatively safe. One-third of parents mentioned that they or their teens were more concerned when their teen would be driving in conditions where traffic signals and other motorists would be present. For example, one parent stated:

"I always find it interesting when my kids say they have no problem with highway driving. They actually feel comfortable with that...My oldest daughter has a bit of apprehension with anywhere that has a traffic light. On a regular basis, she doesn't drive anywhere with a traffic light...For a trip to [town name], she'll often ask her cousin to do the driving."

Several parents mentioned that they were especially concerned with their teen driving into or out of school parking lots when other teens would also be driving. Parents also mentioned that they were not confident in their teen's ability to determine right-of-way at 4-way stop signs or in other right-of-way situations such as at yield signs.

Sub-theme: Nighttime driving—When asked about any concerns over their teen driving at night, parents most frequent responses related to wildlife and drunk drivers. Several parents also expressed concern about the potential for the car to break down at night. Typical comments included:

"The only thing I would worry about driving at night, because we are so remote, is if the car broke down...But she has a cell phone so she can let people know if there is a problem. Or, deer is a problem. They come out of nowhere, and you can't see them at night."

"My biggest concern [with driving at night]...I don't want them driving with drunks on the road. I know when the bars get out...they are not to be on the road half hour before that or half hour after that. Whenever you're driving assume they [other drivers] are drunk, especially on a weekend night."

Some parents stated that they were not concerned about their teen driving at night because there is not much traffic. Only a couple of parents expressed concern about reduced visibility at night. No parents mentioned concern over decreased mental alertness or drowsiness as a concern for nighttime driving.

Sub-theme: Rural road driving conditions—When asked if there were roads or areas that parents thought were dangerous for young drivers, gravel roads were mentioned most often. Some parents with teens who lived in town stated that they did not feel that their teen has enough experience driving on gravel roads. For example, one parent stated:

“They don’t have a lot of gravel road driving experience so I know that’s always a special concern if they’re driving to grandma and grandpa’s or something where they have to drive on gravel. And they anticipate that too, like, oh God, I have to drive on that gravel road.”

When asked if they had ever taken their teen to practice driving on gravel roads, the majority of these parents had not. A couple of parents also mentioned that if their teen wanted to socialize with friends further out in the country, they would prefer their teen not have to drive on gravel roads.

One community had experienced recent flooding, and several parents from that community spoke of roads being under water or badly damaged by floodwaters. A few parents mentioned concerns related to speeding in more remote areas with no traffic signals and limited traffic. Lastly, several parents reported that sharing the road with slow-moving farm equipment can be challenging for young drivers.

Theme 5: GDL exemptions are necessary

Most parents mentioned they would support a nighttime driving restriction but only if there were exemptions for school, sports, or church-related activities. Several parents mentioned that a nighttime restriction with the aforementioned exemptions would be ideal since their teen would only be restricted from driving late at night for social activities.

Slightly over half of the parents interviewed supported limiting teen passengers to no more than one without the presence of an adult. The majority of parents stated that there would have to be exemptions for family members so, for example, the eldest teen could transport siblings to and from school. Other parents also mentioned that limiting teen passengers would not allow for carpooling to school-related or sporting activities, and only increase the number of teen drivers on the road going to the same places. When asked if they would support a teen passenger restriction with exemptions for school-related activities, many of these parents said they would, but that enforcement would be difficult. Only a couple of parents supported limiting teen passengers to no more than one without such exemptions.

Some parents who did not support GDL restrictions on teen drivers felt that they, as parents they could best judge when their teen was ready to drive independently, and the state did not need to interfere. However, many parents also had views similar to one parent who stated:

“My first thought is that this is North Dakota. Let’s just not be so strict with the laws, and leave people’s actions to their own decisions. And my other thought is that...some people [don’t] pay attention to what their kids are doing...I feel equally strongly both ways.”

5. Discussion

By sitting and talking with parents in rural North Dakota, we gained insight into how the values they hold help shape their decisions about teen driving. Parents described their teens' daily lives as busy, filled with school, sports, extracurricular activities, and other enrichment activities such as music lessons, church youth groups, and part-time jobs. They expressed a sense of community inclusiveness inherent to rural living, in that, because there were fewer students in rural areas, there was need for high levels of participation to ensure that sports and extracurricular activities could continue. There was a general sense that compared to their more urban counterparts, teens in rural areas may take on more responsibilities within the family. These responsibilities included sometimes transporting younger siblings. One parent explained that his 9 year-old could sleep nearly an hour longer in the morning if he rode to school with his teen sibling rather than riding the bus. Parents were nearly unanimous in their support for licensing teens at age 14½, due to the lifestyle demands of rural living; in most families, both parents worked, and teens often traveled considerable distances to their daily activities.

Teens who lived on a farm or ranch typically played a role in its operation. These roles often involved driving either farm equipment or an alternative vehicle such as an All Terrain Vehicle. Indeed, most parents who operated a farm or ranch expressed stronger support for early licensure than did parents who were not involved in agriculture. These parents talked of having carefully weighed the risks and benefits of allowing their teens to drive in their work roles on the farm or ranch, in some cases before the teen was licensed.

Most parents reported that their teens got licensed soon after turning 14½ years old, as was permitted by North Dakota licensing law when the interviews were conducted. This pattern of licensing at 14½ years observed in very rural settings was not consistent across the entire state. According to North Dakota Department of Transportation records and US Census Population Projections, about 8% of the state's 14-year olds and 39% of 15-year olds were issued a driver license in 2010 (personal communication, Glen Jackson, Director, Drivers License Division, May 30, 2012; US Census Population Projections, 2004). These findings strongly suggest that rates of early licensure may be more common in very rural areas compared to other areas of the state.

This study confirms previous findings that many parents generally lack awareness and understanding of the most high-risk driving situations for their newly licensed teens (Williams et al., 2006; Shope, 2007; Simons-Morton et al., 2008). For example, in this study, parental concerns regarding nighttime driving were related to the presence of wild-life and drunk drivers; whereas, research, albeit in more urban settings, demonstrates that nighttime driving is a major risk for teen drivers due to the more complex task of driving in the dark, their lack of experience, fatigue and recreational or social activities that may involve alcohol or drug use (Williams, 2003; Williams et al., 2012; Carpenter and Pressley, in press). Also, parents' concern over the "other drivers on the road" is likely misplaced. A study of serious crashes involving teen drivers found that when driver error contributed to a crash involving a teen driver, the teen made the error 79% of the time (Curry et al., 2011); another study found three-quarters of teens involved in non-fatal crashes were at fault (Braitman et al., 2008).

Another common misperception was that rural driving is relatively safe because there is little traffic and the rural driving environment is less complex; however, although the absolute number of fatal crashes is not high, fatal crash rates among teen drivers and drivers of all ages are consistently higher in rural states (Centers for Disease Control and Prevention, 2010; Zwerling et al., 2005). Indeed, during 2004–2008, North Dakota 16- and 17-year olds had the seventh highest rate of fatal crash involvement in their age group in the United States (Centers for Disease Control and Prevention, 2010).

Teens quickly develop basic vehicle handling skills, which may give parents a misleading impression that their teen is ready to drive independently (Simons-Morton et al., 2006; Goodwin et al., 2010). Higher order skills necessary for safe driving such as constant visual scanning for potential hazards, anticipating moves of other drivers, and managing distractions and emotions take much longer to develop. As with previous studies, few parents in this study expressed an awareness of the need for teens to develop these higher order skills (Goodwin et al., 2010; Mirman and Kay, 2012). Additionally, most parents in this study reported that they were comfortable supervising their teen's practice driving, and few reported using resources to assist them in this role, despite their limited understanding of the major risk factors for serious teen driver crashes. Separate research suggests that parents tend not to make the most productive use of the time spent supervising their teen's practice driving. A study using in-vehicle cameras to document the behaviors of teen drivers and parent supervisors indicated that most practice driving took place in relatively benign conditions; teens rarely drove at night, in rain, or in heavy traffic, and they tended to drive the same routes (Goodwin et al., 2006). Parents' advice to their teen drivers tended to focus on vehicle handling rather than the aforementioned higher order skills (Goodwin et al., 2006). Taken together, these findings point to the need for parents to be better prepared for the important role of supervising their novice teen's practice driving. However, little is known about how parents prepare for and perform in this supervisory role (Mirman and Kay, 2012; Subcommittee on Young Drivers, 2009; Williams, 2012), and evidence-based programs to help guide parents are lacking. Resources such as driving logs and informative websites exist, but simply providing such resources to parents is unlikely to improve most parents' performance in supervising their novice teen driver (Goodwin et al., 2006; Subcommittee on Young Drivers, 2009). Several interventions to improve parental supervisory skills are currently being evaluated (Williams, 2012), but more attention is needed to this important research gap (Subcommittee on Young Drivers, 2009; Goodwin et al., 2006; Mirman and Kay, 2012).

From a safety perspective, parental involvement is probably most important when teens begin to drive independently. Teens of parents who set and consistently enforce limits on driving privileges during this time period display fewer risky driving behaviors and have fewer crashes (Simons-Morton et al., 2006; Prato et al., 2010; Simons-Morton and Ouimet 2008). Several interventions have been found to be effective in improving parental limit setting and monitoring of newly licensed teens (Simons-Morton et al., 2006; Haggerty et al., 2006) and additional interventions are being developed and evaluated (Williams, 2012). Bringing such programs to scale in rural populations may be particularly challenging for reasons such as the travel time required to attend a program. Also, as seen in this study, many rural children may begin driving well before they enter the licensing system, which

might lessen parents' motivation to participate. Lastly, programs that are not designed specifically for rural settings may not be easily adaptable to the rural driving environment.

This study has several limitations. Due to the small sample size and use of convenience sampling, the results are not necessarily generalizable to all parents residing in rural areas of North Dakota. Additionally, parents could have been more likely to offer socially desirable or "correct" responses, although prior to conducting the interviews, we stated that there were no right or wrong answers, and that we were interested in hearing about parents' experiences with their teen. Furthermore, the majority of interviews occurred with the mothers of the teens; the inclusion of more fathers may have resulted in different perceptions of teen driving risks and GDL. Lastly, responses regarding support for GDL could have been affected by parental knowledge about GDL programs; since North Dakota had only recently passed the Minor Drivers License Law, most parents did not have specific knowledge regarding GDL, its components and potential exemptions. Despite these limitations, results from this study provide insight into parental perceptions of the driving needs of rural teens, teen driving risks and support for various components of GDL programs. Further survey data from a representative sample of parents may be useful in more thoroughly probing the issues identified in the current study.

6. Conclusion

Parents play a crucial role in managing their teen's learning-to-drive process, from deciding when their teen will obtain a learner's permit, to supervising their teens' practice driving, and setting and enforcing limits on driving privileges after licensure. Results from this study indicate that parents in rural North Dakota are generally comfortable carrying out these roles, but they do so without fully understanding the skills that beginning drivers must develop over time in order to be safe drivers and the types of driving situations that put teens at greatest crash risk. The latter findings are not unique; similar findings have been consistently reported from parents both in rural and urban settings (AAA Kansas et al., 2008; Simons-Morton and Ouimet, 2008; Beck et al., 2002). However, parents in this study differed from most parents surveyed (Williams et al., 2011; McCartt et al., 2007) in that they perceived a need for their teens to drive at early ages, and they were somewhat less supportive of GDL restrictions aimed at reducing crash risk among newly licensed drivers. Increasing awareness of high-risk situations for teen drivers and how GDL can help reduce these risks may improve parental perceptions and support for GDL in rural North Dakota. As safety advocates work to further strengthen teen driver safety in the state, findings from this report may help in taking into account the unique perspectives and lifestyles of families living in rural North Dakota.

Acknowledgments

We would like to acknowledge Robert D. Foss, Eugene LaDoucer and Diana Read for providing valuable insight and reviewing the manuscript.

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Table 1

Study questionnaire designed to address the aims of the study.

Study aim	Questions
How teen driving fits into daily rural life	<p>How long have you lived in North Dakota (ND)?</p> <p>If you have not always lived in ND, where are you from or where have you lived previously?</p> <p>How long has your family lived in this location?</p> <p>To help us understand how <i>your teen's</i> driving affects your daily life, can you tell me about how you spend a typical week day (ask about occupation)?</p> <p>How far/how long does it take to get to work/school/church/grocery store from your home?</p> <p>How does <i>your teen</i> spend a typical week day (i.e. school, work, home responsibilities). How does your teen spend a typical weekend day?</p> <p>(If family has a farm/ranch) Does <i>your teen</i> have to drive to help out on the farm/ranch? If so, what type of vehicle does he/she drive?</p> <p>Where does he/she drive the vehicle? (in the fields, local roads, highway)</p> <p>How does <i>your teen</i> typically get to school (i.e. does he/she drive him/herself, driven by parent, ride with siblings, ride with friends, bus, etc.)</p> <p>Does <i>your teen</i> participate in any extracurricular/after school activities that require him/her to be at school outside of the usual school day hours? (if yes) What activities?</p> <p>Where does <i>your teen</i> go most often to socialize with his/her friends?</p> <p>How does he/she generally get there and back?</p>
Initiation of teen driving	<p>Around what age do kids start driving in your area?</p> <p>Do you think kids on farms/ranch start driving earlier? Around what age?</p> <p>When did <i>your teen</i> start to drive?</p> <p>Can you describe his/her learning process (type(s) of vehicle, who taught them)?</p> <p>How old was <i>your teen</i> when he/she first began to drive a regular car or truck on public roads?</p> <p>What resources, if any, did you use to better prepare <i>your teen</i> to drive? (Where did you obtain the resources from?)</p> <p>How old was <i>your teen</i> when he/she began driving regularly without an adult in the car?</p> <p>Currently, how often does <i>your teen</i> drive? (Or how often do you see yourself letting <i>your teen</i> drive when he/she starts?)</p> <p>Where does <i>your teen</i> drive (i.e. only on the farm/ranch, or to/from school, work, school activities, social outings)?</p> <p>Do you think parents in your area feel that their kids need to have a license to drive (ask for any particular situations)?</p> <p>Are you aware of any reasons why some families in the community might delay getting their teen licensed?</p>
Parental concerns about driving risks for their teen	<p>What concerns you most when you think about <i>your teen</i> driving?</p> <p>How have you addressed these concerns? (Or how might you address these concerns?)</p> <p>What types of things do you think are important to consider when deciding if a teenager is ready to begin driving by himself/herself?</p> <p>Are there any driving situations or conditions that you think are particularly risky for teenage drivers in your area?</p> <p>Are there any roads or areas around here that you think are dangerous for young drivers?</p> <p>What roads or areas concern you the most?</p> <p>Do you worry about <i>your teen</i> driving at night? Why?</p> <p>Do you have concerns about <i>your teen</i> having their friends in the car while he/she is driving? What types of concerns?</p>

Study aim	Questions
Support for GDL nighttime and passenger restrictions in North Dakota	How have you addressed these concerns? (Or how might you address these concerns?)
	Do you have concerns about <i>your teen</i> riding in a car driven by friends who are not experienced drivers? What types of concerns?
	How have you addressed these concerns? (Or how might you address these concerns?)
	If <i>your teen</i> were to disregard certain rules, like speeding or using a cellphone, while driving, then what would you do?
	Are you aware of any car crashes in this area lately that involved teenagers? If so, do you have any thoughts on what might have prevented it?
	Some states limit the number of young passengers that newly licensed teens can have when they first begin driving, unless there is an adult in the car.
	Do you think North Dakota should limit newly licensed teen drivers to no more than one teen passenger?
	If no: would you approve of this limit on passengers if it did not apply to family members?
	If yes: would you approve of this limit on passengers if it applied to family members as well?
	Would you approve of this limit on passengers if it did not apply to trips to and from school?
<p>(If parent supports passenger limits) How long should the limit on teen passengers be in effect? Would you say ...[read list]</p> <p>6 months</p> <p>12 months</p> <p>Until age 18, or</p> <p>Some other length of time (enter verbatim_____)</p> <p>Not sure</p>	
We'd like to hear your thoughts about North Dakota's plans to change the licensing system for teen drivers. As you might have heard, the legislature passed the bill, and Governor Dalrymple is expected to sign it.	
The main changes are for teens 16 and under, and include extending the learner permit phase to 12 months and restricted nighttime driving when there is not an adult in the car. How do you feel about these changes?	
Thinking about your own experience, do you have any advice for parents who are about to start riding with a teenager who is learning to drive? One or two things that they probably don't know that you think would help them or their teen to do better?	