

# **Socioeconomic Status and Knowledge and Use of Child Safety Seats in Rural Communities**

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## **ABSTRACT**

*Motor vehicle accidents continue to be the leading cause of death for children under the age of 14. Currently as many as 95% of all child safety seats are installed incorrectly. This study sought to understand if knowledge and use of child safety seats differs among parents with varying socioeconomic statuses and ethnicities in rural areas. This community needs assessment used anonymous surveys given to parents of children 8-years-old or younger to assess general knowledge of safety seat usage, demographic data, and specific usage details of their current child safety seats. The data was conclusive in showing that the two counties surveyed would benefit from additional programs to assist parents in keeping their children safe.*

## **Introduction**

### *Problem Statement*

This study sought to understand if knowledge and use of child safety seats differs among parents and caregivers with varying socioeconomic status and ethnicity in a small Wisconsin rural area.

Child safety seats have come a long way in reducing deaths and serious injuries among children. Motor vehicle accidents are still the leading cause of death for children under the age of 14 (Chan, Reily, Telfer, 2006; Quinlan, Holden, Kresnow, 2007; Vick, 2010). It has been mentioned that "...if a disease were killing our children at the rate unintentional injuries are, the public would be outraged and demand that this killer be stopped" (Koop, n.d.). Currently laws in all 50 states require children to be in specific types of seats until they are 8 years old, 4' 9", and over 80 pounds. Organizations that provide child safety seat checks for parents and caregivers find that 85% to 95% of all seats are installed incorrectly or the child is in the wrong type of seat for their age and size (Vick, 2010; Quinlan, et al., 2007).

## **Description of Problem Background**

### *History of Child Safety Seats*

The first car seat for children was manufactured in 1933. The intended purpose of that first seat was not safety. Rather, the higher seat enabled the child to look out the window. The seat also provided ease for parents to reach their child from the front seat while confining the child them to one place in the vehicle (Small, 2008). Jean Ames of the United Kingdom invented the first seat focused on safety in 1962. It attached to the vehicle and had a Y-shaped harness system (Small, 2008).

In 1965 automobile safety became a priority for the newly formed group Physicians for Automobile Safety. They picketed an automobile show in New York to encourage automobile manufacturers to build vehicles with occupant protection in mind. The group wanted seat belts for the adults in the vehicle and as a means to attach child safety seats. In 1971, the group produced a pamphlet titled "Don't Risk Your Child's Life" which has been updated and published yearly since its conception. In this same year, the National Highway and Traffic Safety Administration (NHTSA) adopted the first Federal standard, which required that safety seats be buckled into the car. The seats were not crash tested (Stewart, 2009).

In 1979, Tennessee became the first state in the United States to pass legislation requiring infants and young children to be in child safety seats that met federal standards. Other states also began legislation during this time period. By 1981, the federal government strengthened regulations on what

was accepted as a child safety seat. The seats had to be crash tested at 30 miles per hour, match buckle release force standards so children could not unbuckle themselves, and meet special labeling and instruction criteria. Rear-facing seats also became required for infants (Stewart, 2009).

In 1984, NHTSA pushed to require all states to adopt child safety seat laws. All states complied by 1985. Unfortunately, many of these laws had limitations such as allowing lap belts as alternatives for very young children. The law also only applied to parents and guardians. Others, such as relatives and family friends, were allowed to transport the children without the seats (Stewart, 2009).

It was not until the early 1990's that evidence mounted showing the dangers of lap belts for small children. This led to current laws which require children to transition from infant seats to toddler seats, then to booster seats, before moving on to seat belts (Stewart, 2009).

As all states began adopting child safety seat laws, usage rates climbed to 80%. Three distinct problems emerged regarding how these seats were used. It was determined that the seats were used incorrectly and that not all seats fit in all cars equally. Parents were also confused about which seat to use as their child grew. This led to the formation of programs to assist parents. Two major groups, Safe Kids and Safety Belt Safe USA were formed in 1989 and 1990, respectively. Both groups were nonprofit advocates for increasing the safety of children in automobiles. They formed child safety seat checkpoints at the safety fairs they sponsored. They were also instrumental in securing participation from fire stations, public health offices, and car dealerships to hold safety seat checks. In 1997, NHTSA sponsored a national training program to certify child passenger safety technicians and instructors. This change assured that all seats were installed and inspected in a universal way. By 2002, over 22,000 people had become certified technicians or instructors (Stewart, 2009). Today, many organizations have come together to increase passenger safety by continued research, to increase improvements in safety seat effectiveness, and to increase legislation efforts.

### *Current Practices*

Child safety seat practices have evolved worldwide. Sweden has become known as one of the safest countries for children in automobiles. Their practice of leaving children in a rear-facing position until four or five years of age has unequivocally demonstrated that it is the safest way for a child to ride. A study by Wenall (1997) found that from 1992 to 1997, seventy-nine children died on Sweden's roads. Seventy of those children were riding forward facing. Of the nine who were killed riding rear facing, excessive occupant compartment intrusion accounted for their cause of death. In that same 5-year period, 7,813 deaths were reported on U.S. highways (Insurance Institute of Highway Safety, 2007). When population differences are taken into account, Sweden had one death per 24,050 children (0.8%) while the U.S. had one death per 8,793 children (7.8%). Sweden and many countries in the European Union have many choices for parents when choosing child safety seats that are able to accommodate children up to 55 pounds in a rear-facing position. The U.S. only has one seat choice for parents that will accommodate a child rear facing and only up to 40 pounds (Childs, 2009).

The increased safety of rear facing versus forward-facing child safety seats is related to the proportion of a child's large head mass comparison to its body and the differences in spine anatomy in young children. When a child is rear facing in a front-end crash (the most common type of crash) the forces of the crash on the body are evenly distributed throughout the child's body as it is cradled in the shell of the child safety seat. This spreads the forces of the crash throughout the back and head and reduces crash pressure. When a child is forward facing in a front-end crash, the head and legs are thrown forward and the head snaps violently placing major force on the child's spinal cord (<http://car.safety.org>).

This simple change in position of the seat can make a huge difference as demonstrated by the Swedish studies. The American Academy of Pediatrics (AAP) concurs, but does not actively educate parents about this increased safety measure. They recommend "...for optimal protection, if a car safety seat accommodates children rear-facing to higher weight limits, the child should remain rear-facing until reaching the maximum weight for the car safety seat, as long as the top of the head is below the top of the seat back" (Watson & Monterio, 2009).

Other recommendations from AAP to keep children safe in motor vehicles include:

- Placing children in the back seat, preferably the back middle position.
- No rear-facing seats should be placed in front passenger seat if vehicle has airbags.
- No children under 12 in front passenger seat with airbag.
- Use LATCH system if available in the vehicle.
- Have the seat checked by a certified safety technician each time a new seat or car is purchased.

It is not disputed that those with a lower socioeconomic status find themselves disadvantaged covering expenses related to raising their children. Multiple studies have shown that child safety seat non-compliance rates are highest in poor urban neighborhoods (Quinlan et al. 2007; Chan, Reilly, Telfer, 2006). Child safety seats are relatively expensive and it is reasonable to presume that those parents with less money are more likely to purchase used car seats, transition their children into less expensive booster seats, or not have the means to purchase a seat at all. Multiple dangers exist when child safety seats are purchased used. Registration cards are not available to alert parents of recalls; model number stickers and instructions may be missing for the child safety seat making it impossible to look up recall status for the seat. When the sticker is missing, the manufacturing date of the seat is unknown and child safety seats do have expiration dates. Manufacturers recommend that seats are replaced after five to eight years and all experts agree that a seat is unsafe after ten years (<http://carseat.org>). The use history of the seat will also be unknown to the parent if it is purchased used. Many parents are surprised to find out that if a child safety seat is in even a minor accident it must be replaced. The engineering of the seat is only made to protect the child in one accident. After that, the parts of the seat that took on the force of the accident will be stressed and unreliable to hold up to an additional crash. As of now, there is no tell-tale sign to determine whether a seat has been involved in a crash (<http://carseat.org>).

Concerned parents can find out recall status of their seat by attending a child safety seat event. Recent studies demonstrated that parents with low socioeconomic status are unlikely to have their seat checked. The majority of participants at these events were middle to upper class, 79% had at least a 4-year college degree and half of those degrees were advanced degrees (Duchossis, Nance, Wiebe, 2008). Eighty-two percent of the participants at child safety seat events were Caucasian (Duchossis et al., 2008). Another population unaccounted for at these checkpoints is immigrants. The Hispanic population has one of the lowest use rates of any ethnic group in the U.S. “Lower rates of restraint use and higher occupant fatality rates have been detected among Hispanics and African-Americans and among low income U.S. populations” (Agran, Anderson, & Winn, 2004). Factors contributing to this include fewer years of education, lack of fluency in English, lower incomes and lower reading abilities. Child safety seat manuals are found to be written above literacy levels for many parents (Agran et al., 2004).

### *Research Purpose*

This research project sought to determine if the issues surrounding child safety seats were increased in rural areas with a mix of socioeconomic statuses. The project took place in Barron and Rusk counties in West Central Wisconsin. The findings will be used to help determine if there is a need for additional educational programs regarding child safety seats and if specific income and ethnic groups should be targeted.

Barron and Rusk counties offer a somewhat diverse look at socioeconomic status and are very rural in nature. Rusk County has the highest unemployment rate in the state of Wisconsin at 15%, while Barron County’s unemployment rate is 10.7% (Bureau of Labor and Statistics, 2009). The total population of Barron County in 2009 was estimated at 45,591 while Rusk County is estimated at 14,367. Barron County is expected to have an increase in population of about 1.4% since the 2000 census, while Rusk County is expected to have a loss of 6.4% in the same time period. Rusk County has 14.2% of its population living below the poverty level and Barron County has 11.6% of its population below the poverty level. Both counties have a population that is predominantly Caucasian, but Barron County does have a growing population of Somali immigrants (U.S. Census Bureau, 2000, 2008).

*Research Question and Rationale:*

This study was a needs assessment to understand if knowledge and use of child safety seats differs among parents and caregivers with varying socioeconomic status in a small Wisconsin rural area. Specific research questions for this study were:

- What is the comparative difference in the use and knowledge of car seats based on the parental socioeconomic status?
- What is the comparison between the parental socioeconomic status and the likelihood that a child will be in a used seat with unknown status of recall and accident information?
- What is the comparative difference in the use and knowledge of car seats based on the parental ethnic status?

**Research Design***Research Methodology*

This study is classified as a community needs assessment. Marlow (2005) defines a needs assessment as “Questions concerned with discovering the nature and extent of a particular social problem to determine the most appropriate type of response”. It was speculated that the community would benefit from additional programs to teach parents correct usage of child safety seats. The study intended to determine if there were enough clients with difficulty understanding child safety seat use and knowledge to justify new programs. An anonymous survey instrument was used (Appendix A). The survey included general knowledge questions regarding transitions, use, and placement of child safety seats in the vehicle. The survey also included demographic questions to determine socioeconomic status, county of residence, ethnicity, and specific details regarding the type of safety seat currently being used and how the participant acquired the child safety seat. This type of survey resulted in quantitative data that utilized mostly nominal and ordinal levels of measurements. There was also one ratio measurement that was the income level of those who filled out the survey. This was done in order to correlate their responses to their income levels.

The study was cross-sectional in design as it was carried out over a 2-month period. Cross-sectional studies are defined as “a method of measuring behavior as it occurs at one point in time or over a relatively short period of time” (Marlow, 2005). The surveys were distributed using multiple methods. A researcher-staffed table was set up at multiple community events asking those attending for their participation. In return for their participation, participants were invited to enter a drawing for prizes including gift cards and event tickets. Surveys were also dropped off at local daycare centers asking for voluntary participation. The research project was advertised in local newspapers as a community service announcement that included information on how to contact the researcher if community members wanted to participate.

*Sampling*

This study was descriptive in nature. Marlow defines descriptive research as “a process of recording and reporting phenomena; not primarily concerned with causes” (2005). The participants were chosen using non-probability sampling methods in which the researcher could select participants that would fit the study. The study included only parents and caregivers of children 8 years and younger who reside in Barron and Rusk counties. Barron and Rusk counties were chosen based on the researcher’s home area and their rural settings. This method of gathering participants also fits with a criterion sampling as it only included parents with children of a specified age and living in a specified county. This convenience or availability sampling was believed to be most appropriate due to the time constraints of the research project. The research period was only 3 months long which included data analysis and writing.

The sample cannot be fully generalized to the community because of its non-probability sampling method. According to Marlow (2005), when this type of sampling method is used, the researcher cannot

be certain that they have a representative sample of the entire community. Many factors could account for who chose to participate in the study and who did not.

### *Validity*

External validity can be defined as the extent that the findings can be generalized to the general public (Marlow, 2005). The validity of this study may have been affected by the data collection time and venues. The survey was during a 2-month period and the researcher cannot be sure that the venues chosen would include a representative sample of the population. Venues were chosen at family-oriented events that were free as well as some events that had entrance admission required. It was noted by the researcher that immigrant and other minority populations were not represented fully at these events. Only 20% of the surveys dropped off at childcare centers were returned and the reasons for this are not known. This further questions the generalizability to all community populations.

### *Measurement Validity*

Marlow describes measurement validity as the extent in which the researcher is “measuring what you think you are measuring” (Marlow, 2005). The variables measured in this study included key demographics of those participating such as income, family size and ethnicity. General knowledge questions regarding common transitions for child safety seats were asked using an “agree” or “disagree” answer scale. Validity of the knowledge questions could be affected by the reading ability of the participants, accuracy of translation for the Somali participants, and the wording of the questions asked. Usage of child safety seats was evaluated by asking parents to provide age, height, and weight of the child and then answer questions regarding the type of safety seat the child used. Pictures of common safety seats of each design were provided within the survey for parents to look at if they were unsure of which type of safety seat their child was in (Appendix B). The parents were also asked how the seat was acquired, its placement in the vehicle, and whether it was checked by a certified safety technician. The validity of the use measurements could be affected by parents rushing through the survey because their children were present and wanting to move on with the day’s activities. It is also dependent on the parent’s accurate accounting of their actual use. Another concern with the use validity measurements included many participants not knowing the height and weight of their child.

### *Data Analysis*

The survey data was analyzed using the SPSS version 18.0 statistical analysis computer program. All data was input by the researcher into the computer program. Descriptive frequency reports and cross-tabulations were utilized to develop findings.

### *Ethical Issues*

This research study was approved by the University of Wisconsin Superior Institutional Review Board before data collection to ensure the rights of the participants.

Informed consent was garnered by including a separate document with the survey that informed participants of the reasons for the study, who they could contact with questions, and summarized any risks that may be associated with their participation (Appendix C). The participant’s willingness to proceed was considered their consent to the study.

### *Social Justice Issues*

This needs assessment is addressing the social justice issues that are commonly seen in populations with low socioeconomic status. This group is often limited in their abilities to provide for their children in the same way as those with a higher socioeconomic status. These families are often subjected to higher safety risks than other families. This study seeks to identify these safety issues so that programs may be developed that decrease these risks.

The study sought to include all members of the community including the Somali immigrant population in Barron County. This population has grown dramatically in the past 15 years in this county.

The researcher had previously taught English as a Second Language classes to this population and was aware of the struggles this group has adjusting to customs and practices in the United States. It was first-hand knowledge of the researcher that many of the Somali immigrants in this area do not speak English. The survey was translated into their language by a Somali native and employee of the Barron International Center. The employee also distributed the survey to parents who utilized the services of the Barron International Center.

### *Human Diversity Issues*

The researcher attempted to choose venues for the study that would give those with varying socioeconomic statuses equal opportunity to participate. Only one of the four events the surveys were collected at required a paid admission to enter. Care was exercised to assure all families were treated equally and respectfully. Only licensed childcare centers were used because those receiving day care assistance through the State of Wisconsin are required to use licensed childcare centers. This enabled the researcher to attempt to include both families who pay privately or receive assistance from the government for payment of childcare.

## **Results**

### *Participant Demographics*

A total of 250 surveys were distributed at the community events and childcare centers, 235 in the English language and 15 in the Somali language. A total of 66 surveys were returned completed, 62 in English and four in Somali. This resulted in a return rate of 26%. Three of the surveys in English were completed by Hispanic families. One family identified themselves as both Hispanic and Caucasian and is represented in both frequencies. The breakdown of ethnic status in Barron and Rusk Counties are very similar. The Caucasian population in Rusk County is 97.7% and 97.5% in Barron County. Participants in the research survey were 90.9% Caucasian. The Hispanic populations in both counties are estimated at 0.3% (Rusk) and 0.5% (Barron). The survey resulted in a 4.5 % Hispanic participation rate. The U.S. Census Bureau classified African Americans as Black on their website and the counties populations of Black persons was estimated at 1.1% in Rusk County and 1.5% in Barron County. The survey instrument included categories for people who are African American as well as people who are Somali. There were no participants of these backgrounds in Rusk County. Barron County included a 6.1% participation rate from the Somali population.

Socioeconomic status was represented in the varying incomes found in the study as well as by participants who identified themselves as receiving public assistance in some form. Fifty-three percent of all participants had income levels below \$29,999 and 55% reported that they received some form of public assistance. No comparative data could be found on the percentage of the population as a whole in the two counties who were receiving some form of public assistance. The types of public assistance the participants recorded as received are detailed in Appendix D. Family size of the participants ranged from two to six members per household. The mean household size was 3.92, which is higher than the 2.45 average listed for the two counties (U.S. Census Bureau, 2000).

Table 1: Total Annual Household Income

	Frequency	Percent
Valid 0.00 - 9,999	8	12.1
10,000 - 19,999	16	24.2
20,000 - 29,999	11	16.7
30,000 - 39,999	9	13.6
40,000 AND OVER	22	33.3
Total	66	100.0

Of the 66 surveys collected, 80% of the participants were from Barron County with 20% of participants in Rusk County. Equal opportunities for collection were attempted in both counties, but participation rates from Barron County were much higher. When contacting local childcare centers in Rusk County for their participation in the study, only five centers were found on the internet or in a phone book search. Of those five childcare centers, three of the listed telephone numbers were disconnected because the facilities were no longer in business. The two childcare centers who were still in business agreed to participate. The closing of these centers is indicative of the current economic situation in Rusk County. Twenty childcare centers were listed in the Yellow Pages for Barron County. Six of these childcare centers were contacted and all six agreed to participate.

#### *Assessment of Child Safety Seat Knowledge:*

The survey instrument was divided into two sections. One section was concerned with how the caregiver would answer 14 general knowledge questions regarding child safety seat regulations and transitions from infant seats, 5-point harness seats, booster seats, and finally seatbelts. The following tables represent the frequencies given for each question. The bold title is the statement as it was asked on the survey (Appendix A). The correct answer of each knowledge statement is highlighted.

As shown in Table 2, 65% of those surveyed answered incorrectly that a child safety seat would still be effective in protecting a child after it has been in an accident. As was noted in the problem background, this is a common misconception.

Table 2: A child safety seat will still protect my child if it was involved in a minor car accident:

	Frequency	Percent
AGREE	43	65.2
<b>DISAGREE</b>	<b>23</b>	<b>34.8</b>
Total	66	100.0

When assessing caregiver knowledge regarding the effectiveness of a booster seat compared to a forward-facing child safety seat, 32% of those surveyed answered incorrectly that a booster seat would keep a child just as safe as the seat with the 5-point harness (Table 3).

Table 3: A booster seat offers the same level of protection as a forward-facing child safety seat:

	Frequency	Percent
AGREE	21	31.8
<b>DISAGREE</b>	<b>45</b>	<b>68.2</b>
Total	66	100.0

The question in table 4 regarding the use of forward-facing seats represents a known problem in transitioning infants from a rear-facing position to a forward-facing position. As seen, nearly 35% of all participants answered this question incorrectly. This represents a significant risk to these infants as was outlined in the previous problem statement.

Table 4: A 10-month old child weighing 23 pounds should ride forward-facing in a safety seat:

	Frequency	Percent
AGREE	23	34.8
DISAGREE	43	65.2
Total	66	100.0

Questions were asked regarding the transition of a child from a booster seat to a seatbelt (Table 5). Current Wisconsin law, as well as the laws in the majority of the United States, requires that a child stays in a booster seat until they are 8 years of age and 80 pounds. With over a quarter of participants believing that a 3-year-old child is safe in a seatbelt, this statistic is consistent with current confusion regarding transitions from booster seats to seatbelts. Furthermore, a 3-year-old child is recommended to stay in a 5-point harness safety seat until they exceed the weight limit of that seat.

Table 5: If a child is 3 years of age and 45 pounds, it is legal to use a seatbelt:

	Frequency	Percent
AGREE	16	24.2
DISAGREE	50	75.8
Total	66	100.0

Additional questions were asked in the survey. The results did not yield significant concerns, as the majority of caregivers answered correctly. Please see Appendix D for these results.

When cross tabulations were performed using the SSPS program, additional themes were identified as they pertained to relevant demographic information. A category was considered significant if 20% or more of the participants answered the question incorrectly. Data was reviewed for each of the two counties and for the Somali population. Although the sample size was small ( $n=4$ ) for the Somali community, they were still evaluated individually because of the increased need in Barron County to begin assessing the needs of the Somali community. The Hispanic population was not studied further because only three Hispanic families participated. Key points in the findings are listed below:

*Rusk County (n = 13)*

- The participants incorrectly answered eight of the 14 knowledge questions on the survey.
- Sixty-seven percent of those surveyed receiving some sort of public assistance.
- Fifty-eight percent of participants incorrectly agreed that a 10-month-old infant weighing 23 pounds could ride forward facing.
- Twenty-five of participants incorrectly agreed that a 3-year-old child weighing 45 pounds could legally ride in a seat belt only.
- Fifty percent were unaware that recall status of a child safety seat could be checked.
- Fifty-eight percent incorrectly believed that a child safety seat could still protect their child after it was involved in a minor traffic accident.
- Thirty percent of those surveyed incorrectly agreed that a child weighing less than 40 pounds and 4 years old was best protected in a seat belt.
- Thirty percent of participants incorrectly believed that a restrained adult, holding a 7-pound infant in their arms could prevent an injury to that child in a 15 mph crash.



- Thirty percent of all participants believed that they would have to pay a fee to have their child safety seat inspected by a technician.
- Forty-two percent of those surveyed disagreed that child safety seats were as important for toddlers as they are for infants.

*Barron County (n = 53)*

- The participants incorrectly answered two of the 14 knowledge questions.
- Sixty-seven percent of participants indicated they receive some sort of public assistance.
- Sixty-five of those surveyed did not know that a child safety seat was unsafe after the seat has been in a minor traffic accident.
- Twenty-nine percent of the participants incorrectly agreed that a 10-month-old child weighing 23 pounds could ride forward facing in the vehicle.

*Somali Community (n = 4)*

- All reported they were receiving some sort of public assistance.
- The common themes with this group seemed to indicate that they were knowledgeable in most of the questions that concerned infants, but confused on booster seat questions.

*Assessment of Child Safety Seat Usage:*

The second part of the survey was concerned with how caregivers were using their child safety seats for any children in their household who were 8- years-old and younger. Parents were asked to answer questions that included how they acquired the child safety seat, why they chose that specific seat, the positioning of the seat in the vehicle, and the child's age, weight, and height. Overall, 101 child safety seats were evaluated from the 66 families who filled out the surveys. Complete frequency tables of all responses can be found in the appendix F. Themes common in this section of the survey included:

- Only 29% of the 101 seats had been checked by a certified safety technician.
- 28% of all the seats were purchased used or given to the parents used.
- When cross-tabulating age, weight, and the type of child safety seat the child was in, 17% of those surveyed had children in booster seats that should have been in a 5-point harness toddler seat.
- Of the 11 infants surveyed that weighed less than 20 pounds, 5 of those infants (45%) were incorrectly facing forward in their safety seats.
- The most common factor for choosing a child safety seat was the cost (60%), followed by safety (53%), and the fashion of the seat (29%). 80% of those surveyed did not consider the fit of the seat in their specific vehicle, which is a common issue at child safety seat check events.
- 28% of the seats surveyed could be expired based on parents knowledge of the seat being at least 5 years old or being unsure of the age of the seat because they purchased it used.

*Relationship of Findings to Literature Review:*

Many of the themes identified were known problems stated in the literature review. Parents were transitioning children early to booster seats. Child safety seats were checked at low rates by technicians. There was significant confusion surrounding transitions from one type of child safety seat to another.

*Discussion and Analysis of Research Questions:*

This study sought to determine needs regarding child safety seats in Barron and Rusk Counties. Both counties had considerable confusion regarding transitions to the various child safety seats. The specific research can be evaluated as the following:

What is the comparative difference in the use and knowledge of car seats based on the parental socioeconomic status?

Over 67% all families surveyed were on some type of public assistance. Many of the incorrect responses regarding the knowledge questions and the use of each safety seat were concentrated within those families who received public assistance.

What is the comparison between the parental socioeconomic status and the likelihood that a child will be in a used seat with unknown status of recall and accident information?

Of the 28 used seats that were reported, only two of those used seats were in families that were not on public assistance. The other 26 used seats were purchased by families that also receive some form of public assistance.

What is the comparative difference in the use and knowledge of car seats based on the parental ethnic status?

The number of minority ethnic families that participated was quite low. Only seven families of the 66 families were not Caucasian. While this is not a statistically significant number the common theme within these families showed great confusion in knowledge of the child passenger laws and transitions from one type of seat to another. Future research needs to be done in this area.

### *Implications for Social Work Practice*

The results of this research project are relevant in the social work field because it addresses an aspect of the many obstacles faced by clients with a lower socioeconomic status. The findings of this needs assessment could help social workers identify areas of need within their communities. For example, the social worker could advocate for an educational program at county social service centers that could provide parents with knowledge about child safety seats, provide low-cost seats to the parents as well as have a trained technician check the fit of the seat in the parent's vehicle.

This rural environment challenges the social worker to use their cultural competence skills. This work is consistent with the National Association of Social Workers Code of Ethics which states that "Social workers' primary goal is to help people in need and address social problems" (NASW, 2008). The rural social worker will need to utilize their skills of working with clients from all walks of life and adapting to the sometimes unwritten codes in rural communities.

This also fits with the profession's commitment to social justice which states that "Social workers' social change efforts are focused primarily on issues of poverty, unemployment, discrimination, and other forms of social injustice" (NASW, 2008). By advocating for additional resources to fund child safety seat programs, the social worker will be helping to achieve social justice for their clients.

### *Ideas for Further Research*

Further research could:

- Include parent age to see if there is a correlation between parent's age and knowledge and use of safety seats.
- Include occupation in rural communities to see if the farming community tends to move children into booster seats or seat belts earlier than other families.
- Include ages of all family members to see if having children close in age tends to move them into transition seats earlier than others.
- Include use of a focus group prior to survey administration to get feedback on their impressions of the survey questions to avoid confusion from wording. This will help improve measurement validity.
- Explore methods of increasing participation in needs assessments by minority populations.

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Appendix A: Survey



# Precious Cargo: Child Safety Seat Survey

Today's Date: \_\_\_\_\_ County of Residence: \_\_\_\_\_

For the following statements, please circle "**Agree**" if you feel the statement is correct or "**Disagree**" if you feel the statement is not correct.

- |   |              |                 |
|---|--------------|-----------------|
| I can get my safety seat checked for proper fit in my vehicle.  | <i>Agree</i> | <i>Disagree</i> |
| I can get my safety seat checked free of charge.  | <i>Agree</i> | <i>Disagree</i> |
| I can look up recall information about my specific safety seat.   | <i>Agree</i> | <i>Disagree</i> |
| A child safety seat will still protect my child if it was involved in a minor car accident.                           | <i>Agree</i> | <i>Disagree</i> |
| An adult seat belt offers a child the same level of protection as a booster seat.                                     | <i>Agree</i> | <i>Disagree</i> |
| A booster seat offers the same level of protection as a forward-facing child safety seat.                             | <i>Agree</i> | <i>Disagree</i> |
| A 10-month old child weight 23 pounds should ride forward-facing in a safety seat.                                    | <i>Agree</i> | <i>Disagree</i> |
| An adult restrained with a seat belt, holding a 7 pound infant in their arms, could prevent injury in a 15-mph crash. | <i>Agree</i> | <i>Disagree</i> |
| If a child is 3 years of age and 45 pounds, it is legal to use a seatbelt.  | <i>Agree</i> | <i>Disagree</i> |
| Child safety seats are as important for toddlers as they are for infants.   | <i>Agree</i> | <i>Disagree</i> |
| For a child 4 years of age and weighing less than 40 pounds, seat belts provide the best protection.                  | <i>Agree</i> | <i>Disagree</i> |
| Infants can be moved to a forward-facing car seat when they can sit up on their own.                                  | <i>Agree</i> | <i>Disagree</i> |

Seatbelts are not necessary in cars with air bags. *Agree* *Disagree*

Passenger side airbags protect children under 12 years old. *Agree* *Disagree*

Total Annual Household Income: Please check one of the following:

- \$0.00 to \$9,999
- \$10,000 to \$19,999
- \$20,000 to \$29,999
- \$30,000 to \$39,999
- \$40,000 and over

Total number of members in your household: \_\_\_\_\_

I consider myself: (please check all that apply)

- African American
- Asian Indian
- Caucasian
- Hispanic
- Native American
- Somali
- Other: \_\_\_\_\_

I receive some form of public assistance. \_\_\_\_\_ Yes \_\_\_\_\_ No

If yes, please check all that apply:

- Food Stamps (Wisconsin Quest Card)
- Child care assistance
- WIC benefits
- Cash payments
- SSI
- Medicaid (BadgerCare)
- Utility Assistance (Help with heat costs or electric costs)

On the following page, please fill out a separate column for each child that uses a child safety seat. If you have more than 4 children in child safety seats, please ask survey attendant for additional forms. If you are unsure of your child's height or weight, you may leave it blank.


Please refer to the poster of sample types of car seats if you are unsure of the type of safety seat you have.

Child 1 Height: _____ Weight: _____	Child 2 Height: _____ Weight: _____
Has the seat for this child been checked by a certified technician? <input type="checkbox"/> Yes <input type="checkbox"/> No Child's Age _____	Has the seat for this child been checked by a certified technician? <input type="checkbox"/> Yes <input type="checkbox"/> No Child's Age _____
What type of child safety seat do you use? Please Check one of the following: <input type="checkbox"/> Infant carrier <input type="checkbox"/> Infant/toddler convertible seat with 5 point harness <input type="checkbox"/> High-back booster seat	What type of child safety seat do you use? Please Check one of the following: <input type="checkbox"/> Infant carrier <input type="checkbox"/> Infant/toddler convertible seat with 5 point harness <input type="checkbox"/> High-back booster seat

<p>(no harness, uses vehicle safety belt)  <input type="checkbox"/> Low-back booster seat                  (no harness, uses vehicle safety belt)</p>	<p>(no harness, uses vehicle safety belt)  <input type="checkbox"/> Low-back booster seat                  (no harness, uses vehicle safety belt)</p>
<p>Where did you get your child safety seat? Please check one of the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Hand me down from relative or previous child</li> <li><input type="checkbox"/> Garage sale</li> <li><input type="checkbox"/> Thrift Store (Goodwill, Savers, etc.)</li> <li><input type="checkbox"/> New from store</li> <li><input type="checkbox"/> Car seat safety check</li> <li><input type="checkbox"/> Gift, Brand new</li> <li><input type="checkbox"/> Gift, Used</li> <li><input type="checkbox"/> other: _____</li> </ul>	<p>Where did you get your child safety seat? Please check one of the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Hand me down from relative or previous child</li> <li><input type="checkbox"/> Garage sale</li> <li><input type="checkbox"/> Thrift Store (Goodwill, Savers, etc.)</li> <li><input type="checkbox"/> New from store</li> <li><input type="checkbox"/> Car seat safety check</li> <li><input type="checkbox"/> Gift, Brand new</li> <li><input type="checkbox"/> Gift, Used</li> <li><input type="checkbox"/> other: _____</li> </ul>
<p>Why did you choose this particular car seat? Please check all that apply below:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Style/color</li> <li><input type="checkbox"/> Safety features</li> <li><input type="checkbox"/> Price</li> <li><input type="checkbox"/> Fit of seat in vehicle</li> <li>other: _____</li> </ul>	<p>Why did you choose this particular car seat? Please check all that apply below:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Style/color</li> <li><input type="checkbox"/> Safety features</li> <li><input type="checkbox"/> Price</li> <li><input type="checkbox"/> Fit of seat in vehicle</li> <li>other: _____</li> </ul>
<p>Is your child seat more than 5 years old? Please check one of the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Yes</li> <li><input type="checkbox"/> No</li> <li><input type="checkbox"/> Unsure</li> </ul>	<p>Is your child seat more than 5 years old? Please check one of the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Yes</li> <li><input type="checkbox"/> No</li> <li><input type="checkbox"/> Unsure</li> </ul>
<p>How does your child sit in your vehicle? Please check one of the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Front facing</li> <li><input type="checkbox"/> Rear facing in their seat</li> </ul>	<p>How does your child sit in your vehicle? Please check one of the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Front facing</li> <li><input type="checkbox"/> Rear facing in their seat</li> </ul>
<p>Where does your child sit in the vehicle:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Front passenger seat</li> <li><input type="checkbox"/> Backseat, middle position</li> <li><input type="checkbox"/> Backseat, behind driver</li> <li><input type="checkbox"/> Backseat, behind passenger</li> <li><input type="checkbox"/> Third row seat, behind driver</li> <li><input type="checkbox"/> Third row seat, middle</li> <li><input type="checkbox"/> Third row seat, behind passenger</li> </ul>	<p>Where does your child sit in the vehicle:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Front passenger seat</li> <li><input type="checkbox"/> Backseat, middle position</li> <li><input type="checkbox"/> Backseat, behind driver</li> <li><input type="checkbox"/> Backseat, behind passenger</li> <li><input type="checkbox"/> Third row seat, behind driver</li> <li><input type="checkbox"/> Third row seat, middle</li> <li><input type="checkbox"/> Third row seat, behind passenger</li> </ul>

Appendix B

Sample Pictures of Types of Child Safety Seats

Type	Samples		Notes
<p>Rear-Facing Infant-Only Seats and Detachable Bases</p>			<p>Appearance may vary (with or without canopy, with or without base, carry handle up or down).</p>
<p>Safety Seats with 5-Point Harness</p>			<p>Convertible, forward-facing-only, and combination (used as booster when harness is removed) seats. If seat is used as booster but strap slots are present, photo is included in this section.</p>
<p>Boosters and Other Seats with No Harness</p>			<p>Belt-positioning boosters and other seats with no harness straps.</p>

<http://www.carseat.org/>



Appendix C

**UNIVERSITY OF WISCONSIN-Superior  
Research Participant Information and Consent Form**

**Title of the Study:** Precious Cargo: Child Safety Seat Survey

**Student Researcher:** Suzanne Marcon-Fuller (phone): (715) 651-1446

**DESCRIPTION OF THE RESEARCH**

You are invited to participate in a research study about your use of child safety seats.

You have been asked to participate because your information will help Barron and Rusk counties to better develop programs that will serve the needs of their communities.

The purpose of the research is to better understand the needs of the Barron and Rusk County communities and to use the information to better serve you.

This study will include all parents of children 8 years and younger who live in Barron and Rusk Counties in Wisconsin.

This research will be done at Barron and Rusk County area community events and farmers markets. This research will also take place in Barron and Rusk County child care centers.

**WHAT WILL MY PARTICIPATION INVOLVE?**

If you decide to participate in this research you will be asked to fill out the attached survey regarding child safety seats.

You will be asked to complete 1 survey.

Your participation will last approximately 15 to 20 minutes.

**ARE THERE ANY RISKS TO ME?**

We don't anticipate any risks to you from participation in this study.

**ARE THERE ANY BENEFITS TO ME?**

You may choose to enter your name and phone number into a drawing for prizes to be drawn at the end of June.

**HOW WILL MY CONFIDENTIALITY BE PROTECTED?**

This study is anonymous. Neither your name nor any other identifiable information will be recorded on the survey.

**WHOM SHOULD I CONTACT IF I HAVE QUESTIONS?**

You may ask any questions about the research at any time. If you have questions about the research after you leave today you should contact the student researcher, Suzanne Marcon-Fuller at (715) 651-1446. If you would like to contact the faculty advisor, please contact Dr. Monica Roth Day at (715) 394-8486

If you are not satisfied with response of research team, have more questions, or want to talk with someone about your rights as a research participant, you should contact:

Jim Miller, IRB Coordinator at (715) 394-8396 or email him at [JMILLER@uwsuper.edu](mailto:JMILLER@uwsuper.edu)

This research project has been approved by the UW-Superior Institutional Review Board for the Protection of Human Subjects, protocol # 571

Your participation is completely voluntary. If you decide not to participate or to withdraw from the study, you will not be affected in any way.

**Your completion of this survey indicates your agreement to participate in the research as described above.**

## Appendix D: Child Safety Seat Knowledge Data

I can get my safety seat checked for proper fit in my vehicle:

	Frequency	Percent
AGREE	58	87.9
DISAGREE	8	12.1
Total	66	100.0

I can get my safety seat checked free of charge:

	Frequency	Percent
AGREE	55	83.3
DISAGREE	11	16.7
Total	66	100.0

An adult restrained with a seatbelt, holding a 7-pound infant in their arms, could prevent injury in a 15-mph crash:

	Frequency	Percent
AGREE	5	7.6
DISAGREE	61	92.4
Total	66	100.0

Child safety seats are as important for toddlers as they are for infants:

	Frequency	Percent
AGREE	59	89.4
DISAGREE	7	10.6
Total	66	100.0

For a child 4 years of age and weighing less than 40 pounds, seat belts provide the best protection:

	Frequency	Percent
AGREE	10	15.2
DISAGREE	56	84.8
Total	66	100.0

Infants can be moved to a forward-facing car seat when they can sit up on their own:

	Frequency	Percent
AGREE	9	13.6
DISAGREE	57	86.4
Total	66	100.0

Seatbelts are not necessary in cars with airbags:

	Frequency	Percent
AGREE	5	7.6
DISAGREE	61	92.4
Total	66	100.0

Passenger side airbags protect children under 12 years of age:

	Frequency	Percent
AGREE	8	12.1
DISAGREE	58	87.9
Total	66	100.0

An adult seat belt offers a child the same level of protection as a booster seat:

	Frequency	Percent
AGREE	9	13.6
DISAGREE	57	86.4
Total	66	100.0

I can look up recall information about my specific safety seat:

	Frequency	Percent
AGREE	56	84.8
DISAGREE	10	15.2
Total	66	100.0

Type of seat used:

	Frequency	Percent
INFANT CARRIER	8	7.9
CONVERTIBLE SEAT 5 PT HARNESS	35	34.7
HIGH BACK BOOSTER	32	31.7
LOW BACK BOOSTER	26	25.7
Total	101	100.0

Seat given to them from a safety check event.

	Frequency	Percent
YES	29	28.7
NO	72	71.3
Total	101	100.0

Seat was a hand-down from previous child.

	Frequency	Percent
YES	11	10.9
NO	90	89.1
Total	101	100.0

Seat was purchased at a garage sale.

	Frequency	Percent
YES	11	10.9
NO	90	89.1
Total	101	100.0

Purchased from a thrift store.

	Frequency	Percent
YES	4	4.0
NO	97	96.0
Total	101	100.0

Received as a gift, but was a used seat.

	Frequency	Percent
YES	2	2.0
NO	99	98.0
Total	101	100.0

Purchased seat brand new from store.

	Frequency	Percent
YES	64	63.4
NO	37	36.6
Total	101	100.0

Seat purchased at a safety check event.

	Frequency	Percent
YES	2	2.0
NO	99	98.0
Total	101	100.0

Seat was a gift that was brand new.

	Frequency	Percent
YES	6	5.9
NO	95	94.1
Total	101	100.0

Acquired from another source.

	Frequency	Percent
PUBLIC HEALTH ---- NEW--	2	2.0
Missing System	99	98.0
Total	101	100.0

Chose seat based on Fashion qualities.

	Frequency	Percent
YES	29	28.7
NO	72	71.3
Total	101	100.0

Chose seat based on safety qualities.

	Frequency	Percent
YES	54	53.5
NO	47	46.5
Total	101	100.0

Chose seat based on the price.

	Frequency	Percent
YES	61	60.4
NO	40	39.6
Total	101	100.0

Chose seat because of fit in vehicle.

	Frequency	Percent
YES	20	19.8
NO	81	80.2
Total	101	100.0

Other reasons for choice of seat.

	Frequency	Percent
NO CHOICE	4	4.0
Missing System	97	96.0
Total	101	100.0

Age of car seat currently being used.

	Frequency	Percent
OVER FIVE YEARS	17	16.8
UNDER FIVE YEARS	73	72.3
UNSURE	11	10.9
Total	101	100.0

Position of seat in vehicle.

	Frequency	Percent
FORWARD	94	93.1
REAR	7	6.9
Total	101	100.0

Placement of seat in vehicle.

	Frequency	Percent
FRONT PASSENGER	2	2.0
BACK MIDDLE	15	14.9
BACK PASSENGER	41	40.6
3RD ROW DRIVER	41	40.6
3RD ROW PASSENGER	2	2.0
Total	101	100.0