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CORRELATES OF CHILD RESTRAINT USE

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16. Abstract

This study combined direct observation of child restraint use with interview and mail questionnaire methods to measure prevalence of incorrect restraint practices and factors related to use of child restraint devices and seat belts for children under the age of four. Trained observers carefully assessed multiple dimensions of appropriate or inappropriate restraint practices for a sample of motorists entering fast-food parking lots in Michigan. On-site interviews and follow-up questionnaires measured sociodemographic, attitudinal, belief, and behavioral characteristics related to restraint use.

Ninety-two percent of infants under age 1 and 55% of children age one to three were traveling in a child safety seat. Public support for the mandatory child restraint law is very high--nine out of ten believe it should be strictly enforced. Incorrect use of child restraint devices is a major problem--63% of all devices observed were used incorrectly. Child restraint use was lower than average among motorists who: (1) had low family incomes, (2) were not currently married, (3) were of nonwhite ethnic backgrounds, and (4) were over the age of 40. There appears to have been a shift in social norms in recent years, such that restraint of young children traveling in cars is now expected behavior. Recommendations include: (1) improved design of safety seats to reduce incorrect use, (2) increased enforcement of the mandatory child restraint use law, and (3) individualized education and demonstration of correct child seat use for parents.

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1 Introduction

Motor vehicle crashes are the leading cause of death of American children and are responsible for significant numbers of severe and often disabling injuries. The efficacy of child restraint devices (CRDs) and seat belts in preventing a substantial proportion of crash fatalities and injuries is well documented. Mandatory child restraint laws have been implemented in all fifty states in the United States to increase child restraint use, thereby reducing crash-related injuries. In Michigan, child restraint legislation was implemented in April of 1982 and was followed by a 27.4% reduction in the number of children aged zero to three years injured in motor vehicle crashes within the state (Wagenaar and Maybee, 1986). As recently as July 1986, however, more than one-fourth of the children under the age of four observed in motor vehicles throughout the state were unrestrained; further, a substantial number of the remaining three-fourths who were restrained were restrained incorrectly (Wagenaar, Businski, and Molnar, 1986b). Successful efforts to increase the use of child restraints and increase the proportion used correctly, requires identification of factors associated with correct use and an understanding of how these factors interact. The goal of this study is to facilitate that identification and understanding.

During the past 30 years, researchers in the field of public health have developed a model of injury and disease causation which is useful in the design of intervention strategies. The model recognizes that injuries, as well as disease, are caused by the interaction of multiple factors. The model groups factors into three major components. First, the **agent** is the element or instrument of an injury or disease that gives them their unique identity. In motor vehicle injuries, the agent is the impact force between the body and vehicle interior surfaces that exceeds the tolerance of human beings. Child safety restraints act by tightly coupling the child to the vehicle and its energy absorbing structures, distributing the remaining impact forces over a broad area of the child's body, and controlling the body's motion to minimize direct impact with the vehicle interior. The second component of the public health model is the individual or the **host**, whose particular characteristics increase or decrease his or her susceptibility to injury. For example, physical characteristics of infants, such as the high proportion of total body surface area accounted for by the head, increases the risk of serious head injury in a motor vehicle crash, while developmental characteristics such as immature judgment of a 15-year-old driver increase the risk of a crash. The third component, the **environment**, consists of the physical, socioeconomic, psychological, and political surroundings which influence whether a particular host will come into contact with a particular agent.

The literature on child restraint use discusses numerous agent, host, and environmental variables that indicate child restraint use cannot be adequately explained by any single dimension. Numerous models might be used to categorize the hundreds of factors potentially related to CRD use. One such model was developed by Hughes (1979) and is based on a public health model for diagnosing health education needs (Green, 1976). Hughes

groups factors associated with child restraint behavior into three categories. First, **predisposing** factors are those factors or beliefs which make an individual inclined to act in a particular way and include knowledge, attitudes, values and previous behavior. Second, **enabling** factors are those external and internal factors which facilitate the accomplishment of particular actions, and include accessibility, availability, skills, information processing style. Third, **reinforcing** factors are physical and psychosocial factors which affect beliefs and behavior, and include comfort, convenience, protection, economic benefits, approval, assistance, and modeling. It is the **interaction** of these factors, in varying degrees, that determines child restraint behavior.

This study focuses on characteristics of motorists traveling with young children that are related to probability of restraining children with a seat belt or CRD. Certain characteristics of the environment, such as enforcement levels and social norms concerning child restraint use (as perceived by motorists) are also examined for their influence on child restraint use.

2 Review of the Literature

While the majority of studies on child restraint use have assessed the effect of more than one factor, few have controlled for the interactive effects of these factors. As a result, conclusions based on the available literature should be interpreted cautiously. For example, those studies finding ethnic background to be associated with child restraint use which do not control for the interactive effect of socioeconomic status provide less than optimal data for design of intervention strategies. In addition to the usual requirements for valid samples, adequately and operationally defined variables, and inclusion of field observation as well as interview data, studies on child restraint use must also consider effects on child restraint behavior of mandatory child restraint laws. Despite such limitations, extant studies of child restraint use provide many insights.

Hletko and others (1983) studied effects of an inpatient postpartum child restraint education program on infant restraint use. They found the following variables were positively correlated with correct use of restraints: parental education level (high school graduate or higher), occupation of mother (professional), marital status (married), self-reported seat belt behavior of parents (use), pediatric preventive health knowledge (high), smoking behavior of parents (nonsmokers), automobile ownership (two or more), and dental practice (existence of regular family dentist). This study suggests that high socioeconomic status and the practice of preventive health behaviors are related to child restraint use. Low family income (less than $15,000) was associated with nonuse of CRDs.

Jonah and Dawson (1982) conducted an interview survey of Canadian motorists with children under the age of five. Results indicated that parents with higher levels of education were more likely to use CRDs and were more likely to support mandatory child restraint legislation. Primary reasons given for not using CRDs were that the child was too big or too old.

Level of education was one of several variables examined by Faber and Hoppe (1984) in a study of new mothers participating in an inpatient child restraint education program. Findings from personal interviews indicated that mothers planning to use CRDs to transport their infants home from the hospital were more likely to have attended college, to be white, over the age of 20, employed in a professional occupation, to earn more than $10,000, to have been involved in a motor vehicle crash, and to better understand basic components of vehicle safety than mothers not planning to use child restraints.

Neumann and others (1974) interviewed families at a pediatric clinic in order to identify factors associated with child restraint use. They found that parents most likely to use CRDs were married, had 12 or more years of education, used seat belts themselves, were white and U.S. born, and had an internal rather than external locus of control (Rotter, 1966). Previous motor vehicle crash experience, knowledge of the leading cause of death among children, and head of household occupational category were not found to be associated with

reported child restraint use. Reasons given for nonuse of restraints included discomfort of the child, inconvenience, and simply forgetting.

Consistent with the previously reported studies, parental education was found to be positively related to child restraint use in a telephone survey of families with young children conducted by Foss (1985). Use of child restraints was also associated with sex of driver (female), the belief that CRDs were highly effective, and the belief that government should enforce child restraint legislation. No relationship was found between CRD use and perceptions about enforcement efforts. Finally, previous crash experience of drivers had only a marginally significant effect on child restraint use.

Philpot and others (1979) developed a profile of child restraint users and nonusers by observing vehicles with children under the age of four before and after enactment of child restraint legislation in Tennessee. Drivers of the observed vehicles were also interviewed and asked to complete a questionnaire. Drivers traveling with restrained children were more likely to be female, married, have high family income, high educational attainment, own the vehicle they were driving, use their seat belt, and be the parent of the child in the vehicle. Age of the child and child restraint use were inversely related, and the sex of the child appeared to have no effect on restraint use.

Pless and Roghmann (1978) examined the relationship of sociodemographic characteristics and family stress to child restraint use through a telephone survey of New York parents. While income was directly related to child restraint use, the effects of education on restraint use were limited to parents with a family income below $12,000. An inverse relationship was found between child restraint use and age of the mother, after controlling for age of the child. Finally, families experiencing high levels of stress were less likely to report child restraint use than families not experiencing such stress. Results of this study indicate that there are often significant interactions among variables associated with child restraint use, complicating interpretation of observed relationships.

Kielhorn and Westphal (1980) observed child restraint use at several types of sites including day care centers, shopping centers, fast food restaurants, zoo parking lots, and highway toll booths. Observed child restraint use was higher among children in vehicles with white or female drivers. Child restraint use declined as the number of vehicle occupants increased. The effect of the number of occupants on restraint use was not an independent one, however, since female drivers were much more likely than males to be the only adult in the vehicle. Kielhorn and Westphal also collected data on child restraint use through household interviews. Variables found to be positively related to owning a CRD and having it present in the vehicle were income, educational attainment, and occupational status. Pediatrician visits were associated with child restraint use although few households reported receiving information from their pediatricians about child restraints. Reasons cited for nonuse of CRDs included inconvenience, discomfort, high cost, lack of perceived safety of restraint, dislike of restraint by child, and misbehavior or activity of child.

Verreault and others (1982) conducted telephone interviews with parents in two Canadian cities and found parental use of seat belts to be the strongest predictor of reported

child restraint use. Other variables associated with child restraint use were birth order of the child, age of the child, and age of the parent. Specifically, restraint use was lowest among children with two or more older siblings and was inversely related to age of the parent.

Ward and Clearie (1982) studied child restraint use in several South Carolina communities through observations of children in motor vehicles and follow-up interviews with vehicle drivers. Sites included churches, shopping centers, physician offices, pediatrician clinics, day care centers, health departments, and recreation areas. Child restraint use was higher among drivers who were female, white, had graduated from high school, had high incomes, used seat belts, were advised by their pediatricians to use child restraints, and reported that a majority of their friends used CRDs. In addition, child restraint use was higher among drivers who believed that an unrestrained child in the front seat was dangerous, that motor vehicle crashes were a major cause of death among children, that CRDs were comfortable, and that both parents should share responsibility for restraining the child. The primary reason given for not owning a CRD was the high cost of such a device.

Agent (1983) observed child restraint use before and after implementation of child restraint legislation in Kentucky, and found use to be higher among children under the age of one, in rural areas, among children riding with a female driver, and among those riding with a belted driver. An inverse relationship was found between child restraint use and driver age.

A direct relationship between child restraint use and driver restraint use was also found by Rood and Kraichy (1986) in an observational study of restraint use by children in New York State. An inverse relationship was found between child restraint use and age of the child.

Observations of child restraint use in North Carolina by Hall and others (1983) indicated that children riding with their parents were almost twice as likely to be restrained as children riding with other drivers.

Cunningham and others (1981) studied a number of factors associated with child restraint behavior through observations of vehicles in Tennessee with children under the age of four and follow-up interviews with their parents. Parents using CRDs were more likely than parents not using such devices to be aware of the Tennessee child restraint law, to be familiar with specifics of the law, to perceive the law as effective in promoting restraint use, and to support adult seat belt legislation as well as government regulation in general.

Cynecki and others (1984) are among relatively few researchers who have examined factors associated with **correct** use of CRDs. Their findings from observations of vehicles with occupied child seats and interviews with drivers indicated that 64.6% of CRDs were **incorrectly** used. Incorrect use of CRDs was higher among drivers who did not use their seat belt, were not the parent of the child, gave nonsafety reasons for restraint use and obtained the seat used and installed the seat without aid of instructions. Incorrect use was not found to be related to who installed the seat or the age of the child, although incorrect use did vary by type of seat (infant, toddler, or booster). The authors concluded that the CRDs most

likely to be used **correctly** were those which were more comfortable for the child, easier to use, and had fewer opportunities for incorrect use.

Kahane (1986) evaluated the effectiveness, benefits, and use of CRDs through analyses of traffic crash data and observational surveys of restraint system use and misuse. Kahane found that incorrect use of CRDs varied by brand of device. In general, those brands which appeared to be more convenient tended to be more often used correctly. Across all brands, overall use of child restraints decreased as the age of the child increased.

Shelness and Jewett (1983) observed unoccupied CRDs in vehicles in order to assess the frequency of incorrect seat belt routing and tether strap installation. Findings indicated that three quarters of the CRDs observed had errors in seat belt routing, tether use, or both. Incorrect use varied by brand of CRD observed.

Williams (1972) and Wittingslow (1983), in separate studies, examined seat belt (as opposed to child safety seat) use of older children. Williams surveyed ninth graders and their parents and found child seat belt use to be associated with parental use of seat belts, internal locus of control, and high levels of educational attainment. Wittingslow interviewed drivers of vehicles in Australia traveling with children between the ages of 8 and 13 and found that children were more likely to be belted in the presence of younger drivers (18 to 29) than older drivers. Wittingslow also surveyed children age 9 to 14 and their parents and found that child seat belt use decreased as age of the child increased.

In summary, a number of socioeconomic factors appear to be associated with child restraint use including family income, educational level, occupation, and ethnic background. Drivers who are professionally employed, white, and have high levels of income and educational attainment are more likely to restrain their children than other drivers. Seat belt use by the driver also appears to be a significant predictor of CRD use. Other characteristics of drivers associated with child restraint use include marital status (married), gender (female), and relationship to the child (parent). Conclusions about the effect of other factors such as knowledge and beliefs are not as clear. An association between previous crash experience and restraint use, for example, has been found in some studies and not in others. In addition, most studies have focused on socioeconomic and demographic factors, and findings regarding other factors are limited.

3 Methods

3.1 Sample Design

The goal of the sample design was to select sites for observations and interviews that would allow measurement of rates of correct and incorrect child restraint use and nonuse, to further identify groups with higher or lower than average use and nonuse rates, and ascertain reasons for correct and incorrect use and nonuse of child restraints. Design of the sample involved minimizing total survey error, with a particular focus on measurement error rather than sampling error, while providing sites where sufficient numbers of children under the age of four would be present in motor vehicles, where observations could be made efficiently and economically, and where interviews of observed motorists could be conducted. Several types of sites were considered in order to meet these sample needs including fast food restaurants, shopping centers, pediatric clinics, and day care centers. Motorists at pediatric clinics and day care centers are typically less representative of the general population than motorists at other potential sites. Fast food restaurants and shopping centers were evaluated as potential sites by field testing the data collection instruments at both types of sites.[1] Based on considerations of representativeness of the sample, feasibility, and efficiency, fast food restaurant sites were used to locate motorists with young children.

Selection of communities for the study was initially based on three criteria. First, sites needed to be within driving distance of Ann Arbor due to budgetary constraints. Second, communities with both higher and lower than average rates of restraint use needed to be included in order to assess differences in the reasons motorists use or do not use restraints. Third, communities were needed that did not have extensive, special community education programs in order to minimize the potential effects of exogenous variables. Based on these criteria, Ann Arbor and Port Huron were selected as initial study communities. Since both communities had been included in previous UMTRI seat belt surveys, their use for this study enabled comparisons of observed restraint use among the fast food restaurant sample with use among a sample of motorists observed at randomly selected intersections (Wagenaar, Businski, and Molnar, 1986b).

As data collection efforts in these two communities proceeded, it became evident that, due to low traffic volumes, fewer cases than expected were being sampled. Rather than extending data collection in Ann Arbor and Port Huron beyond the scheduled period, a second phase of data collection was implemented in other southeast Michigan communities. By selecting different communities in the second data collection phase, the sample size was substantially increased while the problem of selecting the same individual more than once was reduced. Selection of communities for the second wave was based on the same criteria used in the first wave with the exception that restraint use in one community selected was unknown

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1. The restaurant used for pretesting was not included in the sample for the actual survey.

since no seat belt surveys had been conducted there previously. In addition, communities of varying socioeconomic levels were selected to ensure that the overall sample population adequately represented the entire range of socioeconomic levels in the general population. Specific sites within each community were also purposely selected to include respondents of varying levels of socioeconomic status. Communities selected for the second wave of data collection included Brighton, Canton, Centerline, Chelsea, East Detroit, Farmington, Flint, Howell, Livonia, Madison Heights, Roseville, and Warren. Several of these communities have been grouped in this report for purposes of data presentation because of their proximity to one another. Specifically, Brighton and Howell have been grouped as the Brighton/Howell area and Centerline, East Detroit, Madison Heights, Roseville, and Warren have been grouped as the Warren area.

Sites selected within Ann Arbor and Port Huron in the first wave included the following fast food restaurants: A&W, Big Boy, Burger King, Hardee's, Kentucky Fried Chicken, and McDonald's. These restaurant chains were believed to serve large numbers of children. It became apparent during data collection that motorists with young children were much more likely to frequent Burger King and McDonald's than the other chains. Site selection for the second wave was therefore limited to these two restaurant chains in order to maximize the number of cases included in the sample. A detailed site schedule for both phases of the data collection is contained in Appendix A. Table 3.1 identifies the number of restaurant sites within each restaurant chain used for data collection.

3.2 Data Collection

Four data collection instruments were developed: a site form, an observer form, an interview form, and a questionnaire form (see Appendix B). All four data collection forms were used for **each** vehicle in the sample. All forms were precoded with a respondent number which was used to link all data related to one vehicle.

The site form was used to record the site location, date and time of data collection, and to identify field personnel collecting the data. Other data recorded were the beginning respondent code and ending respondent code for each site. Information as to the number of refusals was also recorded.

The observer form covered restraint use of the driver and child passenger in the vehicle. Observations were made on only one child passenger. If more than one child under age four was present in the vehicle, the child to be observed was selected based on the following criteria. First, if the driver was the parent of only one child under age four present, then that child was selected. If the driver was the parent of more than one child present, a random number table was used to select a child from among the driver's offspring. If none of the children present were offspring of the driver but a parent of one of the children under age four was in the vehicle, then that child was selected. The random table method was also used if more than one child was the offspring of the nondriver parent or if none of multiple children in the vehicle had a parent present.

TABLE 3.1
Number of Sites
Within each Restaurant Chain by Community

Community	Restaurant Chain						Total
	A&W	Big Boy	Burger King	Hardees	Kentucky Fried Chicken	McDonald's	
Ann Arbor	2	2	2	2	2	3	13
Port Huron	1	1	1	1	2	–	6
Livonia	–	–	1	–	–	1	2
Canton	–	–	1	–	–	–	1
Chelsea	–	–	–	–	–	1	1
Farmington	–	–	1	–	–	1	2
Brighton/Howell	–	–	1	–	–	2	3
Flint	–	–	3	–	–	3	6
Warren area	–	–	5	–	–	6	11
TOTAL SITES	3	3	15	3	4	17	45

Trained observers recorded the driver's restraint use, sex, and estimated age, as well as the child's restraint use, seat position, brand name of seat (if present), and the number of occupants riding in the vehicle. Observers also recorded detailed information on how the seat was installed in the vehicle and how the child was positioned in the seat. Specifically, data were collected on the type of seat used, whether the automobile seat belt was fastened, snug, and routed correctly, whether a locking clip was used, and whether a tether was required, used, anchored, and anchored properly. If the CRD was used, data were collected on whether the shield and/or harness were used, whether the harness was snug, whether a harness clip was used, and the harness position. The size and type of vehicle was also recorded, as well as time of observation.

The interview form was designed to provide the most important information on the respondent's attitudes and perceptions about restraint use and related issues in case the mail-back questionnaire was not returned. Five different interview forms were used depending on how the child was riding in the vehicle in order to minimize skip patterns within each interview form and avoid inappropriate questions. Form A was used if the child was buckled into a CRD, Form B if the child was belted and an unused CRD was present, Form C if the child was unrestrained and an unused CRD was present, Form D if the child was belted in a lap or shoulder/lap belt and no CRD was present, and Form E if the child was unrestrained and no CRD was present. The interview was conducted by a trained interviewer, who along with the observer, made up the data collection team. The interview was conducted with the driver of the vehicle unless the driver was not the parent of any child in the vehicle and the parent of at least one child in the vehicle was present. In that case the parent was interviewed. In 54 cases, the driver was the parent but rather than responding to the interview questions **alone**, he or she jointly answered questions with another vehicle occupant or deferred to another occupant entirely. For example, in several cases the driver (typically the father of the child) left the vehicle to purchase food while the interview was conducted with the spouse.

The questionnaire was designed to be self-administered. Special care was taken to eliminate unnecessary skip patterns and to assure that respondents would be able to understand the questions and response options. In most cases, respondents completed the questionnaire while in the restaurant and returned it to the field staff upon leaving. The remaining respondents mailed the questionnaire back in a postage-paid envelope provided with each questionnaire.

Field testing of the data collection instruments was conducted at two sites, a fast food restaurant and a shopping center. Difficulties with the interview approach and procedures were identified and corrected. Changes resulting from this process included the use of prompt cards for complicated questions, placement of demographic questions at the end of the data collection instruments, and the decision to approach each vehicle in the sample from the front.

3.3 Field Personnel Hiring and Training

The study design required two-person data collection teams, one observer and one interviewer. Two data collection teams were in the field simultaneously with only one team at any given site. Three of the six field staff had previous experience with seat belt observation surveys.

Before data collection began, field staff received three days of intensive training. Project history, data collection and field procedures, and project goals and objectives were reviewed. An overview of child restraint systems was presented, including identification of each major category of child seat (infant, toddler, and booster) and a discussion of current federal standards. Several activities were undertaken to ensure accurate measurement of **incorrect** use of CRDs by field staff. Various brands of CRDs were described and proper installation and use of each child seat was discussed. Field staff studied diagrams of all current child restraint systems in order to identify configurations of correct and incorrect use for each brand of seat. Observers also were given field manuals describing all current restraint systems for use in the field. Finally, sample seats representing each major category of seat were available for examination. During the second and third days of training, field staff conducted supervised practice interviews at a local fast food restaurant.

3.3.1 Field Procedures

Prior to data collection, regional and/or national headquarters for each restaurant chain selected for the study were contacted to obtain their cooperation. If a particular restaurant was a franchise, the individual owners were contacted. Ninety-percent of those restaurants contacted agreed to participate in the study.

During data collection, one member of each data collection team notified the restaurant manager of the team's arrival immediately upon reaching the site. At the site, the data collection team positioned themselves near the lot entrance, where potential participants could be observed. A location was needed that allowed the observer to reach the vehicle before the occupants unbuckled their restraints. Upon observing a vehicle with small children in it enter the lot, the team quickly approached the vehicle from the front, so as not to frighten the driver. The interviewer quickly introduced himself or herself, explained the study, and asked the respondent to participate. Simultaneously, the observer began his or her observations. If the respondent agreed to participate, the interviewer introduced the observer who continued making observations and recording data as the interviewer proceeded with the interview. (If the respondent refused to be interviewed, the observer still recorded restraint use, estimated age, and nature of incorrect use.) If an observer was unable to clearly observe restraint use by the child before the child was out of the seat or had the restraint removed, the interview was terminated. This occurred in only four cases. When necessary, the observer asked the respondent to open the vehicle door so the observer could obtain a better view of the CRD. For legal liability reasons, under no circumstances did the observer or interviewer touch the CRD or seat belt. After completing the interview, the respondent was asked to complete the questionnaire and return it to the observer after his or her meal or to mail it in the stamped, addressed envelope that was provided. Respondents were then thanked for

participating and given a coupon to the restaurant for a free item of food valued at approximately $1.00. After each interview, the data collection team assembled the data collection forms, recorded the interview in a log, and filed the forms.

3.3.2 Field Personnel Supervision and Monitoring

During the first wave of data collection, the field supervisor made at least two unannounced visits to each observer and interviewer. During the second wave, the field supervisor functioned as a second observer, alternating between the two data collection teams, and monitored performance in the field in that capacity. In addition, field personnel in both phases of the project made regular and frequent trips to UMTRI to deliver completed data collection forms and discuss any problems encountered in the field.

All completed data collection forms received from field personnel were logged and reviewed for consistency and accuracy by the field supervisor. As questionnaires arrived at UMTRI in the mail, they were matched with the observer and interview forms using the precoded respondent numbers on each form. Any discrepancies between forms were discussed with the observer and interviewer as soon as possible and then corrected as needed.

3.4 Data Processing

All site, observer, interview, and questionnaire forms were both keypunched and verified to ensure data accuracy.[2] The raw data files were then examined for invalid or inconsistent codes. A few such codes were identified and corrected after reviewing the original data collection forms.

The observer, interview, and questionnaire data files were merged with the site-level data file so that all site-level information was attached to the records for all respondents observed at a particular site. The OSIRIS system of data analysis software was used to build the data files. The ADAAS and MIDAS systems of data analysis software were used for study analyses.

Each variable examined in this study was measured by one of the four data collection instruments--site form, observation form, interview or questionnaire form. The majority of variables were measured **directly** from items on a particular form. That is, item responses defined the levels of the variable. However, eight variables were derived from multiple items. One of these variables measured study participation and was derived from observation, interview, and questionnaire data regarding whether a respondent refused the interview, participated in the interview but refused the questionnaire, accepted the questionnaire but did not return it, or participated fully in the study. Three derived variables were related directly to child restraint use. One dichotomized child restraint use into use versus nonuse and was derived from a child restraint use variable with three levels of use (no restraint, belted, and child restraint). The second measured appropriateness of use. It was

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2. Verification refers to keypunching all data twice and comparing the two resulting data sets to locate and correct keypunch operator errors.

derived from several variables measuring how a CRD was installed in the vehicle and how a child was positioned in the CRD and had three levels--correct use, partial misuse and extensive misuse. The final derived variable related to child restraint use measured correct, incorrect, and nonuse of CRDs. It was based on the sixteen dimensions of CRD use recorded on the observed form (See Appendix B) and the original child restraint use variable in the study. A fifth derived variable measured the reported age of the child and was based on the birth month and birth year provided by the respondent. A sixth variable measured child birth order and was derived from the number of older and younger siblings reported for the child. A seventh variable measured the self-reported age of the respondent and was derived from the reported birth month and birth year of the respondent. A final variable measured family occupational prestige and was derived from the higher of the two scores for a respondent's and spouse's occupational prestige. The data file codebook (Appendix C) lists each of the items measured in the study.

For several variables in the study, the operational definition may not be obvious since the variable could not be directly measured from the data collection instrument. Occupational prestige, for example, is believed to be associated with child restraint use. In order to measure occupational prestige, respondents were asked about the nature of their occupations and their spouses' occupations (See questions 36 and 38 on questionnaire form in Appendix B). Trained coders reviewed the data and determined prestige scores for each respondent and their spouse based on "Occupational Classification Distributions" (Davis, 1975). The resulting distributions of respondent and spouse prestige scores were then tricotomized representing low, medium, and high occupational prestige.

In order to measure respondents' perceptions regarding the effectiveness of child restraints, respondents were told how many children under the age of four were killed in crashes in 1983 and asked to estimate how many fatalities would have resulted if all children had used seat belts or CRDs (See question 8 on questionnaire form in Appendix B). Finally, in order to measure respondents' knowledge of the child restraint law, respondents were asked to identify provisions of the law. Interviewers recorded scores for each respondent based on the nature of the their knowledge. Respondents who knew all the specifics of the law (i.e., that drivers transporting a child in a motor vehicle must properly secure any child less than one year in an approved child restraint system; any child more than one year of age but less than four, when transported in the front seat must be in an approved child restraint system; and any child more than one year but less than four, when transported in the rear seat, must be in an approved child restraint system or adult seat belt) were considered to have perfect knowledge of the law (see question 29 on interview form in Appendix B). High knowledge was defined as knowing that children under one must be restrained in a CRD and children one to four in a seat belt; medium knowledge, as knowing that children under four must be restrained; low knowledge, as knowing that children must be restrained but not knowing the correct ages; and no knowledge as knowing none of the specifics of the law.

Because each variable in the study was measured by one of the data collection forms, (i.e., observer, interview, questionnaire) the actual number of cases within each variable subcategory as well as the extent of missing data for each variable was determined in part by the overall response rates for each of the data collection instruments. Of the 717 valid

observations in the study, site data and observation data were recorded in every case. However, in 56 cases the respondent refused to be interviewed. In each of those cases, data are missing for each variable measured by either the interview form or the questionnaire form. In an additional 210 cases, interviews were conducted but no questionnaire forms were returned. Data for each variable measured by the questionnaire form are therefore missing for a total of 266 cases. Several variables in the study have missing data in addition to the missing data resulting from overall response rates. These variables, however, all have incremental missing data frequencies of five or less with the exception of the following variables: driver restraint use (17 cases of missing data), vehicle size (13 cases), what kills most children (18 cases), significant other hospitalized (9 cases), estimated belted fatalities (13 cases), child misbehaves in CRD (10 cases), children two to three like CRD (6 cases), federal government does too much (16 cases), state government does too much (21 cases), belts uncomfortable (8 cases), occupation (25 cases), spouse occupation (31 cases), and family occupation (15 cases).

Appendix C contains **total** missing data frequencies and percentages for the study. It should be noted that in addition to the missing data category, a number of variables have a skip category. The data in this category are **not** missing data. They constitute a legitimate response category when a particular item on the data collection form was not appropriate for the respondent. A respondent who did not have a CRD present in the vehicle, for example, was not asked in the interview if he or she had help in installing the CRD.

3.5 Index Construction

In order to analyze **incorrect** use of CRDs, an index of incorrect use was developed. First, configurations of incorrect use were identified. These included how the CRD was installed in the vehicle and how the child was positioned in the device. Specifically, the following configurations of incorrect use were identified: automobile seat belt not fastened, routed incorrectly, or not snug; no locking clip; harness and/or shield not used, harness position incorrect, or harness not snug; required tether strap not used or not used properly; infant seat facing forward; and infant in convertible seat facing forward. These configurations were each determined by one or more variables recorded on the observer form. For example, two variables from the observer form, *tether required* and *tether used*, were used to determine if the configuration of incorrect use *required tether strap not used* was present in a vehicle. Second, each configuration was ranked according to the severity of misuse represented by that configuration and numerical values were assigned with lower numbers representing less serious levels of incorrect use. If two or more configurations were believed to be approximately equal in seriousness, then the same numerical value was assigned to each of them. Throughout the index development process, decisions were made based on review of the appropriate literature, discussion with experts in the field, and professional judgment. The **total** score of incorrect use for each respondent in the study was obtained by adding each of the individual configuration scores for a particular respondent together. Total scores of incorrect use ranged from 1 to 42. For purposes of analysis and discussion, these scores were later dichotomized into partial and extensive misuse categories (such that the numbers in the categories were roughly equivalent). The partial misuse

category included scores of 1 to 9 and the extensive misuse category included scores of 10 to 42. For example, a CRD that required the use of a tether but was not used would receive an incorrect score of six; while a harness that was used but not snug would receive an incorrect score of two. Failure to fasten the CRD with the automobile seat belt or failure to restrain the child in the seat with a harness is considered extensive misuse. A combination of several errors, each of which would not by themselves be considered extensive misuse, might result in the CRD being classified as extensively misused if the sum of the scores was 10 or higher. Figure 3.1 identifies the configurations of incorrect use and their corresponding scores.

3.6 Description of Study Sample

Observations of the study sample were made during two survey waves. The first wave of data collection was conducted from September 14 to October 31, 1985 and resulted in a total of 265 valid observations of vehicles with children under the age of four.[3] The second wave of data collection was conducted from May 1 to June 12, 1986 and resulted in a total of 452 valid observations. The two data collection waves were combined for analyses, since there was little change in child restraint use between the fall of 1985 and the spring of 1986 (Wagenaar, Wiviott, and Businski, 1986; Wagenaar, Businski, and Molnar, 1986a). The total number of valid observations across both phases of data collection was therefore 717. These valid observations constituted potential interview respondents for the study. Of the 717, 56 or 7.8% refused to participate, resulting in 661 valid interviews. Of the 661 valid interview respondents, 657 accepted the questionnaire. Of the 657 distributed questionnaires, 451 questionnaires were returned to workers in the field or by mail.[4] The return rate for the distributed questionnaires was therefore 68.6%. Figure 3.2 illustrates response rates at each stage of the study. Tables 3.2 and 3.3 identify the frequencies of completed valid observations, interviews, and questionnaires across both phases of data collection by day of week and community sampled.

The study sample was fairly representative of the larger Michigan population along several important dimensions. First, the overall rate of child restraint use observed in the study was comparable to use rates observed among children age zero to three in recent seat belt surveys using a probability sample of 240 intersections throughout the state. In the current study, 75.0% of children under four were restrained (either in seat belts or CRDs) compared to 73.3% in both the April and July 1986 seat belt survey waves and 59.1% in the December 1985 wave (Wagenaar, Businski, and Molnar, 1986a; Wagenaar, Businski, and Molnar, 1986b; Wagenaar, Wiviott, and Businski, 1986). Second, the **driver** restraint use rate of 61.1% observed in the current study was similar to the rate among drivers of vehicles in which children age zero to three were riding in the July 1986 statewide seat belt survey wave (57.7%) and slightly higher than rates observed in the April 1986 and December 1985 statewide waves (49.9% and 41.0%, respectively). Third, although the study sample is clearly more affluent and better educated than the general Michigan population,[5] it more closely

3. Five additional observations were invalid because two of the observations were of restaurant personnel, child restraint use was missing from a third observation, the fourth observation was a repeat, and the fifth observation was of a child over four.

4. Three additional questionnaires returned were invalid due to the following: one was missing the respondent identification code and two were returned too late for inclusion.

Configuration of Incorrect Use	Score
Automobile seat belt not fastened	14
Harness and/or shield not used	14
Infant seat facing forward	6
Harness position incorrect	6
Required tether not used	6
Infant in convertible facing forward	4
Required tether not anchored properly	4
Automobile seat belt routed incorrectly	4
Harness not snug	2
No locking clip	2
Automobile seat belt not snug	1

Figure 3.1: Index of Incorrect Use of Child Restraint Devices

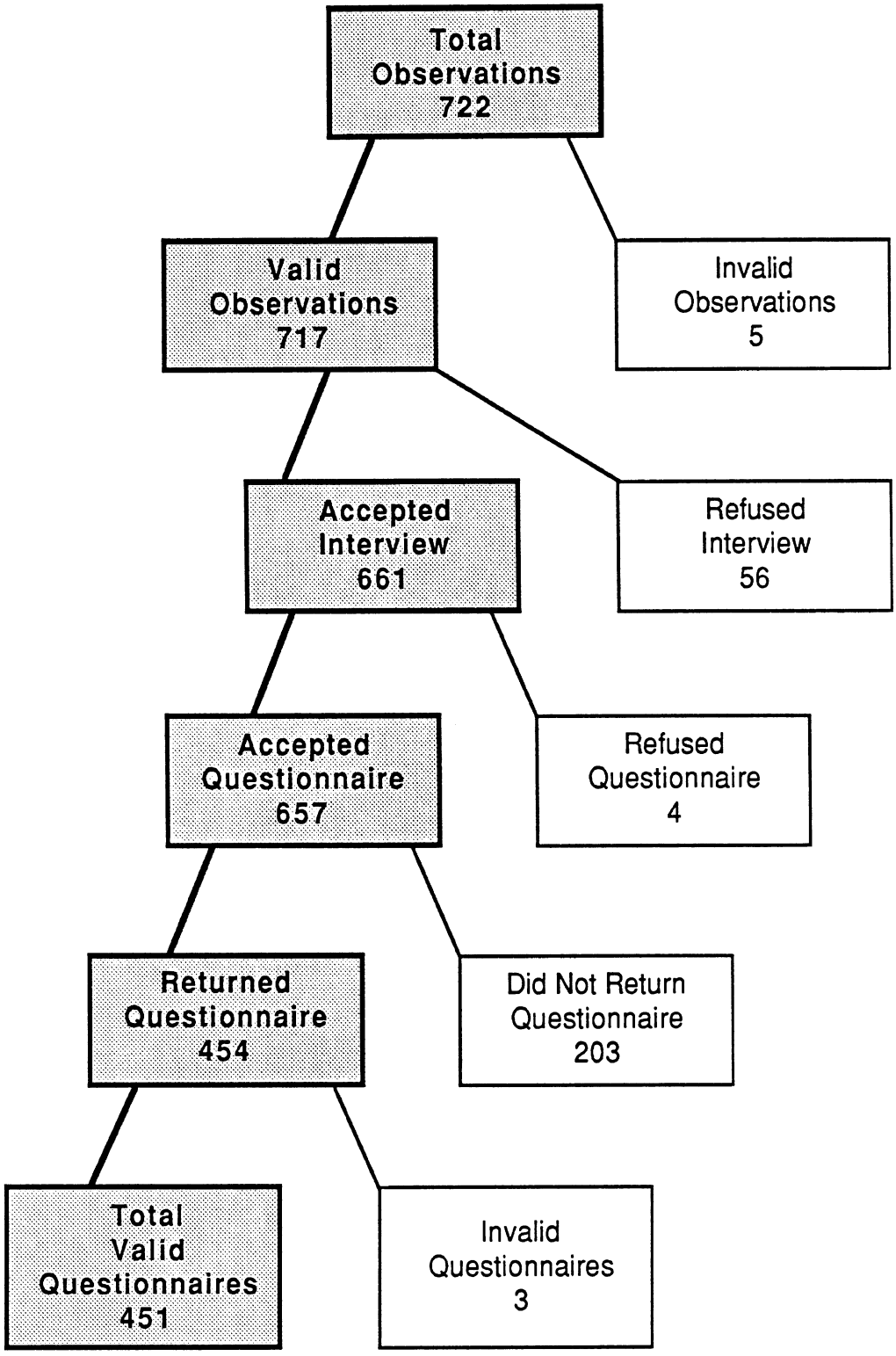

Figure 3.2: Response Rates at Each Stage of the Study

TABLE 3.2
Selected Descriptive Statistics by Day of Week

Day of Week	Total Valid Observations[1]	Total Valid Interviews[2]		Total Valid Questionnaires Returned[3]		Return Rate[4]
		Number	Percent of Sample	Number	Percent of Sample	
Monday	47	43	91.5%	30	63.8%	69.8%
Tuesday	58	53	91.4%	39	67.2%	75.0%
Wednesday	92	90	97.8%	63	68.5%	70.0%
Thursday	114	103	90.4%	73	64.0%	71.6%
Friday	156	145	92.9%	103	66.0%	71.0%
Saturday	153	138	90.2%	85	55.6%	62.5%
Sunday	97	86	88.7%	58	59.8%	67.4%
TOTAL	717	661	92.2%	451	62.9%	68.6%

[1]Excludes 5 cases which were invalid

[2]All interviews were valid

[3]Excludes 3 cases which were invalid

[4]Percent of distributed questionnaires

TABLE 3.3
Selected Descriptive Statistics by Community Sampled

Community	Total Observation Sample	Interviews		Questionnaires Returned		Return Rate[1]
		Number	Percent of Sample	Number	Percent of Sample	
Ann Arbor	159	146	91.8%	107	67.8%	74.3%
Port Huron	106	96	90.6%	67	63.2%	69.8%
Livonia	19	18	94.7%	16	84.2%	88.9%
Canton	7	7	100.0%	6	85.7%	85.7%
Chelsea	23	21	91.3%	17	73.9%	81.0%
Farmington	25	22	88.0%	15	60.0%	71.4%
Brighton/Howell	128	122	95.3%	85	66.4%	70.2%
Flint	93	87	93.5%	43	46.2%	49.4%
Warren area	157	142	90.4%	95	60.5%	66.9%
TOTAL	717	661	92.2%	451	62.9%	68.6%

[1]Percent of distributed questionnaires

represents the Michigan motoring population which one would expect to be more affluent than the total population. In addition, since greater affluence is associated with greater driving volume, affluent drivers had a higher probability of being selected for the study. Finally, in terms of ethnic background, whites are slightly over represented in the study (91.5% in the study compared to 85.0% in the general Michigan population; U.S. Bureau of the Census, 1982).

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5. For example, 14.6% of the study sample reported having a family income of $50,000 or more. By comparison, 6.5% of Michigan families had an income of $50,000 or more in 1980. Similarly, 91.5% of the study sample had completed 12 or more years of schooling compared to 64.5% of Michigan residents age 15 and older (U.S. Bureau of the Census, 1983).

4 Results

4.1 Restraint Use

Twenty-five percent of children under the age of four observed in motor vehicles in this study were riding unrestrained. An additional 20% of children observed were using seat belts and the remaining 55% were using CRDs. Of children restrained in CRDs, 62.9% were restrained incorrectly. Consequently, only 20.4% of **all** children in the study were observed to be using CRDs correctly; and 34.6% of total study participants were incorrectly using CRDs. While the observed misuse of CRDs is quite high, the figures are consistent with other studies which have measured incorrect use of CRDs (Cyneki and others, 1984; Shelness, 1983) and indicate that incorrect use is a prevalent problem.

The remainder of this section examines child restraint use by a number of variables, which for purposes of analysis and discussion, have been grouped into the following categories: sociodemographic, knowledge and belief, behavioral, and environmental factors. Throughout the remainder of the report, the term *child restraint use* is used to refer to either use of a seat belt **or** use of a CRD. The term *CRD use* is used to refer only to use of a child safety seat, and the term *correct use* is used to refer to correct use of a CRD.

4.1.1 Sociodemographic Factors

4.1.1.1 Driver and Child Characteristics. Child restraint use and correct use were examined by several driver and child characteristics. Driver and child gender had little effect on whether a child was restrained and whether a CRD was used correctly (Figures 4.1 and 4.2). Child restraint use was slightly higher among children riding with female drivers than male drivers (77.0% versus 71.6%), but **correct** use was essentially the same (19.6% versus 21.8%). The association between driver gender and child restraint use was weaker than might have been expected, given findings of numerous studies that female drivers are significantly more likely than male drivers to use child restraints. Total proportion restrained was the same for boys and girls but girls exhibited slightly higher rates of CRD use (58.9% versus 54.9%) and correct use (22.4% versus 17.6%).

The relationship between driver and child had a much greater impact on child restraint use and correct use than gender (Figure 4.3). Children riding in vehicles driven by their parents were significantly more likely to be restrained, to use CRDs, and use them correctly than other children. Specifically, 81.3% of children riding with their parents were restrained compared to 60.2% of children riding with other drivers. Similarly, rates of CRD use among the two groups were 62.0% and 32.8%, respectively, and rates of correct use were 22.4% and 8.0%, respectively. In light of the high CRD use rate among children riding with their parents and the expectation that a large proportion of parents of young children will be under the age of 40, it is not surprising that children riding with drivers in the age groups 15

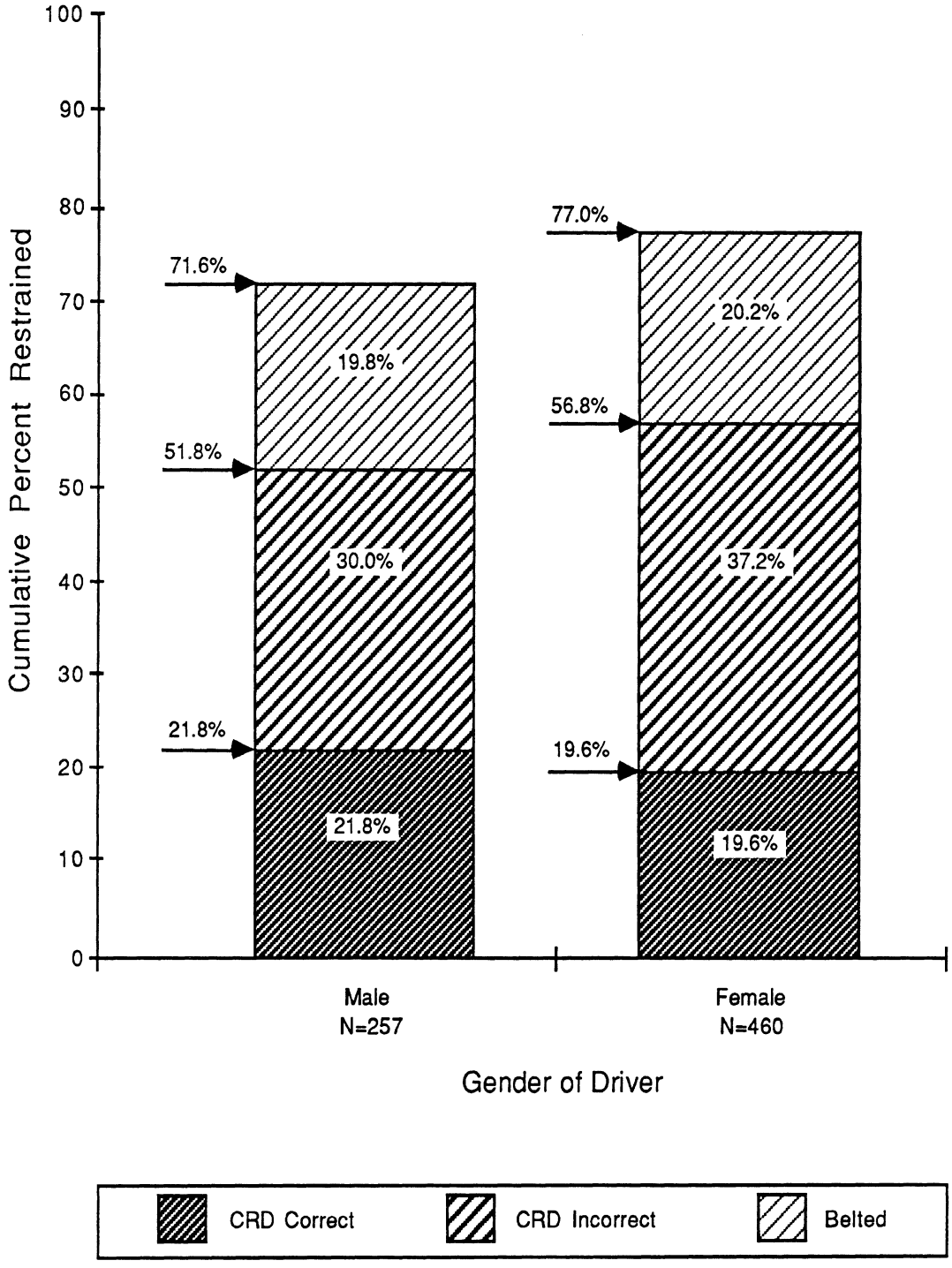

Figure 4.1: Child Restraint Use by Gender of Driver

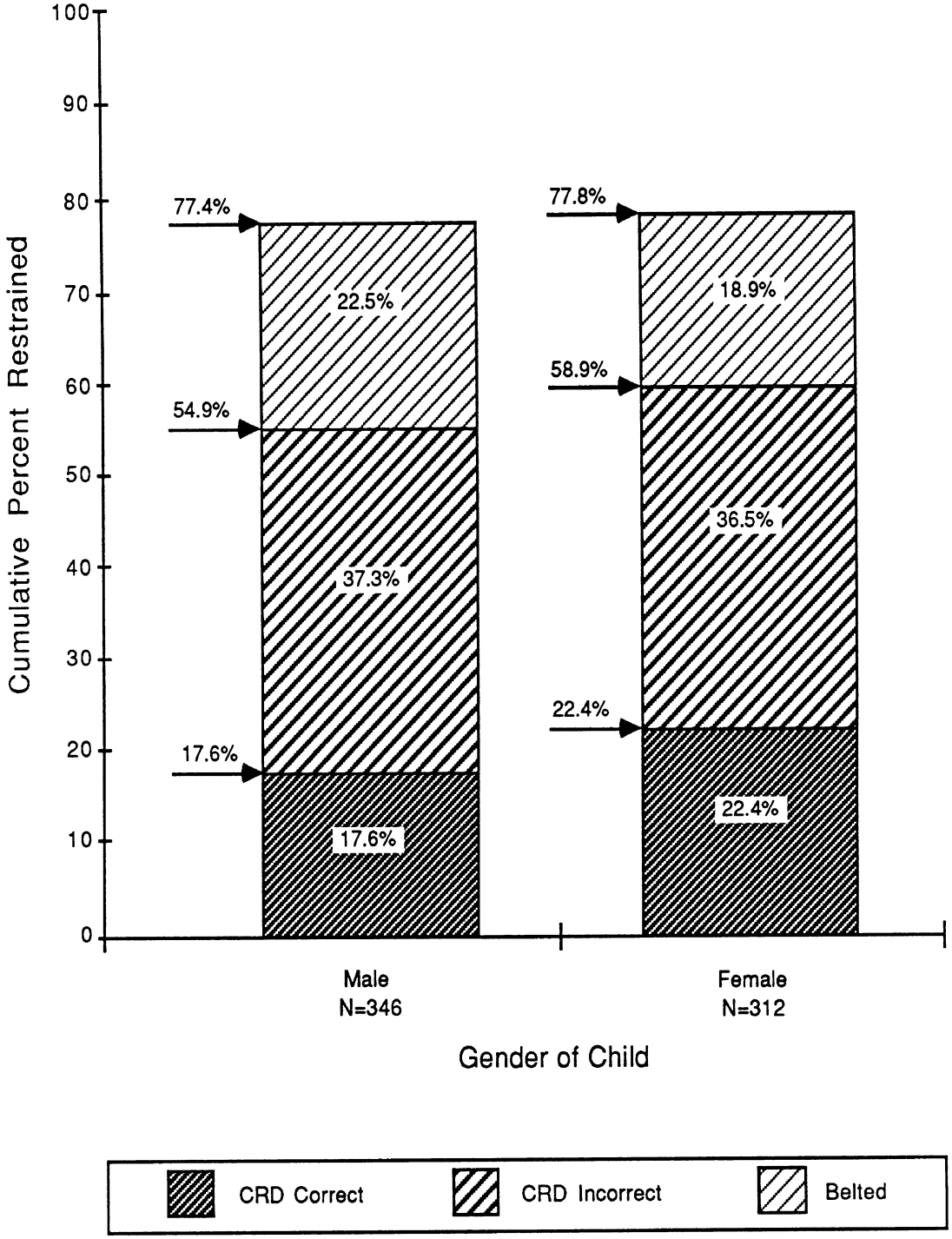

Figure 4.2: Child Restraint Use by Gender of Child

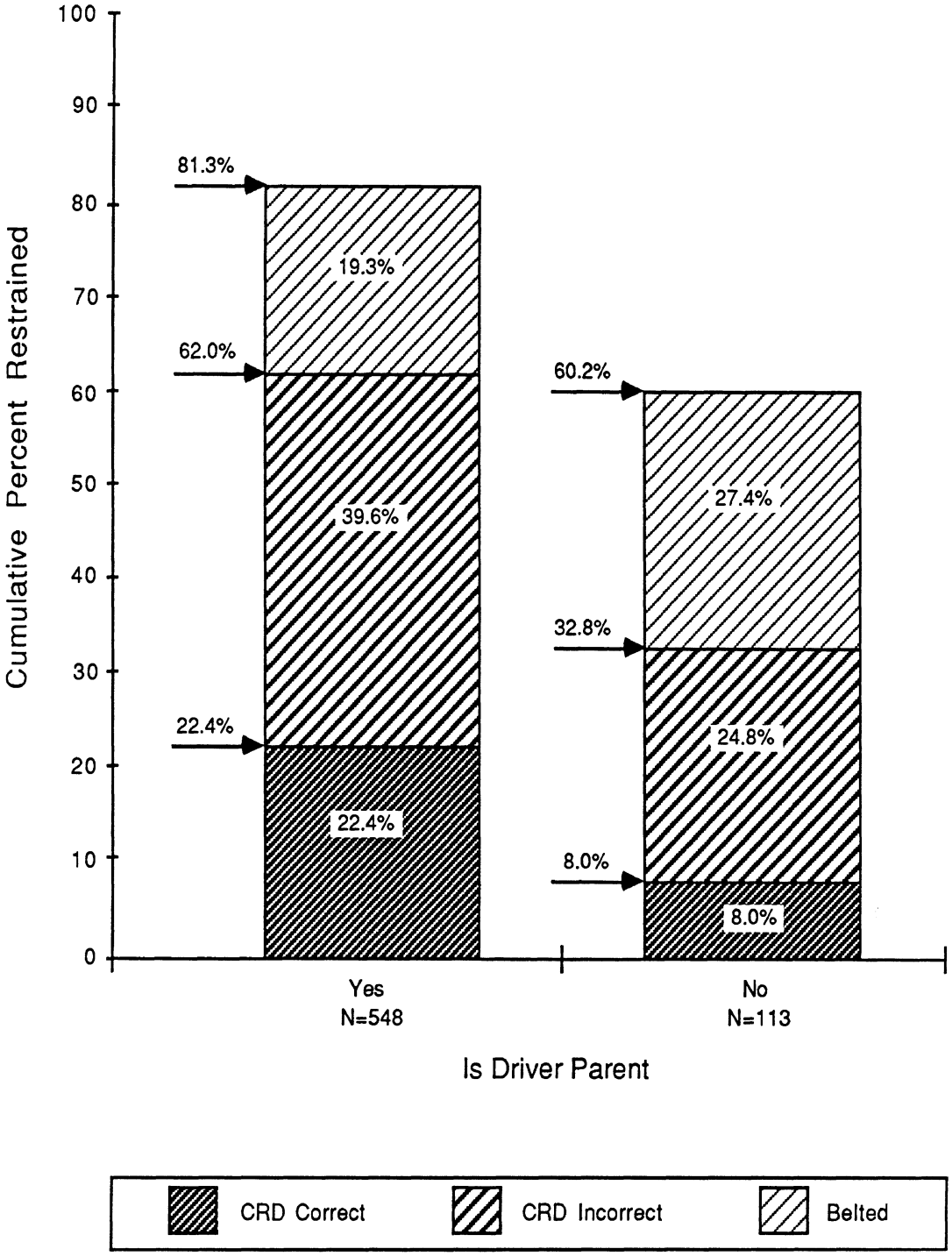

Figure 4.3: Child Restraint Use by Relationship of Driver to Child

to 24 and 25 to 40 were much more likely to be restrained in CRDs than children riding with drivers over 40 (52.0% among drivers 15 to 24 and 60.9% among drivers 25 to 40 versus 32.7% among drivers over 40; Figure 4.4). In addition, 18.3% of children riding with drivers 15 to 24 and 21.5% of children riding with drivers 25 to 40 were correctly restrained compared to 10.3% of children riding with drivers over 40.

Child restraint use, particularly CRD use, also varied by age of the child (Figure 4.5). Consistent with a number of studies, younger age groups exhibited significantly higher CRD use rates than older age groups. CRD use rates were as follows: zero to one year, 91.7%; one to two years, 78.3%; two to three years, 46.3%; and three to four years, 22.2%. While the lower rates of CRD use among older children were in part offset by higher rates of seat belt use, older age groups were still more likely to be totally unrestrained than the younger age groups. **Correct** use of CRDs was also higher among younger than older children, although children age one to two were more likely to be correctly restrained than children age zero to one.

An examination of child birth order revealed that while first born children were marginally more likely to be restrained in CRDs than later born children, overall restraint use was essentially the same among first and second borns (Figure 4.6). A total of 60.5% of first born children were restrained in CRDs compared to 55.3% of second born children and 53.0% of third or later born children. A stronger association between birth order and restraint use might have been expected given findings in the sociological literature that first borns are more dependent on authority and more suggestible and conforming than their brothers and sisters (McCandless, 1969). One might expect such dependency to result in less misbehavior by first borns, a reason often given by parents for nonuse of CRDs. The association between existence of siblings and CRD use was stronger. A total of 64.4% of children without siblings were restrained in CRDs compared to 53.1% of children with siblings. **Correct** use of CRDs among children with and without siblings was 25.3% and 17.1%, respectively (Figure 4.7).

4.1.1.2 Family Characteristics. Examination of family characteristics revealed differences in both child restraint use and correct use. As shown in Figure 4.8, children riding with married drivers were more likely to be restrained, particularly in CRDs, and more likely to be restrained correctly. Since a large proportion of two-parent families have both parents working, it is not surprising that restraint use was also associated with family income, given the relationship between marital status and restraint use. As shown in Figure 4.9, whereas 60.5% of children in families with incomes less than $12,000 were restrained, 76.3% of children in families with incomes between $12,000 and $29,999 were restrained, 81% of children in families with incomes between $30,000 and $49,999 were restrained, and 89.4% of children in families with the highest incomes were restrained. Further, 22% to 27% of the children in the highest income families were **correctly** restrained in contrast to 11% to 18% for the lowest income families.

Given the relationship between education and income, one would expect greater variation in restraint use than suggested by Figure 4.10. Although child restraint use increased as drivers' educational level increased, 80% of those with 12 or fewer years of schooling placed their children in CRDs or seat belts. Family occupational prestige tends to

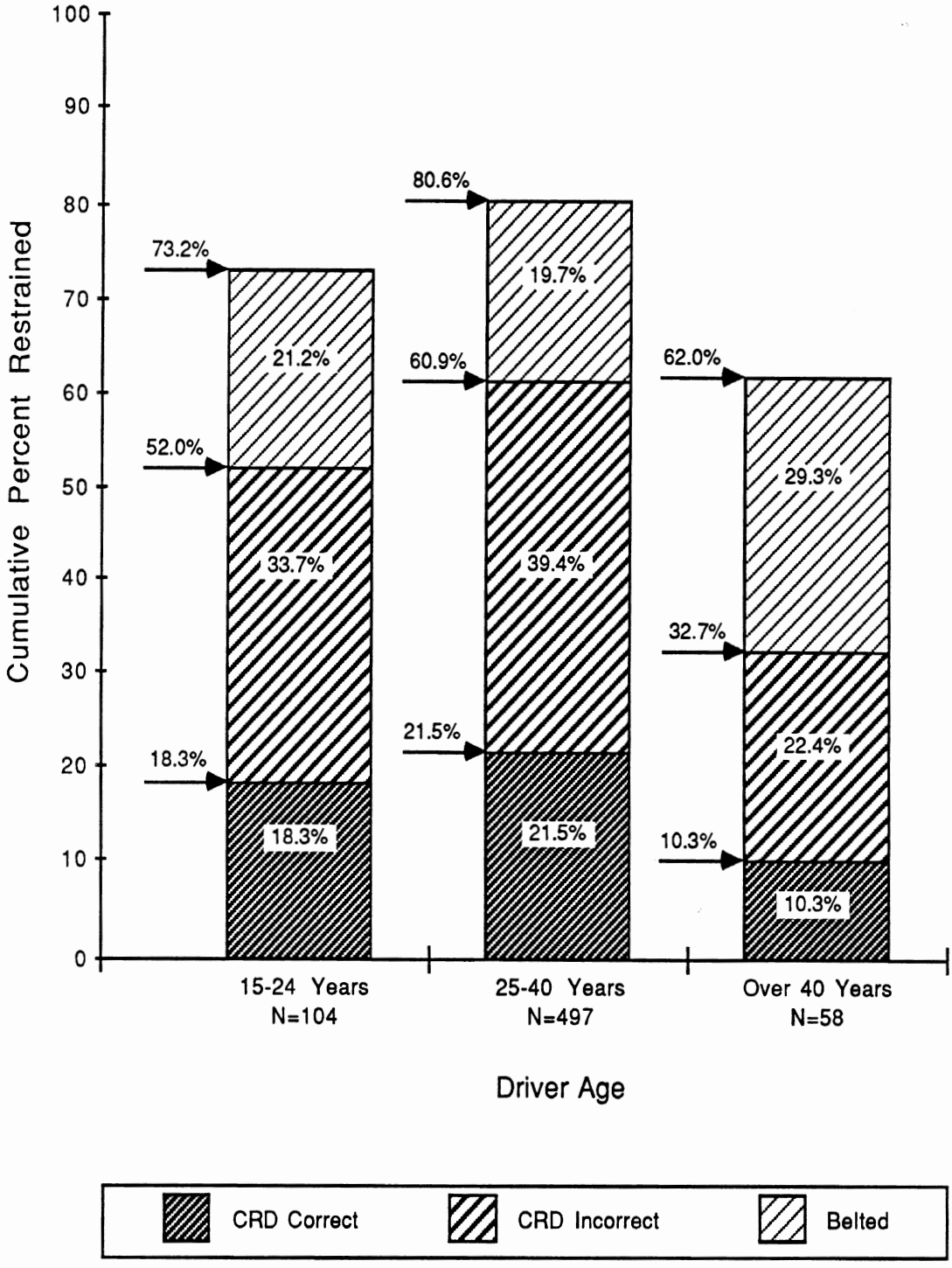

Figure 4.4: Child Restraint Use by Age of Driver

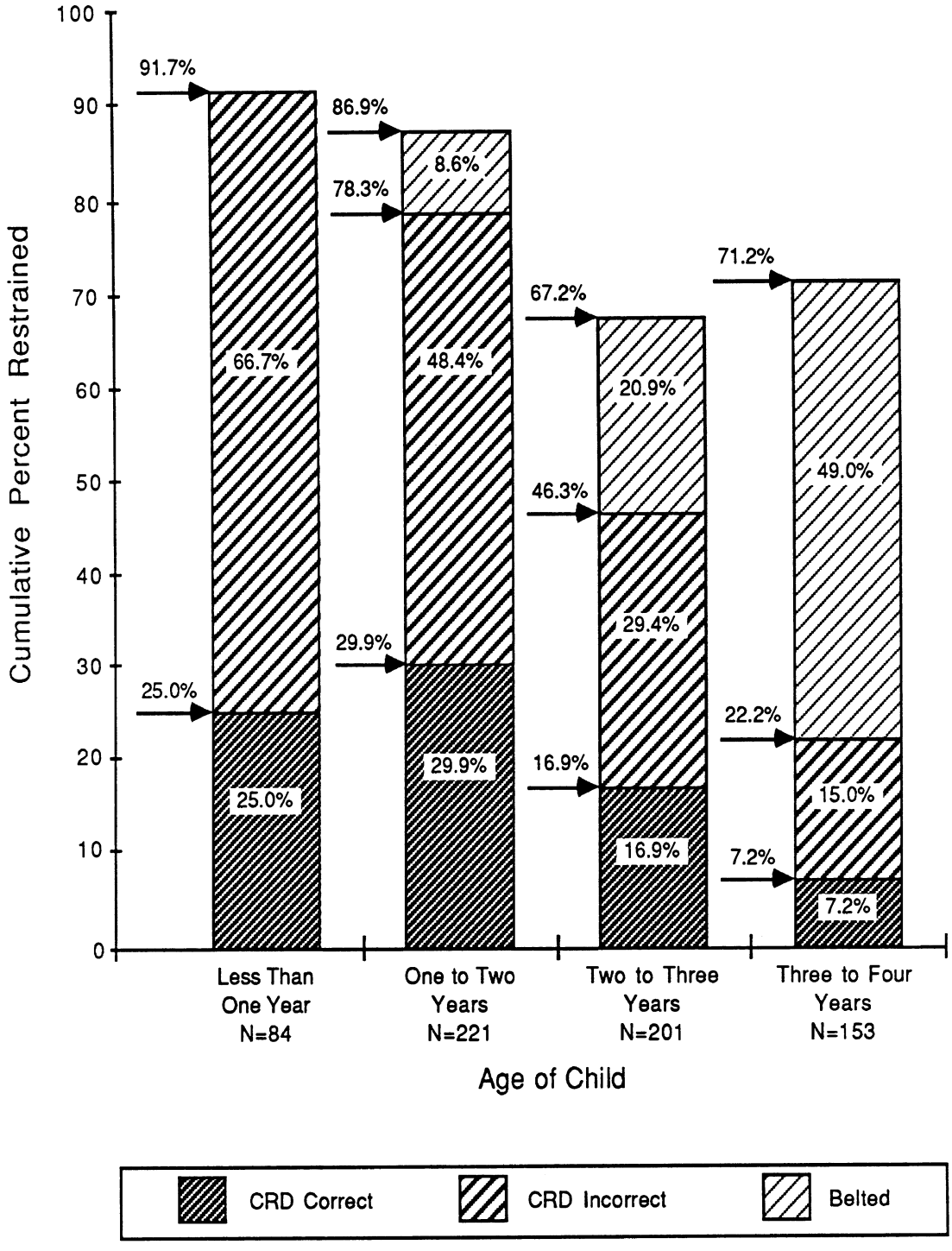

Figure 4.5: Child Restraint Use by Age of Child

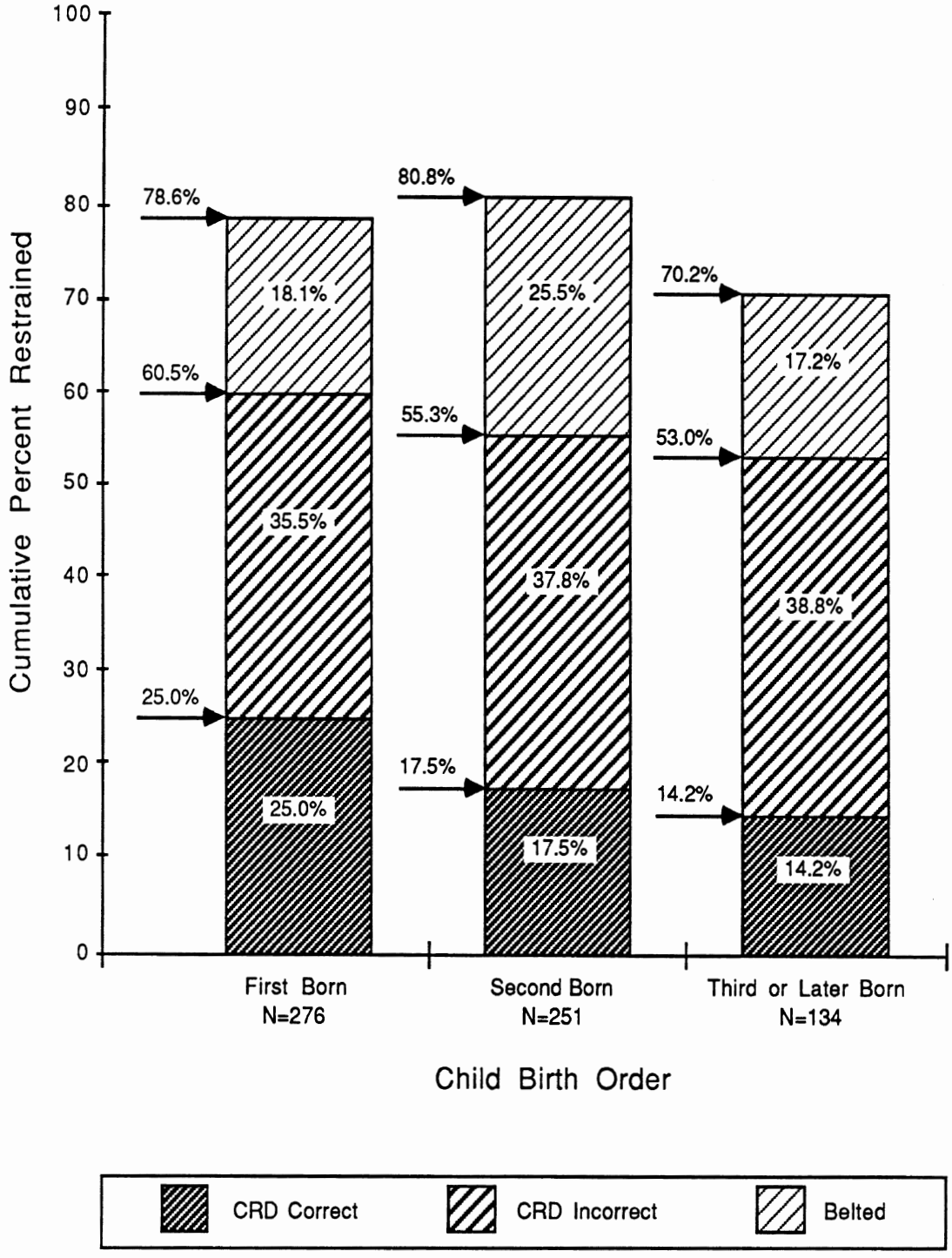

Figure 4.6: Child Restraint Use by Child Birth Order

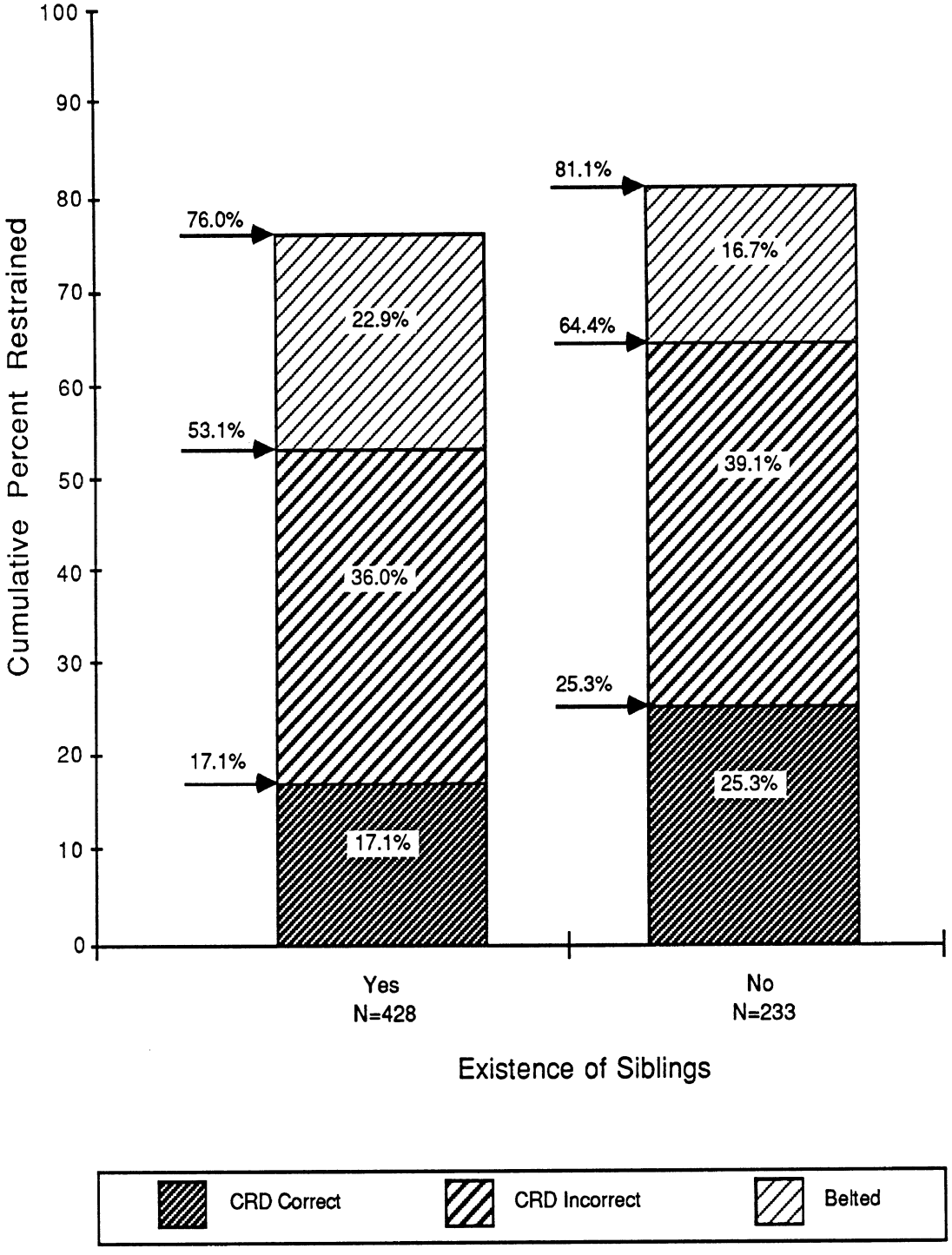

Figure 4.7: Child Restraint Use by Whether Child Has Siblings

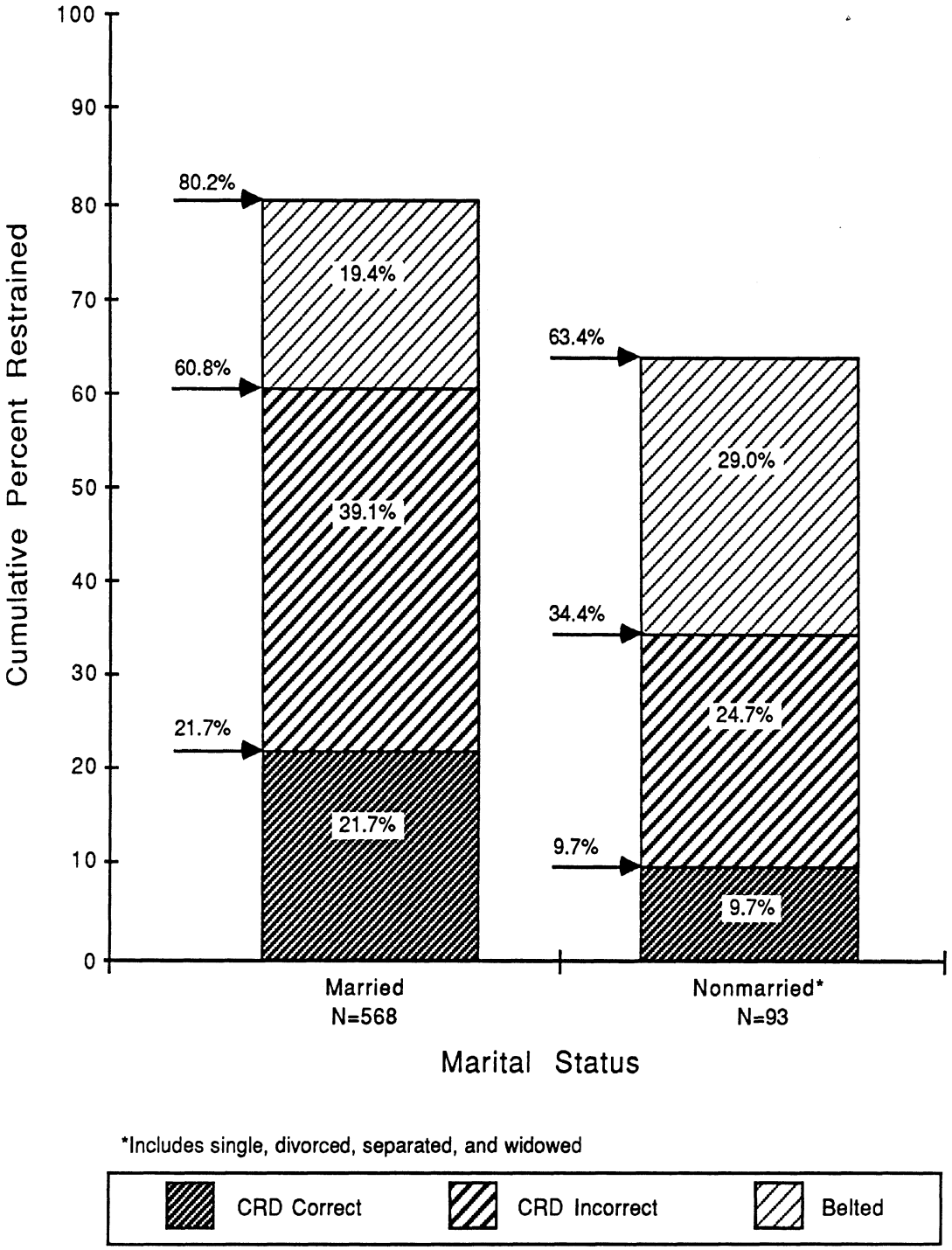

Figure 4.8: Child Restraint Use by Marital Status

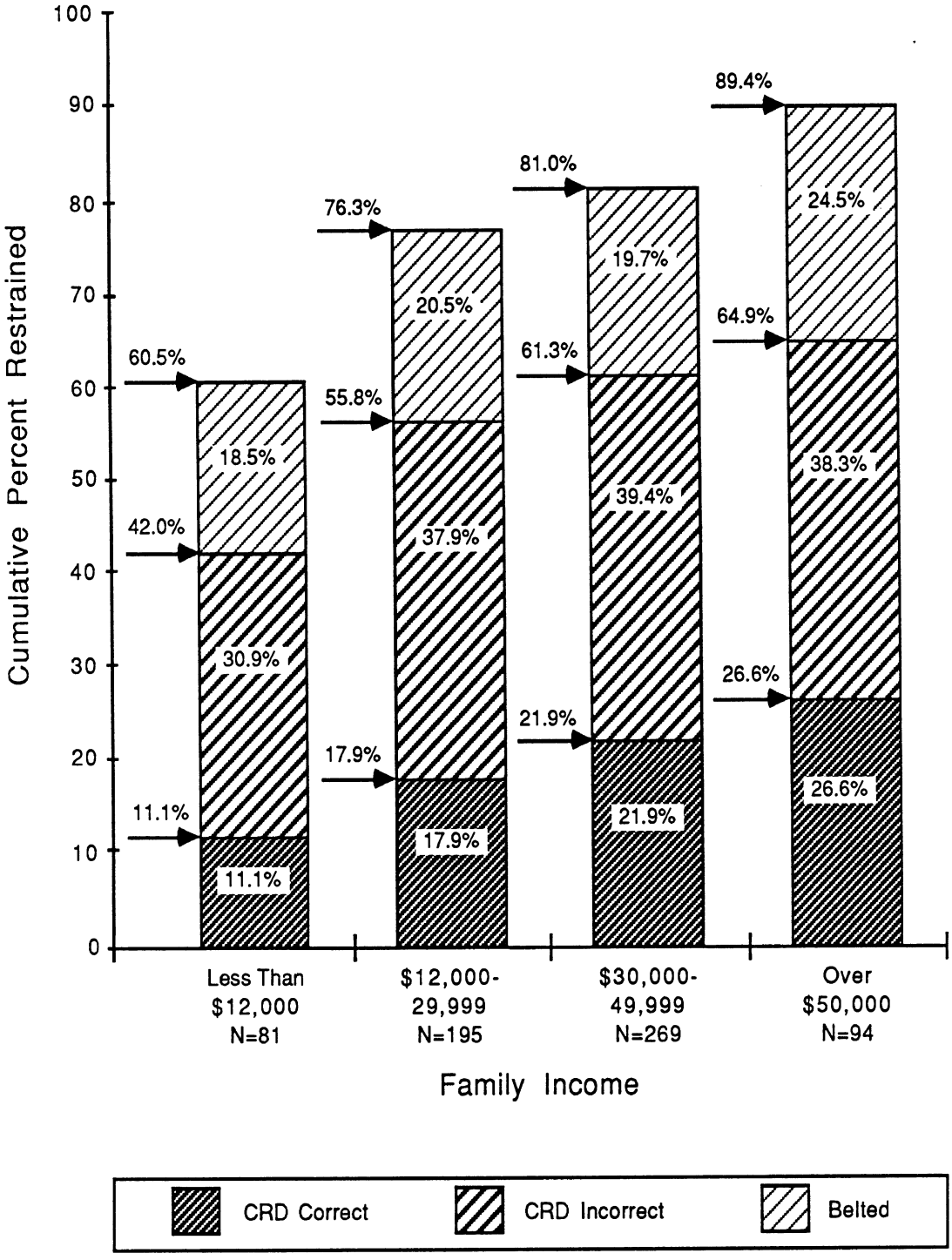

Figure 4.9: Child Restraint Use by Family Income

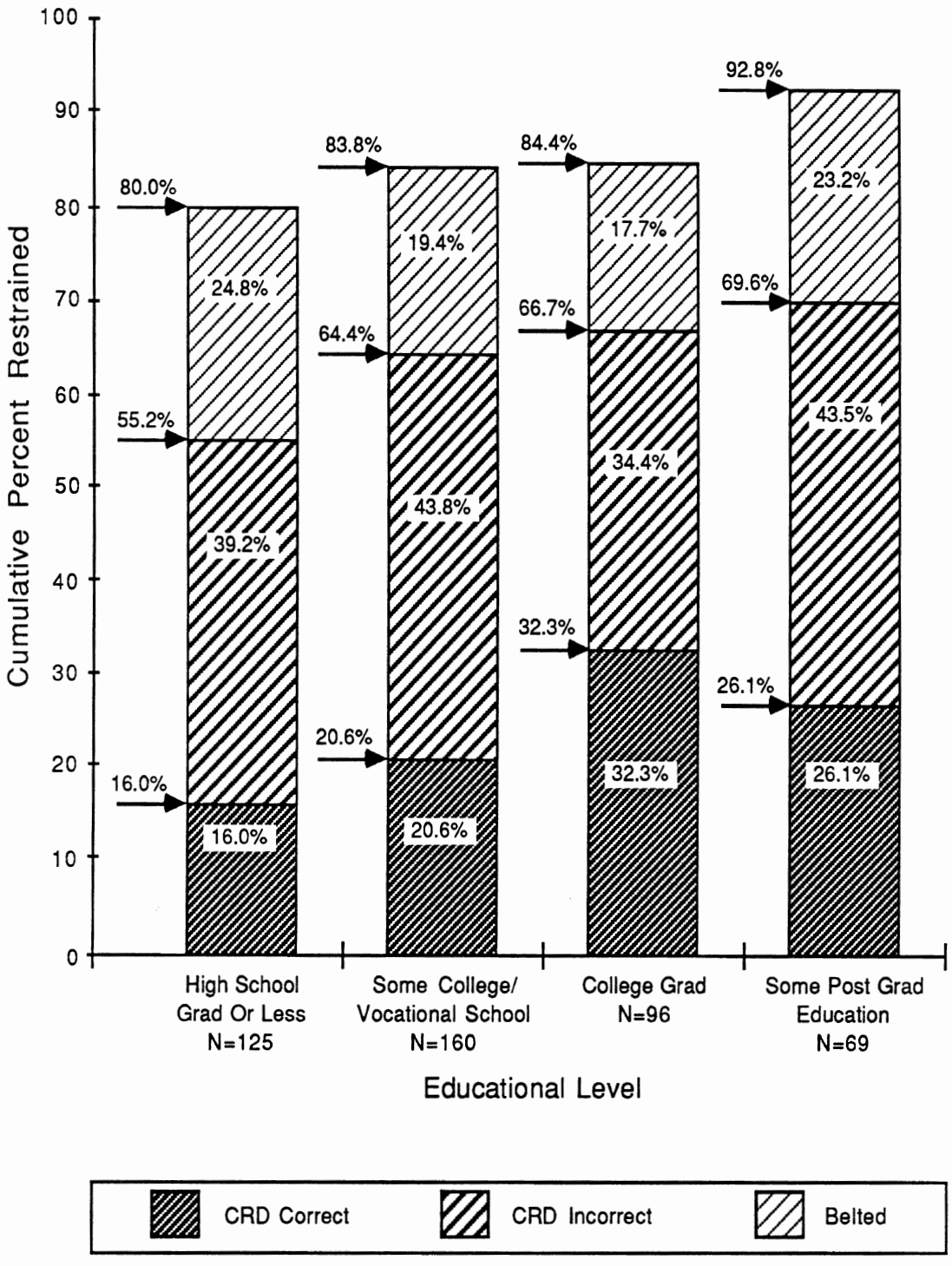

Figure 4.10: Child Restraint Use by Educational Level

reflect income and education, so the proportion of children restrained shown in Figure 4.11 corresponds to Figures 4.9 and 4.10. Finally, Figure 4.12 shows that white drivers were almost twice as likely to have their children in seat belts or CRDs and almost three times more likely to use the CRDs correctly than drivers of other ethnic backgrounds. The differences in child restraint use between whites and nonwhites remained after controlling for socioeconomic status. Of 16 nonwhites with family incomes less than $12,000, 5 were using child restraints (31.3%) compared to 67.6% of 65 whites with comparable incomes. Of 18 nonwhites with family incomes of $12,000 to $29,999, 8 were using child restraints (44.5%) compared to 79.7% of 177 whites with comparable incomes. And finally, of 20 nonwhites with family incomes of $30,000 or more, 12 were using child restraints (60.0%) compared to 84.6% of 344 whites with comparable incomes.

4.1.2 Knowledge, Attitude and Belief Factors

4.1.2.1 Crash Experience. Adults who had been involved in a motor vehicle crash were **not** more likely to use child restraints than were adults without crash experience. First, nearly 80% of respondents had been involved in crashes including minor fender benders; 33% had previously been injured; nearly 40% had experienced the motor vehicle-related death of a friend or relative; and 63% had experienced the hospitalization of a friend or relative due to a motor vehicle crash. As shown in Figures 4.13 through 4.16, these experiences were not associated with child restraint use. Those with friends or relatives who had been killed in a crash were slightly more likely to use CRDs but, interestingly, they were less likely to use the devices correctly (19.1% versus 24.9%).

4.1.2.2 Injury Knowledge. Three variables addressed drivers' knowledge of injuries as a major health problem for children. As shown in Figure 4.17, drivers who strongly disagreed that children riding in laps were safe were much more likely than others to use child restraints. Other types of knowledge were not as strongly associated with restraint use. For example, of those drivers who did not believe that restraints were particularly effective, 77.9% still had their children restrained (Figure 4.18). For those who believed that restraints were very effective, 84.9% had their children restrained, only marginally different from the former group. Similarly, although 83% of respondents correctly identified motor vehicle crashes as the major cause of childhood mortality, this knowledge did not strongly distinguish restraint users from nonusers (85.5% versus 79.8%; Figure 4.19).

4.1.2.3 Knowledge of the Law and Perceptions of Enforcement. Two variables addressed knowledge of the child restraint law. Nearly 95% of respondents were aware of the law, but for 30% their knowledge was only minimal. For those who were aware of the law, 78.6% of their children were restrained, in contrast to 61.8% of those who were not aware of the law (Figure 4.20). Similarly, 95.2% of those with perfect knowledge of the law had their children restrained, in contrast to only 68.2% of those with low or no knowledge of the law (Figure 4.21). Unfortunately, only 10% of respondents had perfect knowledge of the law. Perfect knowledge was defined as knowing all the specifics of the law; high knowledge as knowing that children under one must be restrained in a CRD and children one to four in a seat belt; medium knowledge as knowing that children under four must be restrained; low

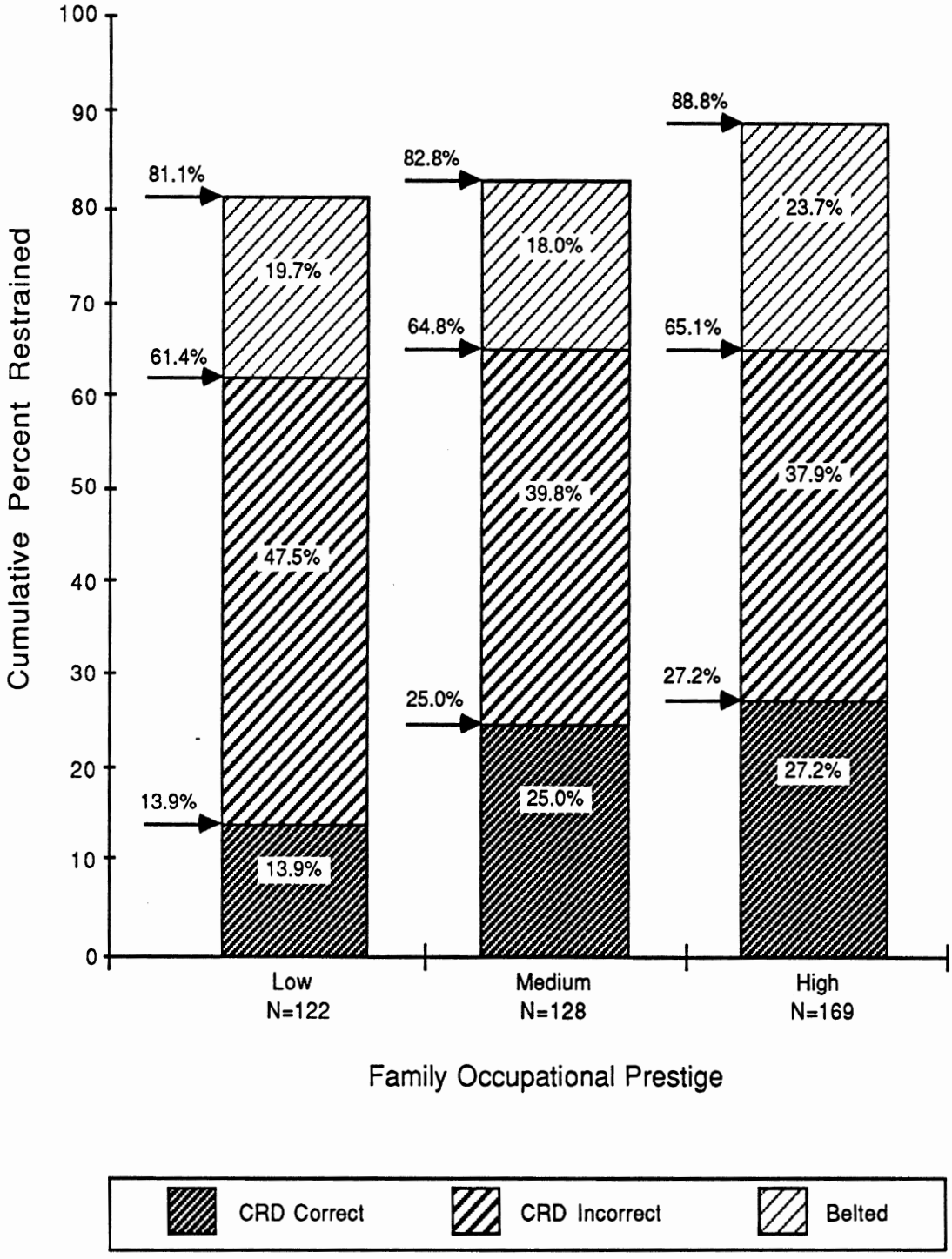

Figure 4.11: Child Restraint Use by Family Occupational Prestige

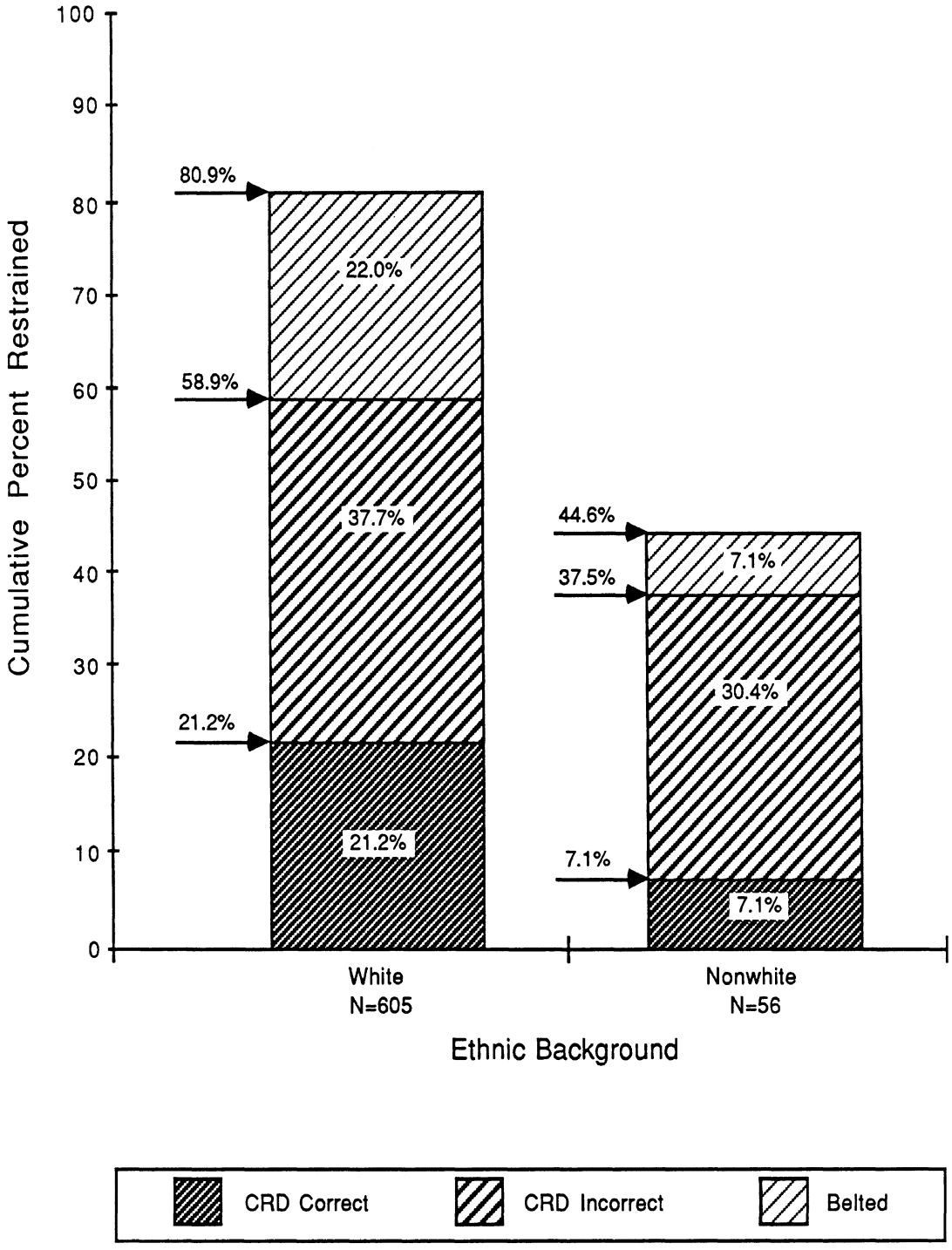

Figure 4.12: Child Restraint Use by Ethnic Background

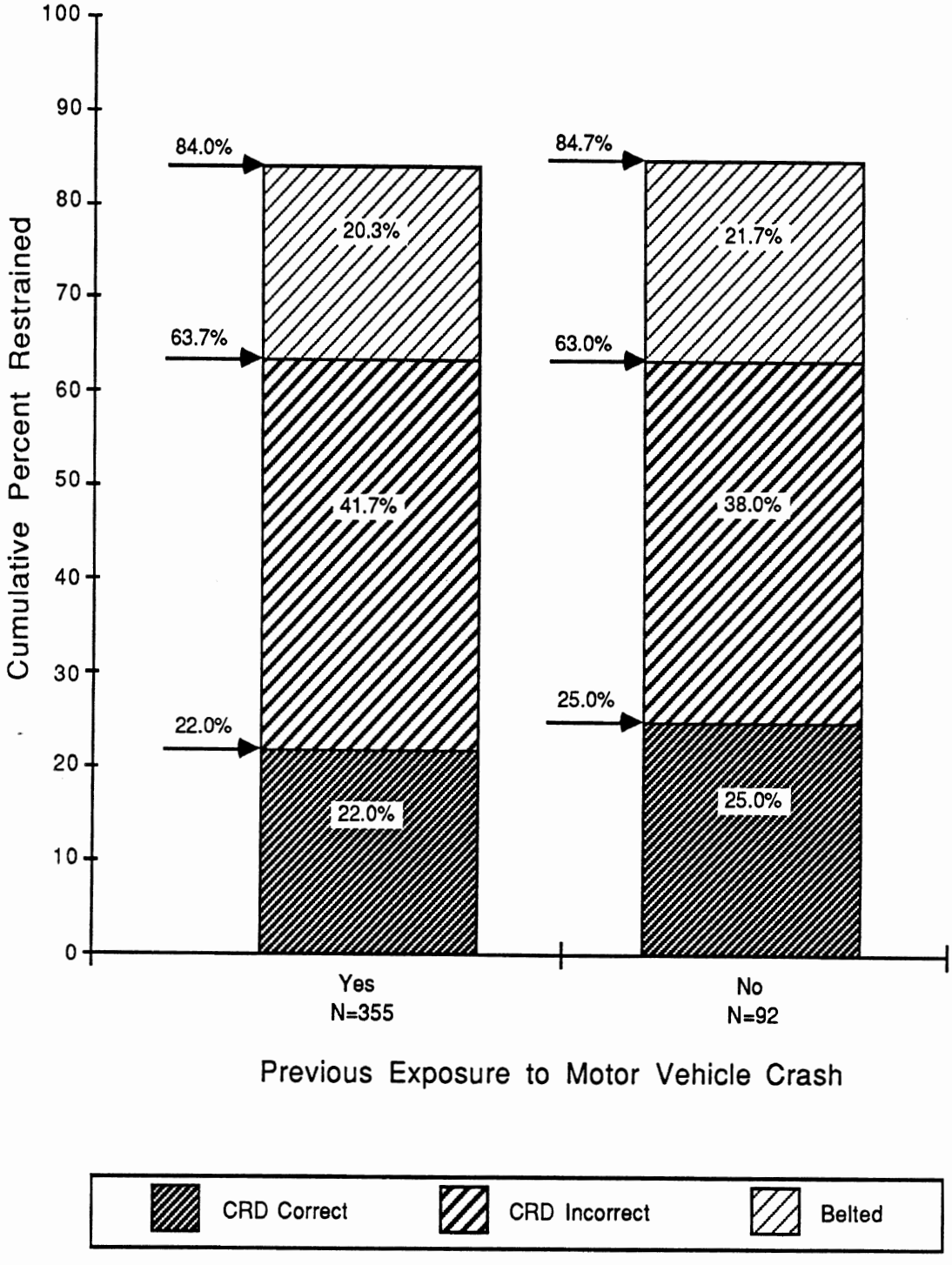

Figure 4.13: Child Restraint Use by Previous Exposure to Motor Vehicle Crash

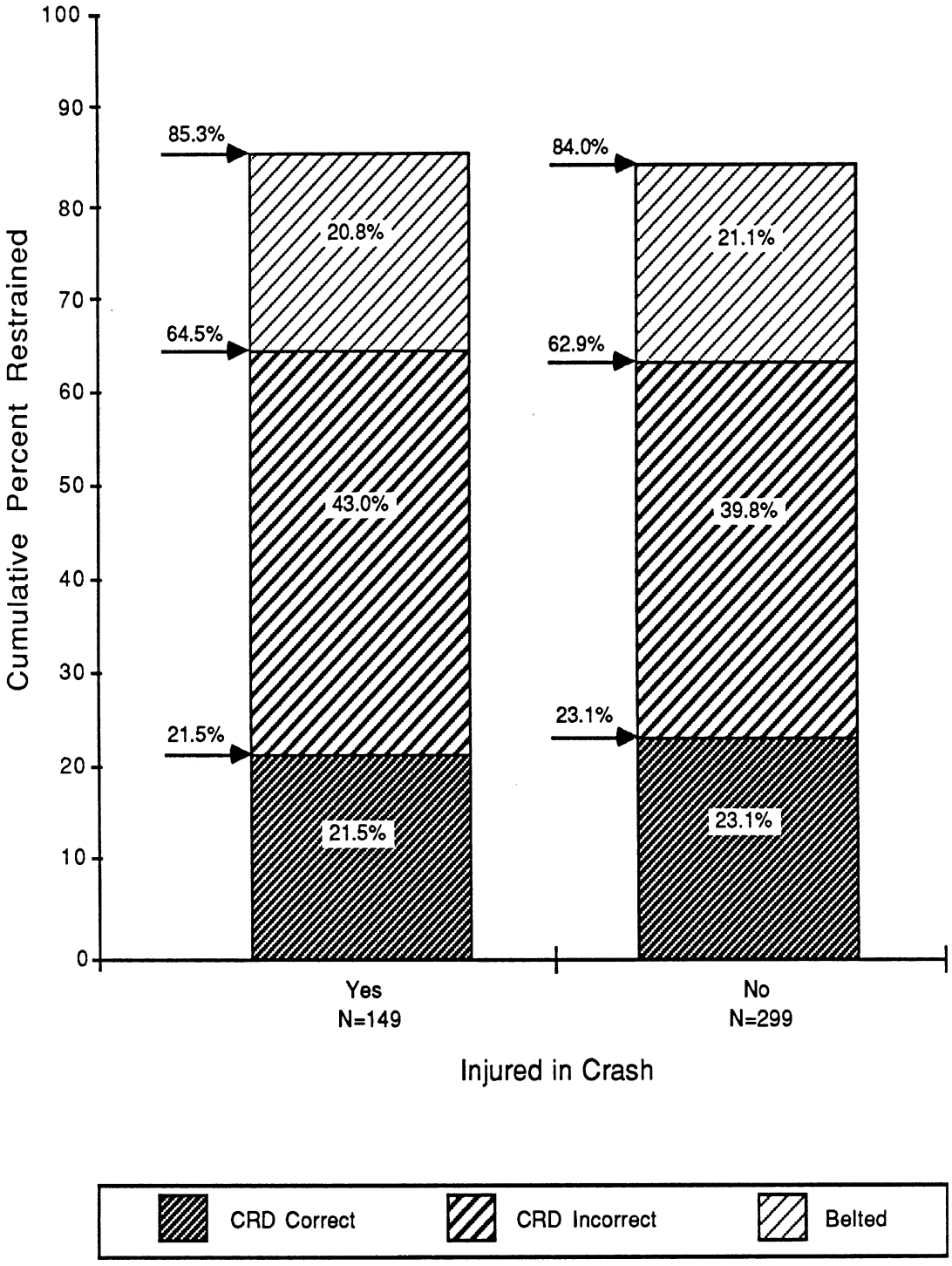

Figure 4.14: Child Restraint Use by Previous Injury in Motor Vehicle Crash

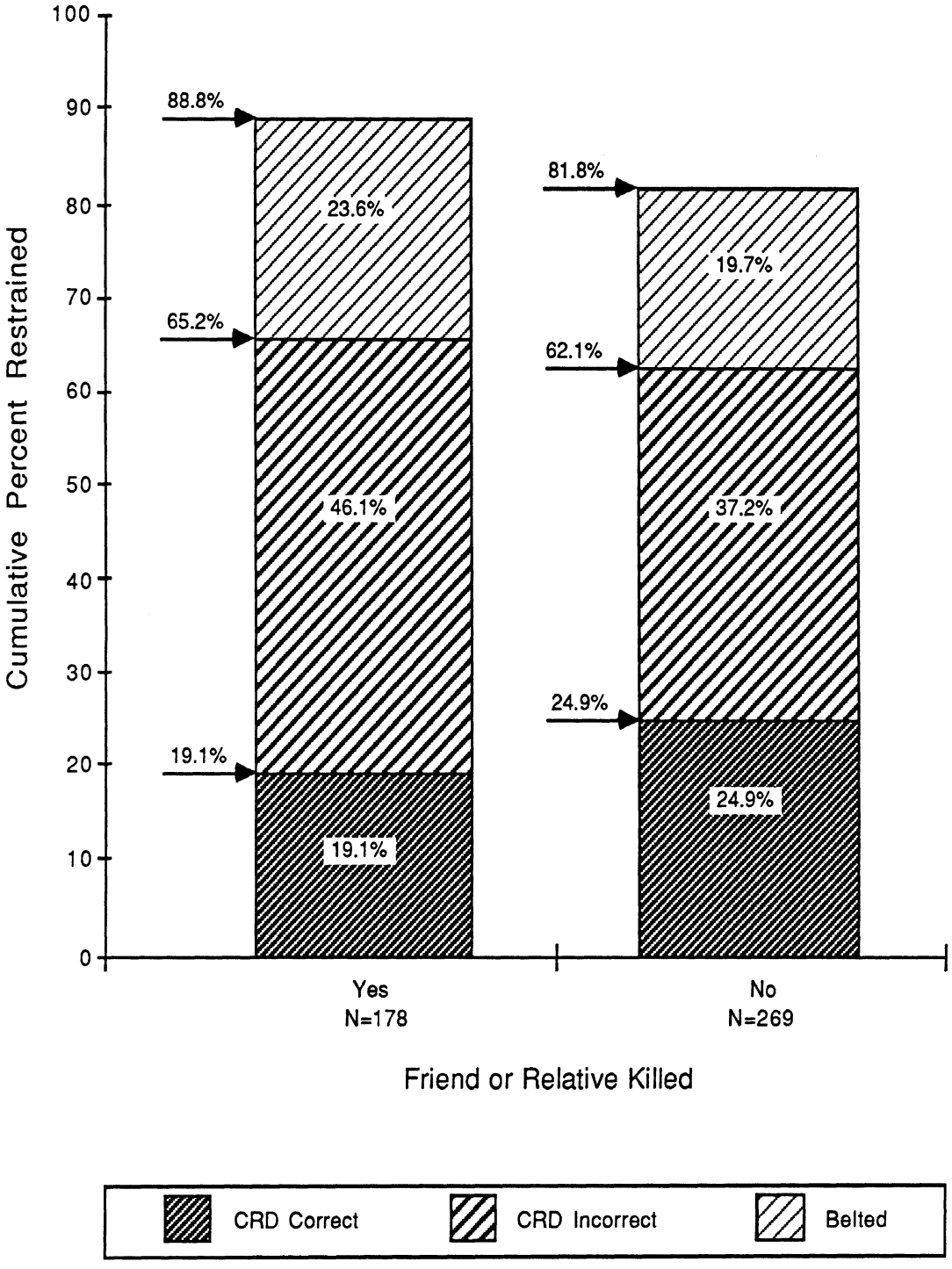

Figure 4.15: Child Restraint Use by Crash-Related Mortality of Friend or Relative

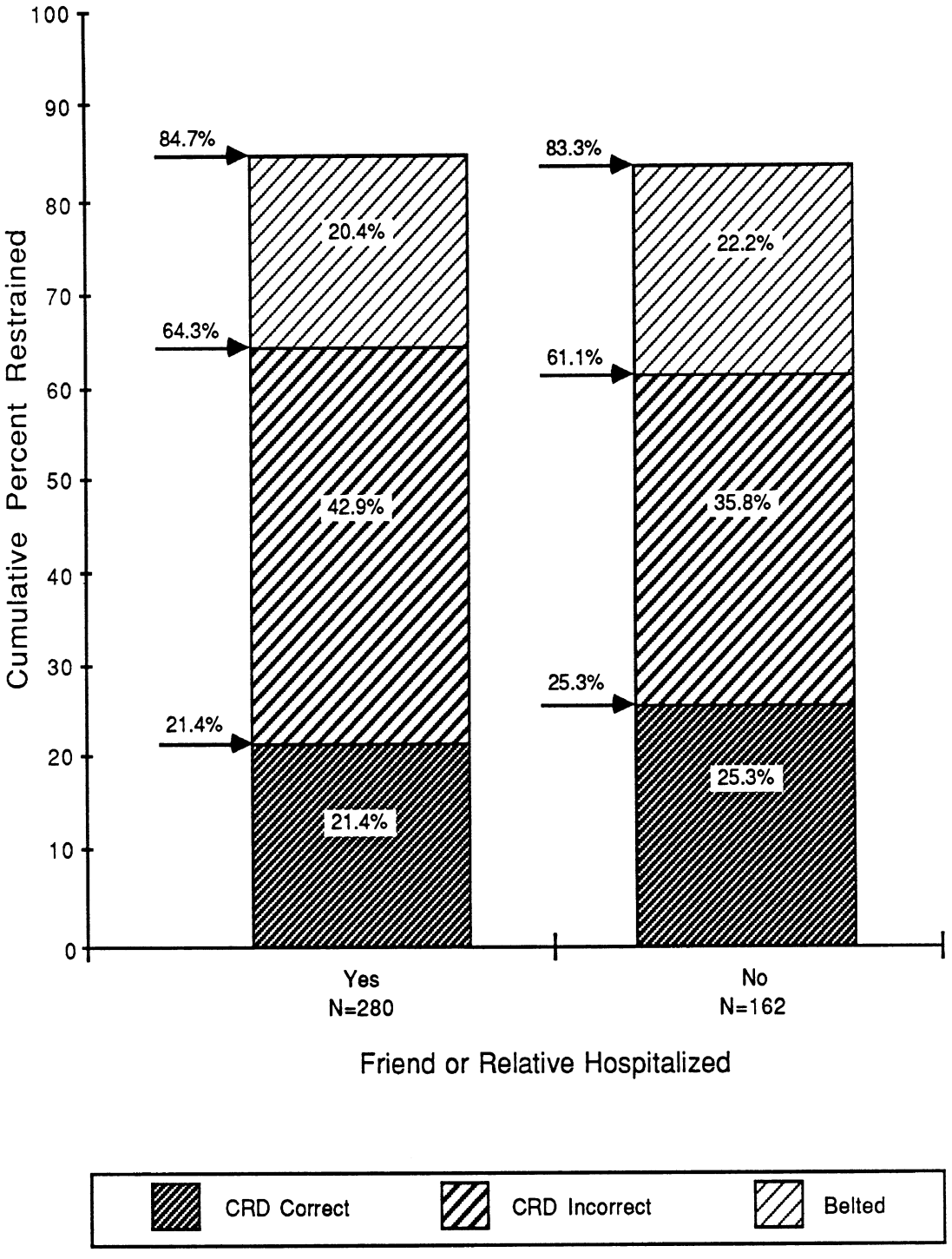

Figure 4.16: Child Restraint Use by Crash-Related Hospitalization of Friend or Relative

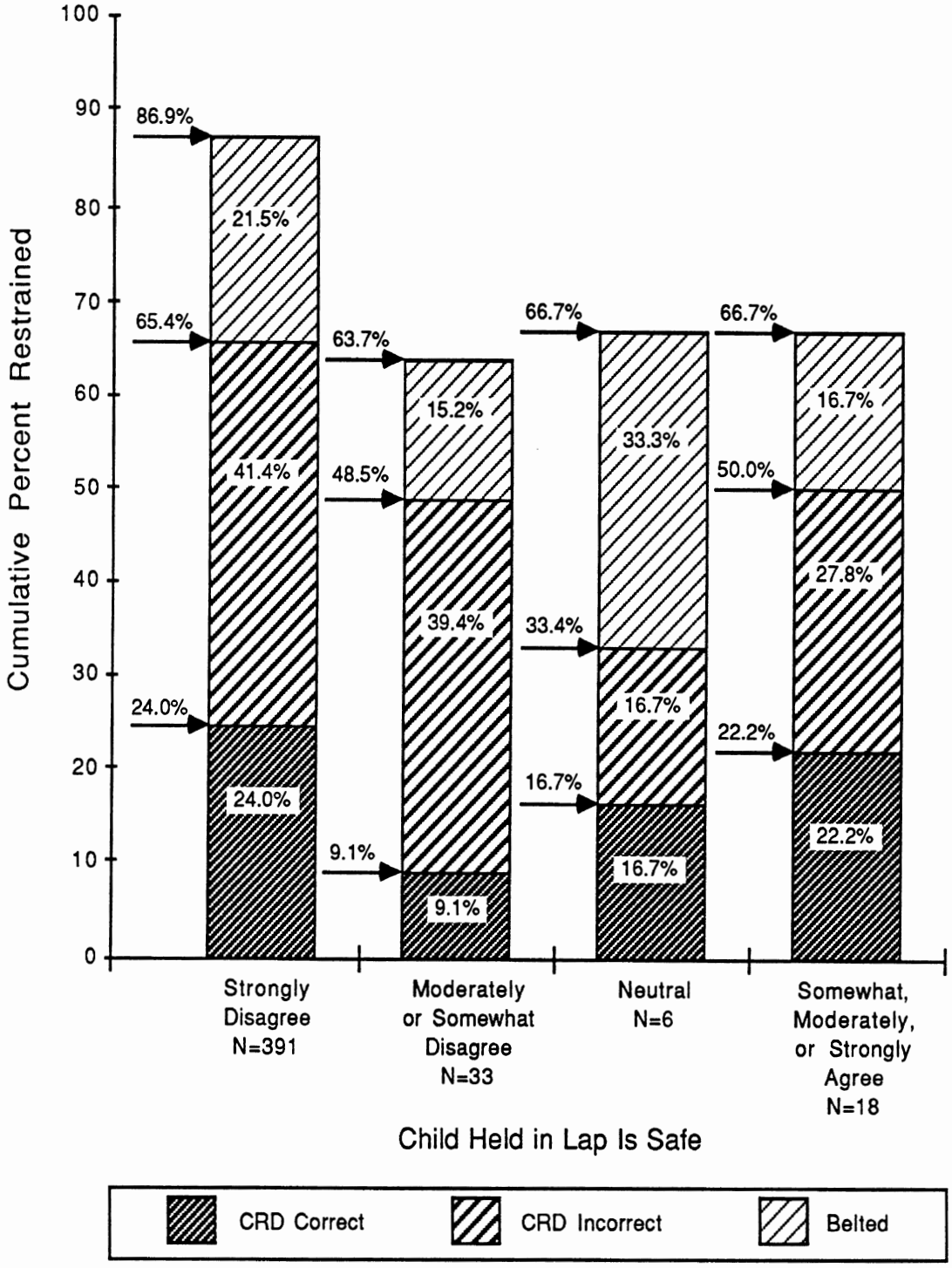

Figure 4.17: Child Restraint Use by Belief that Child Held in Lap Is Safe

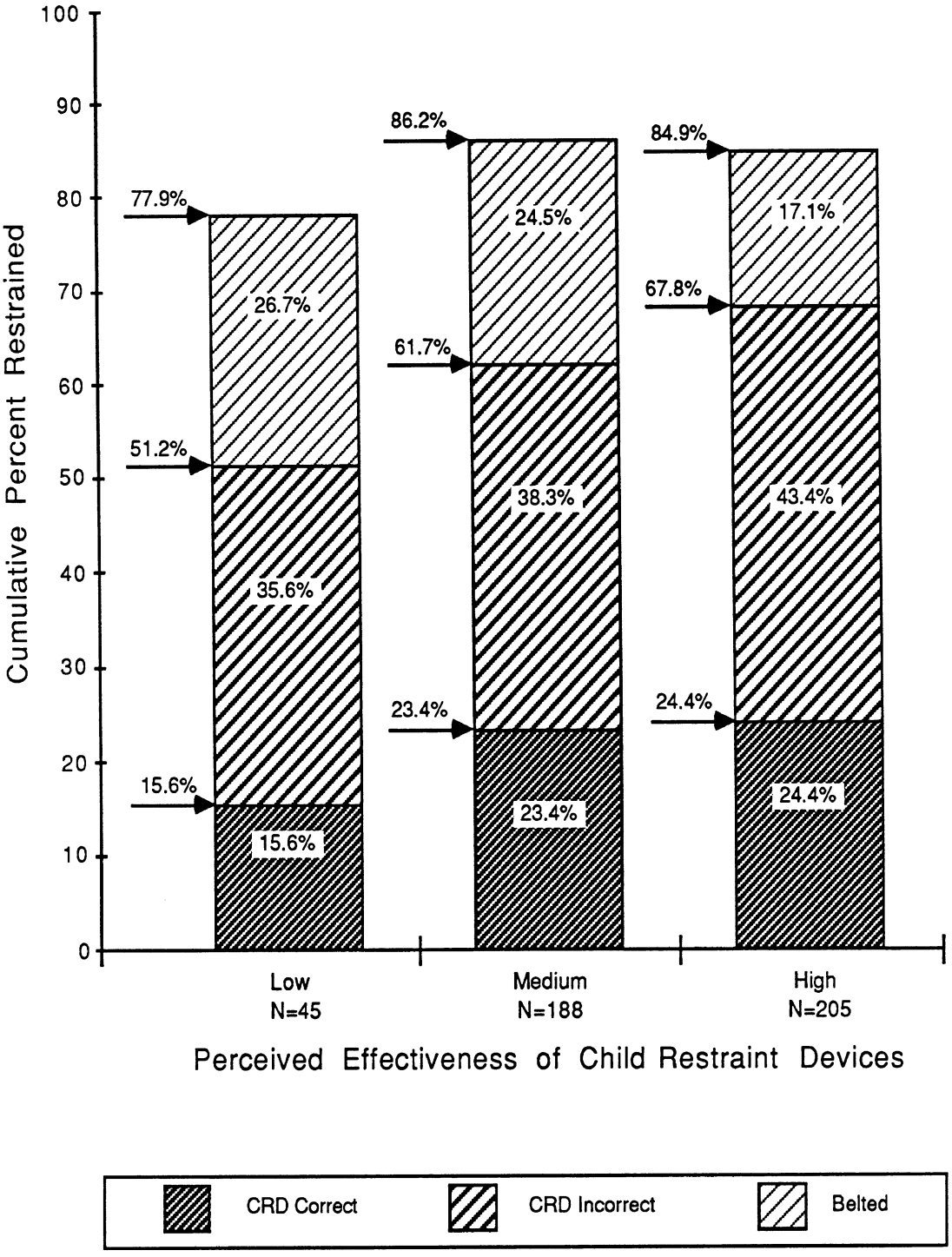

Figure 4.18: Child Restraint Use by Perceived Effectiveness of Child Restraint Devices

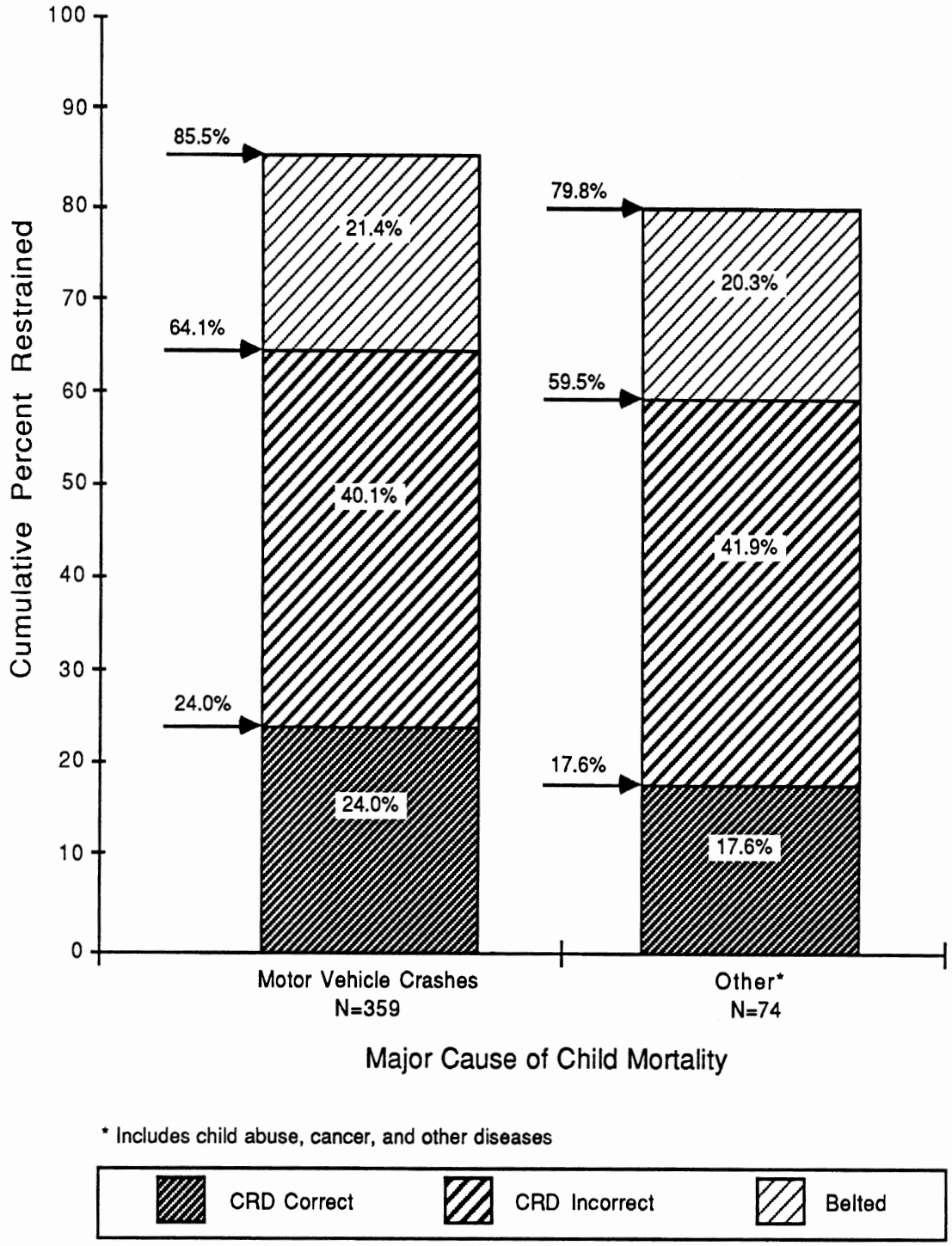

Figure 4.19: Child Restraint Use by Belief about Major Cause of Child Mortality

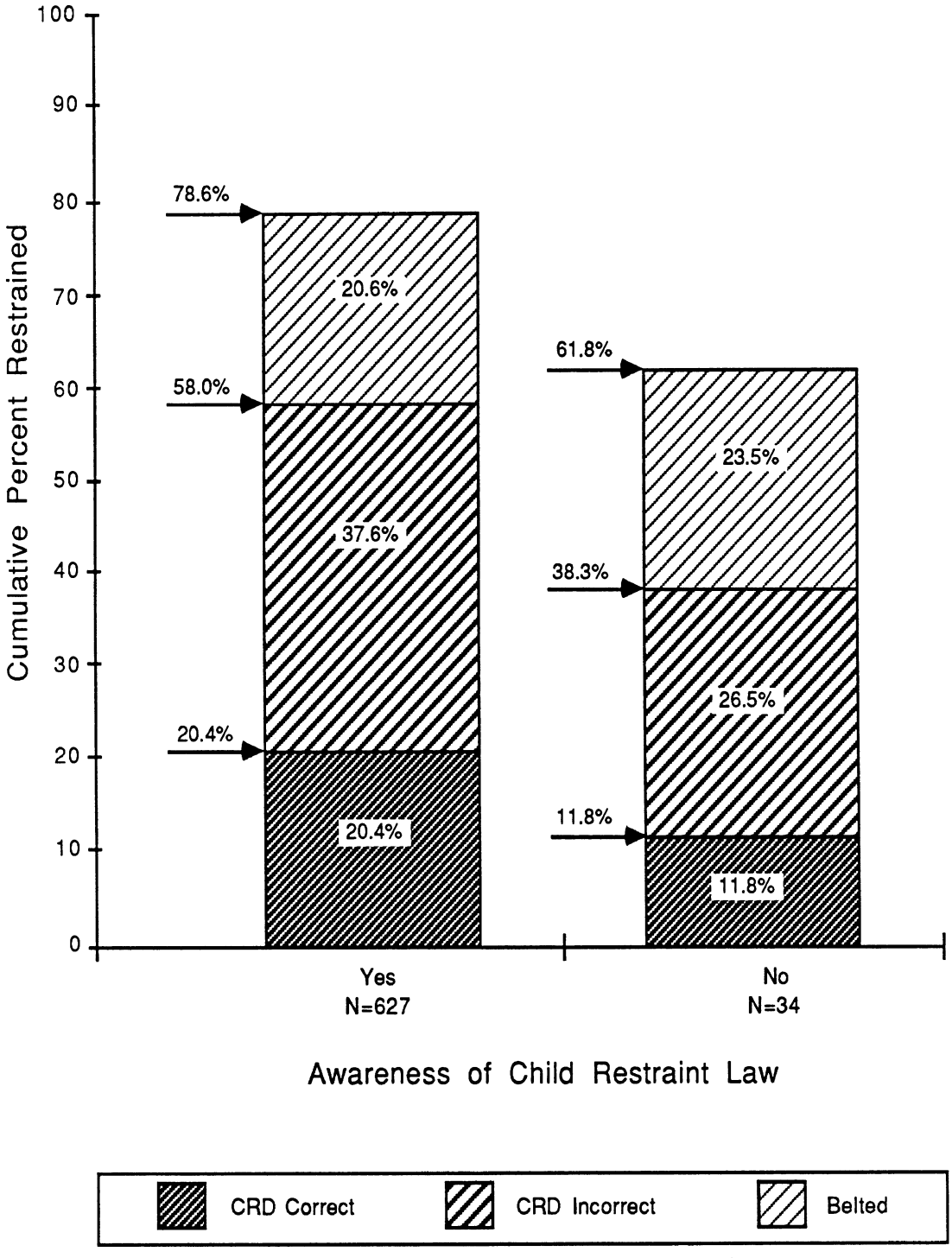

Figure 4.20: Child Restraint Use by Awareness of Child Restraint Law

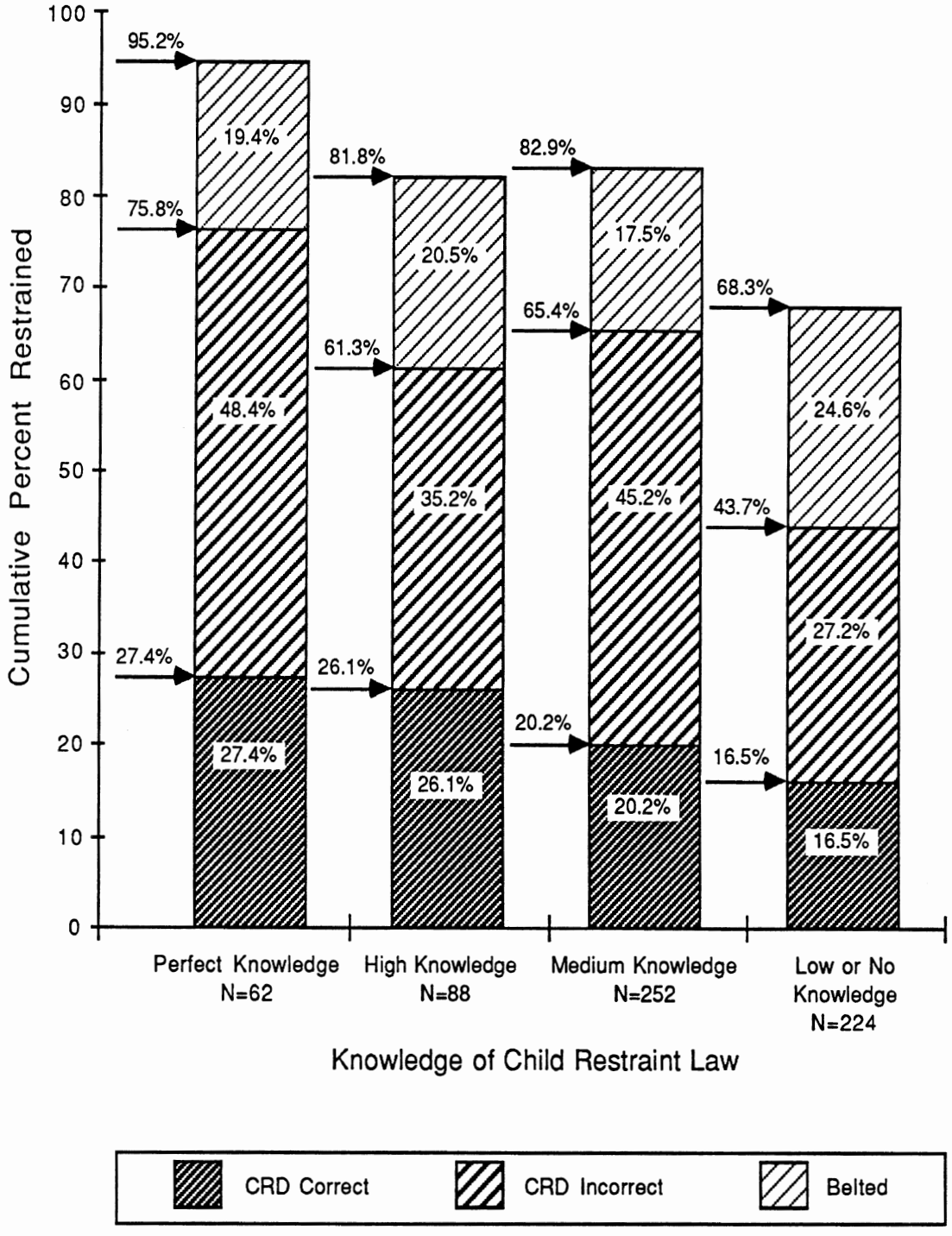

Figure 4.21: Child Restraint Use by Knowledge of Child Restraint Law

knowledge as knowing that children must be restrained but not knowing the correct ages; and no knowledge as not knowing any of the specifics of the law.

Perceptions of law enforcement appeared to have only a marginal association with restraint use. As shown in Figure 4.22, regardless of how strongly a driver believed that the law influenced restraint use, restraint use did not vary greatly. Whereas those who strongly believed the law influenced behavior had 81% of their children restrained, those who did not believe the law influenced use had 88.7% of their children restrained. When the question of the relationship of restraint use to the law was personalized (i.e., respondents were asked to estimate the frequency of their child restraint use in the absence of a law), the responses indicated a stronger relationship than the previous one. As indicated in Figure 4.23, 83% responded that they would always use a child restraint even without a law. It is interesting to note that of this 83%, the rate of child restraint use was 92.9%. The rate of incorrect CRD usage is seemingly high at 45.9%. It appears, however, that the majority of respondents in this study are concerned about their child's safety. Nevertheless, only 44.7% of the respondents who indicated that they would **not** always use a restraint did in fact have their children in a CRD or seat belt, with only 7.9% correctly restrained. Of those who believed that fear of a ticket did not influence restraint use, 85.9% of the children were restrained in contrast to 71.2% of those who believed that fear of a ticket had great influence (Figure 4.24). Perceptions of police enforcement of the law paralleled beliefs about fear of a ticket (Figures 4.25 and 4.26).

4.1.2.4 Comfort and Convenience. A number of variables examined beliefs about **child** comfort and convenience. The belief by respondents that children liked their CRD was positively associated with both CRD use and correct use (Figure 4.27). Of respondents who strongly believed their children liked riding in child seats, 78.5% used CRDs and 32.4% used them correctly. By comparison, only 42.7% of respondents who did not believe their children liked riding in CRDs used such devices and only 12.6% used them correctly. This finding is not surprising since "child dislike of CRDs" was one of the most frequently cited reasons by respondents for nonuse of such devices.[6] When respondents were asked about the willingness of children under two years and children age two to three years to ride in CRDs, beliefs about such willingness were also found to be associated with CRD use (Figures 4.28 and 4.29). The belief that children who do not like CRDs get used to them with regular use was voiced by the majority of respondents (86.2%). However, CRD use was higher among those who **strongly** adhered to this belief than those who only moderately or somewhat adhered to it or did not adhere to it at all (Figure 4.30).

A related variable measured beliefs about child misbehavior. While most respondents did not believe their children misbehaved in their CRDs, the highest rate of CRD use was exhibited by those respondents who **strongly disagreed** that their children misbehaved (76.9%; Figure 4.31). By comparison, CRD use was 59.9% among those who only moderately or somewhat disagreed, 54.4% among those who agreed that their children

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6. A total of 24.1% of respondents not using CRDs reported child dislike of CRDs as the primary reason for nonuse. Other reasons included: child too big (26.1%), CRD in other vehicle (14.6%), CRD in parents' vehicle (7.9%), takes too much room in car (5.9%), too much trouble (5.5%), and other (15.8%).

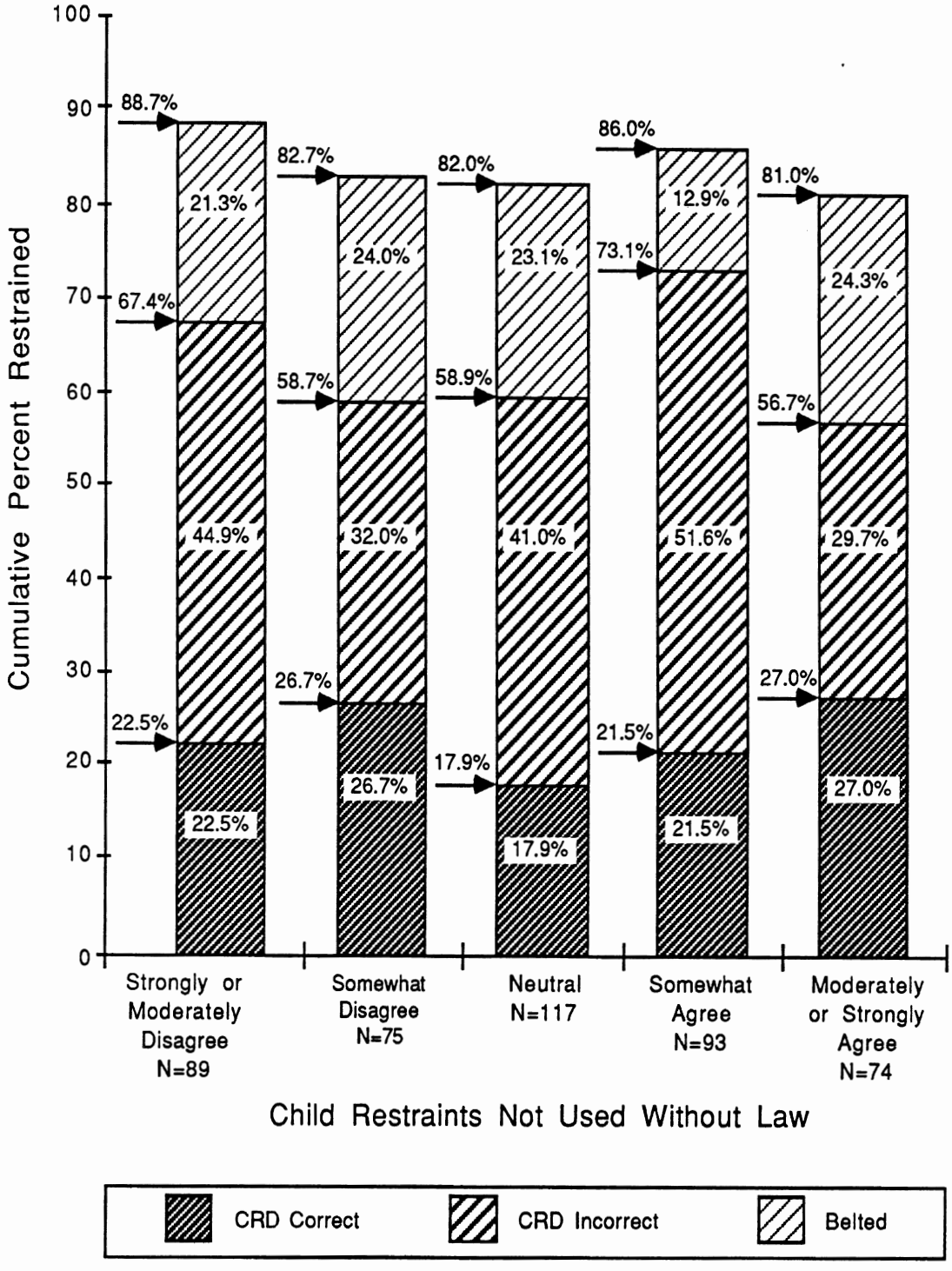

Figure 4.22: Child Restraint Use by Belief That Child Restraints Would Not Be Used Without Child Restraint Law

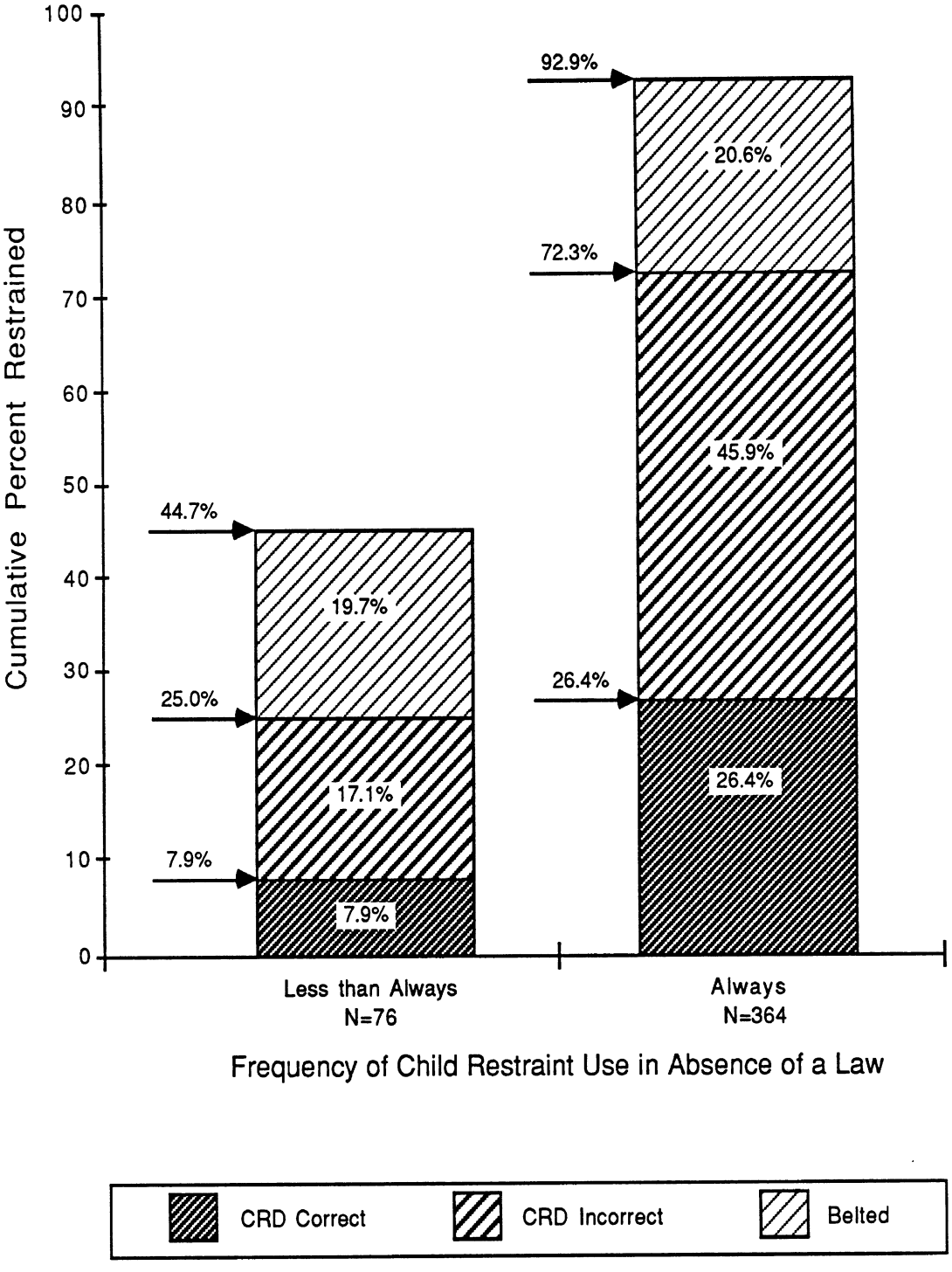

Figure 4.23: Child Restraint Use by Estimated Frequency of Child Restraint Use in Absence of a Child Restraint Law

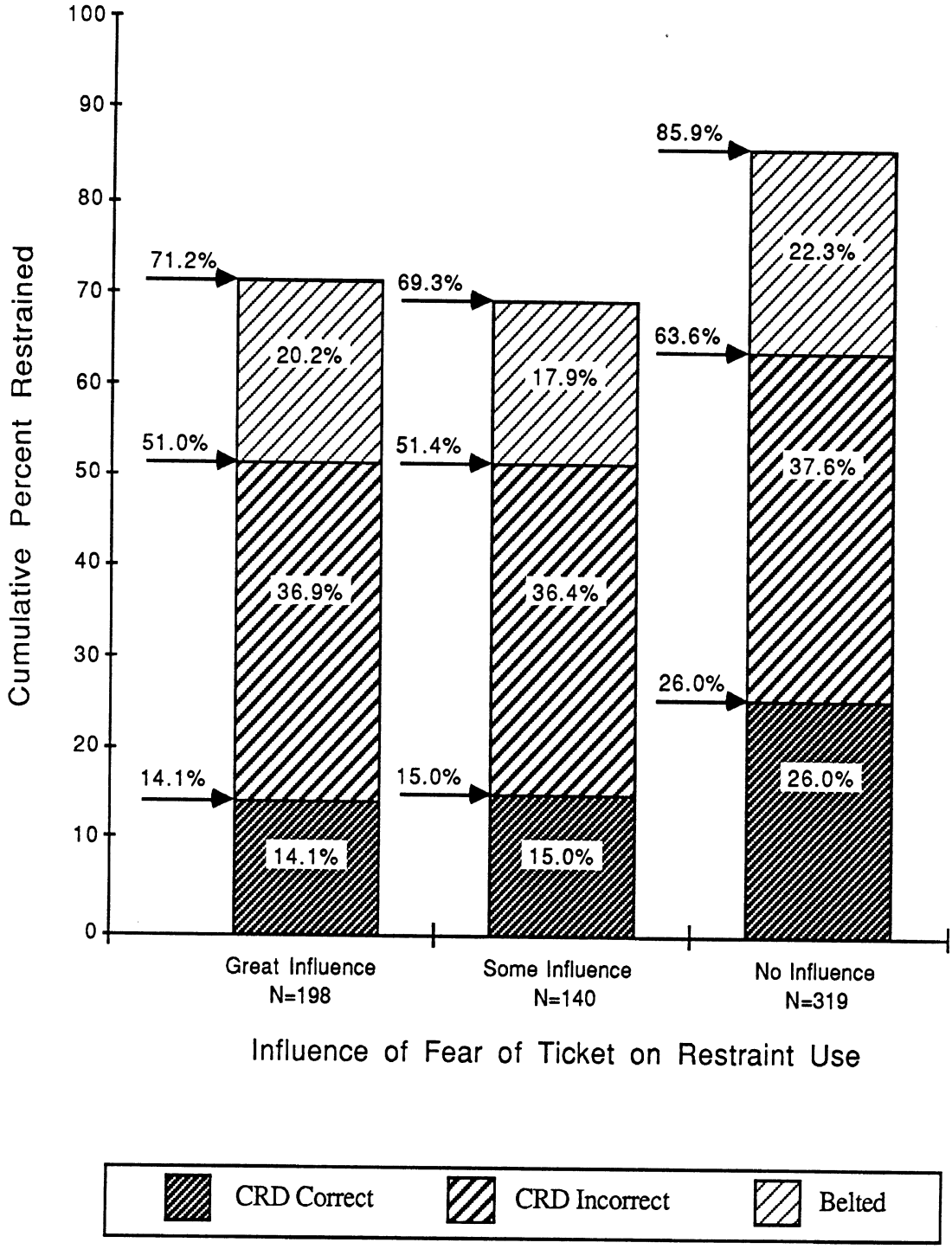

Figure 4.24: Child Restraint Use by Influence of Fear of Ticket on Decision to Use Restraints

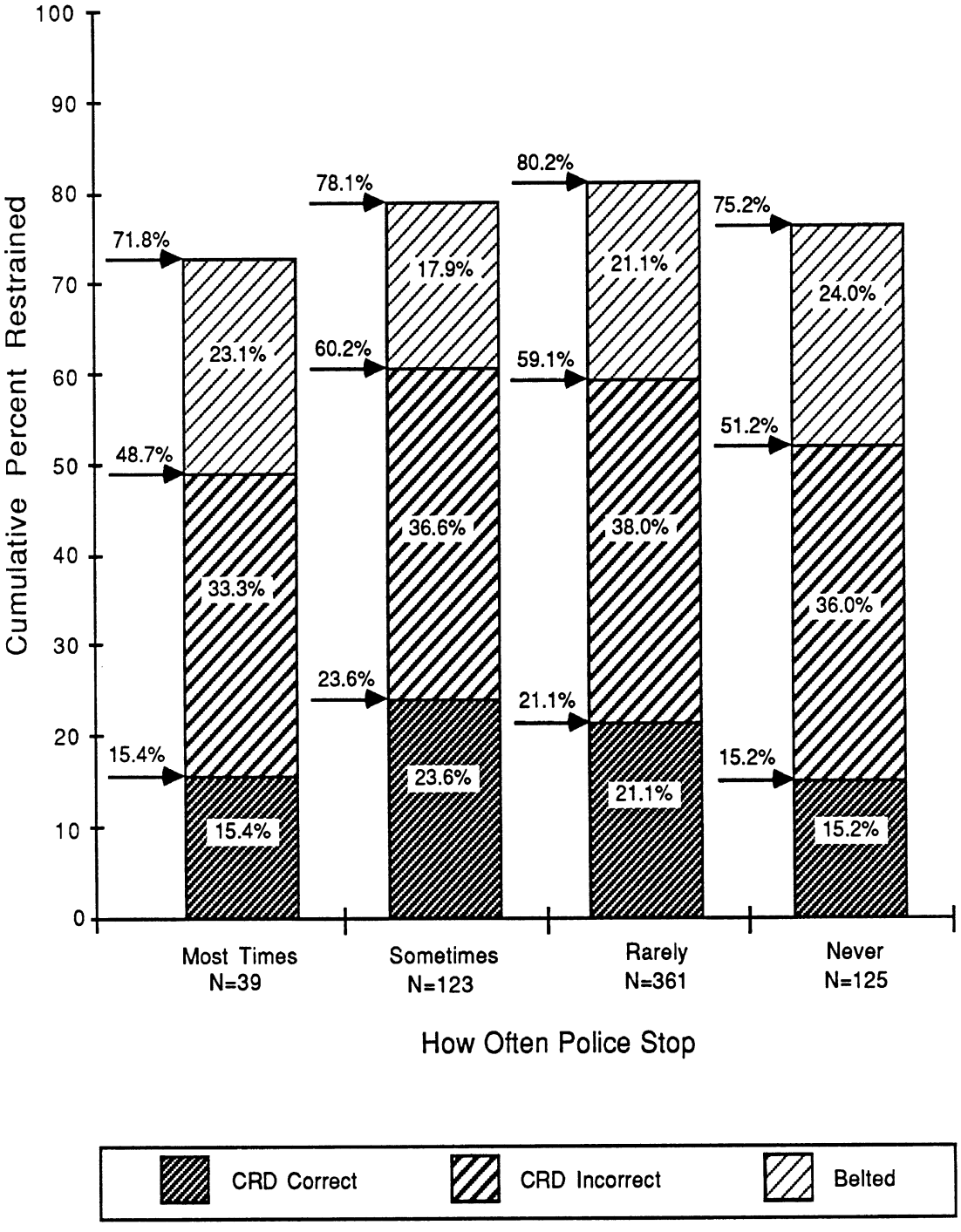

Figure 4.25: Child Restraint Use by Perception of How Often Police Stop Violators of Law

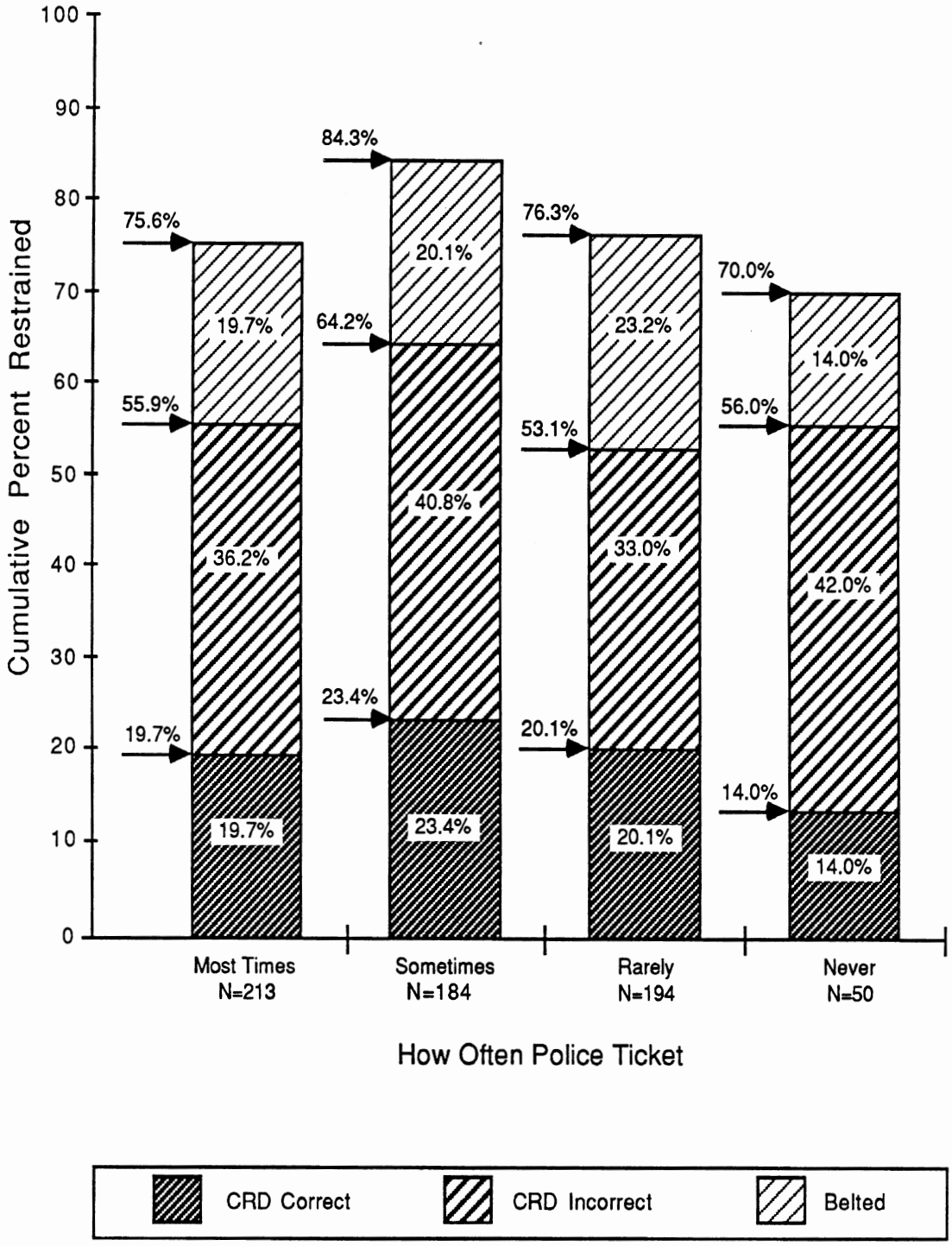

Figure 4.26: Child Restraint Use by Perception of How Often Police Ticket Violators of Law

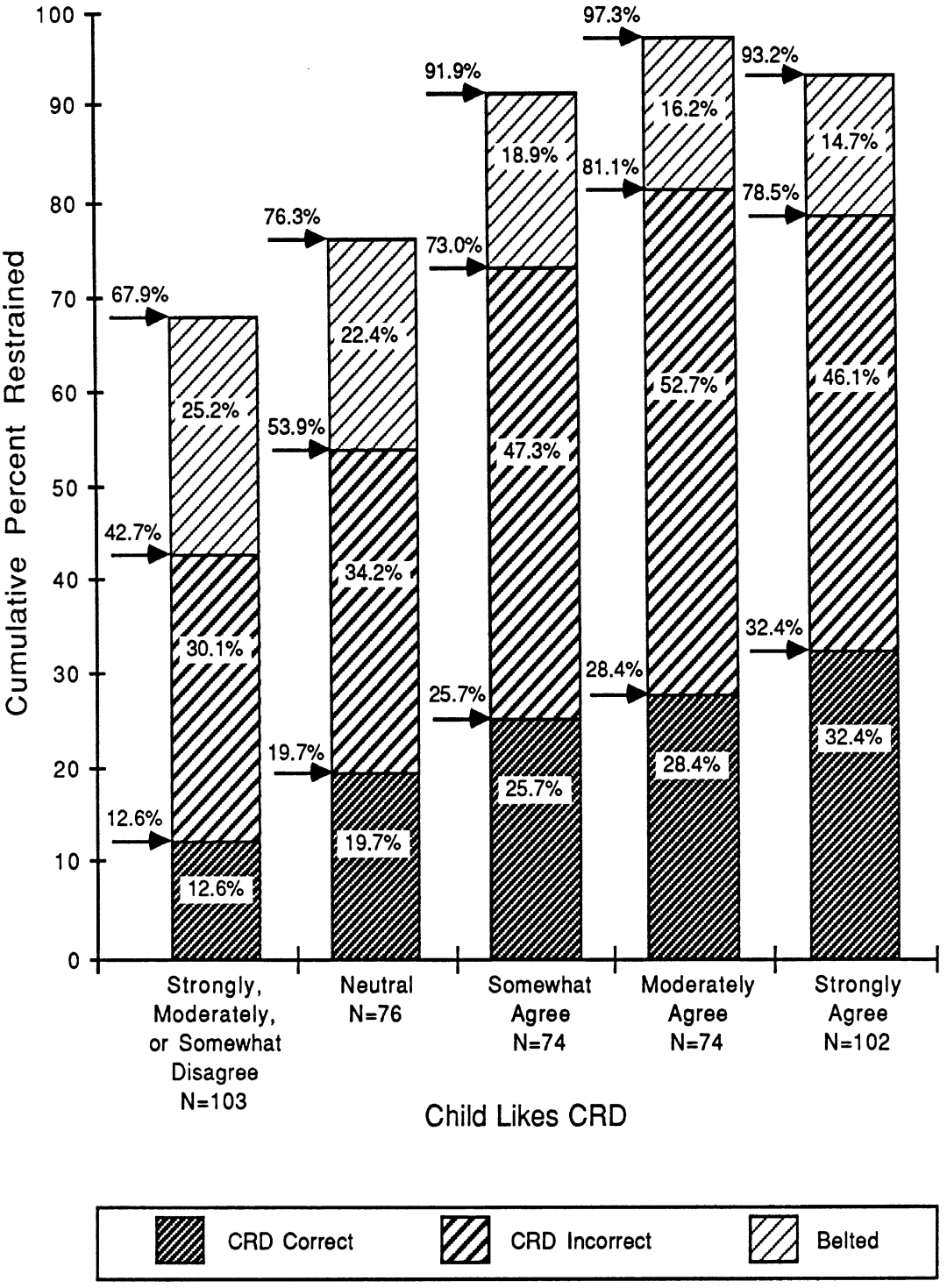

Figure 4.27: Child Restraint Use by Belief That Child Likes Child Restraint

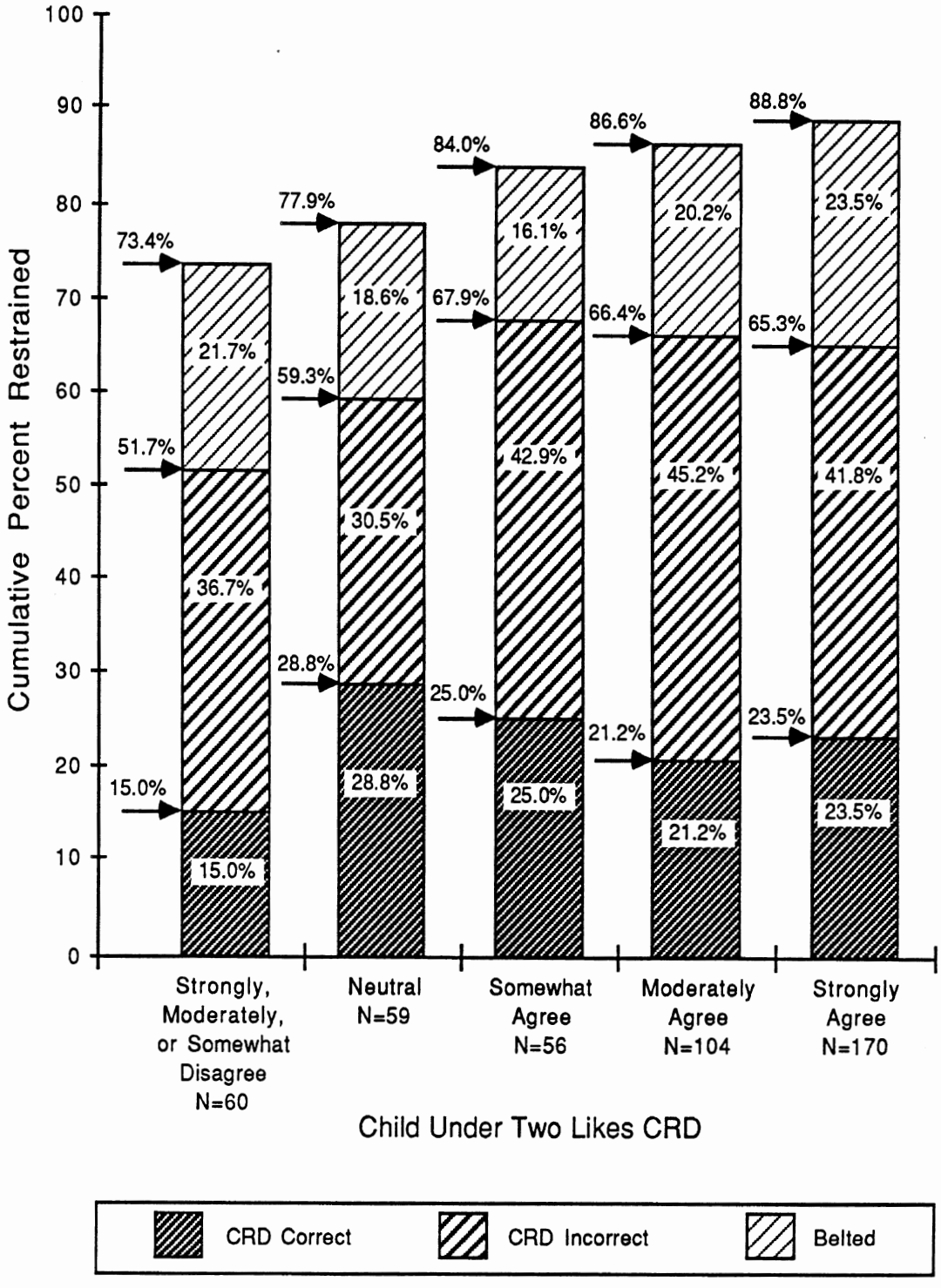

Figure 4.28: Child Restraint Use by Belief That Child Under Age of Two Likes Child Restraint

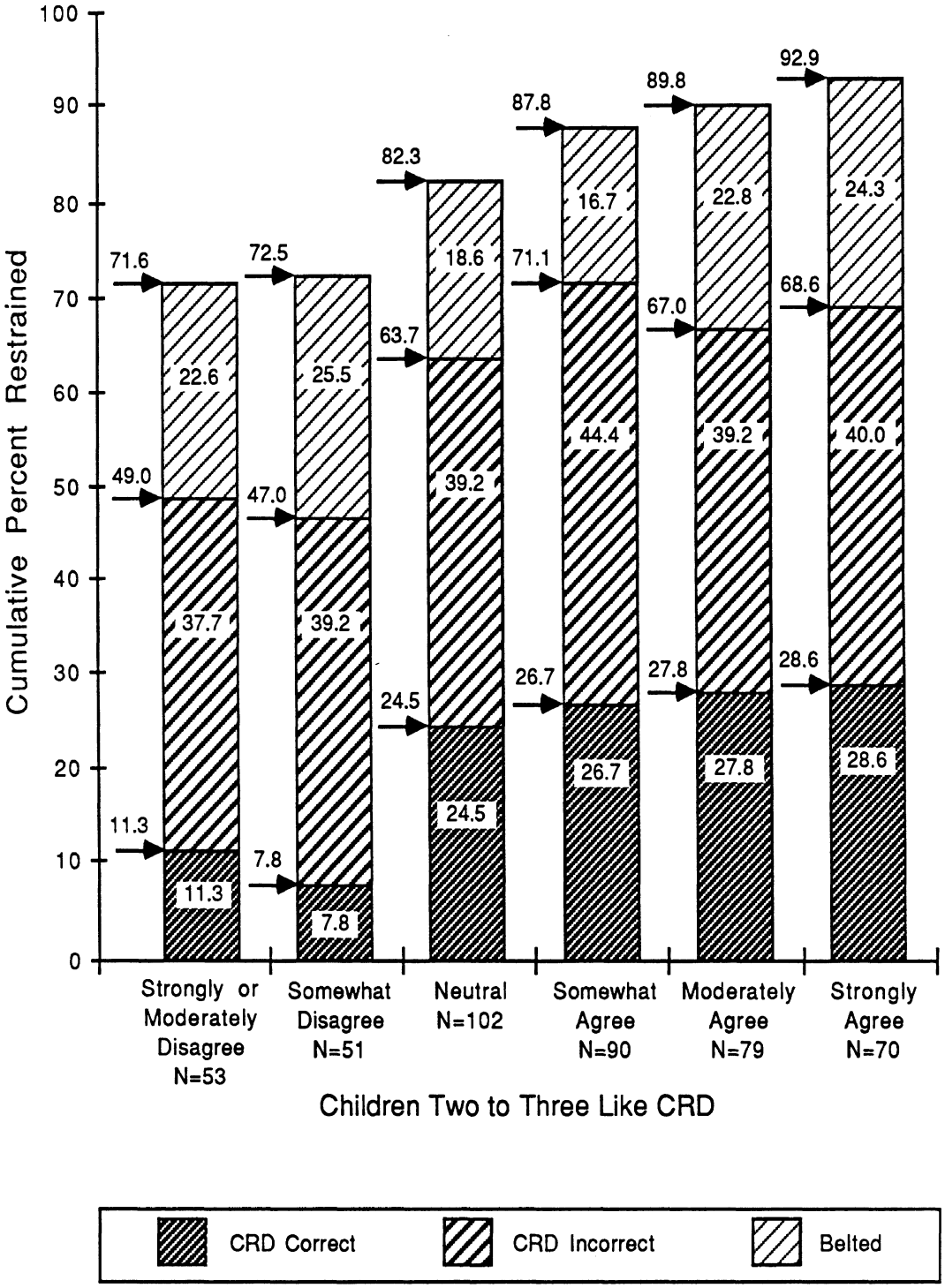

Figure 4.29: Child Restraint Use by Belief That Children Age Two to Three Like Child Restraints

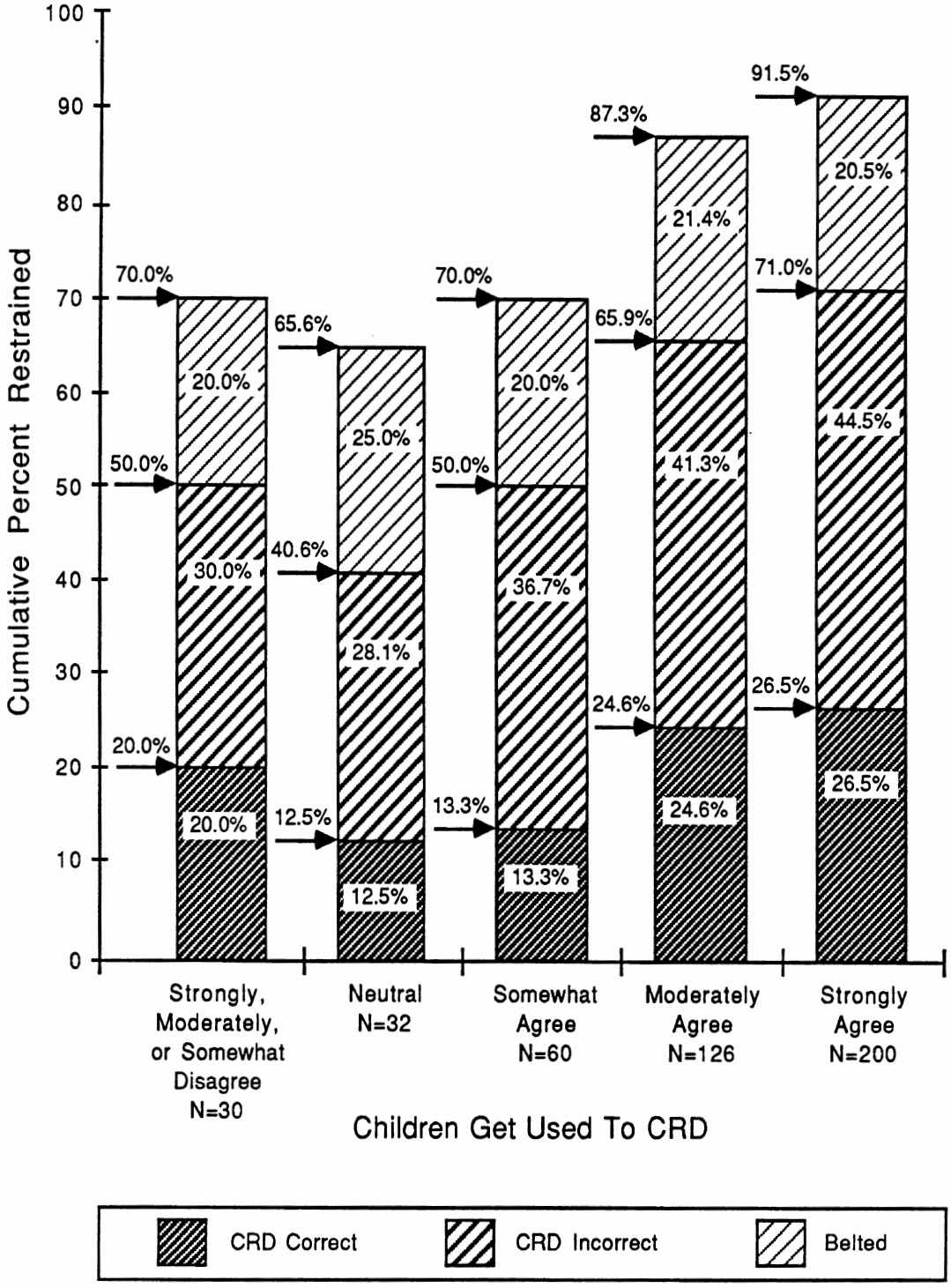

Figure 4.30: Child Restraint Use by Belief That Children Get Used to Restraint Devices

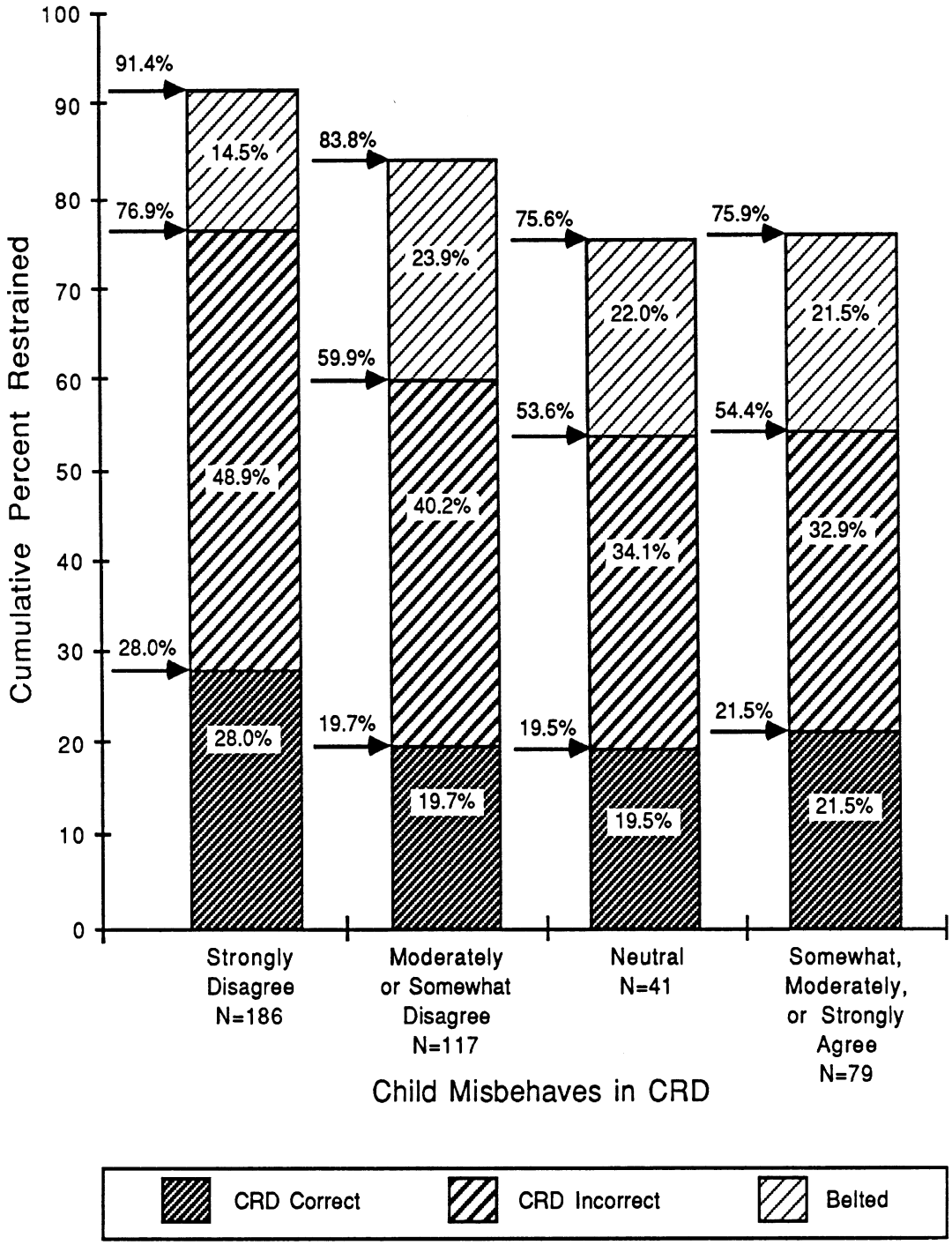

Figure 4.31: Child Restraint Use by Belief That Child Misbehaves in Child Restraint

misbehaved, and 53.6% among those who were neutral in the issue. This is consistent with the finding that children who like CRDs are more likely to be restrained since children who like riding in CRDs are presumably less inclined to misbehave than those who do not. **Correct** use of CRDs exhibited a pattern similar to overall CRD use.

Two variables addressed issues related to the comfort and convenience of the **respondent**. Respondents who expressed neutrality about whether CRDs were a bother for adults were less likely to use both CRDs and child restraints overall than either respondents who agreed or disagreed that CRDs were a bother (Figure 4.32). For example, CRD use was 46.5% among respondents who were neutral about the issue compared to 62.7% who were strongly in agreement and 76.3% of respondents who were in strong disagreement. **Correct** use was highest among respondents who strongly disagreed (33.9%) and lowest among respondents who moderately or somewhat disagreed that CRDs were a bother (13.5%). Respondents who believed **seat belts** to be uncomfortable were less likely to restrain their children in CRDs than other respondents but, interestingly, more likely to restrain them in seat belts (Figure 4.33). A total of 51.4% of respondents who agreed that seat belts were uncomfortable restrained their children in CRDs compared to 61.5% of respondents who moderately or somewhat disagreed and 68.3% of respondents who strongly disagreed. Rates of **seat belt** use, by comparison, were 25.7%, 21.3%, and 19.7%, respectively, for the three groups.

Perceived costs of CRDs did not appear to affect child restraint use (Figure 4.34). Respondents who estimated such costs to be $40 or more had a CRD use rate that was only marginally higher than respondents who estimated costs to be under $40 (64.4% versus 62.2%). **Correct** use exhibited a similar pattern although the magnitude of difference was slightly greater (24.6% versus 20.0%).

4.1.2.5 Social Norms. Five variables explored the relationship between group norms or perception of norms and child restraint use. As shown in Figure 4.35, those who believed that there was widespread public support for the law were more likely to restrain their children than were those who believed public support was low. This relationship was demonstrated more strongly when parents were asked to estimate the prevalence of child restraint use. Drivers who estimated that such use was over 80% were much more likely to restrain their children than were those who believed that use was only 40% or less (91.2% restrained versus 60.9% restrained; Figure 4.36). Friends' use of child restraints also showed this relationship. As shown in Figure 4.37, of those who reported high use rates by friends, 91.8% of the children were restrained in contrast to only 67.6% of those who reported lower use rates by friends. Furthermore, friends' use was clearly associated with **correct** use. Figure 4.38 shows that there was a substantial relationship between a driver's belief that others noticed restraint use and the likelihood of use. Figure 4.39 shows there was no consistent relationship between belief that the law influences use and the likelihood of putting a child in a restraint. Note the skewed pattern of responses in all areas in regards to attitudes towards the law and child restraint use.

4.1.2.6 Infringement of Rights. The next six figures explore the relationship between attitudes toward the child restraint law in particular, government regulation in

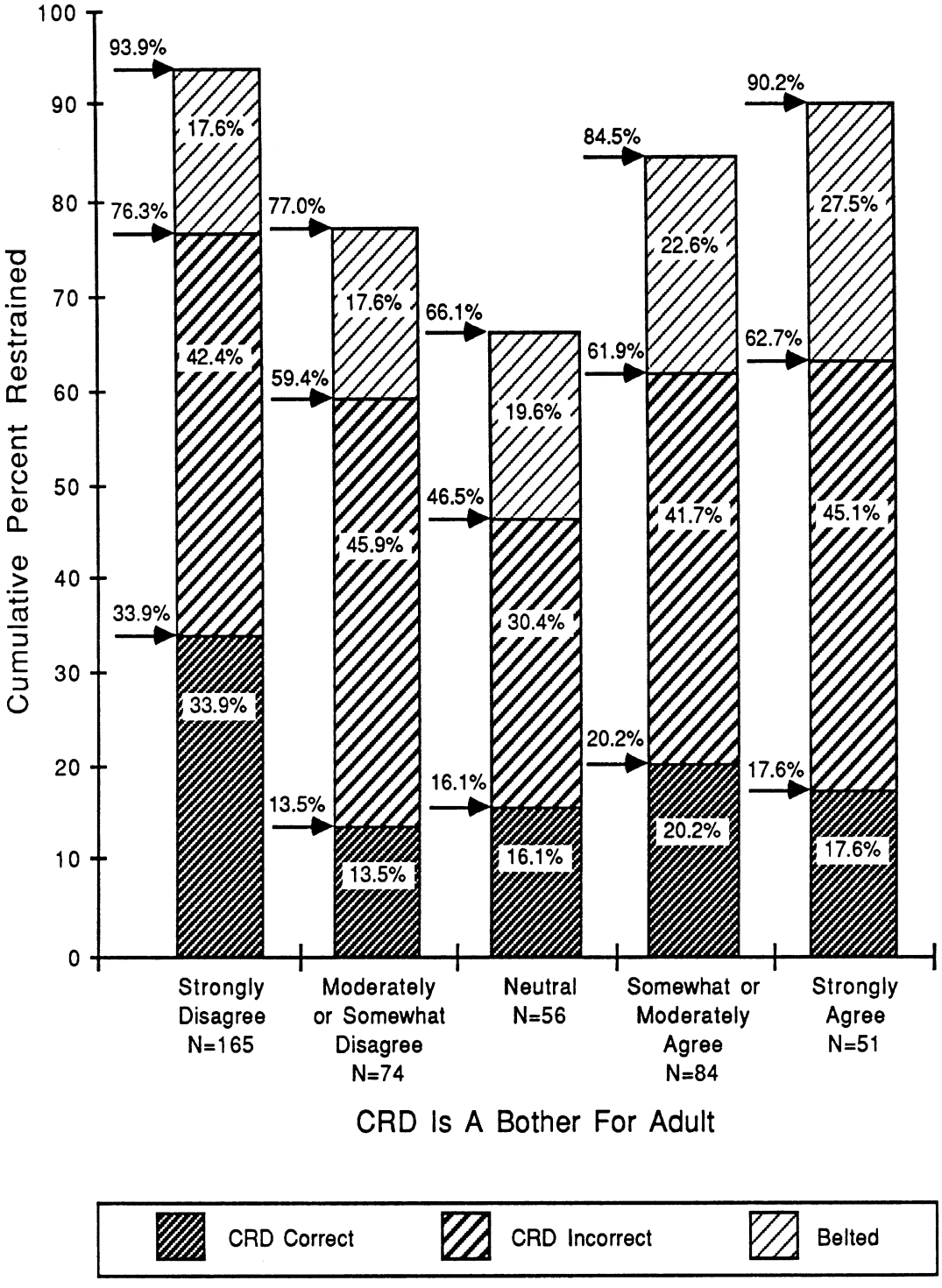

Figure 4.32: Child Restraint Use by Belief That Child Restraint is a Bother for Adult

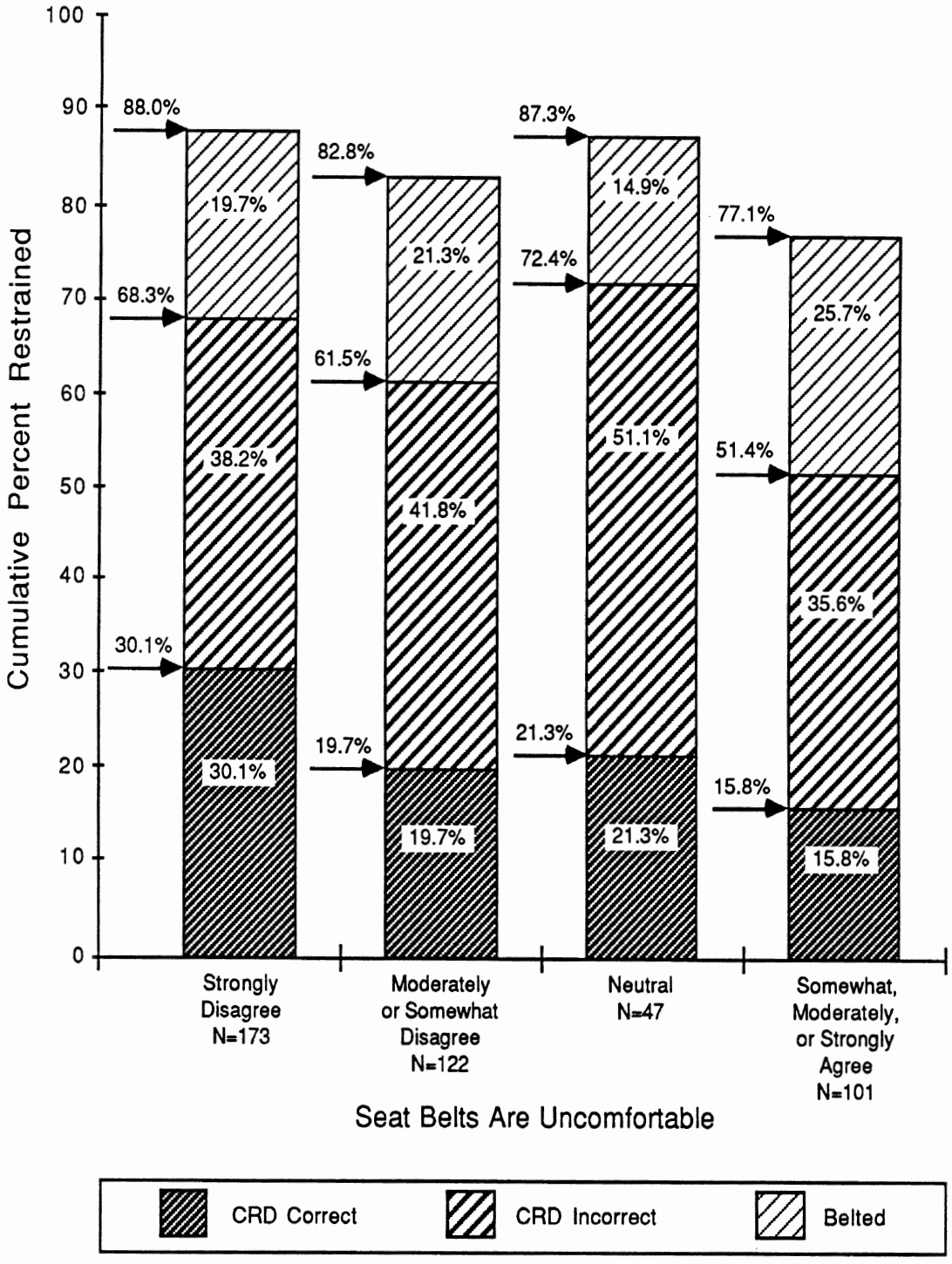

Figure 4.33: Child Restraint Use by Belief That Adult Seat Belts Are Uncomfortable

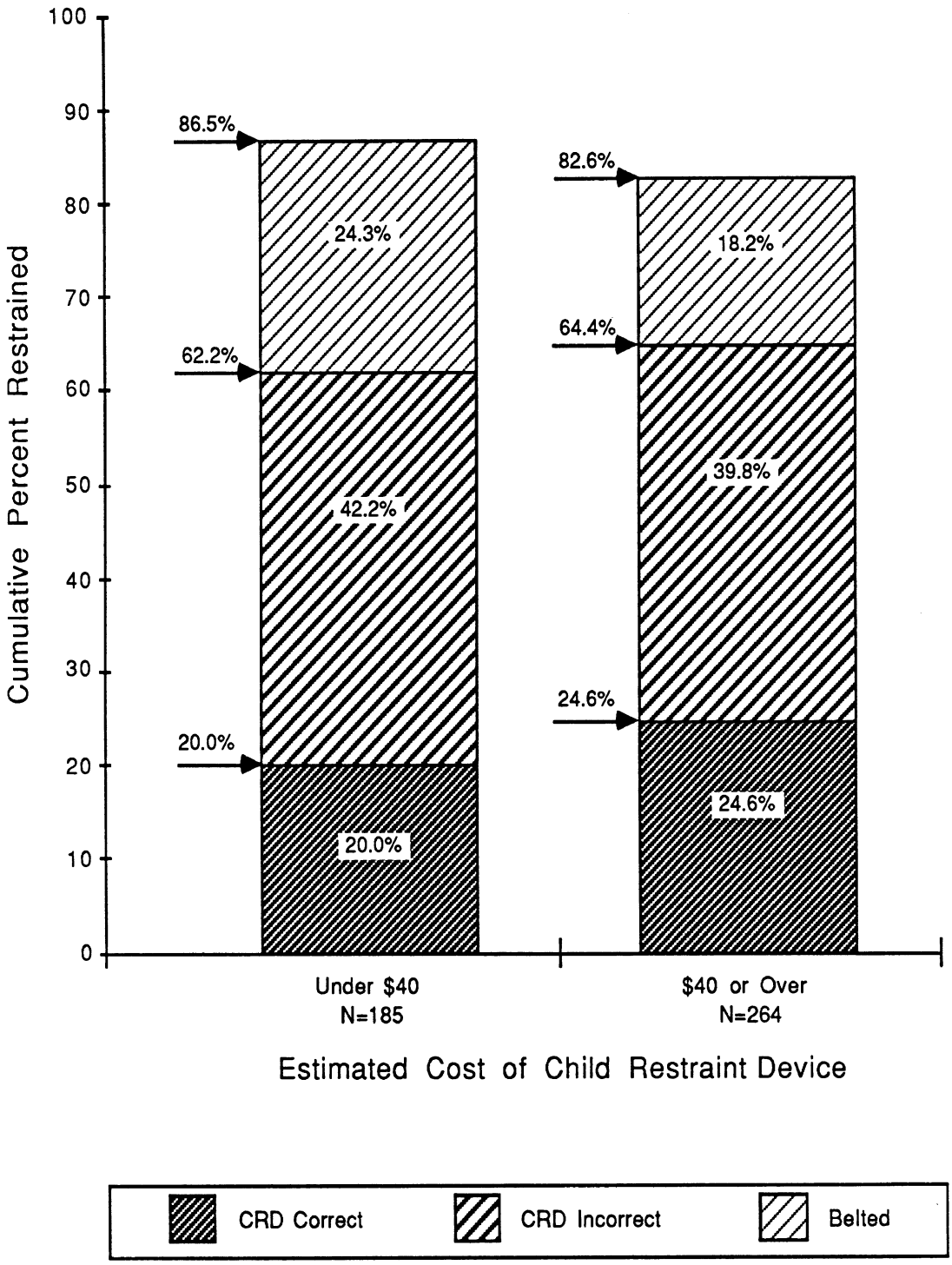

Figure 4.34: Child Restraint Use by Estimated Cost of Child Restraint Device

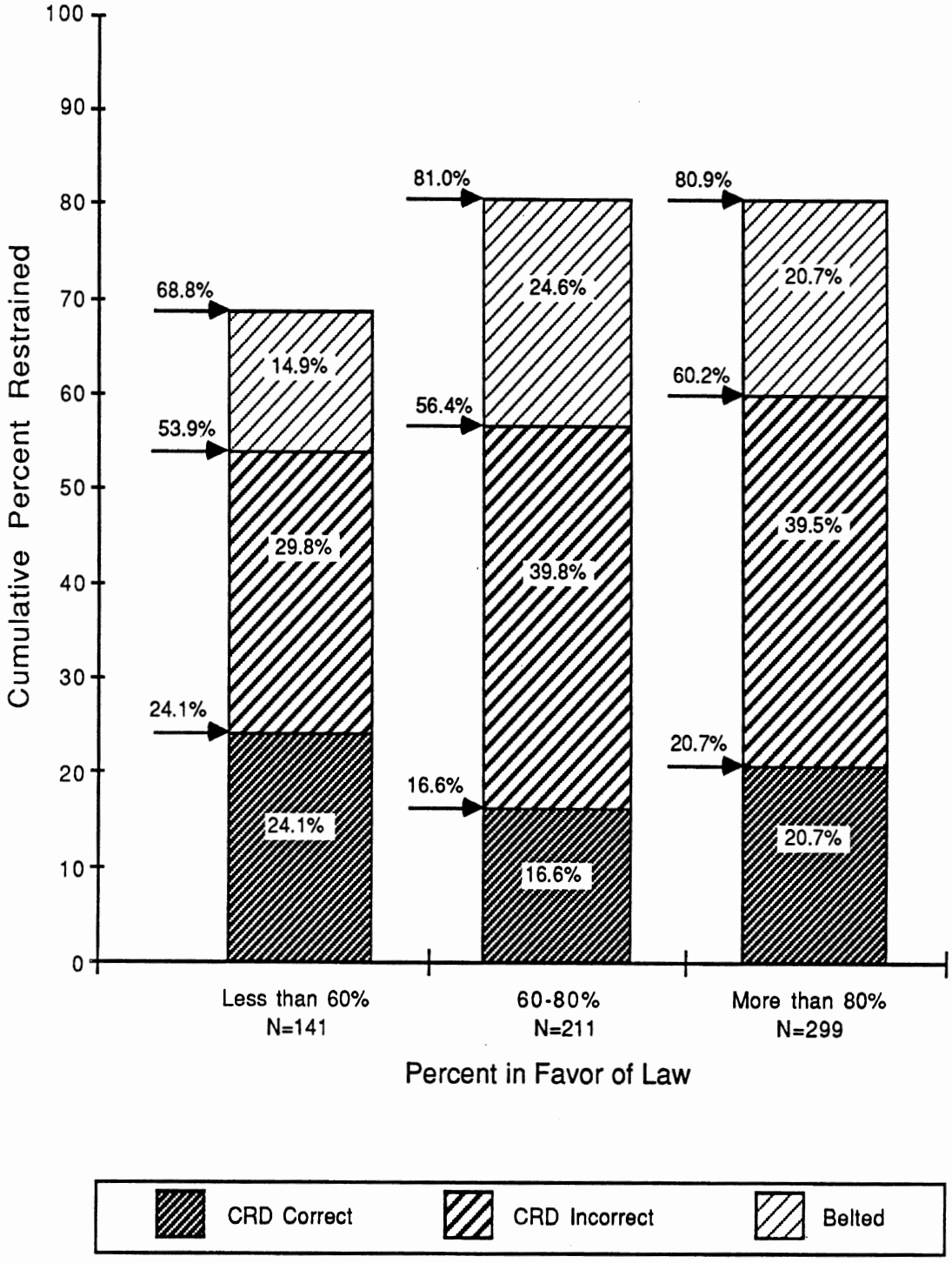

Figure 4.35: Child Restraint Use by Perception of Public Support for Child Restraint Law

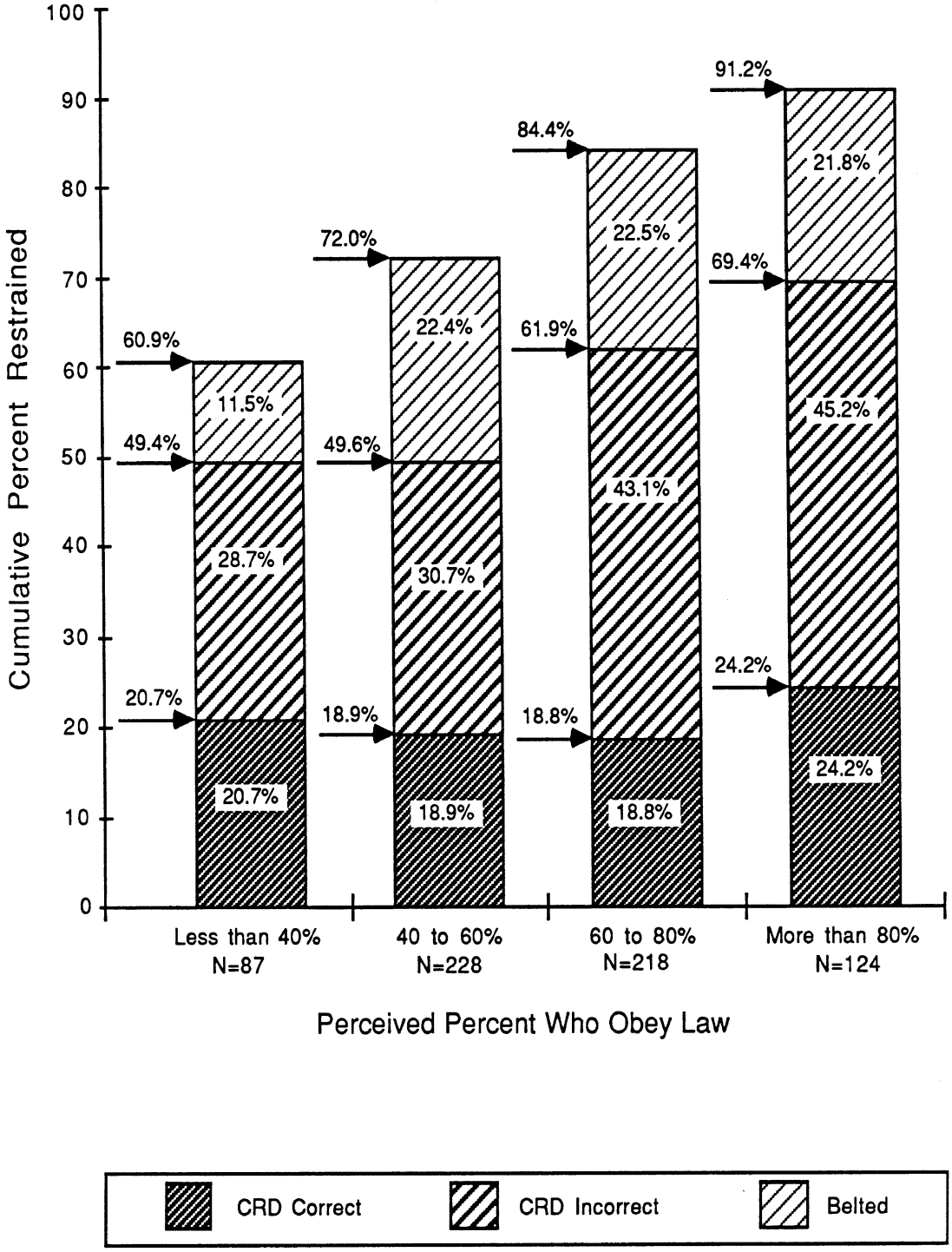

Figure 4.36: Child Restraint Use by Perception of Obedience to Child Restraint Law

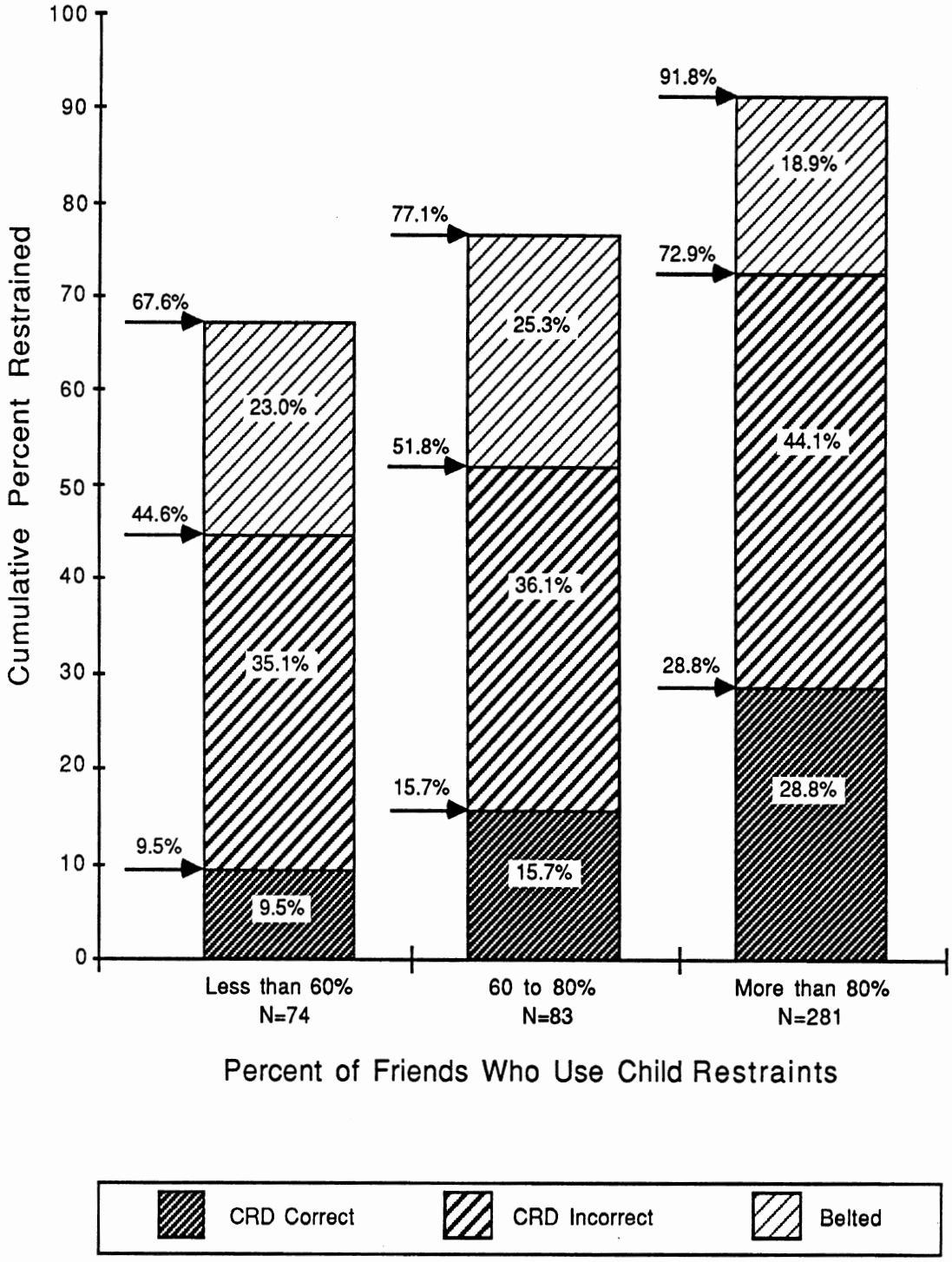

Figure 4.37: Child Restraint Use by Percent of Friends Who Use Child Restraints

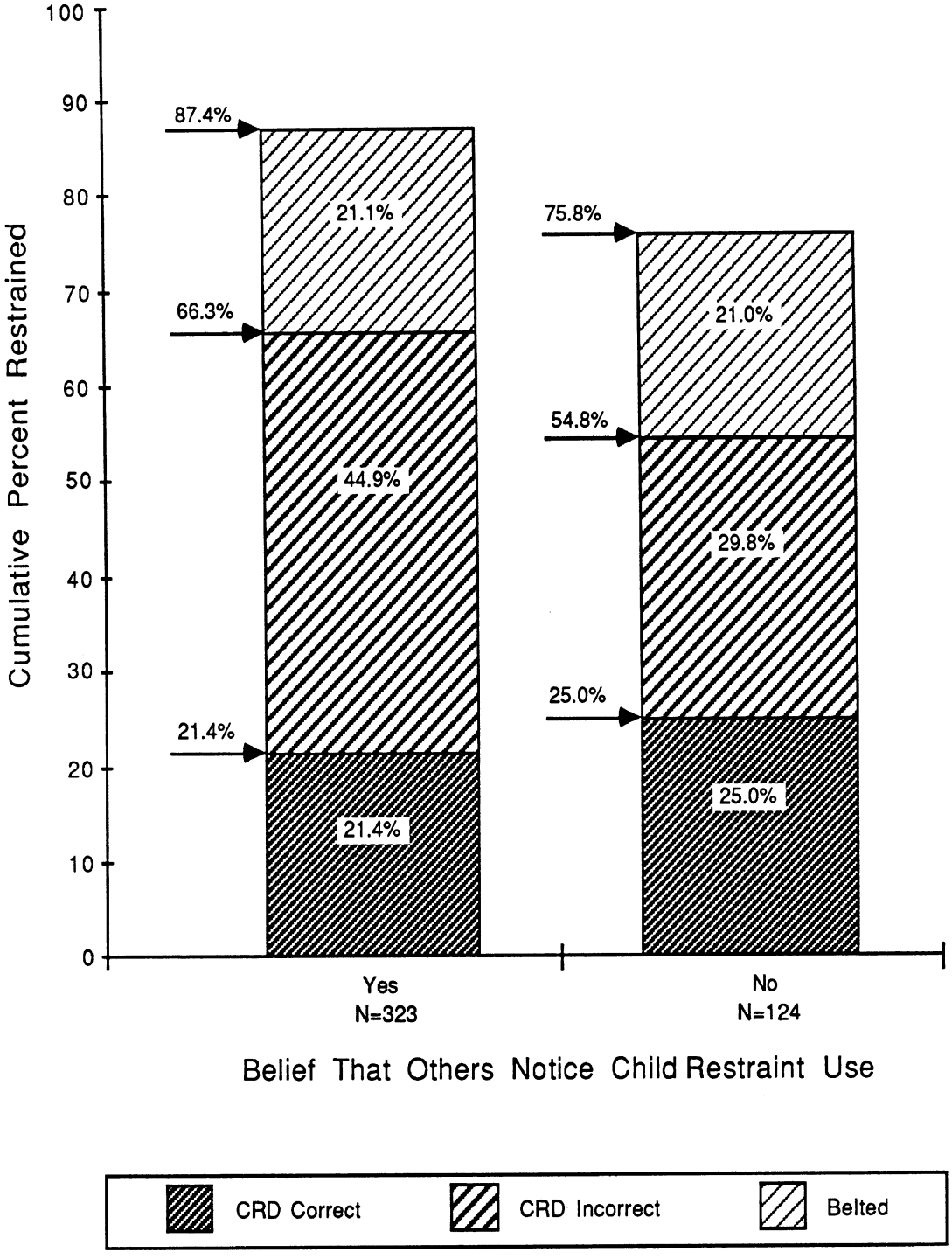

Figure 4.38: Child Restraint Use by Belief That Others Notice Child Restraint Use

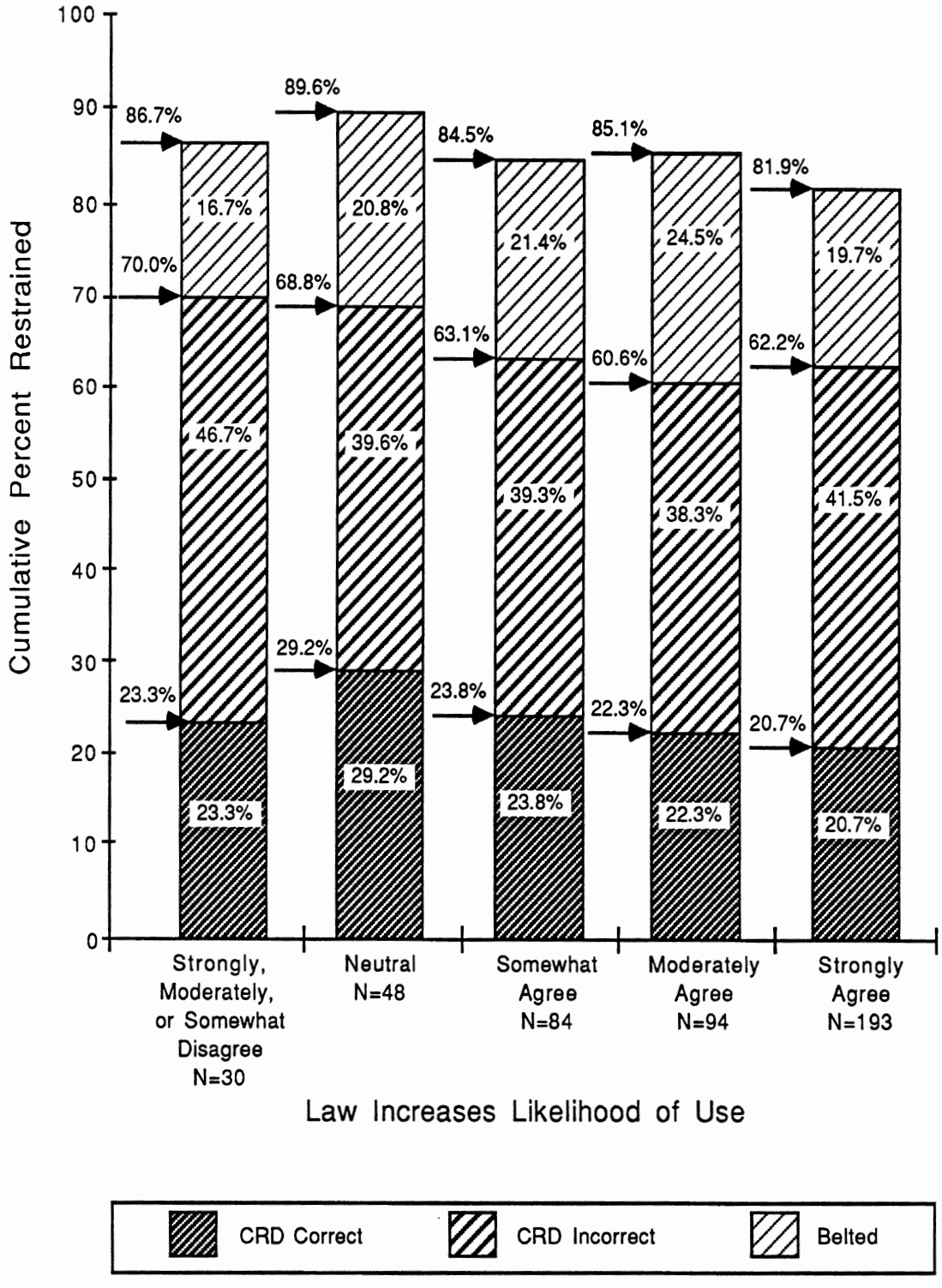

Figure 4.39: Child Restraint Use by Belief That Child Restraint Law Increases Likelihood of Child Restraint Use

general, and the likelihood of child restraint use. Figure 4.40 indicates that 90% of the respondents believed to some degree that child restraint use should be compulsory. People who felt **neutral** about the requirement that children be restrained (17 respondents) were least likely to use restraints. Although 88.2% of those who agreed strongly with the law had the child restrained, 75% of those who disagreed with the law also had their children restrained. The same pattern appears when examining correct use. The pattern changes, however, when the issue of strict enforcement is raised. As shown in Figure 4.41, those who were against enforcement were least likely to restrain their children. Note that 91% of the respondents supported strict enforcement of the child restraint law. Furthermore, 72% of respondents supported compulsory use of seat belts for adults. Figure 4.42 shows that belief that there should be an adult law was only modestly associated with child restraint use. Figures 4.43 through 4.45 depict attitudes that may be the basis for opinions on restraint laws. Figure 4.43 shows that attitudes concerning whether a seat belt law infringes on individual rights was not strongly associated with use. Although 90.9% of those who felt strongly that such a law would **not** infringe on individual rights had their children in restraints, high proportions of the others had restrained their children as well. The relationship between **correct** use and belief about infringement was stronger. It appears that the more drivers believed that a seat belt law infringes on rights, the **less** attentive they were likely to be in installing their CRD (or positioning their child in the CRD), even though overall a high proportion of their children were restrained in one way or another. This relationship was seen again in response to beliefs about federal government (Figure 4.44) and state government (Figure 4.45) involvement in individual and private activities. Regardless of belief about federal or state concern with individual behavior, drivers restrained their children at approximately the same rates. Correct use, however, was associated with support for government involvement in individual behavior.

4.1.3 Behavioral Factors

4.1.3.1 Seat Belt Use. Eight variables explored the relationship between child restraint use and other restraint behaviors of vehicle occupants. Consistent with numerous studies, **observed** driver restraint use was strongly associated with child restraint use (Figure 4.46). A total of 89.5% of children riding with restrained drivers were restrained. However, even when the driver was not belted, 51.5% of children were in a CRD or seat belt. Correct use of CRDs was almost three times as high among belted drivers as unbelted drivers (27.8% versus 9.6%). Overall child restraint use and CRD use also increased as respondent **self-reported** seat belt use increased (Figure 4.47), although the magnitude of increase was less than that for observed seat belt use. Interestingly, of those respondents who reported **always** wearing their seat belts, 12% were observed to be unrestrained. This finding is consistent with other studies which suggest that motorists' self-reports substantially overestimate actual adult and child restraint use (Waller and others, 1969; Stulginskas and others, 1985). Respondents who reported using seat belts rarely, sometimes, or most times were asked if trip length resulted in greater likelihood of adult seat belt use. Although adult seat belt use was reported to be somewhat more likely on long trips than short trips, a substantial portion of respondents reported no difference (Figure 4.48).

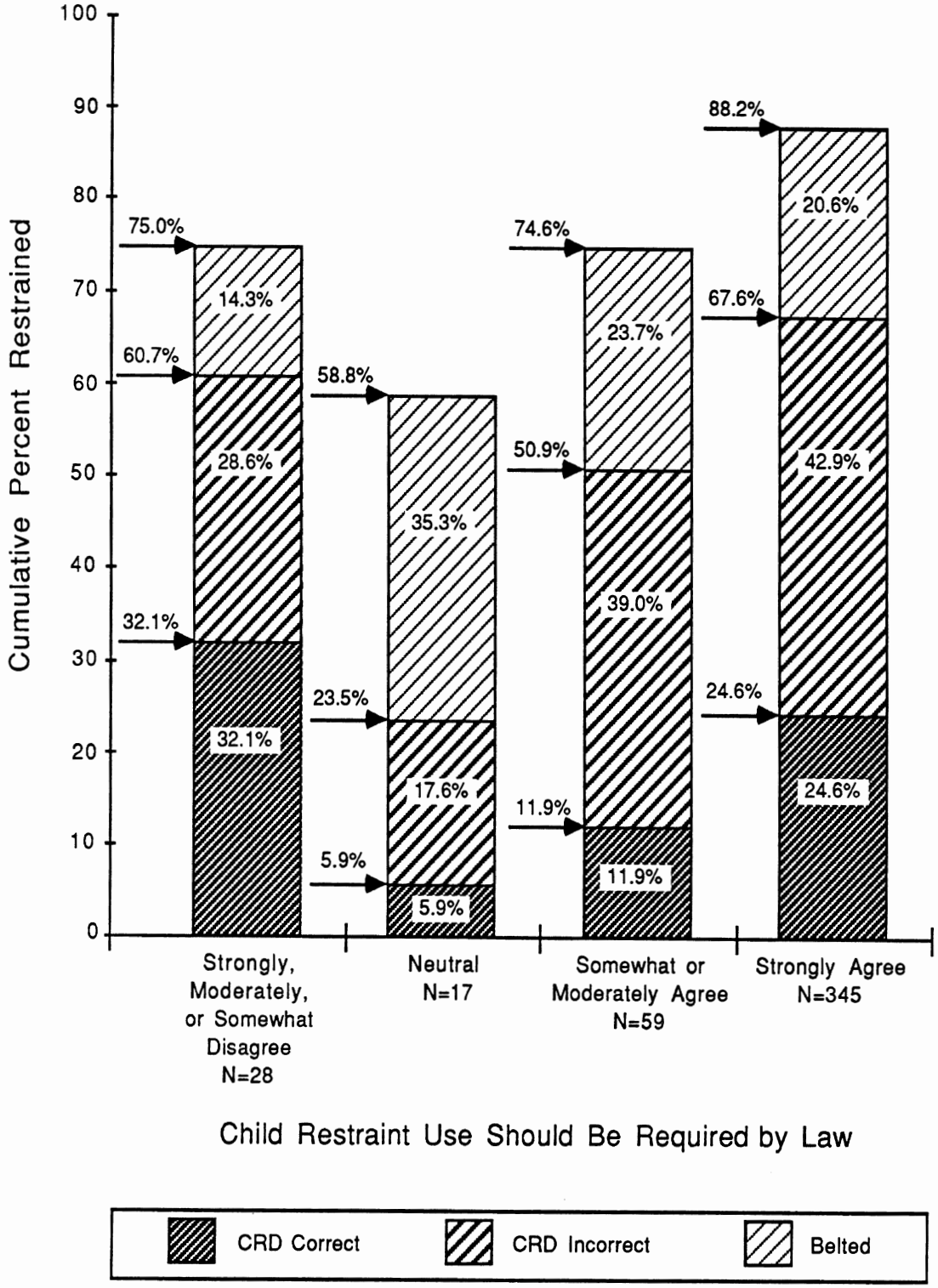

Figure 4.40: Child Restraint Use by Belief That Child Restraint Use Should Be Required by Law

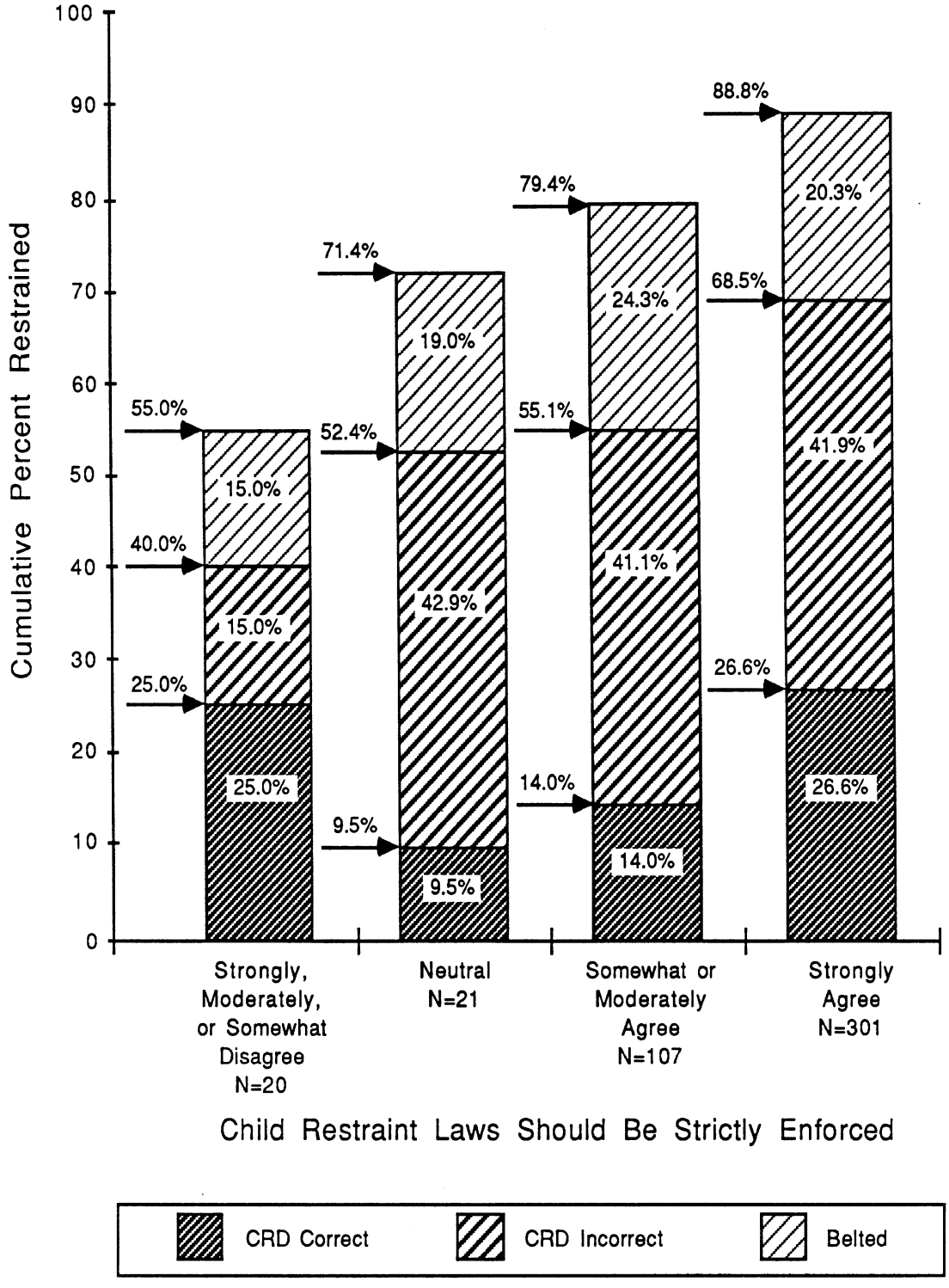

Figure 4.41: Child Restraint Use by Belief That Child Restraint Laws Should Be Strictly Enforced

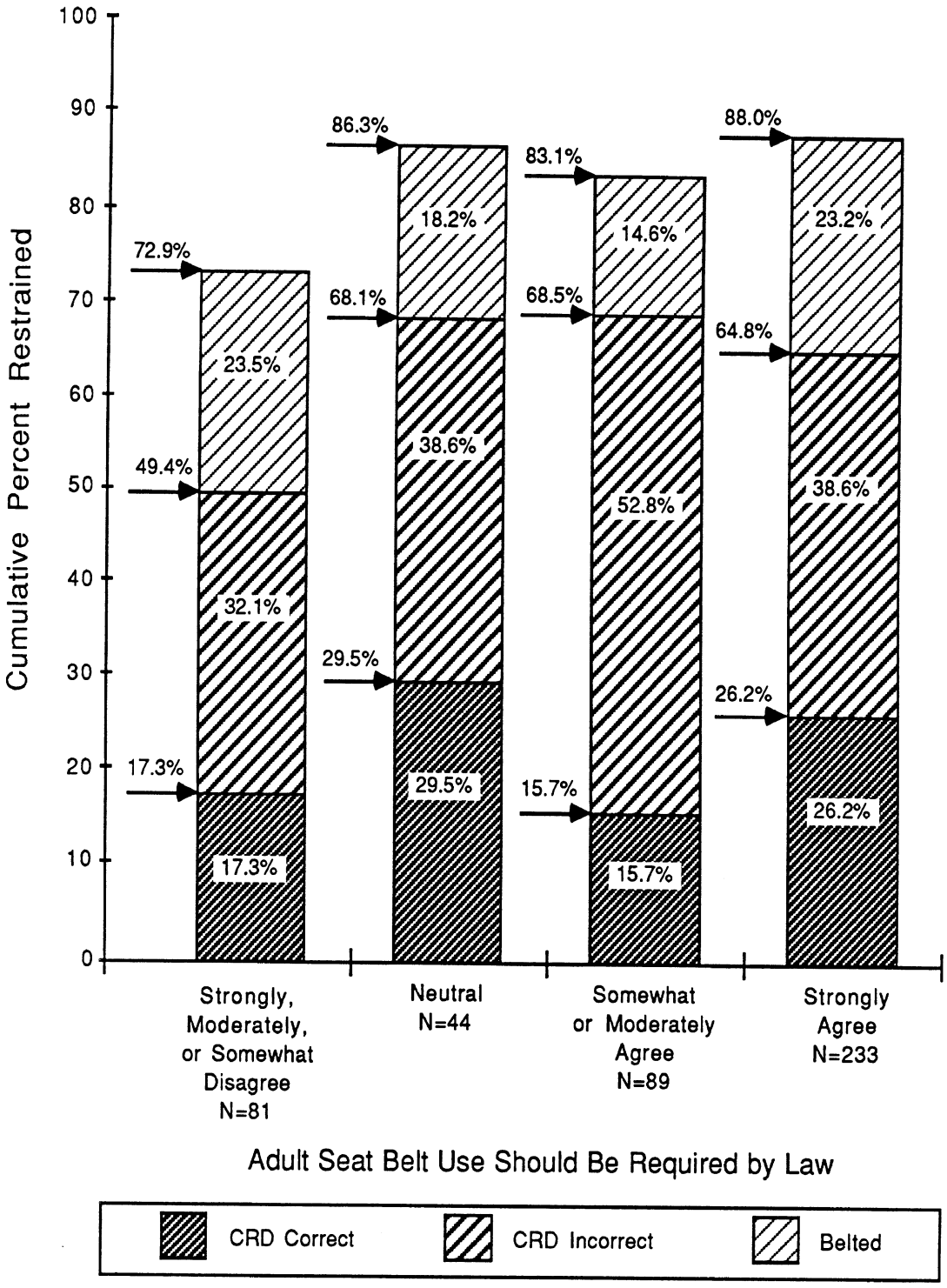

Figure 4.42: Child Restraint Use by Belief That Adult Seat Belt Use Should Be Required by Law

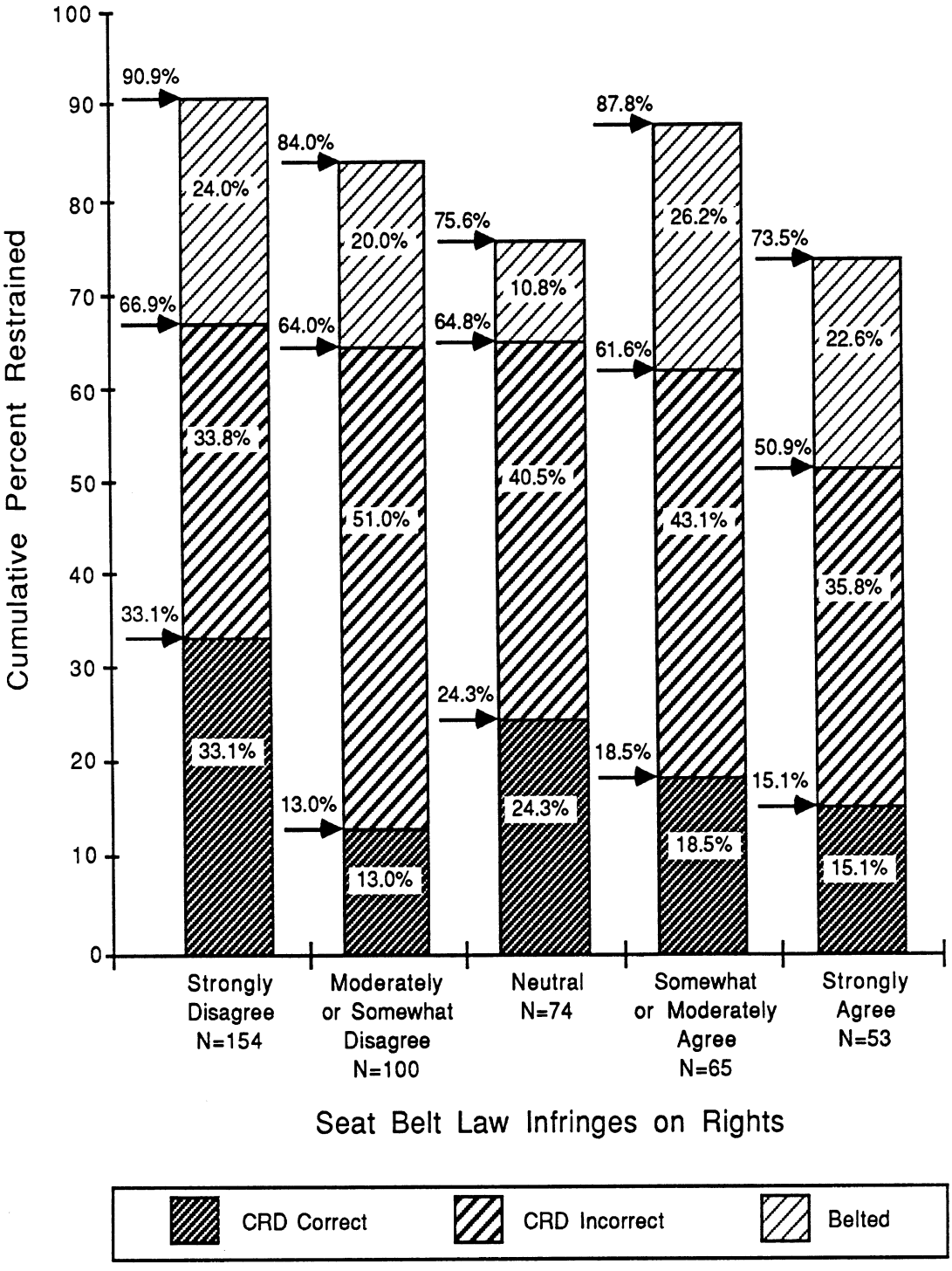

Figure 4.43: Child Restraint Use by Belief That Seat Belt Law Infringes on Individual Rights

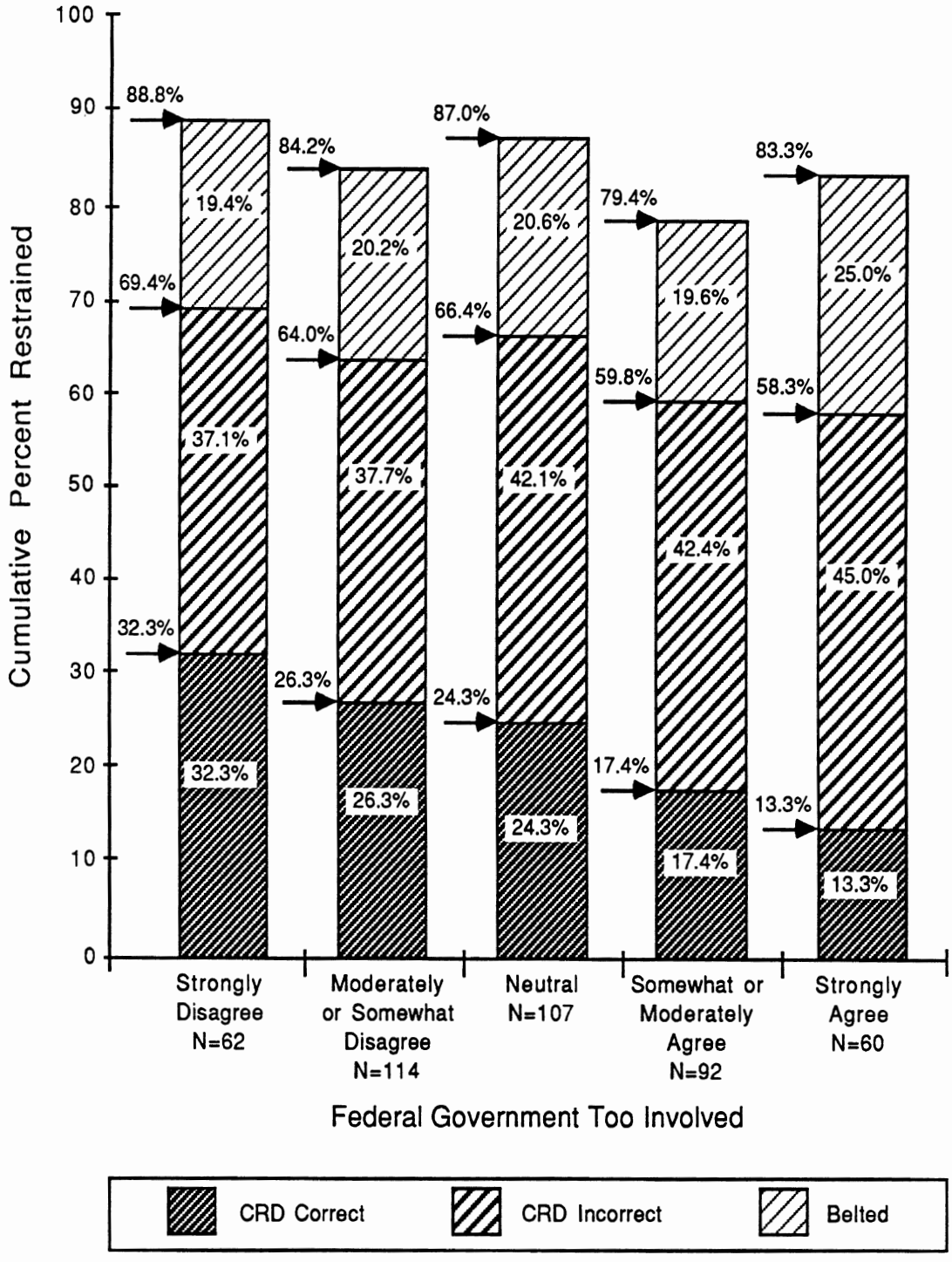

Figure 4.44: Child Restraint Use by Belief That Federal Government Is too Involved in Individual and Private Business

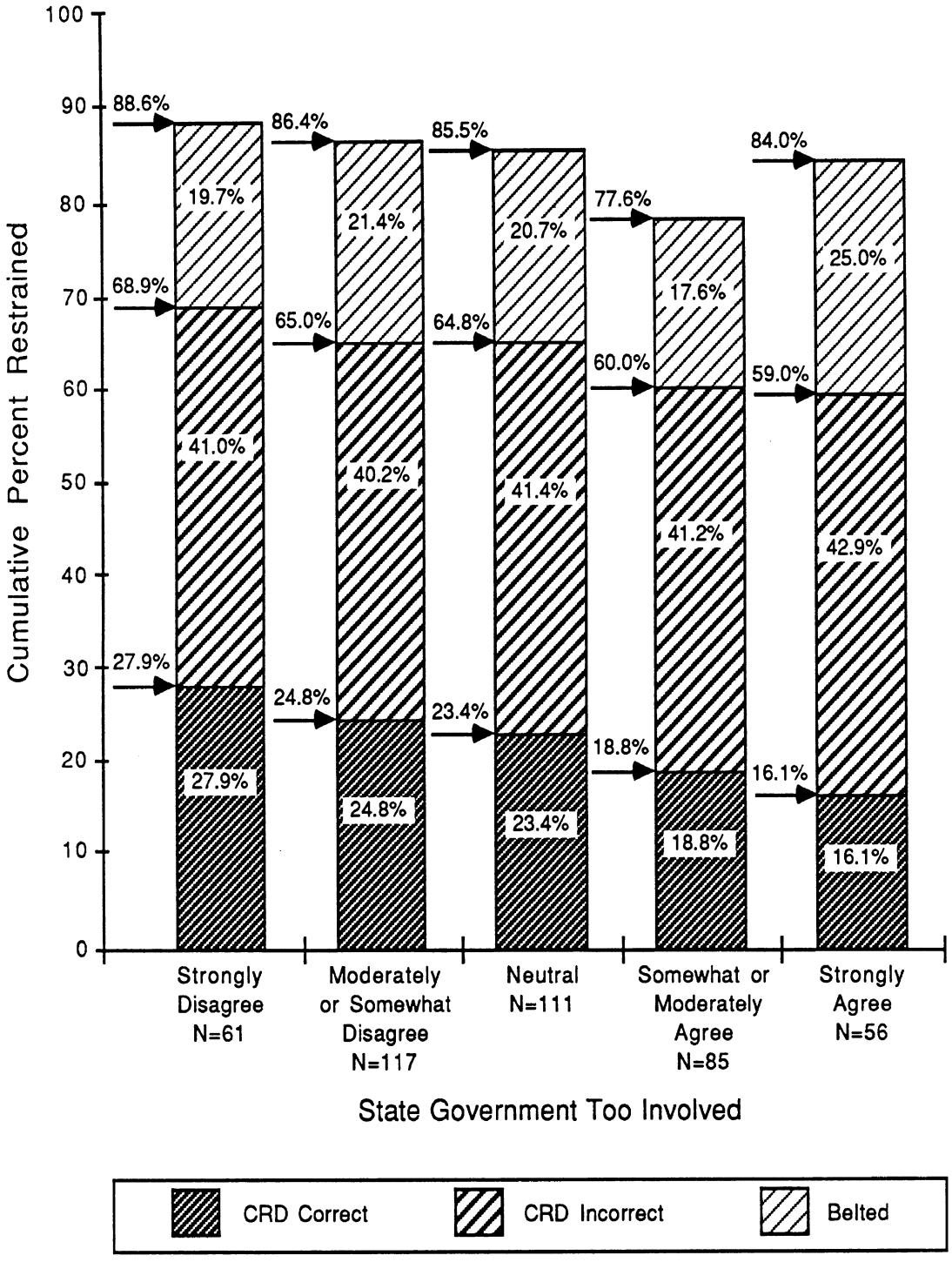

Figure 4.45: Child Restraint Use by Belief That State Government Is too Involved in Individual and Private Business

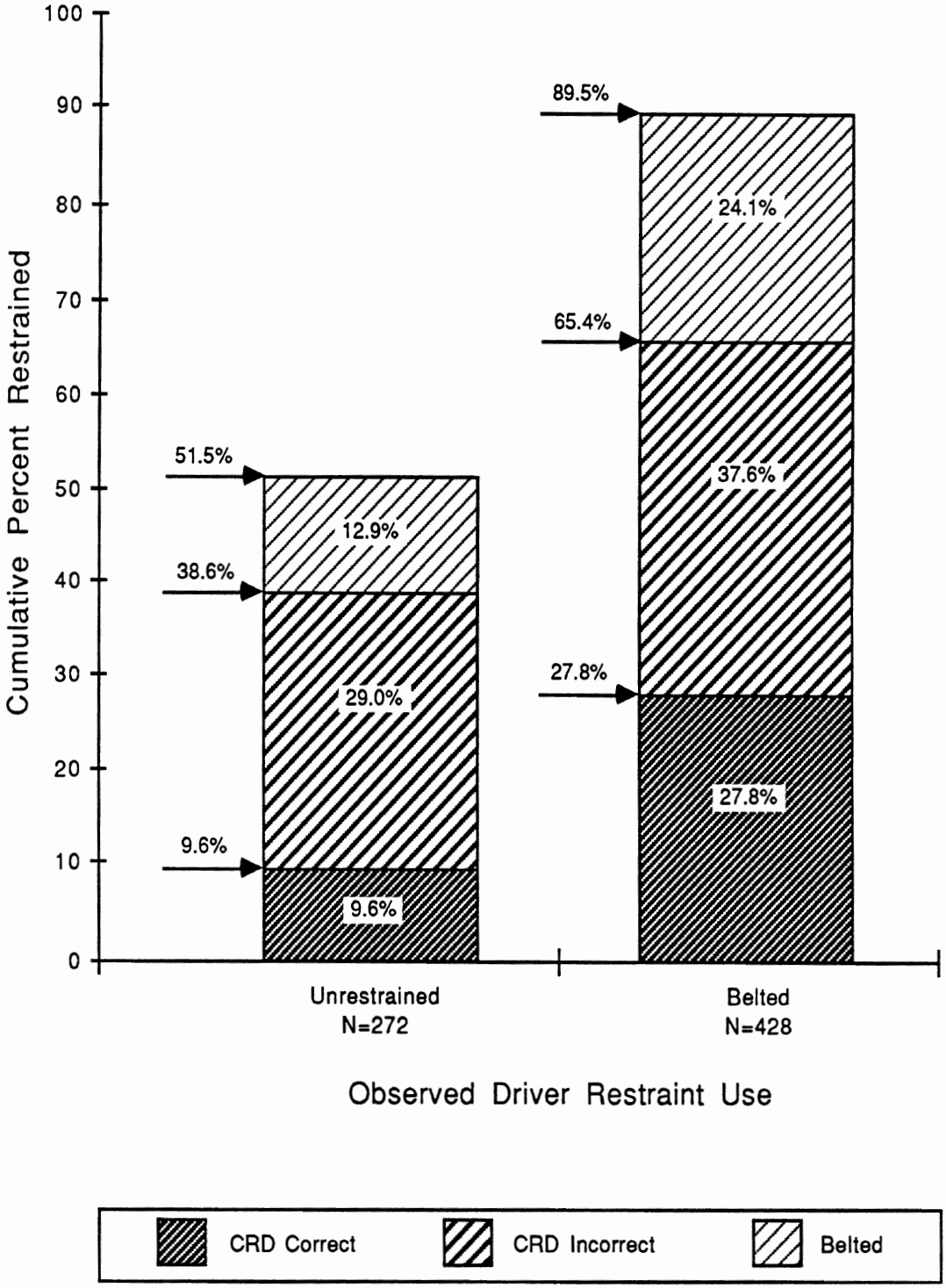

Figure 4.46: Child Restraint Use by Observed Driver Restraint Use

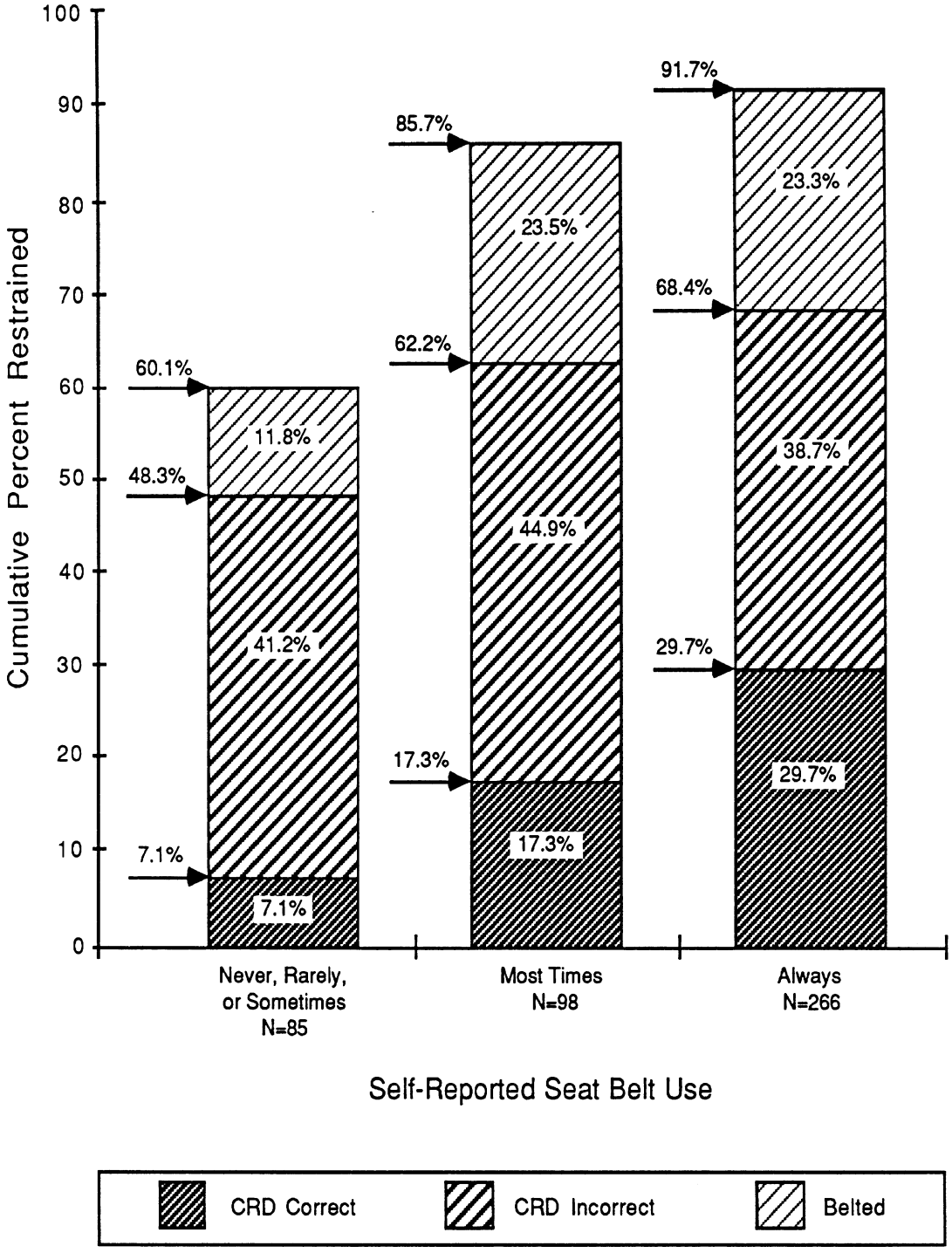

Figure 4.47: Child Restraint Use by Self-Reported Seat Belt Use

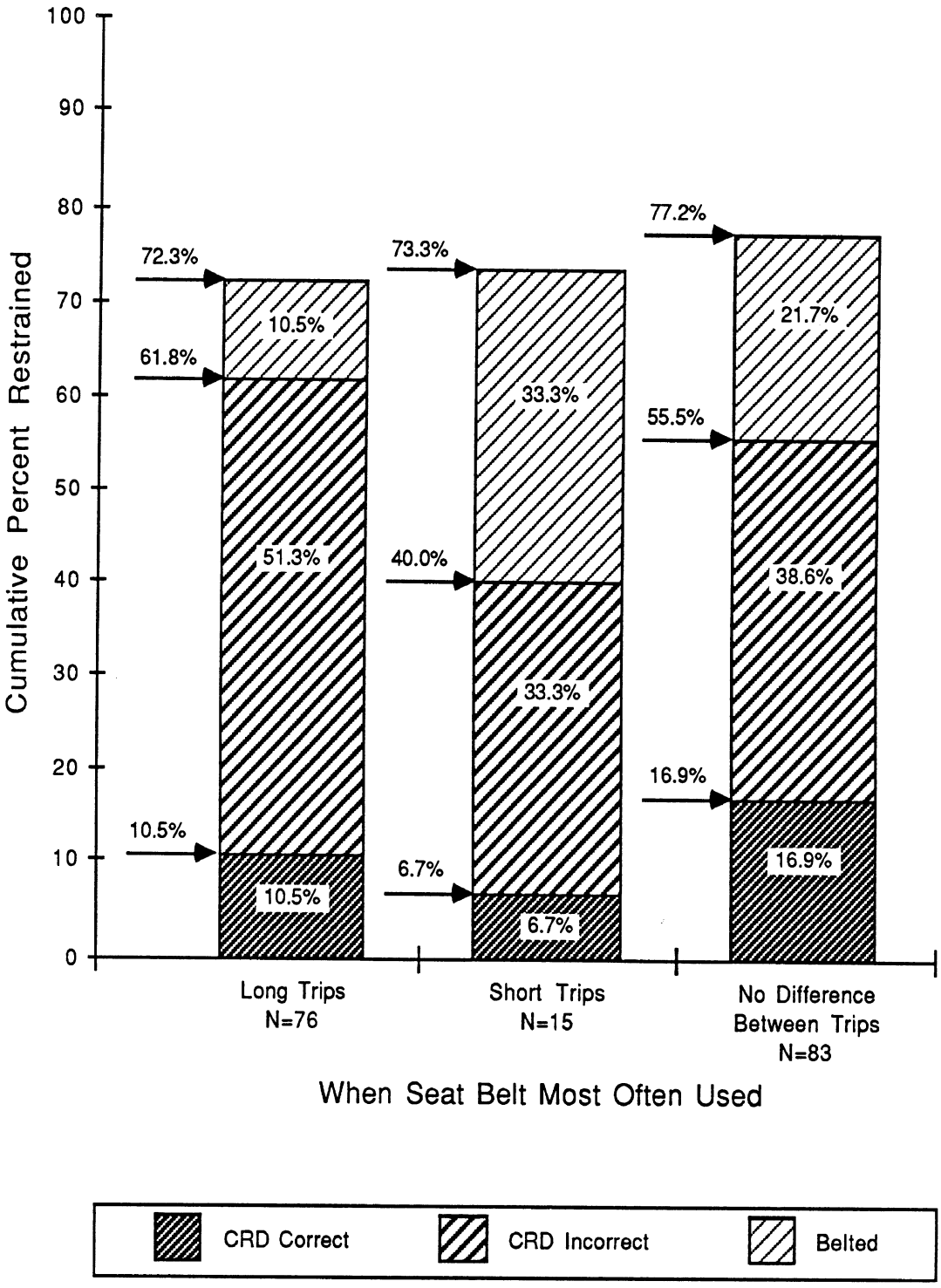

Figure 4.48: Child Restraint Use by When Adult Seat Belt Most Often Used

As shown in Figure 4.49, the majority of respondents reported that their children **always** rode restrained and, as one might expect, actual **observed** restraint use was much higher among this group than among respondents reporting less frequent child restraint use. Specifically, 94.0% of children reported to always ride restrained were actually restrained compared to 61.0% of children reported to most times ride restrained and 4.8% of children reported to never, rarely, or sometimes ride restrained. Of the latter group, although the numbers are small, **none** were correctly restrained. Overreporting of child restraint use (6.0% of children reported to always ride in restraints were unrestrained) was less than the overreporting of adult restraint use. Observed child restraint use varied by whether child restraint use was reported to be more likely on long trips or short trips although the numbers are small and need to be interpreted with care (Figure 4.50). Restraint use also varied by how likely a respondent's spouse was to use child restraints for their child (88.4% among respondents reporting their spouse to be just as likely, 79.3% among respondents reporting their spouse to be more likely, and 70.3% among respondents reporting their spouse to be less likely to use child restraints (Figure 4.51).

As shown in Figure 4.52, respondents who reported they always restrained children **other than** their own were substantially more likely to restrain their own children than respondents who did not restrain other children. Finally, children seated in the rear right and rear left of the vehicle were most likely to be restrained, more likely to be in CRDs, and more likely to be **correctly** restrained (Figure 4.53).

4.1.3.2 Other Health Behaviors. Two questions addressed health behaviors other than belt use. The first, cigarette smoking behavior, was associated with child restraint use and CRD use. For example, of respondents who had never smoked, 66.8% restrained their children in a CRD compared to 62.1% of those who smoked in the past and 57.2% who currently smoked. **Correct** use exhibited a similar pattern (Figure 4.54). Among those who smoked, child restraint use increased slightly as the number of cigarettes smoked increased. Finally, examination of a variable measuring respondents' recent dental visits revealed that respondents who had visited the dentist within the last six months had a higher rate of child restraint use than other respondents; however, there was no consistent pattern of CRD use (Figure 4.56).

4.1.3.3 Exposure. As shown in Figure 4.57, the likelihood of restraining a child (either with a seat belt or CRD), the likelihood of using a CRD, and the likelihood of using a CRD correctly increased as the number of days driving with children increased. For example, respondents who reported driving six or seven days within the past week with children had a restraint use rate of 84.0% compared to 49.4% for respondents who reported driving one or no days in the past week with children. It is likely that a greater proportion of respondents reporting one or fewer days driving with children were nonparents. Because nonparents are less likely to restrain children than parents, this may explain the lower use rates among drivers reporting one or fewer days driving with children.

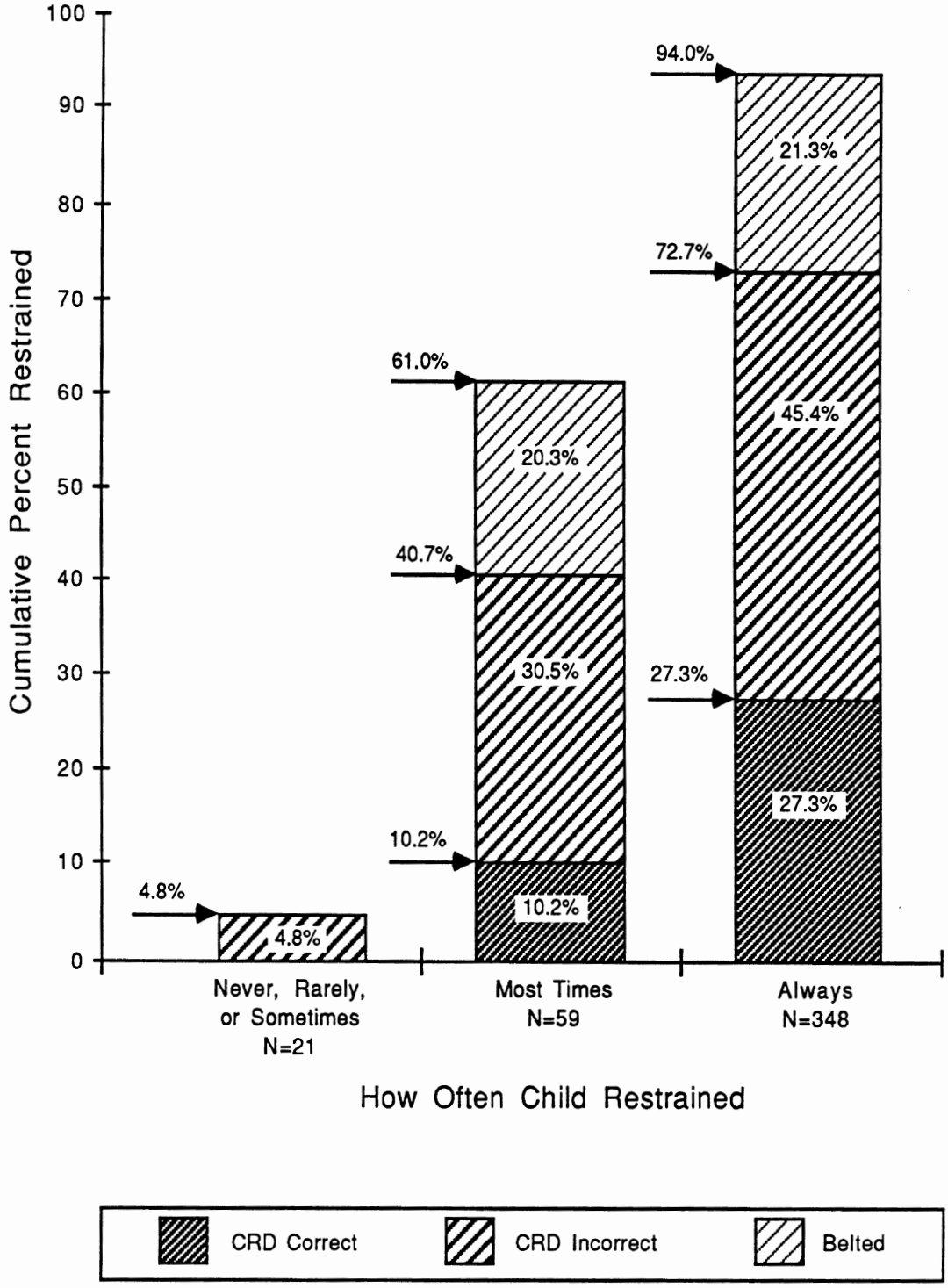

Figure 4.49: Child Restraint Use by Reported Frequency of Child Restraint Use

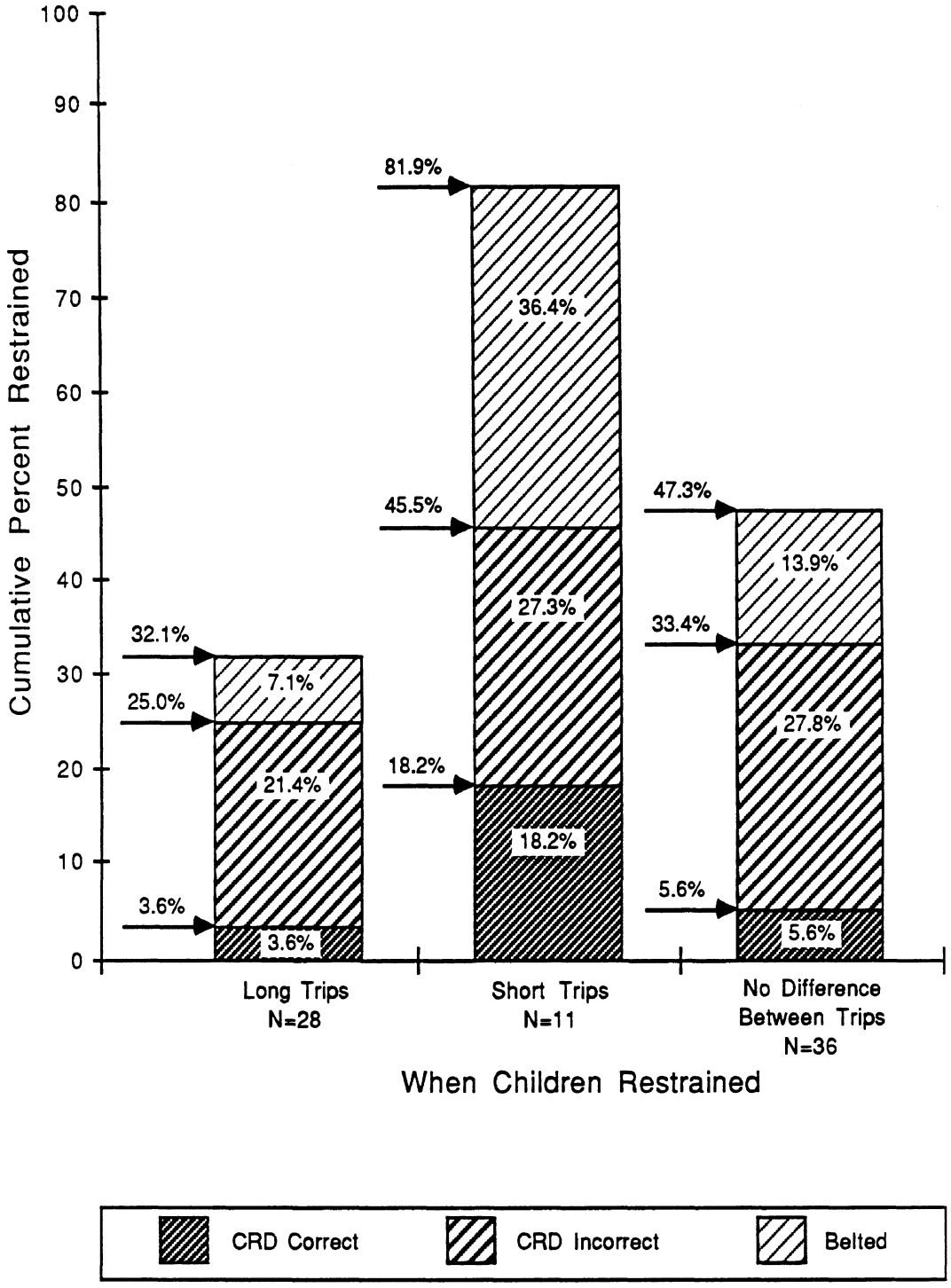

Figure 4.50: Child Restraint Use by When Child is Most Likely Restrained

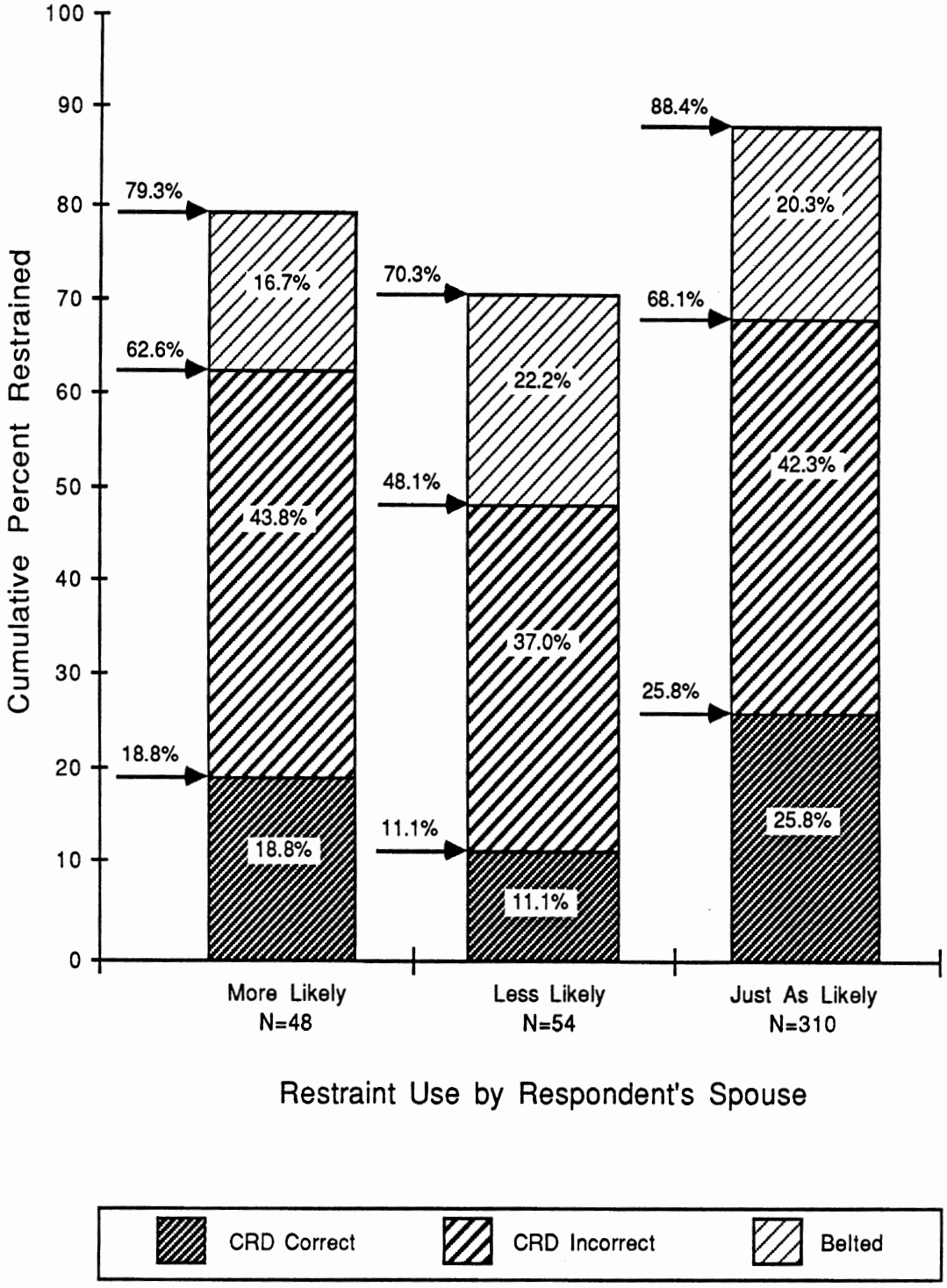

Figure 4.51: Child Restraint Use by Likelihood of Respondent's Spouse to Use Child Restraint

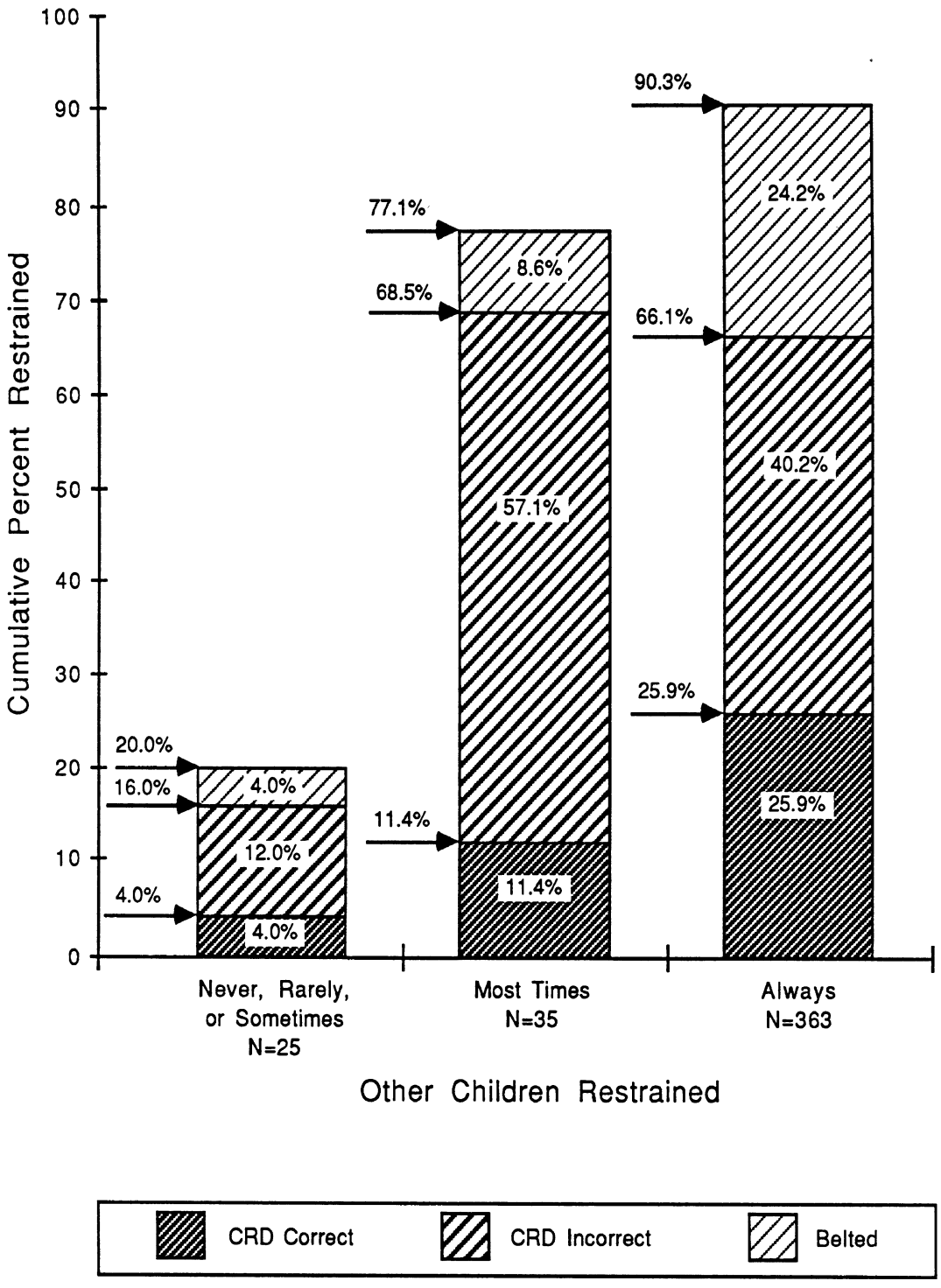

Figure 4.52: Child Restraint Use by Frequency of Restraint Use among Children Not Related to Parents

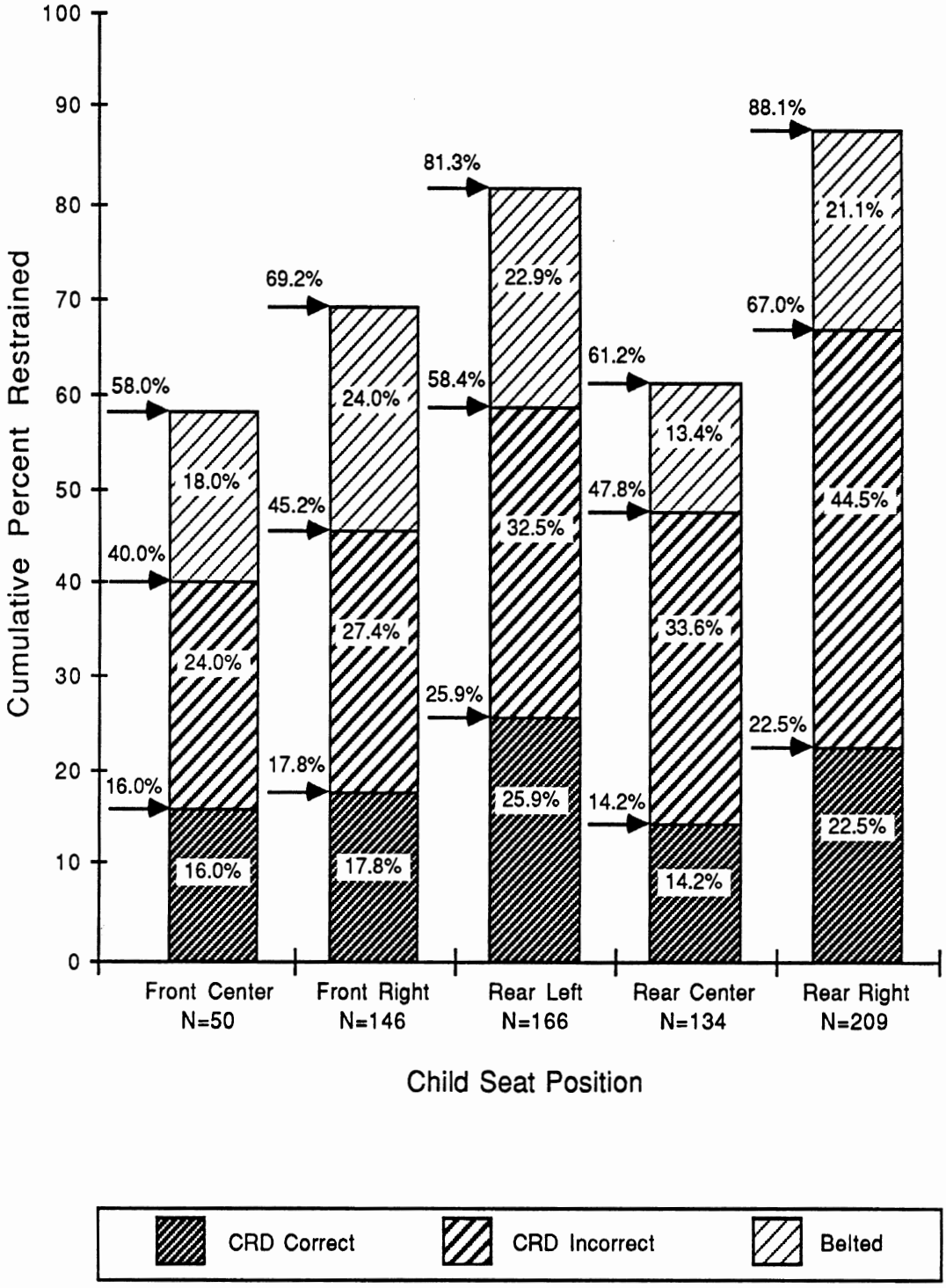

Figure 4.53: Child Restraint Use by Child Seat Position

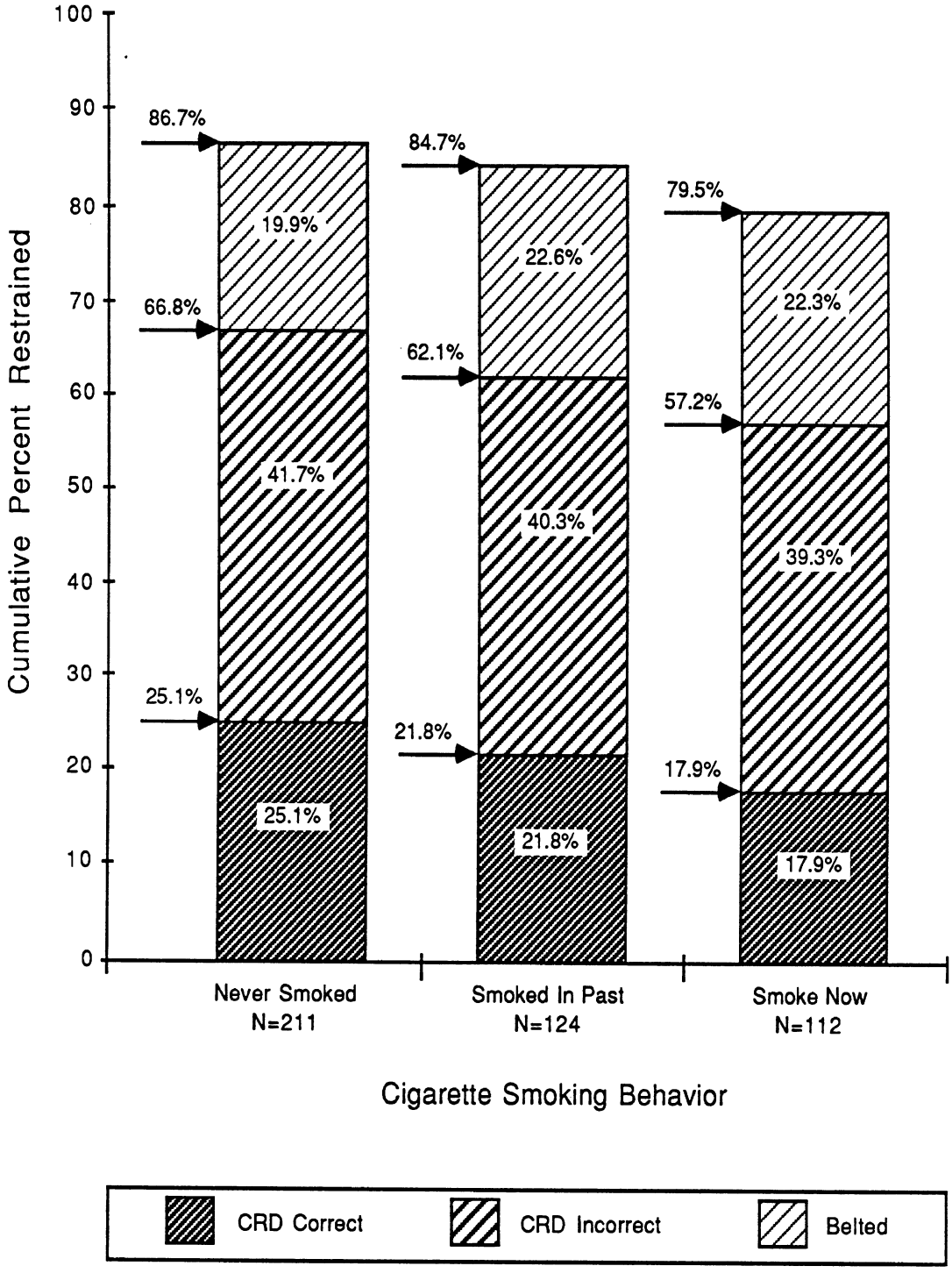

Figure 4.54: Child Restraint Use by Cigarette Smoking Behavior

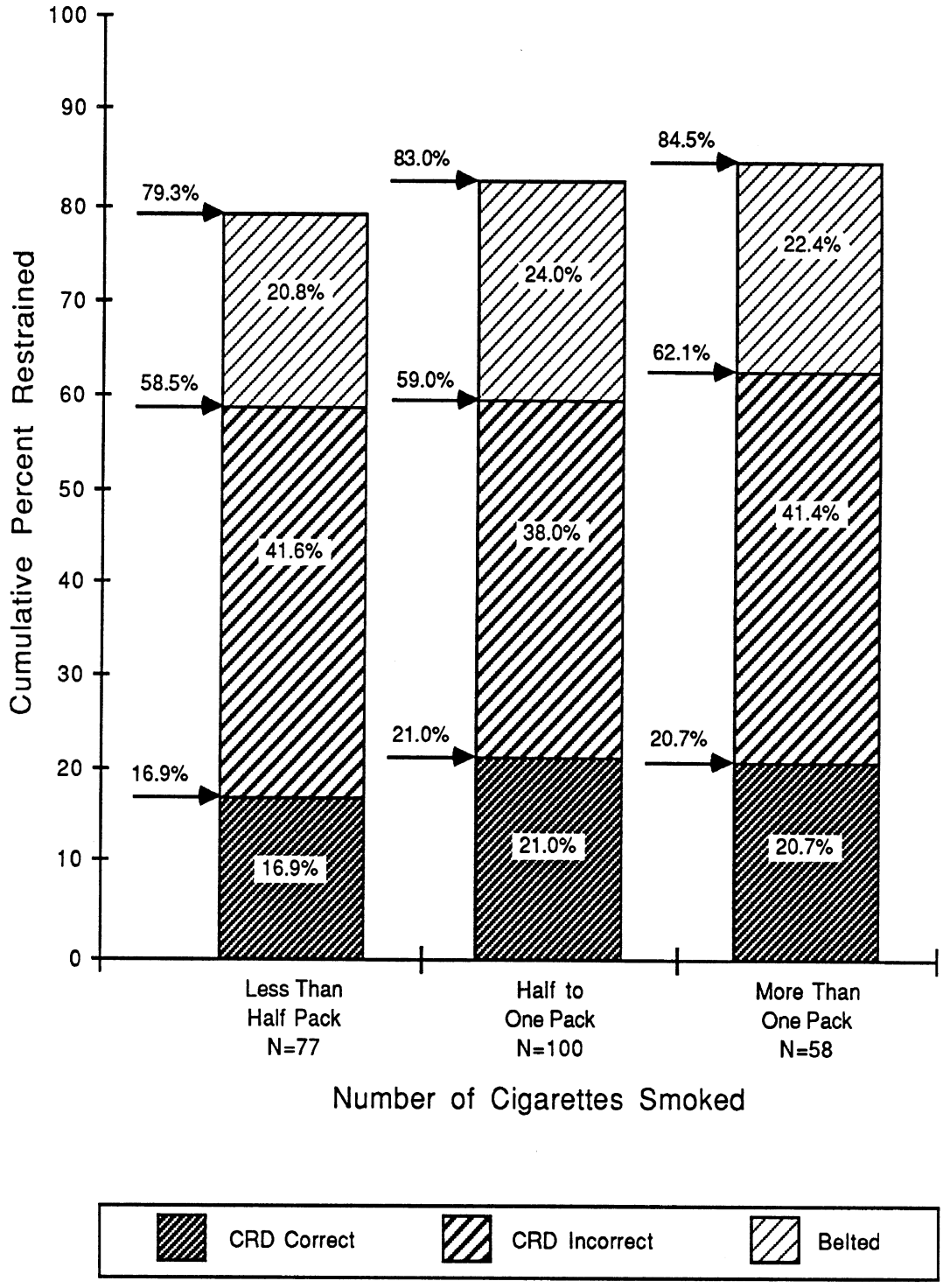

Figure 4.55: Child Restraint Use by Number of Cigarettes Smoked

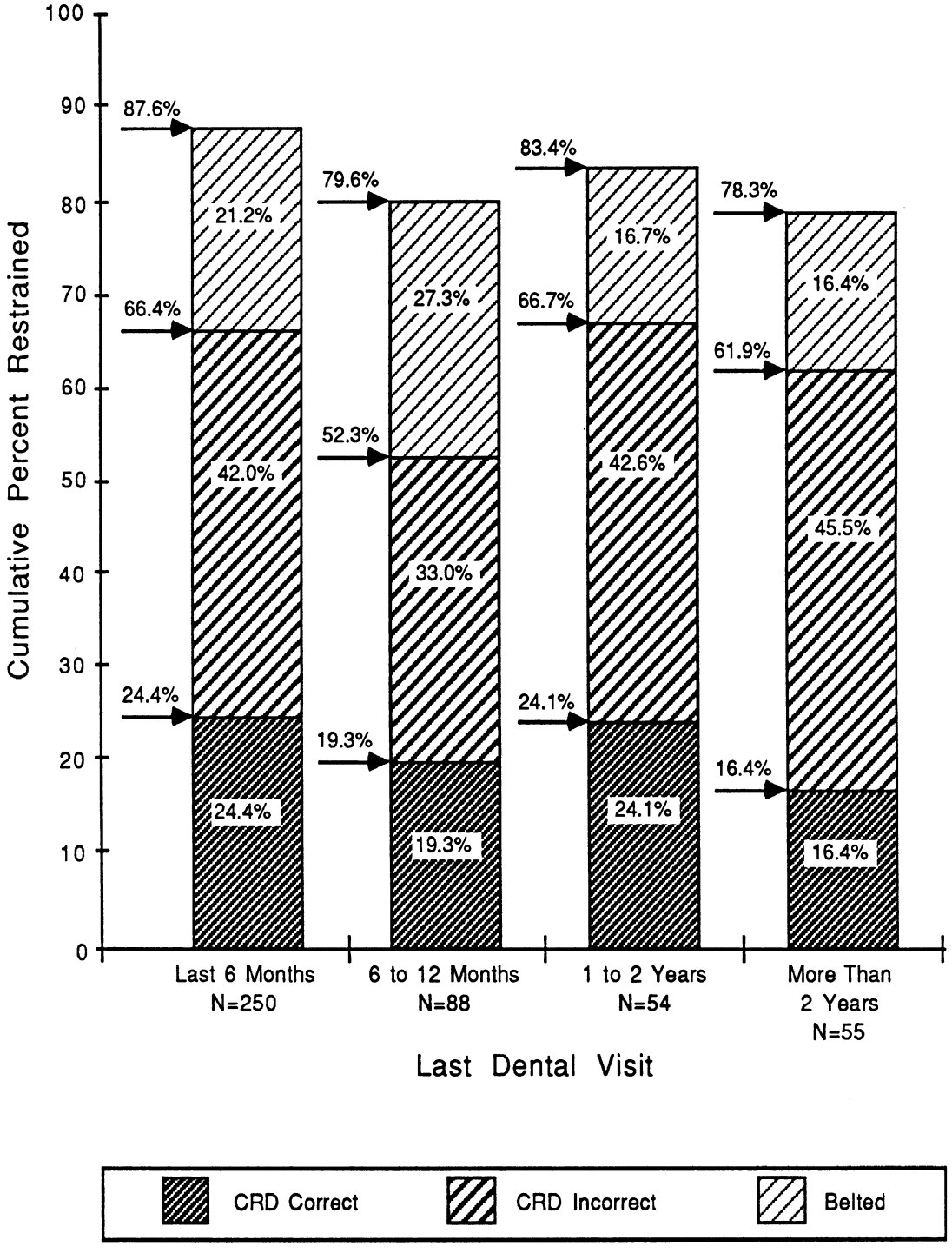

Figure 4.56: Child Restraint Use by Last Dental Visit

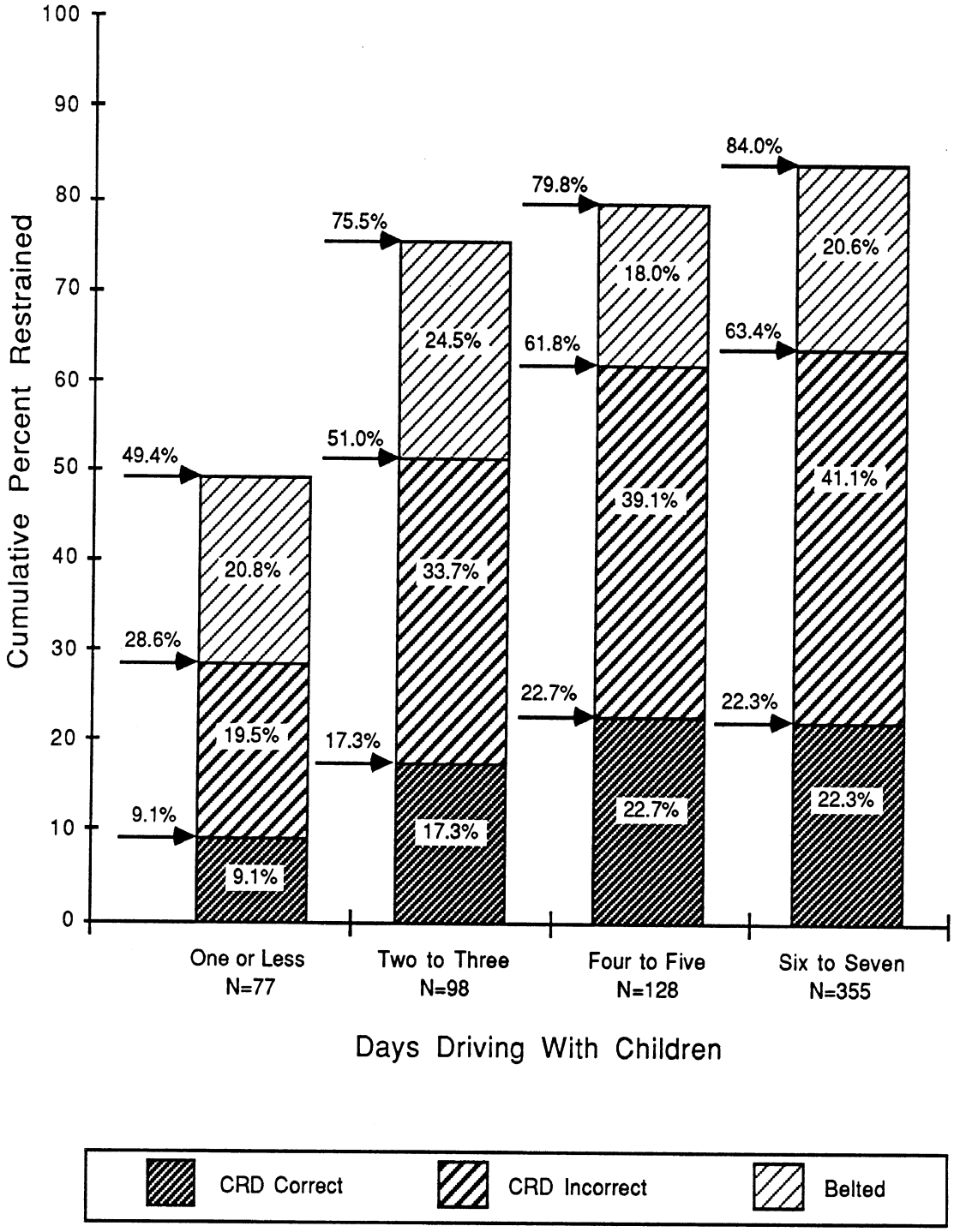

Figure 4.57: Child Restraint Use by Days Driving with Children

4.1.4 Environmental Factors

A number of environmental variables were examined. The month in which child restraint behavior was observed did not appear to be associated with restraint use or correct use (Figure 4.58). Rates of restraint use and correct use varied somewhat by day of the week, with Monday and Wednesday exhibiting the highest rates (Figure 4.59). The higher rates observed on Monday may be due, in part, to sampling error since the sample size is relatively small. Child restraint use varied slightly by size of the vehicle (Figure 4.60). Use rates were 79.3% for children riding in small cars, 79.7% for children in medium cars, 68.3% for children in large cars, and 73.7% for children in other types of vehicles. Differences in child restraint use by number of vehicle occupants were substantial with children riding in vehicles with three or less occupants more likely to be restrained than children riding in vehicles with four or more occupants (Figure 4.61). Finally, while children riding in vehicles in which their parents were present but not driving were no more likely to be restrained overall than children riding in vehicles with no parent present, they were significantly more likely to be in a CRD (Figure 4.62). In only 25.3% of vehicles in which no parent was present was the child restrained in a CRD, compared to 46.4% of vehicles in which the parent was present but not driving. By comparison, rates of seat belt use were 35.2% for children in vehicles with no parent present and 14.6% for children riding with nondriving parents. However, presence of a parent in the vehicle had much less of an effect on **correct** use of child restraints (7.0% of children in vehicles with no parent versus 9.8% of children in vehicles with parent).

4.2 Correctness of Restraint Use

A total of 394 occupied CRDs were observed in vehicles in which children under the age of four were riding.[7] Overall, 37.1% of these CRDs were correctly used; the remaining 62.9% were incorrectly used. Rates for specific configurations of **incorrect** use varied, however, and were as follows: automobile seat belt not fastened, 7.6% of occupied CRDs; automobile seat belt routed incorrectly, 23.8%; automobile seat belt not snug, 3.4%; no locking clip when required, 81.8%; harness and/or shield not used, 23.8%; harness position incorrect, 19.1%; harness not snug, 35.7%; required tether strap not used, 15.7%; required tether strap not used properly, 50.0%; infant seat facing forward, 29.7%;[8] and infant in convertible seat facing forward, 85.0%..

The relationship of correctness of use with a number of variables was examined. Figure 4.63 indicates that correctness of use was strongly associated with the **type** of CRD used. Booster seats were more than twice as likely to be **correctly** used as toddler/convertible seats and almost three times as likely to be correctly used as infant only seats (65.6% versus 32.2% and 24.3%, respectively). Furthermore, infant only seats had the highest rate of **extensive** misuse (59.5% compared to 33.2% of toddler/convertible seats and 23.4% of booster seats).

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7. A total of 429 CRDs were observed. Of these, however, only 394 were occupied (91.8%).

8. In one case, the infant seat was facing sideways.

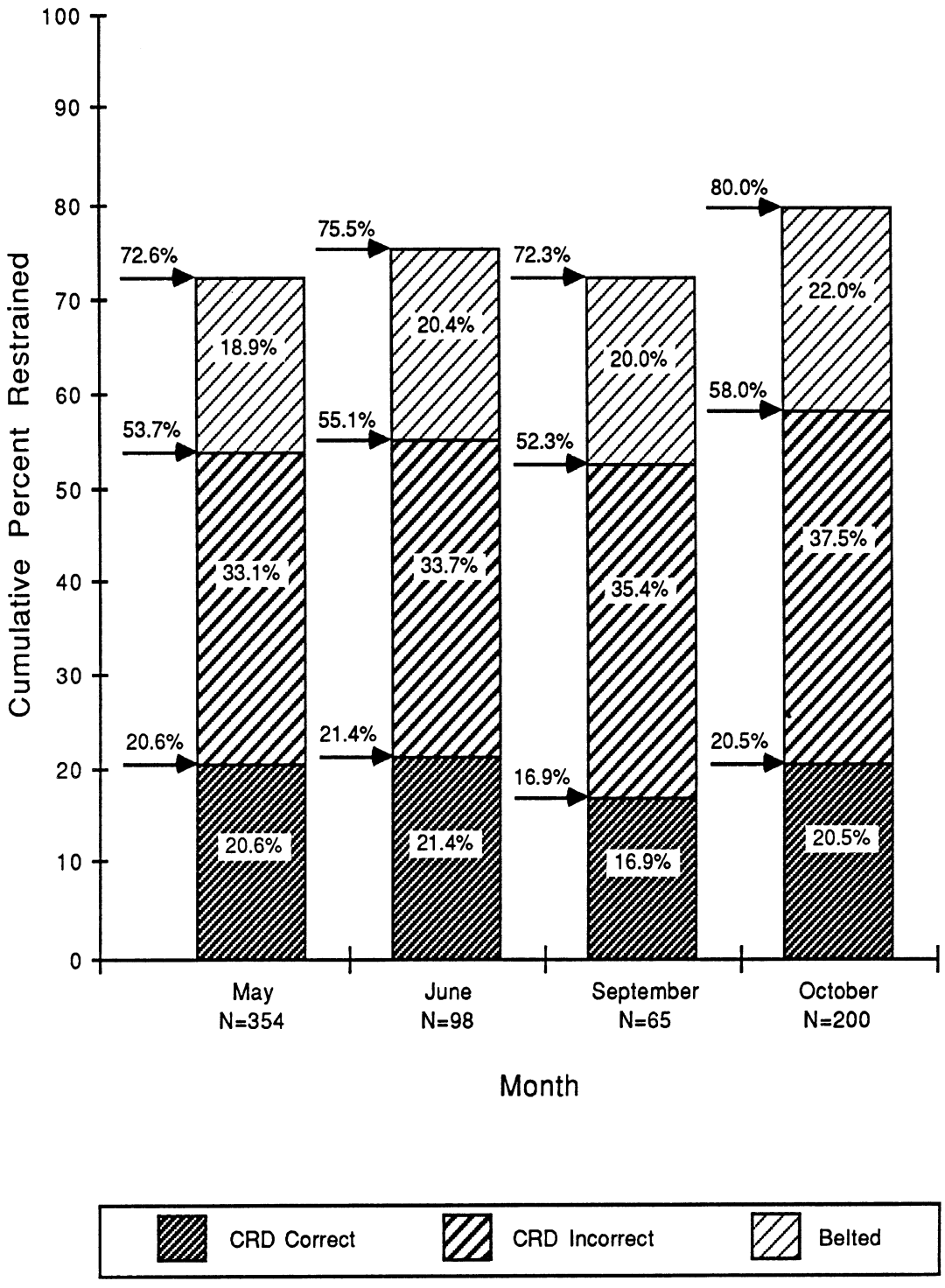

Figure 4.58: Child Restraint Use by Month Observation Made

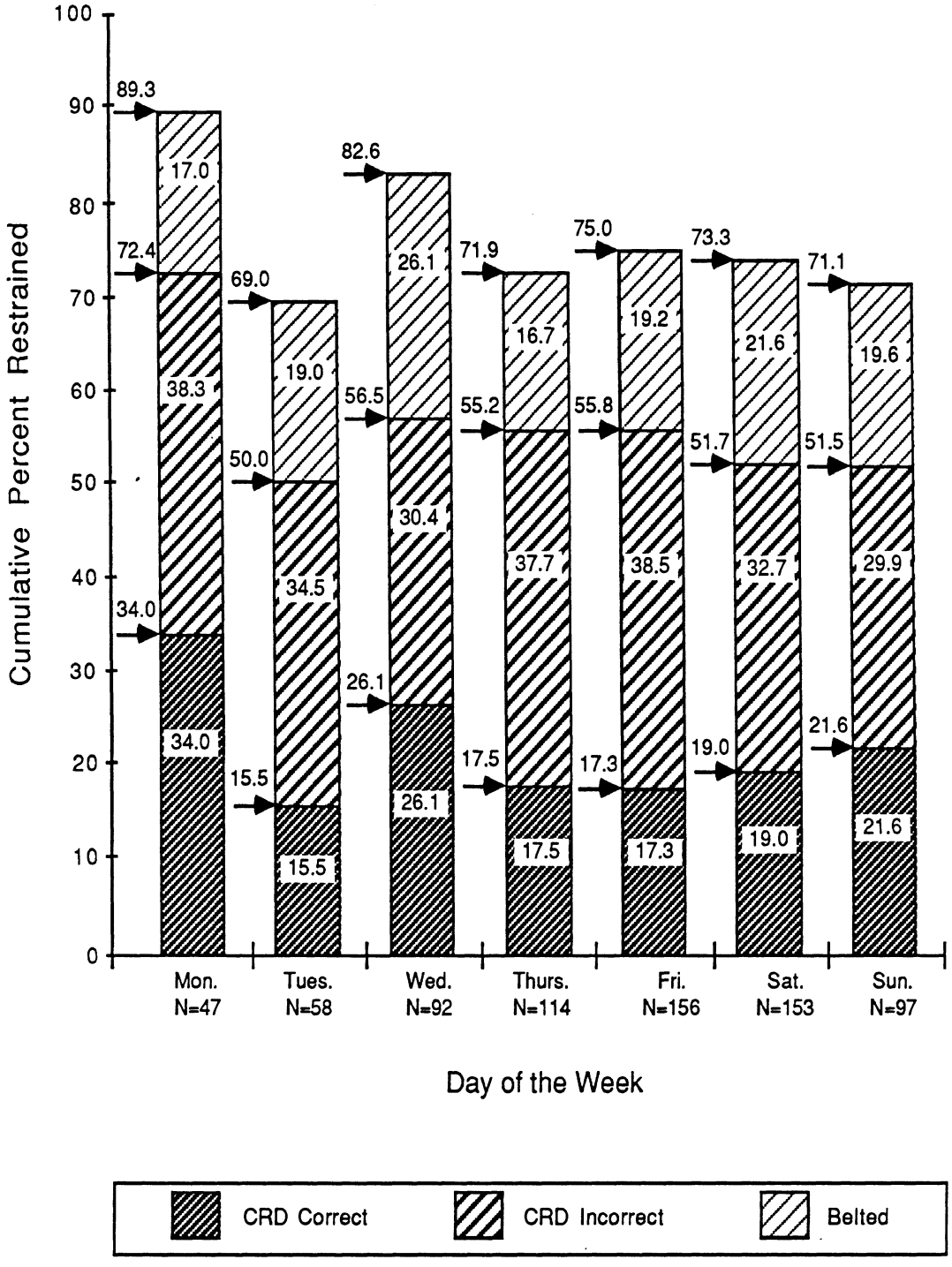

Figure 4.59: Child Restraint Use by Day of the Week

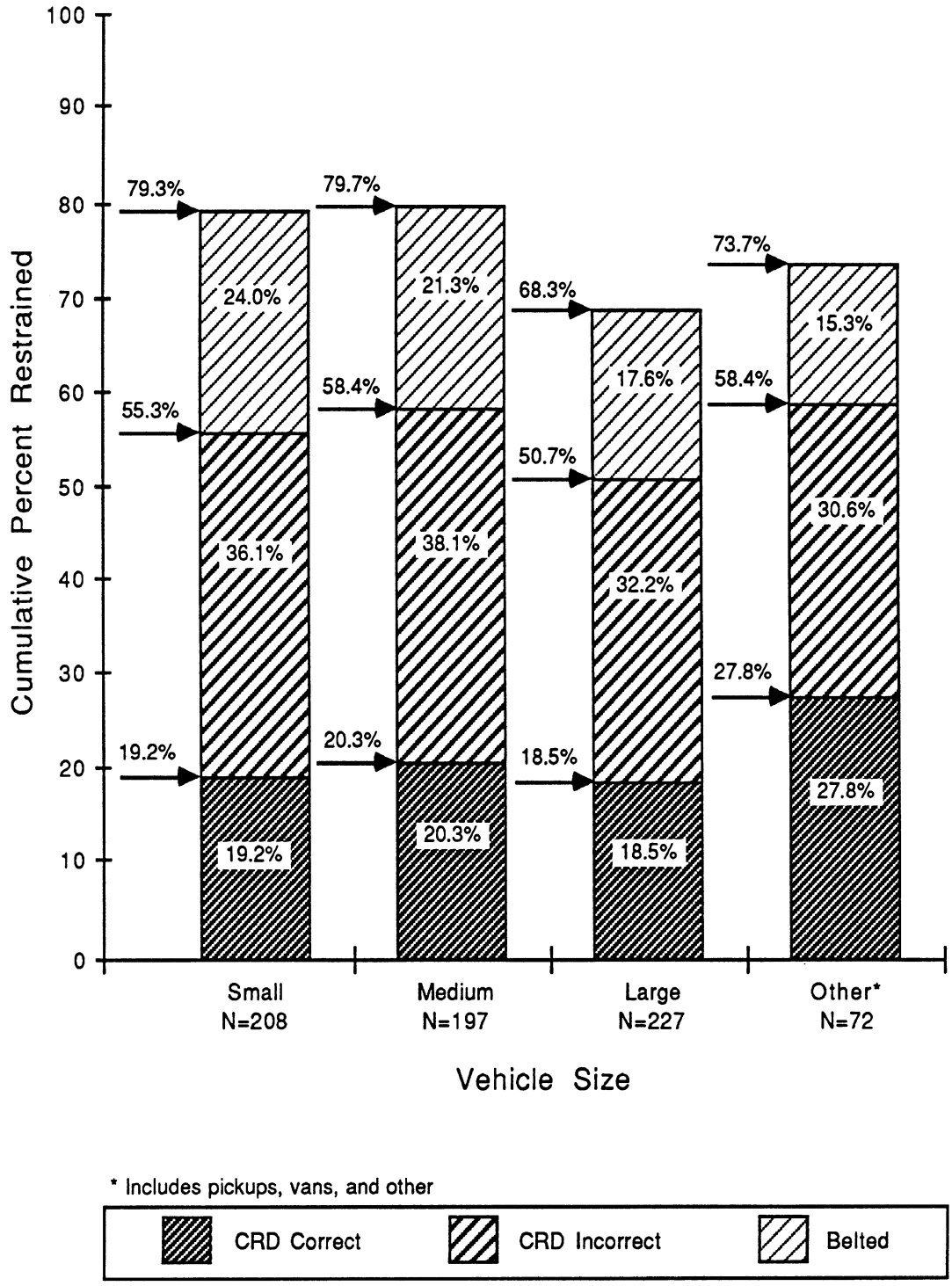

Figure 4.60: Child Restraint Use by Vehicle Size

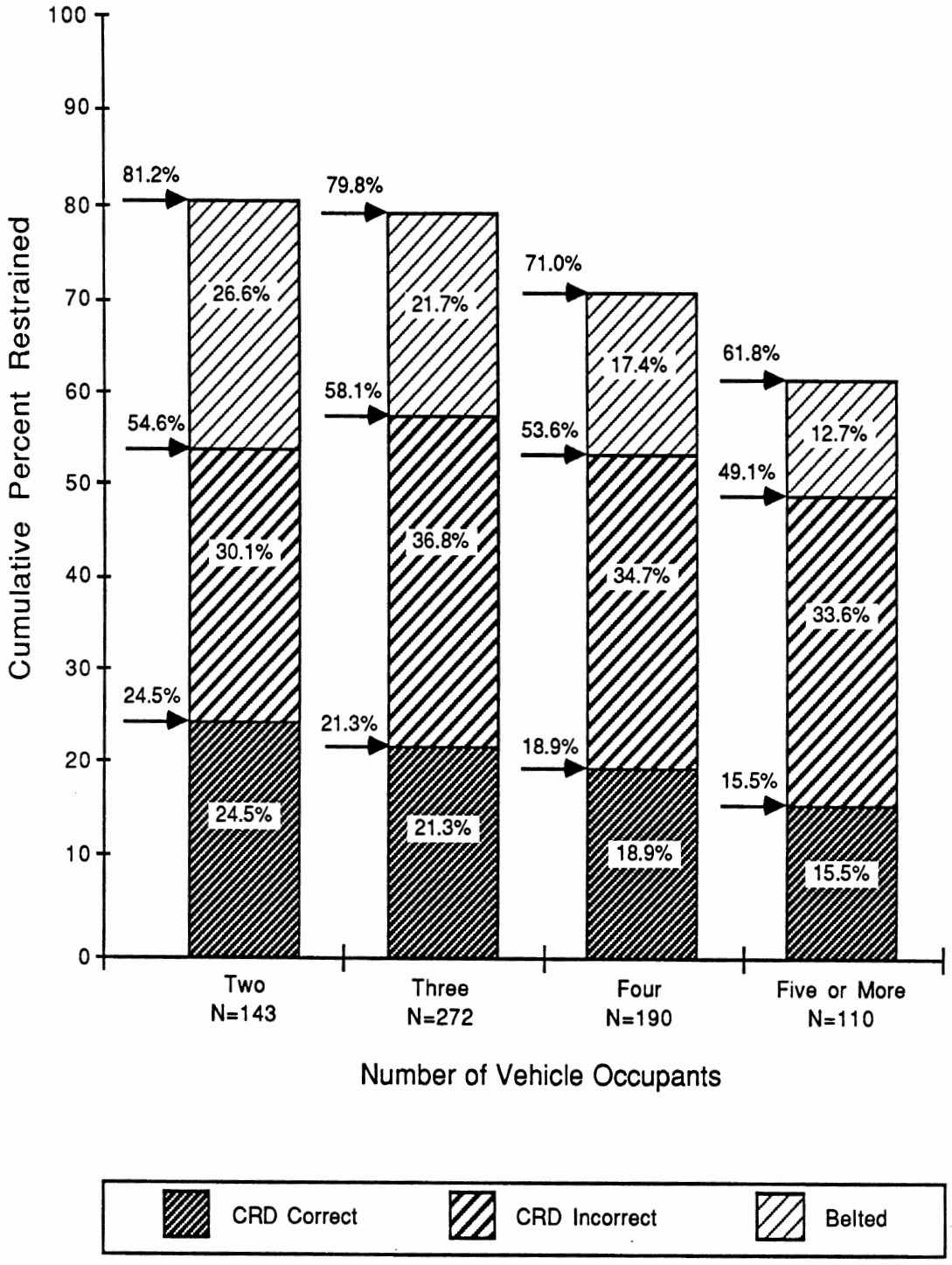

Figure 4.61: Child Restraint Use by Number of Vehicle Occupants

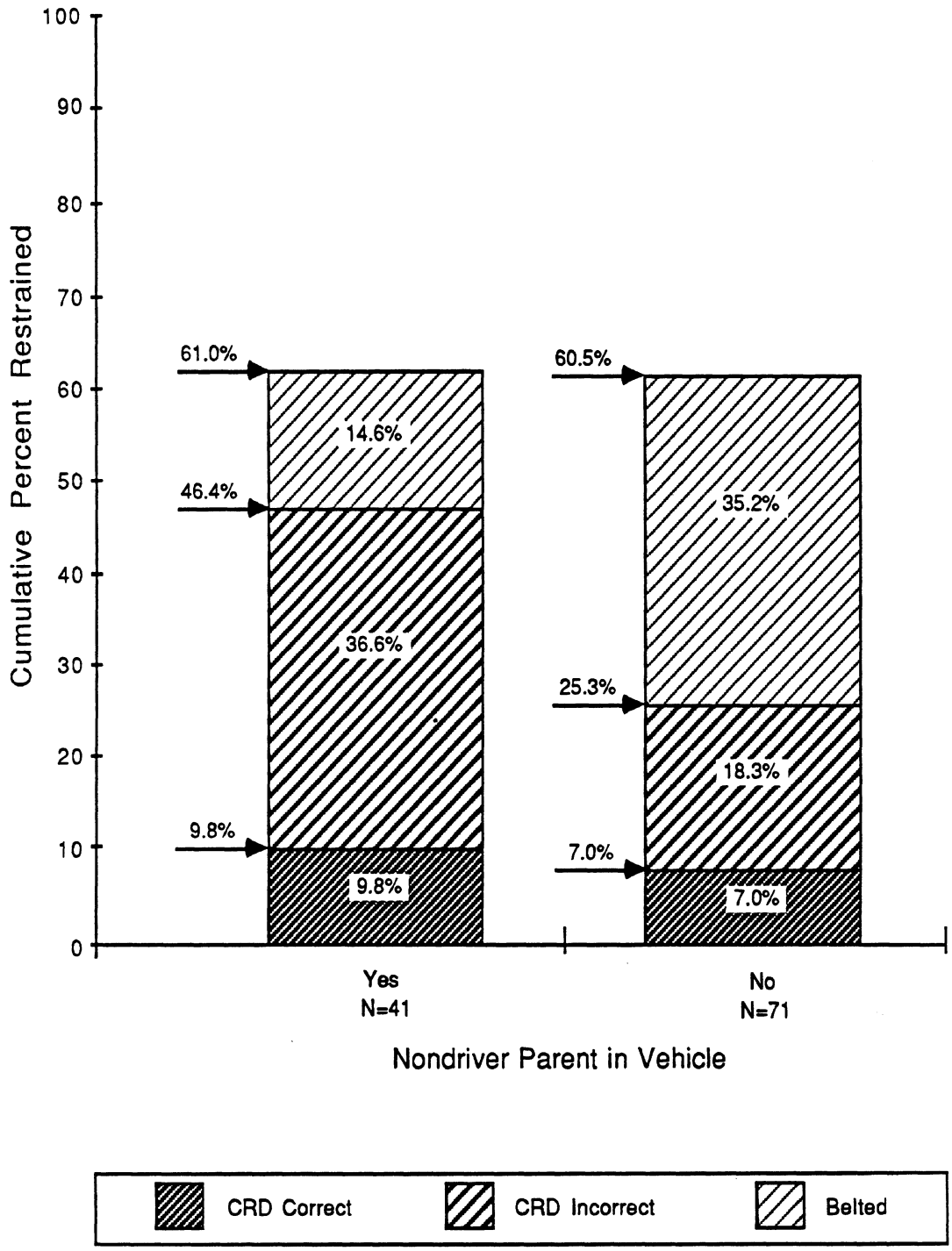

Figure 4.62: Child Restraint Use by Presence of Nondriver Parent in Vehicle

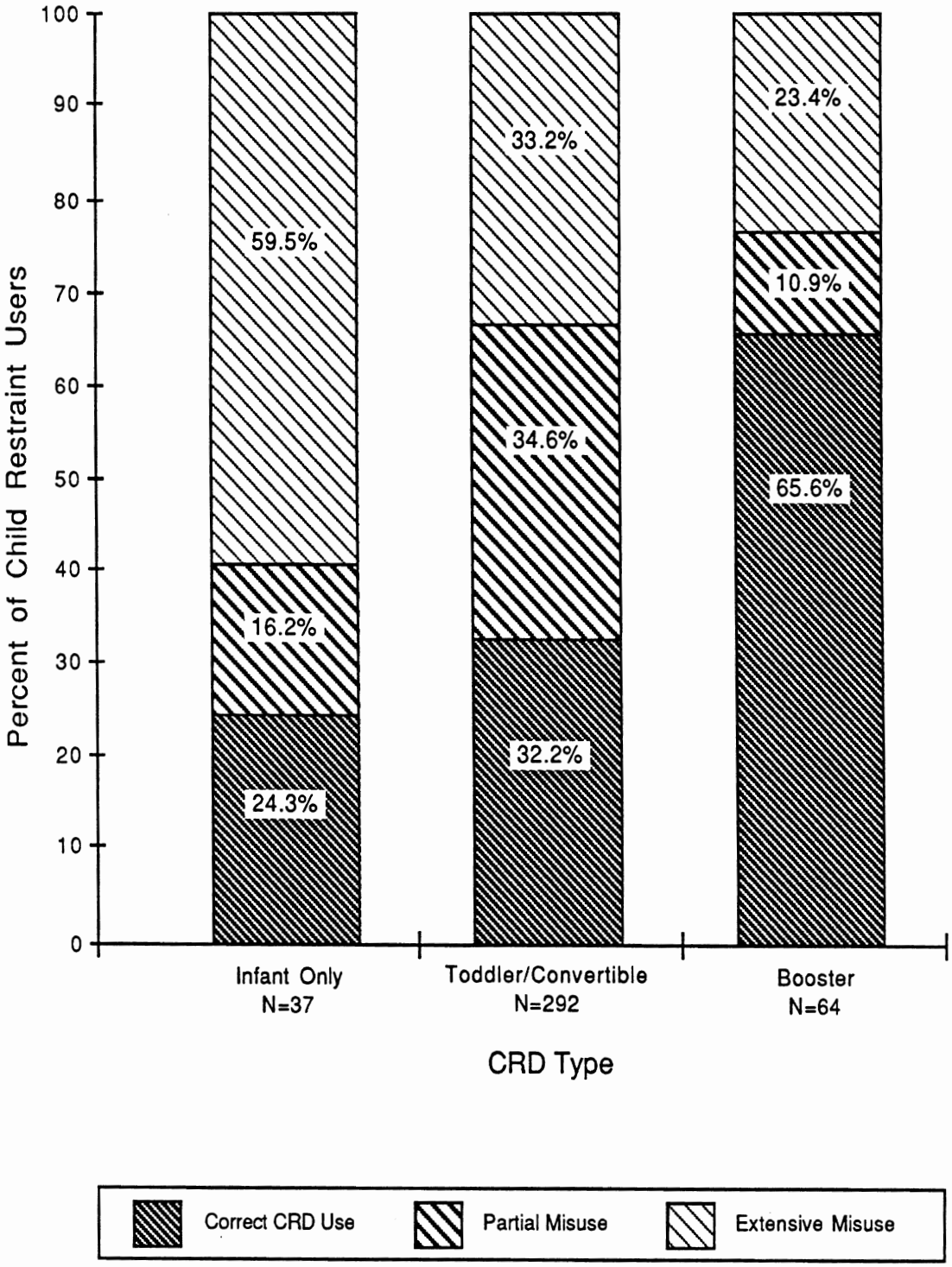

Figure 4.63: Correctness of Child Restraint Use by Type of Child Restraint Device

Source of child restraint information was only marginally associated with correctness of use (Figure 4.64). Whereas 38.5% of respondents who had first learned about child restraints from the news media correctly restrained their children, rates of correct use for respondents who had learned about restraints from doctors and other health care professionals or relatives and friends were only marginally lower (36.9% and 30.8%, respectively). Interestingly, the rates of extensive misuse were highest among respondents who reported learning about restraints from doctors and other health care professionals, although the differences were not great. A much stronger association was found between correctness of use and how the CRD was acquired (Figure 4.65). Respondents who had purchased their CRDs were three times more likely to correctly use their CRDs as respondents who had obtained them from friends or a loan source and only half as likely to extensively misuse them. CRDs received as gifts were also less likely to be used correctly as purchased CRDs, but the magnitude of difference was not as great.

As might be expected, respondents who received no written or verbal instructions for their CRDs were significantly more likely to misuse their CRDs overall and extensively misuse them than respondents who received instructions (Figure 4.66). For example, a total of 61.9% of respondents who received no instructions extensively misused their CRDs compared to 31.5% of respondents who received instructions. The most common type of instructions received were written instructions. Respondents receiving such instructions were less likely to misuse and extensively misuse their CRDs than respondents receiving verbal instructions or both written and verbal instructions although the numbers of cases for the latter two groups are small (Figure 4.67).

Correctness of use did not change markedly regardless of whether the mother, father, or both parents installed the CRD. Correct use declined and extensive misuse increased noticeably, however, when the CRD was installed by someone other than the parents (although the numbers of cases are again small; Figure 4.68). Finally, although the majority of respondents received no assistance in installing their CRDs (97.3%), of the 10 respondents who did receive assistance, a much smaller proportion extensively misused their CRDs than respondents who did not receive assistance (20.0% versus 34.9%; Figure 4.69).

Charts for numerous other variables potentially related to correct CRD use are shown in Appendix E.

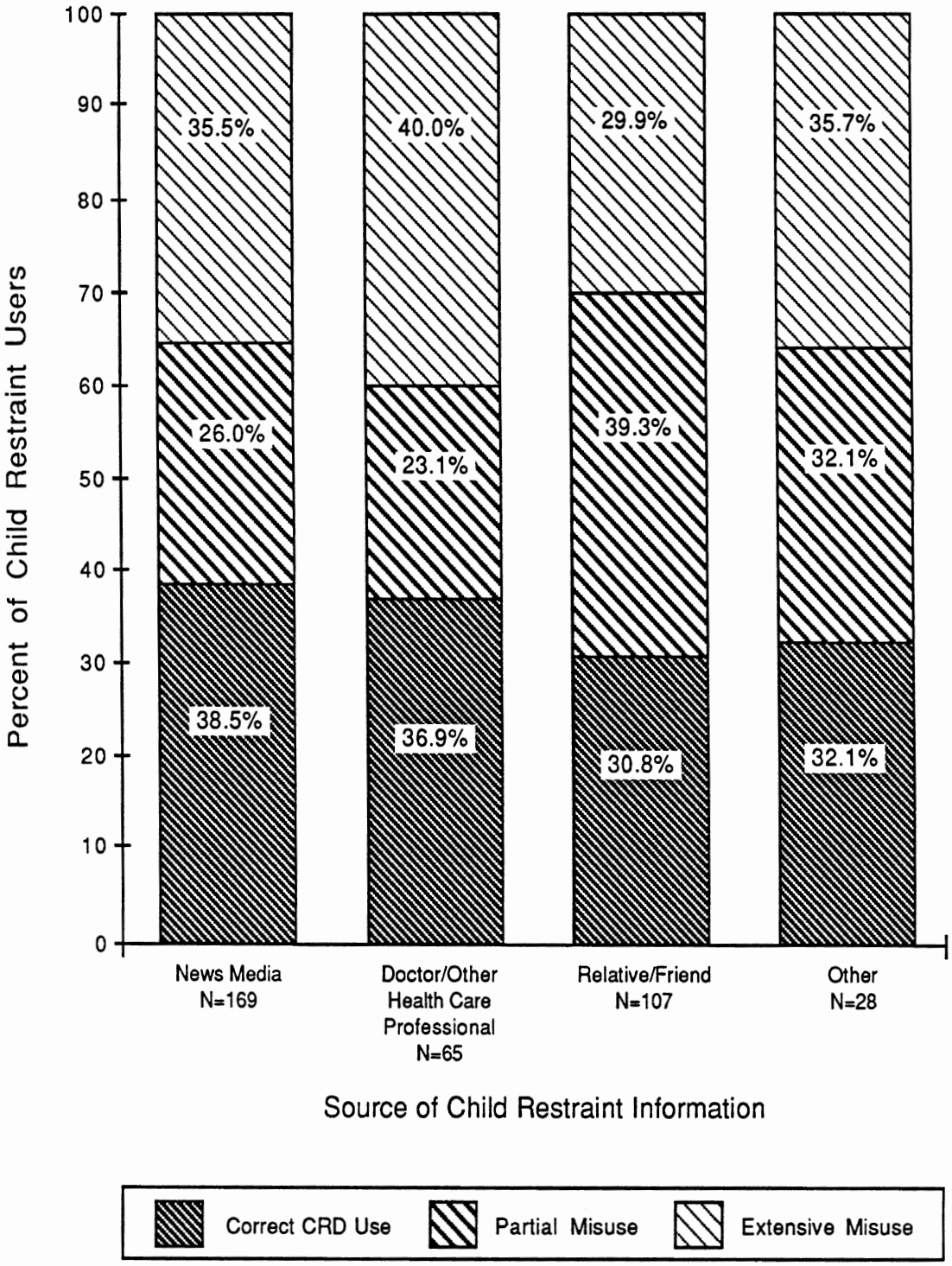

Figure 4.64: Correctness of Child Restraint Use by Source of Child Restraint Information

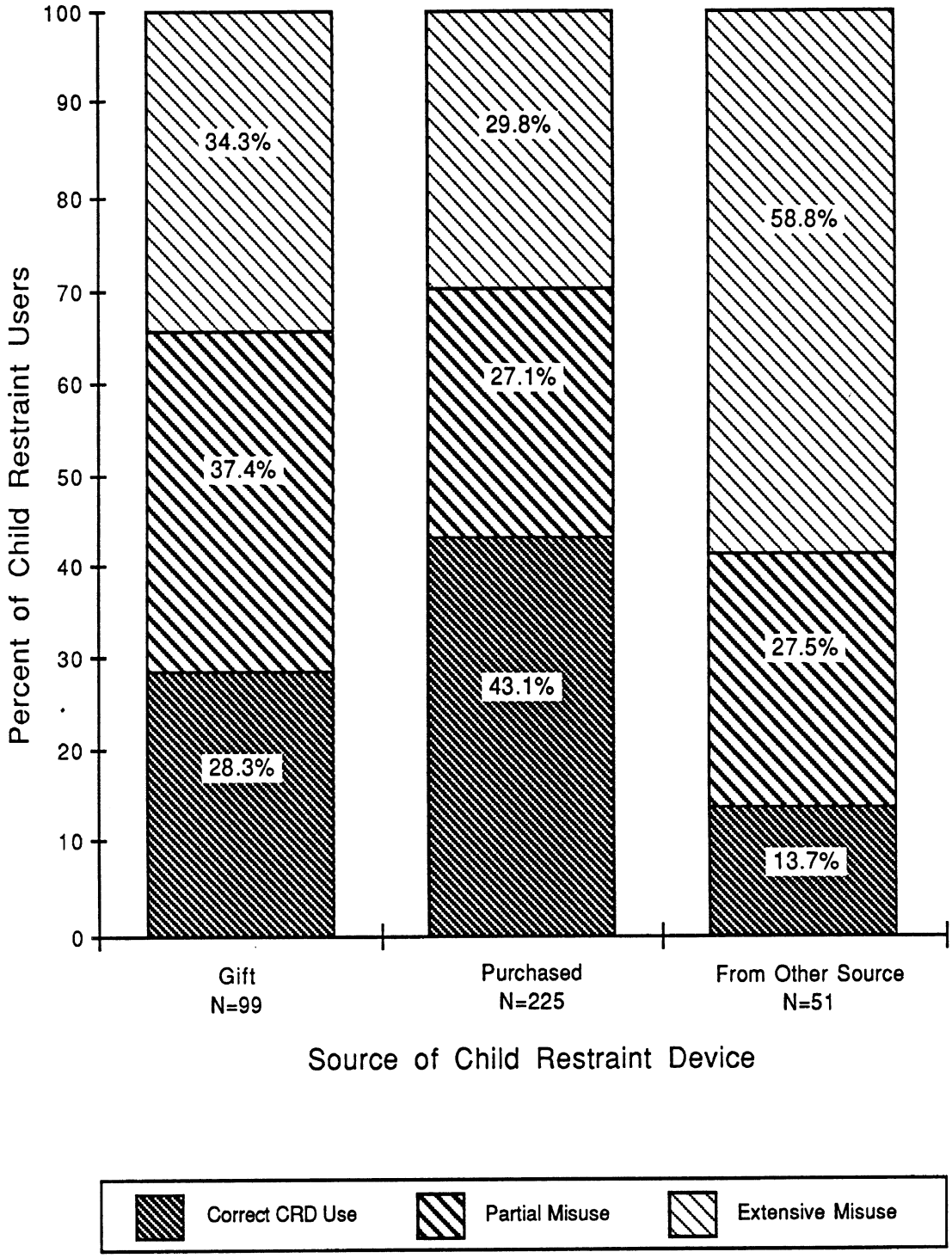

Figure 4.65: Correctness of Child Restraint Use by Source of Child Restraint Device

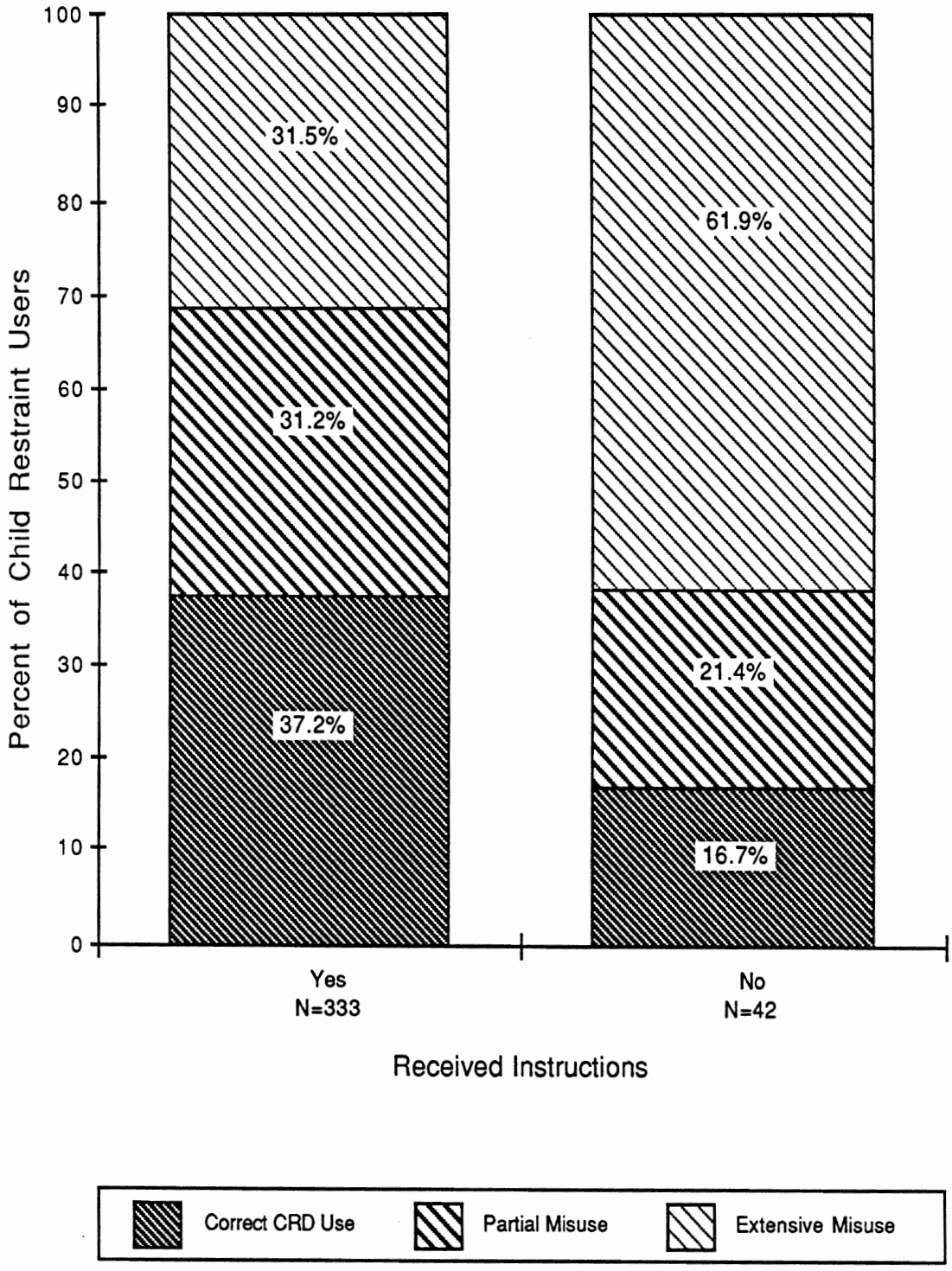

Figure 4.66: Correctness of Child Restraint Use by Whether Instructions Received

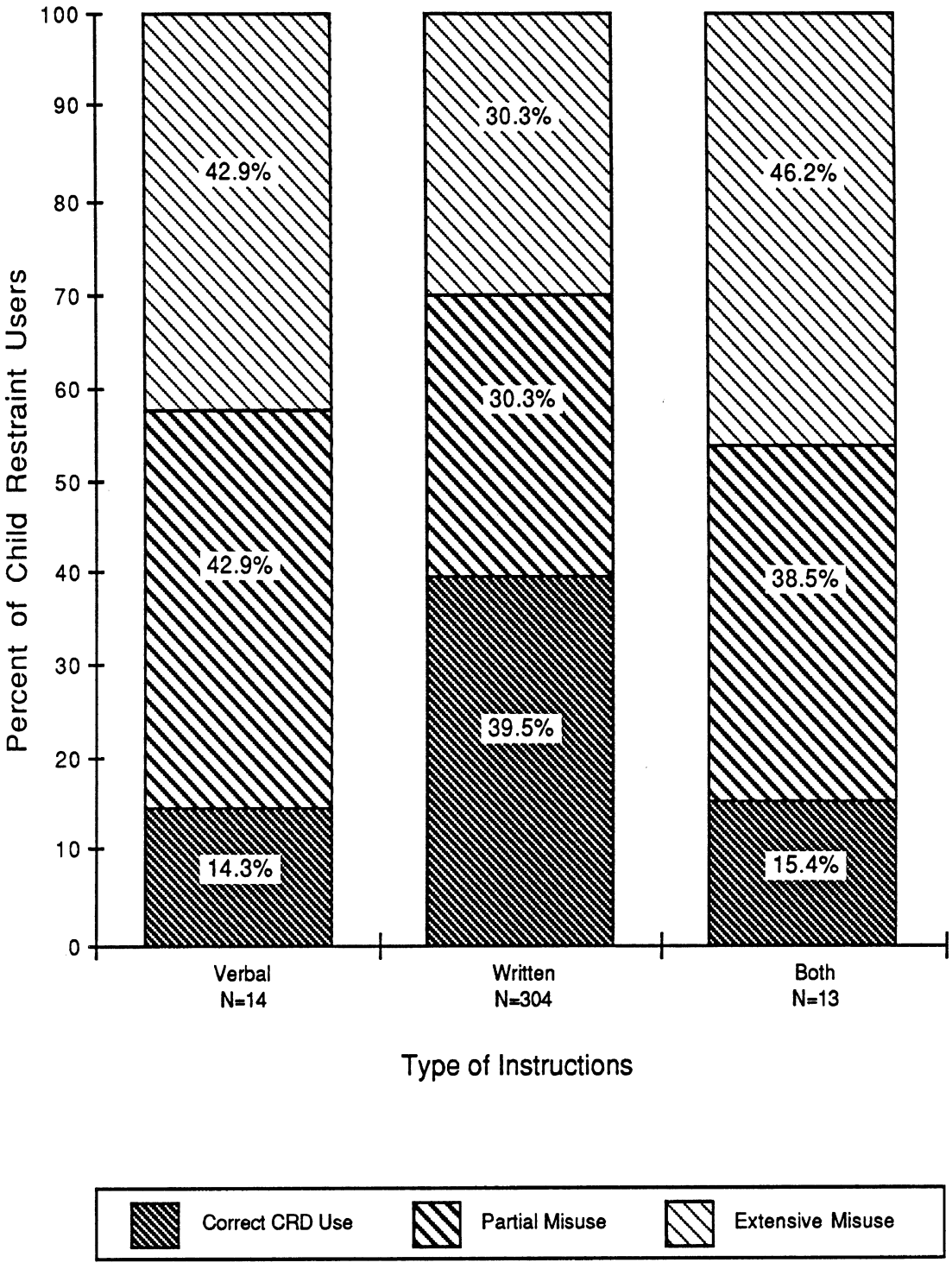

Figure 4.67: Correctness of Child Restraint Use by Type of Instructions

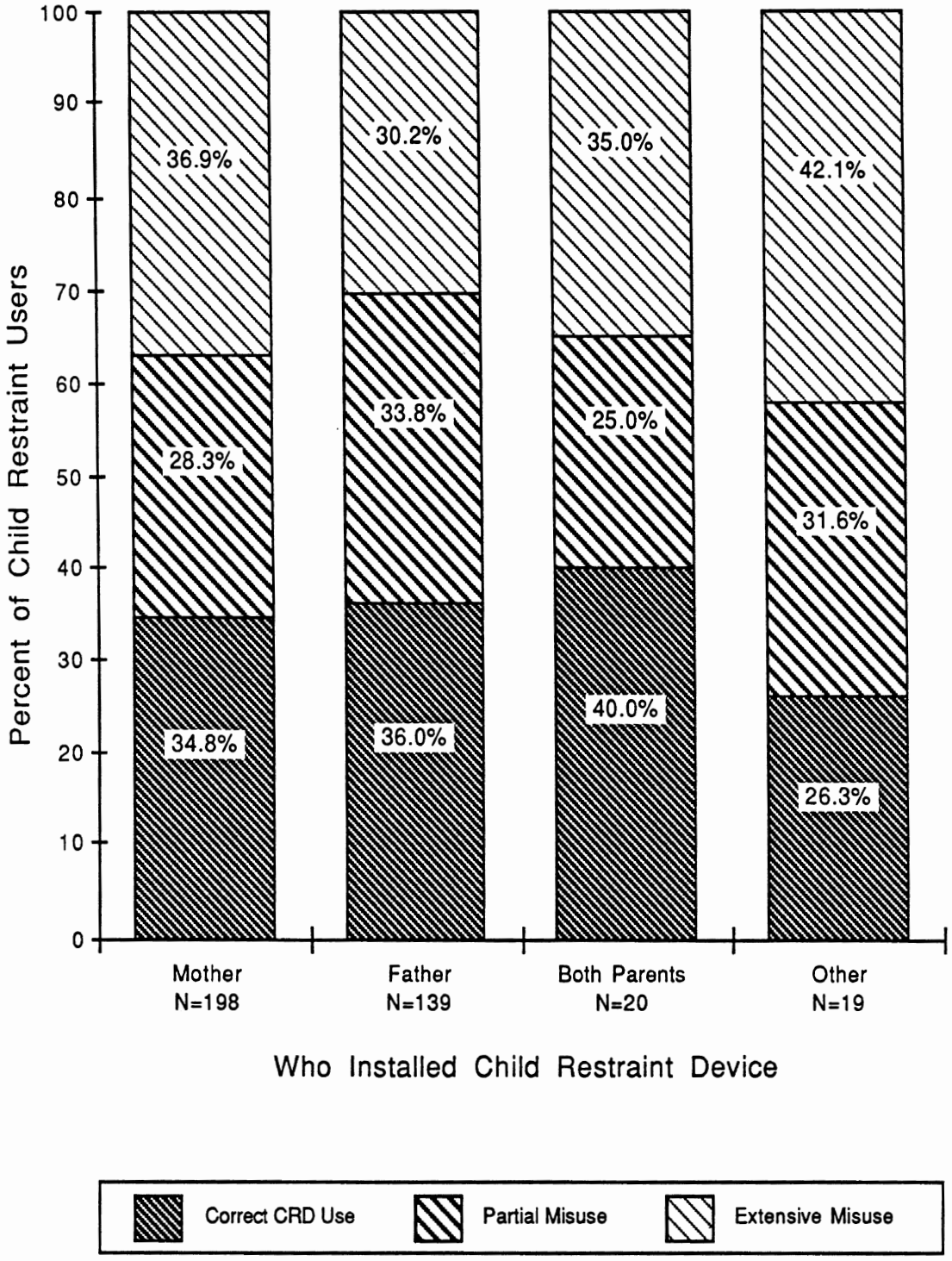

Figure 4.68: Correctness of Child Restraint Use by Who Installed Restraint Device

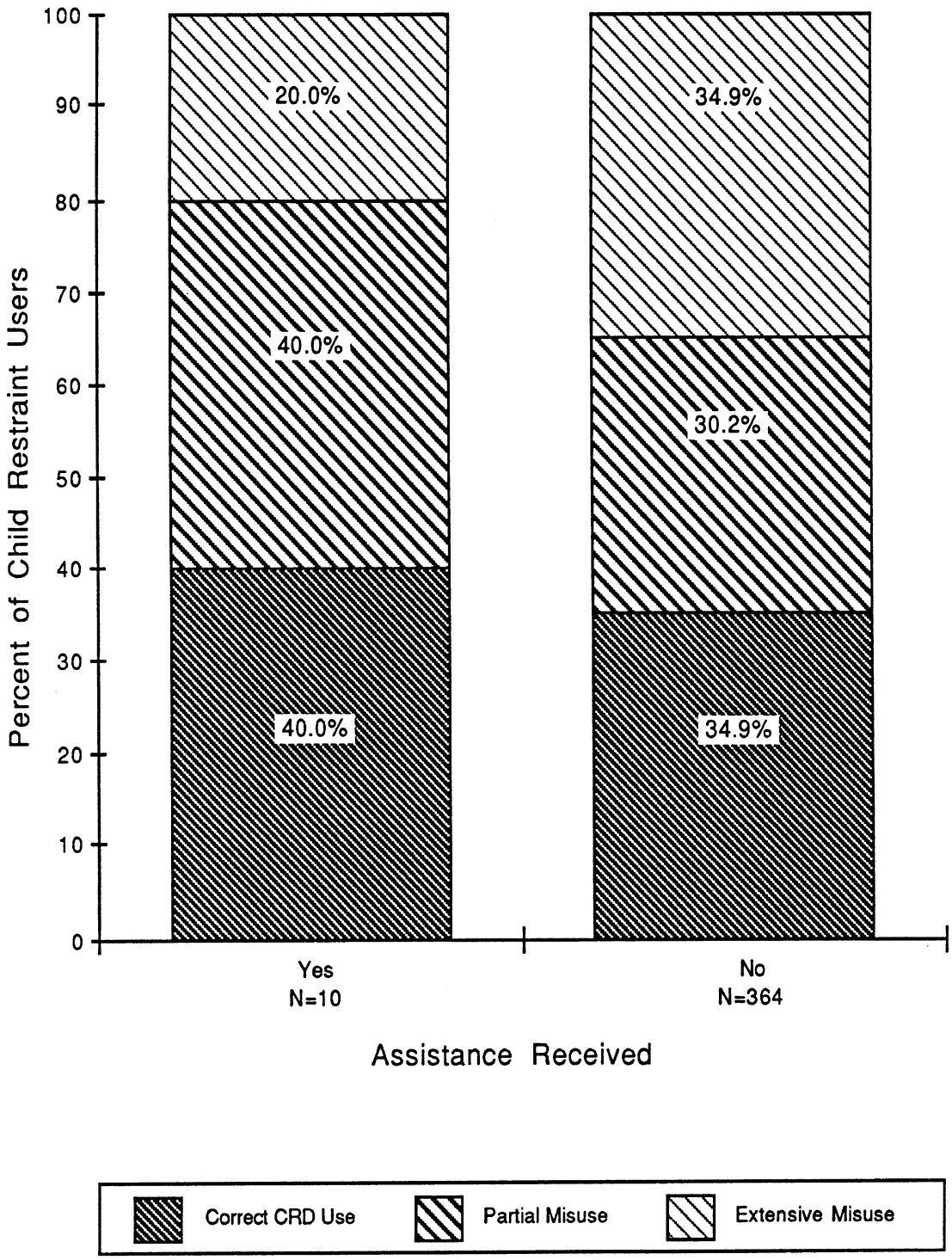

Figure 4.69: Correctness of Child Restraint Use by Whether Assistance Was Received in Installing Child Restraint Device

5 Discussion and Recommendations

Michigan has come a long way in its efforts to increase the proportion of young children traveling in automobiles that are protected by child safety seats or seat belts. Ninety-two percent of all respondents traveling with children under the age of one had those children restrained in an approved child restraint device. Of children age 1 to 3, 55% were traveling in a child safety seat, and an additional 20% were restrained with an adult seat belt. Public support for the law is now very high, with 90% indicating agreement with a statement that use of child safety seats should be required by law.[9] Despite high rates of child restraint use and overwhelming public support for the mandatory use law, problems remain. Sixty-three percent of all child safety seats used were used incorrectly; for 34% of the child safety seats observed the incorrect use was serious, substantially reducing the protective effects of such devices.

5.1 Target Groups for Efforts to Increase Child Restraint Use

Results indicate that there are several groups of motorists that have substantially lower than average child restraint use rates. First, use of child safety seats decreases rapidly with age of child--only 22% of three-year-olds compared to 92% of infants under one year old. Second, drivers who are not the parents of children they are traveling with have low rates of child restraint use, and when they do use child safety seats they are much more likely to incorrectly use such seats. If in addition to a nonparent driver, the child's parent is not present as a passenger in the car, the probability of CRD use is even lower. Finally, drivers who travel with young children less than once per week have much lower rates of restraint use. Parents should be encouraged to be especially vigilant in requiring restraint use and demonstrating correct use of CRDs when they permit their child to travel in an automobile in which they are not present.

Other groups with low child restraint use and higher than average rates of incorrect CRD use include unmarried drivers, drivers over the age of 40, and drivers with four or more passengers. Motorists with low income (under $12,000 per year) show particularly low rates of child restraint use. Those with incomes of $12,000 to $30,000 per year also have significantly lower rates of use than those with incomes over $30,000. Motorists of nonwhite ethnic backgrounds have low rates of seat belt or CRD use. Furthermore, over half of the CRDs observed with nonwhite drivers were seriously misused. Lower rates of child restraint use among nonwhites remained after controlling for the effects of income. However, note that results for nonwhites should be interpreted with caution, given that only 56 of 661 interviewees were nonwhite.

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9. The reader is reminded that these estimates may be slightly higher than true values, because subjects who refused to participate in the survey were probably less interested in child safety issues and therefore less supportive of compulsory use.

5.2 Items to Consider in Efforts to Increase Child Restraint Use

Most respondents believe that CRDs are effective in reducing risk of injury, and almost everyone reports awareness of the mandatory child restraint law. However, the majority do not know the specifics of the law's requirements (i.e., that an infant under age one must be in a CRD in any seat position, that those age one through three may be in a seat belt if in the rear seat). Those who do not know the specific requirements of the law have lower rates of seat belt and CRD use than those who are aware of the specific requirements.

Respondents clearly believe that the child restraint law is not enforced. Three-quarters believe that police rarely or never stop violators of the child restraint law. Furthermore, even if one experiences the rare event of a police stop, 38% believe that a ticket is rarely or never issued. Combining the perceived probability of not being stopped with the perceived probability of not receiving a ticket once stopped shows that this sample of Michigan motorists believe there is very little chance of experiencing any enforcement penalty for violation of the law. Motorists also seem to be dissatisfied with the low levels of enforcement--91% agree that child restraint laws should be strictly enforced (67% report strong agreement).

Very low levels of enforcement risk yet high rates of child restraint use indicate that enforcement has not been mainly responsible for the success achieved to date. In fact, almost half of the motorists said that fear of receiving a ticket does not influence their child restraint use. Instead of a simple deterrence effect, the law and associated programmatic efforts appear to have achieved a significant change in social norms concerning safety restraints for young children. Three-quarters of the respondents believe that 60% or more of the public support the law. Over half believe 60% or more of the public obeys the law. Almost two-thirds report that more than 80% of their friends restrain children when driving. Almost three-quarters believe other people notice whether or not young children are belted or in a safety seat. All of these items indicate that there has now emerged a social norm that drivers are expected to restrain young children when traveling in an automobile. Furthermore, respondents who believe the public obeys the law, that their friends use child restraints, and that others notice use are more likely to use child restraints themselves. Public information programs should build on these trends with campaigns that tell people that most motorists restrain young children, that people notice when a child is not restrained, and that people look down on motorists who travel with an unrestrained child. Finally given the strong public support for strict enforcement of the child restraint law, enforcement efforts should be substantially strengthened.

Belt use by the driver is highly related to use of CRDs or seat belts for children. As a result, continued efforts to increase the proportion of Michigan's motorists using seat belts following enactment of the adult compulsory use law in 1985 are likely to have a spillover effect in increasing restraint use for children.

Although only a quarter of the respondents believed that children do not like to travel in safety seats, those who feel this way are substantially less likely to use CRDs or to

use them correctly. Continuing education efforts stating that children enjoy traveling in CRDs may help increase correct use by this part of the population.

Those who had no strong opinion concerning whether CRD use is bothersome and whether CRD use should be required by law had significantly lower rates of child restraint use than those who had strong opinions on these issues (either positive or negative). This pattern may indicate that there is a small segment of the population that simply does not care. Perhaps they do not take child restraint use seriously and are not willing to invest time and energy in this issue.

Certain dimensions of the child restraint device itself were related to incorrect use. Sixty percent of the infant-only seats observed were seriously misused (typically a combination of errors such as device facing forward, no harness used, required locking clip not used). In contrast, only 34% of booster seats had any incorrect use (including relatively minor errors such as seat belt not optimally snug). The reason booster seats are not often incorrectly used may be related to their design. For example, many booster seats have only one obvious place for routing the automobile seat belt. Continuing improvements are needed in the design of infant and convertible seats to reduce the probability of incorrect use. For example, perhaps plastic molding could enclose the frame such that a single cutout is available for routing the automobile seat belt. Many current CRDs have open steel pipe frames with several potential routes for the automobile seat belt, each appearing equally appropriate to the user.

Another reason for designing CRDs so that appropriate use is obvious to the user is that some motorists never receive instructions on use of a CRD. Eleven percent of respondents with CRDs present in the vehicle indicated that they received no instructions on its use. As expected, those who did not receive instructions had significantly lower rates of correct use (60% had serious misuse). Thirteen percent of the observed CRDs were obtained second hand from a friend or relative. Over half of the CRDs obtained secondhand were seriously misused, compared to one-third or less of CRDs purchased or received as a gift. In addition to better designs making correct use more obvious and therefore reducing the need for extensive instructions, continuing efforts are warranted by pediatricians, day care center staff, and others to educate parents on the importance of correct use. More important than simple exhortations to use CRDs correctly, however, are actual in-vehicle demonstrations of correct use. Ideally, pediatric nurses or others would physically observe how the child is restrained in the car, point out practices that are reducing the protection of the child, and show the parent how to use the CRD correctly.[10]

In summary, a high proportion of drivers restrain young children they are transporting, despite the perception that their chances of being cited for failing to restrain a child are extremely low. The state should significantly increase enforcement of the mandatory child restraint law, given the high levels of public support for strict enforcement. The mandatory child restraint law and associated programs appear to have caused a

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10. Obviously, persuading pediatricians' offices or others to accept this responsibility may be difficult. Furthermore, legal liability issues associated with providing such advice must be addressed.

substantial shift in social norms, such that restraint of children traveling in cars is now expected behavior. A large proportion of CRDs are used incorrectly, however. Improved CRD design and individualized consultation/demonstration of correct use are needed.

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Appendix A

Site Schedule

PHASE I SITE SCHEDULE

DATE	SITE	OBSERVERS
September 14	141: Hardee's 3325 Washtenaw, Ann Arbor	Karen Businski Linda Talik
September 15	142: Hardee's 175 N. Maple, Ann Arbor	Karen Businski Barbara Singer Meg Wiviott
September 16	141: Hardee's 3325 Washtenaw, Ann Arbor	Karen Businski Linda Talik
September 17	241: Hardee's 2626 Pine Grove, Port Huron	Karen Businski Meg Wiviott
September 18	241: Hardee's 2626 Pine Grove, Port Huron	Karen Businski Linda Talik
September 21	241: Hardee's 2626 Pine Grove, Port Huron	Karen Businski Barbara Singer
September 23	251: Kentucky Fried Chicken 3802 Pine Grove, Port Huron	Karen Businski Lev Levenson
September 24	151: Kentucky Fried Chicken 2355 Jackson, Ann Arbor	Karen Businski Lev Levenson
September 26	231: Burger King 3584 Pine Grove, Port Huron	Karen Businski Meg Wiviott
September 27	111: A & W 2835 Washtenaw, Ypsilanti	Karen Businski Meg Wiviott
September 28	162: McDonald's 4775 Washtenaw, Pittsfield	Lev Levenson Meg Wiviott
September 29	152: Kentucky Fried Chicken 3552 Washtenaw, Ann Arbor	Lev Levenson Meg Wiviott
October 1	121: Elias Brothers 3315 Washtenaw, Ann Arbor	Karen Businski Meg Wiviott
October 2	221: Elias Brothers 3961 24th Ave., Port Huron	Karen Businski Lev Levenson
October 4	252: Kentucky Fried Chicken 608 24th Ave., Port Huron	Karen Businski Lev Levenson
October 5	231: Burger King 3584 Pine Grove, Port Huron	Karen Businski Barbara Singer

October 6	212: A & W 618 24th, Port Huron	Karen Businski Barbara Singer
	231: Burger King 3584 Pine Grove, Port Huron	Karen Businski Barbara Singer
October 7	112: A & W 2405 W. Stadium, Ann Arbor	Karen Businski Lev Levenson
October 8	221: Elias Brothers 3961 24th Ave., Port Huron	Karen Businski Meg Wiviott
October 9	132: Burger King 4885 Washtenaw, Ann Arbor	Karen Businski Lev Levenson
October 10	162: McDonald's 4775 Washtenaw, Ann Arbor	Karen Businski Meg Wiviott
October 11	161: McDonald's 2000 W. Stadium, Ann Arbor	Karen Businski Lev Levenson Meg Wiviott
October 13	122: Elias Brothers 3611 Plymouth, Ann Arbor	Lev Levenson Meg Wiviott
October 14	231: Burger King 3584 Pine Grove, Port Huron	Karen Businski Lev Levenson
October 15	231: Burger King 3584 Pine Grove, Port Huron	Karen Businski Lev Levenson
October 16	163: McDonald's State St. & I-94, Ann Arbor	Karen Businski Meg Wiviott
October 18	152: Kentucky Fried Chicken 3552 Washtenaw, Ann Arbor	Karen Businski Meg Wiviott
October 19	212: A & W 618 24th, Port Huron	Karen Businski Barbara Singer
October 20	231: Burger King 3584 Pine Grove, Port Huron	Karen Businski Barbara Singer
October 21	121: Elias Brothers 3315 Washtenaw, Ann Arbor	Karen Businski Lev Levenson
October 22	131: Burger King 2295 W. Stadium, Ann Arbor	Karen Businski Lev Levenson
October 23	252: Kentucky Fried Chicken 608 24th, Port Huron	Karen Businski Lev Levenson
October 25	162: McDonald's 4775 Washtenaw, Ann Arbor	Karen Businski Lev Levenson

October 26	231: Burger King 3584 Pine Grove, Port Huron	Karen Businski Barbara Singer
October 27	231: Burger King 3584 Pine Grove, Port Huron	Karen Businski Barbara Singer
October 28	161: McDonald's 2000 W. Stadium, Ann Arbor	Karen Businski Lev Levenson
October 31	162: McDonald's 4775 Washtenaw, Ann Arbor	Karen Businski Meg Wiviott

PHASE II SITE SCHEDULE

DATE	SITE	OBSERVERS
May 1	361: McDonald's 15399 Middlebelt Rd., Livonia	Tom Williams Bob Jacobson
	661: McDonald's 38425 W. Ten Mile Rd., Farmington	Kathy Sullivan Karen Businski
May 2	762: McDonald's 2250 E. Grand River, Howell	Tom Williams Bob Jacobson
	761: McDonald's 8515 W. Grand River, Brighton	Kathy Sullivan Karen Businski
May 3	762: McDonald's 2250 E. Grand River, Howell	Tom Williams Bob Jacobson
	761: McDonalds's 8515 W. Grand River, Brighton	Kathy Sullivan Jethro Woodson
May 4	861: McDonald's G-5390 N. Saginaw, Flint	Tom Williams Jethro Woodson
	965: McDonald's 2250 E. Ten Mile Rd., Warren	Kathy Sullivan Bob Jacobson
May 6	361: McDonald's 15399 Middlebelt Rd., Livonia	Tom Williams Bob Jacobson
	661: McDonald's 38425 W. Ten Mile Rd., Farmington	Kathy Sullivan Jethro Woodson
May 7	861: McDonald's G-5390 N. Saginaw, Flint	Tom Williams Jethro Woodson
	965: McDonald's 2250 E. Ten Mile Rd., Warren	Kathy Sullivan Bob Jacobson
May 8	862: McDonald's 3719 Davison Rd., Flint	Tom Williams Bob Jacobson
	966: McDonald's 17921 E. Nine Mi Rd., East Detroit	Kathy Sullivan Jethro Woodson
May 9	862: McDonald's 3719 Davison Rd., Flint	Tom Williams Bob Jacobson
	966: McDonald's 17921 E. Nine Mi Rd., East Detroit	Kathy Sullivan Karen Businski

May 10	963: McDonald's 27480 Van Dyke, Warren	Tom Williams Jethro Woodson
	561: McDonald's 1535 S. Main St., Chelsea	Kathy Sullivan Bob Jacobson
May 11	963: McDonald's 27480 Van Dyke, Warren	Tom Williams Karen Businski
	561: McDonald's 1535 S. Main St., Chelsea	Kathy Sullivan Bob Jacobson
May 14	964: McDonald's 32222 Gratiot, Roseville	Tom Williams Bob Jacobson
	961: McDonald's 30837 Schoenherr, Warren	Kathy Sullivan Karen Businski
May 15	964: McDonald's 32222 Gratiot, Roseville	Tom Williams Bob Jacobson
	961: McDonald's 30837 Schoenherr, Warren	Kathy Sullivan Karen Businski
May 16	964: McDonald's 32222 Gratiot, Roseville	Tom Williams Bob Jacobson
	966: McDonald's 17921 E. Nine Mi Rd. East Detroit	Kathy Sullivan Jethro Woodson
May 17	863: McDonald's G-4131 W. Pierson Rd., Flint	Tom Williams Jethro Woodson
	962: McDonald's 25141 Hoover, Warren	Kathy Sullivan Bob Jacobson
May 18	863: McDonald's G-4131 W. Pierson Rd., Flint	Tom Williams Jethro Woodson
	962: RAINED OUT	Kathy Sullivan Bob Jacobson
May 21	431: Burger King 45114 Ford Rd., Canton	Tom Williams Bob Jacobson
	331: Burger King 34835 Plymouth Rd., Livonia	Kathy Sullivan Jethro Woodson

May 22	431: Burger King 45114 Ford Rd., Canton	Tom Williams Bob Jacobson
	331: Burger King 34835 Plymouth Rd., Livonia	Kathy Sullivan Jethro Woodson
May 23	831: Burger King G-5453 N. Saginaw, Flint	Tom Williams Jethro Woodson
	937: Burger King 1540 E Twelve Mile Rd., Madison Heights	Kathy Sullivan Bob Jacobson
May 24	831: Burger King G-5453 N. Saginaw, Flint	Tom Williams Jethro Woodson
	937: Burger King 1540 E Twelve Mile Rd., Madison Heights	Kathy Sullivan Bob Jacobson
May 25	631: Burger King 32704 Grand River, Farmington	Tom Williams Jethro Woodson
	731: Burger King 8489 W. Grand River, Brighton	Kathy Sullivan Bob Jacobson
May 28	631: Burger King 32704 Grand River, Farmington	Tom Williams Jethro Woodson
	731: Burger King 8489 W. Grand River, Brighton	Kathy Sullivan Bob Jacobson
May 29	932: Burger King 27010 Hoover Warren	Tom Williams Bob Jacobson
	935: Burger King 20840 Gratiot East Detroit	Kathy Sullivan Jethro Woodson
May 30	932: Burger King 27010 Hoover Warren	Tom Williams Bob Jacobson
	935: Burger King 20840 Gratiot East Detroit	Kathy Sullivan Jethro Woodson
May 31	932: Burger King 27010 Hoover Warren	Tom Williams Bob Jacobson
	935: Burger King 20840 Gratiot East Detroit	Kathy Sullivan Jethro Woodson
June 1	933: Burger King 24840 Ryan Warren	Tom Williams Jethro Woodson
	832: Burger King 4024 Davison Rd., Flint	Kathy Sullivan Bob Jacobson

June 4	933: Burger King 24840 Ryan Warren	Tom Williams Jethro Woodson
	832: Burger King 4024 Davison Rd., Flint	Kathy Sullivan Bob Jacobson
June 6	833: Burger King G-4408 W. Pierson Rd., Flint	Tom Williams Bob Jacobson
	934: Burger King 26631 Van Dyke Warren	Kathy Sullivan Jethro Woodson
June 7	833: Burger King G-4408 W. Pierson Rd., Flint	Tom Williams Bob Jacobson
	934: Burger King 26631 Van Dyke Warren	Kathy Sullivan Jethro Woodson
June 8	762: McDonald's 2250 E. Grand River, Howell	Tom Williams Bob Jacobson
	761: McDonald's 8515 W. Grand River, Brighton	Kathy Sullivan Jethro Woodson
June 9	762: McDonald's 2250 E. Grand River, Howell	Tom Williams Bob Jacobson
	761: McDonald's 8515 W. Grand River, Brighton	Kathy Sullivan Jethro Woodson
June 10	762: McDonald's 2250 E. Grand River, Howell	Tom Williams Bob Jacobson
	761: McDonald's 8515 W. Grand River, Brighton	Kathy Sullivan Jethro Woodson
June 11	862: McDonald's 3719 Davison Rd., Flint	Tom Williams Bob Jacobson
	863: McDonald's G-4131 W. Pierson Rd., Flint	Kathy Sullivan Jethro Woodson
June 12	862: McDonald's 3719 Davison Rd., Flint	Tom Williams Bob Jacobson
	863: McDonald's G-4131 W. Pierson Rd., Flint	Kathy Sullivan Jethro Woodson

Appendix B

Data Collection Instruments

SITE DESCRIPTION

Site #: __ __ __ Site location: _____

Date [month/day]: __ __ / __ __ / 1985/6

Start Time: __ __ : __ __

Day of Week
[ ] Monday
[ ] Tuesday
[ ] Wednesday
[ ] Thursday
[ ] Friday
[ ] Saturday
[ ] Sunday

Break Time (total number of minutes during observation period): __ __

Lunch Time: __ __ : __ __ to __ __ : __ __

End Time: __ __ : __ __

Hours	# of Interviews	Refused
10-11		
11-12		
12-1		
1-2		
2-3		
3-4		
4-5		
5-6		
6-7		
Total		

Start R #:__ __ __ __

End R #: __ __ __ __

Observer #:__

Interviewer #:__

Site #: _ _ _ Respondent #: _____

OBSERVATION FORM

DRIVER
[ ] No Rstrt
[ ] Belted

[ ] Male
[ ] Female

[ ] 16-29
[ ] 30- 59
[ ] 60+

CHILD PASSENGER
[ ] No Rstrt ---- NOTE: RECORD IN COMMENTS
[ ] Belted HOW CHILD IS RIDING.
[ ] CRD

Seat Position
[ ] FC
[ ] FR
[ ] RL
[ ] RC
[ ] RR
[ ] Cargo
[ ] 3/4 Seat

Number of occupants in vehicle _____

-- --

Brand Name _____

_ _

Is CRD present?
[ ] yes →
[ ] no

CRD Type
[ ] Infant only
[ ] Toddler/Convertible
[ ] Booster
[ ] DK
[ ] SKIP

Seat Direction
[ ] forward
[ ] rearward
[ ] sideward
[ ] SKIP

Auto Seat Belt Fastened
[ ] yes
[ ] no
[ ] DK
[ ] SKIP

Seat Angle
[ ] reclined
[ ] upright
[ ] DK
[ ] SKIP

Auto Seat Belt Snug
[ ] yes
[ ] no
[ ] DK
[ ] SKIP

Tether Required
[ ] yes
[ ] no
[ ] DK
[ ] SKIP

Tether Used
[ ] yes →
[ ] no
[ ] DK
[ ] SKIP

Auto Seat Belt Routing Correct
[ ] yes
[ ] no
[ ] DK
[ ] SKIP

Tether Anchored
[ ] yes →
[ ] no
[ ] DK
[ ] SKIP

Locking Clip
[ ] yes
[ ] required-not used
[ ] not required

Anchored Properly
[ ] yes
[ ] no
[ ] DK
[ ] SKIP

Is CRD Used?
[ ] yes
[ ] no
[ ] SKIP

Shield Fastened
[ ] yes
[ ] no
[ ] not required
[ ] DK
[ ] SKIP

Harness Fastened
[ ] yes
[ ] no
[ ] DK
[ ] Skip

Harness Snug
[ ] yes
[ ] no
[ ] DK
[ ] SKIP

Harness Clip
[ ] yes
[ ] no
[ ] DK
[ ] SKIP

Harness Position
[ ] yes
[ ] no --HOW INCORRECT?
[ ] DK
[ ] SKIP

Vehicle Size
[ ] small
[ ] medium
[ ] large
[ ] pick-up
[ ] van
[ ] other

Time Interviewed (24 hour): __ __ : __ __

COMMENTS If child is unrestrained, note how child is riding [i.e., on lap, sitting, standing, lying].

Site # ___ ___ ___ Respondent # _____

INTERVIEW FORM

Hi, my name is _____ from the University of Michigan. We are conducting a brief survey and wondered if you would be willing to answer a few questions [and allow me to look at your child seat]. It should take less than 5 minutes. You don't have to answer any question you don't want to. Everything you tell us will be kept confidential and will be used only for research.

[IF RESPONDENT AGREES TO PARTICIPATE] Thank you for your cooperation. This is not a test. We simply would like to know your opinions. The first questions I have are about the children riding with you today.

1. Are any of the children riding with you today under age four?
   [ ] yes
   [ ] no IF NO ------ TERMINATE INTERVIEW

2. Are you the parent of any child under four in the vehicle?
   [ ] yes
   [ ] no IF NO ——→

   3. Is the parent of the child with you today?
      [ ] yes ---- INTERVIEW PARENT
      [ ] no ----- INTERVIEW DRIVER
      [ ] SKIP

4. What are the ages of the child/ren with you today? [Four youngest if more than four children.]

   Child 1: _____ Child 2: _____ Child 3: _____ Child 4: _____

IDENTIFY CHILD - INFORM PARENT WHICH CHILD THEY SHOULD REFER TO IN THE FOLLOWING QUESTIONS.

5. In what month and year was the child born?

[ ] Jan	[ ] July
[ ] Feb	[ ] Aug
[ ] Mar	[ ] Sept
[ ] Apr	[ ] Oct
[ ] May	[ ] Nov
[ ] June	[ ] Dec
[ ] DK	

19 ___ CODE 66 IF DK
CODE 77 IF R

6. Is the child a boy or a girl?
   [ ] boy
   [ ] girl

7. Does this child have any brothers or sisters?
   [ ] yes --------IF YES
   [ ] no
   [ ] DK
   [ ] R

__ __ 8. How many are older?

__ __ 9. How many are younger?

10. In the last seven days, from last _____ through yesterday, how many days did you drive with children under age four in the car?

_____ days

A = IN CRD
B = BELTED WITH CRD PRESENT
C = UNRESTRAINED WITH CRD PRESENT
D = BELTED WITHOUT CRD PRESENT
E = UNRESTRAINED NO CRD PRESENT

FORM A

Respondent #: _____

11. [SHOW CARD A] Look at this card and tell me how you first learned about child seats. Was it from:
    [ ] news media
    [ ] doctor
    [ ] spouse
    [ ] other health care professional
    [ ] friend
    [ ] relative
    [ ] school/daycare teachers
    [ ] other IF OTHER---Who was it? _____
    [ ] DK
    [ ] R

12. Where did you get the child seat?
    [ ] received as gift
    [ ] bought it
    [ ] got it from a friend or relative
    [ ] got it from loan program
    [ ] other Please specify _____
    [ ] DK
    [ ] R

13. Did you receive instructions on how to install or use the child seat?
    [ ] yes IF YES ---------
    [ ] no
    [ ] DK
    [ ] R

14. Were the instructions verbal, written, or both?
    [ ] verbal
    [ ] written
    [ ] both
    [ ] DK
    [ ] R
    [ ] SKIP

15. Who gave you the instructions?

verbal	written	
[ ]	[ ]	manufacturer
[ ]	[ ]	store ----PROMPT: Did the instructions
[ ]	[ ]	friend come with the seat?
[ ]	[ ]	relative
[ ]	[ ]	spouse
[ ]	[ ]	loan program
[ ]	[ ]	other IF OTHER--Who was this? _____
[ ]	[ ]	DK
[ ]	[ ]	R
[ ]	[ ]	SKIP
[ ]	[ ]	NA

16. Who installed the child seat? Was it the child's:
[ ] mother
[ ] father
[ ] both parents
[ ] brother/sister
[ ] other relative
[ ] or someone else Who? _____
[ ] DK
[ ] R

17. Did you/they receive help installing the child seat?
[ ] yes IF YES
[ ] no
[ ] DK
[ ] R

18. Who helped? IF MORE THAN ONE HELPED, PROMPT WHICH HELPED THE MOST
[ ] store
[ ] friend
[ ] relative
[ ] spouse
[ ] loan program
[ ] other IF OTHER: Who was it?_____
[ ] DK
[ ] R
[ ] SKIP

19. To the best of your knowledge is the **child seat** installed in the car according to the manufacturer's instructions?
[ ] yes
[ ] no IF NO
[ ] DK
[ ] R

20. What is different about the way it is installed?

_____
_____

— —

21. Why was it installed the way it is?

_____
_____

— —

22. To the best of your knowledge, when you drove here today, was **the child** riding in the child seat according to the instructions?
[ ] yes
[ ] no IF NO
[ ] DK
[ ] R

23. What is different about the way the child was riding?

_____

_____

24. Why was the child was riding this way?

_____

_____

FORM B

Respondent #: _____

IS CHILD SEAT FOR THIS CHILD?
YES - CONTINUE WITH FORM B
NO - SKIP TO FORM D

11. [SHOW CARD A] Look at this card and tell me how you first learned about child seats? Was it from:
    [ ] news media
    [ ] doctor
    [ ] spouse
    [ ] other health care professional
    [ ] friend
    [ ] relative
    [ ] school/daycare teachers
    [ ] other IF OTHER---Who was it? _____
    [ ] DK
    [ ] R

12. Where did you get the child seat?
    [ ] received as gift
    [ ] bought it
    [ ] got it from a friend or relative
    [ ] got it from loan program
    [ ] other Please specify _____
    [ ] DK
    [ ] R

13. Did you receive instructions on how to install or use the child seat?
    [ ] yes IF YES
    [ ] no
    [ ] DK
    [ ] R

14. Were the instructions verbal, written, or both?
    [ ] verbal
    [ ] written
    [ ] both
    [ ] DK
    [ ] R
    [ ] SKIP

15. Who gave you the instructions?

verbal	written	
[ ]	[ ]	manufacturer
[ ]	[ ]	store ----PROMPT: Did the instructions
[ ]	[ ]	friend come with the seat?
[ ]	[ ]	relative
[ ]	[ ]	spouse
[ ]	[ ]	loan program
[ ]	[ ]	other IF OTHER--Who was this? _____
[ ]	[ ]	DK
[ ]	[ ]	R
[ ]	[ ]	SKIP
[ ]	[ ]	NA

16. Who installed the child seat? Was it the child's:
    [ ] mother
    [ ] father
    [ ] both parents
    [ ] brother/sister
    [ ] other relative
    [ ] or someone else Who? _____
    [ ] DK
    [ ] R

17. Did you/they receive help installing the child seat?
    [ ] yes IF YES ——→
    [ ] no
    [ ] DK
    [ ] R

18. Who helped? IF MORE THAN ONE HELPED, PROMPT WHICH HELPED THE MOST
    [ ] store
    [ ] friend
    [ ] relative
    [ ] spouse
    [ ] loan program
    [ ] other IF OTHER: Who was it?_____
    [ ] DK
    [ ] R
    [ ] SKIP

19. To the best of your knowledge is the **child seat** installed in the car according to the manufacturer's instructions?
    [ ] yes
    [ ] no IF NO ——→
    [ ] DK
    [ ] R

20. What is different about the way it is installed?

_____

_____

— —

21. Why was it installed the way it is?

_____

_____

— —

24. Today when you drove in here the/your child was not riding in the child seat. Why was the child was riding this way?

_____

— —

FORM C

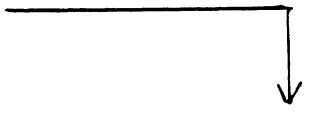
Respondent #: _____

IS CHILD SEAT FOR THIS CHILD?
YES - CONTINUE WITH FORM C
NO - SKIP TO FORM E

11. [SHOW CARD A] Look at this card and tell me how you first learned about child seats? Was it from:
    [ ] news media
    [ ] doctor
    [ ] spouse
    [ ] other health care professional
    [ ] friend
    [ ] relative
    [ ] school/daycare teachers
    [ ] other IF OTHER---Who was it? _____
    [ ] DK
    [ ] R

12. Where did you get the child seat?
    [ ] received as gift
    [ ] bought it
    [ ] got it from a friend or relative
    [ ] got it from loan program
    [ ] other Please specify _____
    [ ] DK
    [ ] R

13. Did you receive instructions on how to install or use the child seat?
    [ ] yes IF YES
    [ ] no
    [ ] DK
    [ ] R



14. Were the instructions verbal, written, or both?
    [ ] verbal
    [ ] written
    [ ] both
    [ ] DK
    [ ] R
    [ ] SKIP

15. Who gave you the instructions?

verbal	written	
[ ]	[ ]	manufacturer
[ ]	[ ]	store ----PROMPT: Did the instructions
[ ]	[ ]	friend come with the seat?
[ ]	[ ]	relative
[ ]	[ ]	spouse
[ ]	[ ]	loan program
[ ]	[ ]	other IF OTHER--Who was this? _____
[ ]	[ ]	DK
[ ]	[ ]	R
[ ]	[ ]	SKIP
[ ]	[ ]	NA

16. Who installed the child seat? Was it the child's:
[ ] mother
[ ] father
[ ] both parents
[ ] brother/sister
[ ] other relative
[ ] or someone else Who? _____
[ ] DK
[ ] R

17. Did you/they receive help installing the child seat?
[ ] yes IF YES
[ ] no
[ ] DK
[ ] R

18. Who helped? IF MORE THAN ONE HELPED, PROMPT WHICH HELPED THE MOST
[ ] store
[ ] friend
[ ] relative
[ ] spouse
[ ] loan program
[ ] other IF OTHER: Who was it?_____
[ ] DK
[ ] R
[ ] SKIP

19. To the best of your knowledge is the **child seat** installed in the car according to the manufacturer's instructions?
[ ] yes
[ ] no IF NO
[ ] DK
[ ] R

20. What is different about the way it is installed?

_____

21. Why was it installed the way it is?

24. Today when you drove in here the/your child was not riding in the child seat. Why was the child was riding this way?

_____

— —

27. [SHOW CARD C] Look at this card and please tell me which one item best describes your reason for not using a **seat belt** for this child.
[ ] child doesn't like them
[ ] too much trouble
[ ] don't think they really protect in a crash
[ ] other [please specify] _____.
[ ] DK
[ ] R

FORM D

Respondent #: _____

11. [SHOW CARD A] Look at this card and tell me how you first learned about using a seat belt for your child? Was it from:
[ ] news media
[ ] doctor
[ ] spouse
[ ] other health care professional
[ ] friend
[ ] relative
[ ] school/daycare teachers
[ ] other IF OTHER---Who was it? _____
[ ] DK
[ ] R

25. Do you have a child seat for this child?
[ ] yes
[ ] no
[ ] DK
[ ] R
[ ] NA

26. [SHOW CARD B] Look at this card and please tell me which one item best describes your reason for not using a **child seat.**
[ ] too expensive
[ ] child doesn't like them
[ ] too much trouble to use
[ ] takes too much room in the car
[ ] too difficult to install
[ ] don't think they really protect in a crash
[ ] child too big
[ ] CRD in other vehicle
[ ] CRD in parents vehicle
[ ] didn't know they were available
[ ] too busy to get one
[ ] other [please specify]_____.
[ ] DK
[ ] R

FORM E

Respondent #: _____

25. Do you have a child seat for this child?
[ ] yes
[ ] no
[ ] DK
[ ] R
[ ] NA

26. [SHOW CARD B] Look at this card and please tell me which one item best describes your reason for not using a **child seat.**
[ ] too expensive
[ ] child doesn't like them
[ ] too much trouble to use
[ ] takes too much room in the car
[ ] too difficult to install
[ ] don't think they really protect in a crash
[ ] child too big
[ ] CRD in other vehicle
[ ] CRD in parents vehicle
[ ] didn't know they were available
[ ] too busy to get one
[ ] other [please specify]_____.
[ ] DK
[ ] R

27. [SHOW CARD C] Look at this card and please tell me which one item best describes your reason for not using a **seat belt** for this child.
[ ] child doesn't like them
[ ] too much trouble
[ ] don't think they really protect in a crash
[ ] not enough seat belts for number of occupants
[ ] other [please specify] _____.
[ ] DK
[ ] R

ALL RESPONDENTS

Respondent #: _____

28. Have you heard of the Michigan Child Restraint law?
[ ] yes IF YES
[ ] no

29. Would you tell me briefly what you know about the law?
[ ] 1 = PERFECT KNOWLEDGE
[ ] 2 = > 1 IN CRD 1-3 IN BELT
[ ] 3 = RESTRAINED UNDER 4
[ ] 4 = RESTRAINED NO/INCORRECT AGE
[ ] 5 = NO KNOWLEDGE
[ ] SKIP

IF RESPONDENT ANSWERS "NO" TO QUESTION 28 **OR** GIVES INCORRECT ANSWERS TO QUESTIONS 29, INFORM RESPONDENT THAT: The law requires children under four-years-old to be in child seats or seat belts when traveling in a car.

30. How much would the thought of getting a ticket for not buckling up young children influence your decision to use child seats or seat belts?
[ ] great influence
[ ] some influence
[ ] no influence
[ ] DK
[ ] R
[ ] NA

31. What percent of parents with small children do you think are in favor of the child restraint law?
[ ] less than 20%
[ ] between 20 and 40%
[ ] between 40 and 60%
[ ] between 60 and 80%
[ ] more than 80%
[ ] DK
[ ] R

32. What percent of parents with small children do you think obey the child restraint law?
[ ] less than 20%
[ ] between 20 and 40%
[ ] between 40 and 60%
[ ] between 60 and 80%
[ ] more than 80%
[ ] DK
[ ] R

33. How often do you think police officers stop drivers who they see are not buckling up young children?
[ ] most of the time
[ ] sometimes
[ ] rarely
[ ] never
[ ] DK
[ ] R

34. How often do you think police officers give tickets to drivers they stop who are not buckling up young children?
[ ] most of the time
[ ] sometimes
[ ] rarely
[ ] never
[ ] DK
[ ] R

The next questions are for general background.

35. Are you currently
[ ] single
[ ] married
[ ] divorced/separated
[ ] widowed
[ ] R

36. [SHOW CARD D] Look at this card and please give me the letter that indicates your yearly family income, before taxes.
[ ] A
[ ] B
[ ] C
[ ] D
[ ] DK ------- PROMPT: What do you think is the closest group?
[ ] R

37. What is your birth date?
[ ] Jan
[ ] Feb
[ ] Mar
[ ] Apr
[ ] May
[ ] June
[ ] July
[ ] Aug
[ ] Sept
[ ] Oct
[ ] Nov
[ ] Dec
[ ] R

19 __ __ IF R RECORD 77

38. What is your ethnic background?
[ ] White
[ ] Black
[ ] Oriental
[ ] Hispanic
[ ] Native American
[ ] Other Please specify _____

This is the end of the interview, but I would like you to fill out a brief questionnaire. It won't take more than 10 minutes to fill out and you can do it at any time. If you complete it during lunch and return it to me on you way out of the restaurant, I will give you a coupon from _____ for _____. If you can't complete it now, we'd appreciate it if you would mail it back tomorrow. When it is completed put it in the pre-stamped envelope that is attached and mail to the University of Michigan.

DID RESPONDENT TAKE QUESTIONNAIRE?
[ ] YES ——→
[ ] NO

WAS RESPONDENT OFFERED INCENTIVE?
[ ] YES
[ ] NO
[ ] SKIP

[IF RESPONDENT REFUSES QUESTIONNAIRE]
Thank you for your cooperation.

[IF RESPONDENT AGREES, GIVE THEM QUESTIONNAIRE AND ENVELOPE]
Thank you for helping. Your assistance is greatly appreciated.

QUESTIONNAIRE

Introduction

This survey is being conducted by the University of Michigan. You do not have to be part of the survey. If you do participate all the information you give will be kept confidential. Only a summary of the information collected will be used in reports written about this survey. Because the survey is voluntary you may skip over any question that you do not want to answer. However, it is most helpful if you carefully answer all questions. It should take you less than 10 minutes to complete the questionnaire. It would be helpful if you would complete the questionnaire during your meal. If you can't complete it now, please mail it in the attached envelope to the University of Michigan. The envelope provided already has a stamp on it.

Site # _ _ _

Respondent # _____ 147

QUESTIONNAIRE

1. Were you the driver of the vehicle when you received this questionnaire?
   [ ] yes
   [ ] no If "no" what is your relation to the driver? _____

_ _

THE NEXT QUESTION SHOULD BE ANSWERED FOR THE CHILD IDENTIFIED IN THE INTERVIEW.

2. What is your relation to the child?
   [ ] parent
   [ ] sister/brother
   [ ] grandparent
   [ ] other relative
   [ ] babysitter
   [ ] friend
   [ ] other Please specify _____

3. Which problem do you think kills the most children age 1 to 10 in the United States?
   [ ] child abuse
   [ ] motor vehicle accidents
   [ ] cancer, including leukemia
   [ ] other diseases

4. Have you ever been in a motor vehicle accident (including fender benders)?
   [ ] yes
   [ ] no

5. Have you ever been **injured** in a motor vehicle accident that required any home treatment such as band-aids, ice, or aspirin or a visit to a doctor or emergency room?
   [ ] yes
   [ ] no

6. Has anyone close to you (friend or relative) been killed in a motor vehicle accident?
   [ ] yes
   [ ] no

7. Has anyone close to you (friend or relative) been injured in a motor vehicle accident that required a stay in the hospital?
   [ ] yes
   [ ] no

8. In 1983, 1,200 children under age 4 were killed in car crashes in the United States. If all children used seat belts or child seats, how many do you think would have been killed?
   [ ] more than 1,200
   [ ] 501-1,199
   [ ] 251-500
   [ ] less than 250

9. When riding in a motor vehicle how often do you wear a seat belt?
   [ ] never
   [ ] rarely — IF RARELY
   [ ] sometimes — IF SOMETIMES
   [ ] most times — IF MOST TIMES
   [ ] always

10. Are you more likely to wear a seat belt on long trips or short trips?
    [ ] long trips
    [ ] short trips
    [ ] no difference between long and short trips
    [ ] Skip

11. When driving a motor vehicle with your children under 4 years old how often do they ride in child seats or seat belts?
    [ ] never
    [ ] rarely — IF RARELY
    [ ] sometimes — IF SOMETIMES
    [ ] most times — IF MOST TIMES
    [ ] always
    [ ] don't have children under four

12. Are they more likely to ride in child seats or seat belts on long trips or short trips?
    [ ] long trips
    [ ] short trips
    [ ] no difference between long and short trips
    [ ] Skip

13. When you are driving with young children that are not your own, how often do you require that they buckle up?
[ ] never
[ ] rarely
[ ] sometimes
[ ] most times
[ ] always
[ ] never drive with young children other than my own

14. Is your husband/wife more likely or less likely than you are to ensure that your children under age four are buckled up?
[ ] more likely
[ ] less likely
[ ] just as likely
[ ] don't know
[ ] not currently married

15. What do you think is the average cost of a child seat?
[ ] $10 to $24
[ ] $25 to $39
[ ] $40 to $54
[ ] over $55

16. If child restraint use were not required by law, would you put your child in a child seat or seat belt?
[ ] never
[ ] rarely
[ ] sometimes
[ ] always
[ ] don't have children under 4 years

17. What portion of your friends with children under four years put them in child seats or seat belts?
[ ] less than 20%
[ ] between 20 and 40%
[ ] between 40 and 60%
[ ] between 60 and 80%
[ ] more than 80%
[ ] don't have friends with children under 4

18. Do you think many people notice whether or not young children in other cars use child seats or seat belts?
[ ] yes
[ ] no

PLEASE INDICATE THE DEGREE TO WHICH YOU DISAGREE OR AGREE WITH THE FOLLOWING STATEMENTS BY CIRCLING THE APPROPRIATE NUMBER. IF YOU DO NOT HAVE CHILDREN, CIRCLE "NA".

19. The use of child seats should be required by law. 1 2 3 4 5 6 7

—

20. Parents will not use a child seat unless there is a fine for breaking the law. 1 2 3 4 5 6 7

—

21. Child restraint laws should be strictly enforced. 1 2 3 4 5 6 7

—

22. A child restraint law makes parents more likely to secure their child in a child seat. 1 2 3 4 5 6 7

—

23. A small child who is held on the lap of a passenger in a car is as safe as a child riding in a child seat. 1 2 3 4 5 6 7

—

24. It is a bother to put my child in a child seat. 1 2 3 4 5 6 7 NA

—

25. My child likes to ride in child seats. 1 2 3 4 5 6 7 NA

—

26. My child does not behave if he/she has to ride in a child seat. 1 2 3 4 5 6 7 NA

—

27. Children under two years of age are willing to ride in a child seat. 1 2 3 4 5 6 7

—

28. Two and three year old children are willing to ride in child seats. 1 2 3 4 5 6 7

—

29. Children who don't like riding in child seats get used to it with regular use. 1 2 3 4 5 6 7

—

30. The use of seat belts by adults should be required by law. 1 2 3 4 5 6 7

—

31. Laws that require the use of seat belts infringe on individual rights. 1 2 3 4 5 6 7

—

32. The federal government in Washington is trying to do too many things that should be left to individuals and private businesses. 1 2 3 4 5 6 7

—

33. The state government in Lansing is trying to do too many things that should be left to individuals and private businesses. 1 2 3 4 5 6 7

—

34. Seat belts for adults don't allow movement for comfortable driving. 1 2 3 4 5 6 7

—

THE NEXT QUESTIONS ARE FOR GENERAL BACKGROUND.

35. Are you currently
[ ] employed
[ ] unemployed
[ ] homemaker
[ ] retired
[ ] not applicable

36. What is your usual occupation? _____

— —

37. Is your husband/wife currently
[ ] employed
[ ] unemployed
[ ] homemaker
[ ] retired
[ ] not applicable

38. What is his/her usual occupation? _____

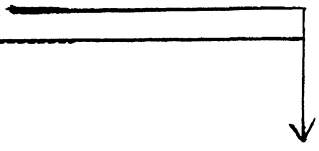
— —

39. What is the highest level of school you have completed?
[ ] less than 8th grade
[ ] between 8th and 11th grade
[ ] high school graduate
[ ] some college or vocational/technical school
[ ] college graduate
[ ] post graduate education

THE NEXT QUESTIONS ARE ABOUT HEALTH.

40. When was the last time you personally went to see a dentist?
[ ] in last 6 months
[ ] 6 to 12 months ago
[ ] 1 to 2 years ago
[ ] more than 2 years ago

41. Do you now, or have you ever smoked cigarettes?
[ ] never smoked
[ ] smoked in past
[ ] smoke now



42. How many cigarettes do/did you smoke each day?
[ ] less than half a pack a day
[ ] half to one pack a day
[ ] one to two packs a day
[ ] more than two packs a day
[ ]

If you have any comments that you would like to make regarding this survey or any of the questions, please do so on the back of this page.

Thank you.

Appendix C

Child Restraint Study Codebook

Variable Number	Variable Name	Field Width	Character Type	Mult Resp	Page Number
1	Site Number	3	Numeric		1
2	Respondent #	4	Numeric		1
3	Month	2	Numeric		1
4	Day	2	Numeric		1
5	Start Hour	2	Numeric		2
6	Start Minute	2	Numeric		2
7	Day of Week	1	Numeric		3
8	# Break Minutes	2	Numeric		3
9	Lunch start - hour	2	Numeric		3
10	Lunch start - minute	2	Numeric		3
11	Lunch end - hour	2	Numeric		4
12	Lunch end - minute	2	Numeric		4
13	End time - hour	2	Numeric		4
14	End time - minute	2	Numeric		5
15	Start Respondent #	4	Numeric		5
16	End Respondent #	4	Numeric		7
17	Observer	1	Numeric		10
18	Interviewer	1	Numeric		10
19	Wave	1	Numeric		10
20	Study Participation	1	Numeric		10

Child Restraint Study
Observer Data

Variable Number	Variable Name	Field Width	Character Type	Mult Resp	Page Number
21	Driver Restraint Use	1	Numeric		11
22	Driver Sex	1	Numeric		11
23	Driver Age-Estimated	1	Numeric		11
24	Driver Age-Self Reported	2	Numeric		11
25	Child Restraint Use	1	Numeric		13
26	Child Restraint Use(Y/N)	1	Numeric		13
27	Correctness of Use	2	Numeric		13
28	Child Seat Position	1	Numeric		14
29	Number Vehicle Occupants	2	Numeric		14
30	Brand Name	2	Numeric		14
31	CRD Present	1	Numeric		16
32	CRD Type	1	Numeric		17
33	Auto Belt Fastened	1	Numeric		17
34	Auto Belt Snug	1	Numeric		17
35	Auto Belt Routing OK	1	Numeric		17
36	Locking Clip	1	Numeric		18
37	Seat Direction	1	Numeric		18
38	Seat Angle	1	Numeric		18
39	Tether Required	1	Numeric		18
40	Tether Used	1	Numeric		19
41	Tether Anchored	1	Numeric		19
42	Anchored Properly	1	Numeric		19
43	Is CRD Used	1	Numeric		19
44	Is Shield Used	1	Numeric		20
45	Harness Fastened	1	Numeric		20

Variable Number	Variable Name	Field Width	Character Type	Mult Resp	Page Number
46	Harness Snug	1	Numeric		20
47	Harness Clip	1	Numeric		20
48	Harness Position	1	Numeric		21
49	Vehicle Size	1	Numeric		21
50	Hour Interviewed	2	Numeric		21
51	Minute Interviewed	2	Numeric		22
52	License Plate Number	6	Alpha		23
53	Vehicle Sequence No.	2	Numeric		23

Child Restraint Study
Interview Data

Variable Number	Variable Name	Field Width	Character Type	Mult Resp	Page Number
54	Child Under Four	1	Numeric		25
55	Is Driver Parent	1	Numeric		25
56	Parent in Car	1	Numeric		25
57	Child Birth Month	2	Numeric		25
58	Child Birth Year	2	Numeric		26
59	Child Age-months	2	Numeric		26
60	Child Sex	1	Numeric		27
61	Siblings	1	Numeric		28
62	Number Older Siblings	2	Numeric		28
63	Number Younger Siblings	2	Numeric		28
64	Child Birth Order	2	Numeric		28
65	Days Driving W/Children	1	Numeric		29
66	Form	1	Numeric		29
67	Learn About Restraints	2	Numeric		29
68	Obtain Seat	1	Numeric		30
69	Receive Instructions	1	Numeric		30
70	How Instructions	1	Numeric		30
71	Instructions-verbal	2	Numeric		30
72	Instructions- Written	2	Numeric		31
73	Who Installed Seat	2	Numeric		31
74	Help Installing Seat	1	Numeric		32
75	Who Help Install Seat	2	Numeric		32
76	Installed Correctly	1	Numeric		32
77	How Incorrectly Install	2	Numeric		32
78	Why Incorrectly Install	2	Numeric		33

Variable Number	Variable Name	Field Width	Character Type	Mult Resp	Page Number
79	Child Riding Correctly	1	Numeric		33
80	How Incorrectly Riding	2	Numeric		33
81	Why Incorrectly Riding	2	Numeric		34
82	Have a Seat for Child	1	Numeric		34
83	Why Not Use Child Seat	2	Numeric		34
84	Why Not Use Seat Belt	2	Numeric		35
85	Hear of CRD Law	1	Numeric		35
86	Knowledge of Law	1	Numeric		36
87	Fear of Ticket	1	Numeric		36
88	Percent in Favor of Law	1	Numeric		36
89	Percent Obey Law	1	Numeric		37
90	How Often Police Stop	1	Numeric		37
91	How Often Police Ticket	1	Numeric		37
92	Marital Status	1	Numeric		38
93	Family Income	1	Numeric		38
94	Birth Month	2	Numeric		38
95	Birth Year	2	Numeric		39
96	Ethnic Background	1	Numeric		40
97	Take Questionnaire	1	Numeric		40
98	Incentive Offered	1	Numeric		40

Child Restraint Study
Questionnaire Data

Variable Number	Variable Name	Field Width	Character Type	Mult Resp	Page Number
99	Questionnaire Present	1	Numeric		41
100	Were You Driver	1	Numeric		41
101	Relation to Driver	2	Numeric		41
102	Relation to Child	1	Numeric		42
103	What Kills Most Children	1	Numeric		42
104	Ever in a Crash	1	Numeric		42
105	Injured in Crash	1	Numeric		42
106	Significant Other Killed	1	Numeric		43
107	Sig. Other Hospitalized	1	Numeric		43
108	Est. Belted Fatalities	1	Numeric		43
109	Freq. Seat Belt Use	1	Numeric		43
110	When Seat Belt Used	1	Numeric		44
111	How Often Child Rest.	1	Numeric		44
112	When Children Restrained	1	Numeric		44
113	Other Children Rest.	1	Numeric		44
114	Spouse Child Rest. Use	1	Numeric		45
115	Est. Cost of CRD	1	Numeric		45
116	Use CRD Without Law	1	Numeric		45
117	% Friends Who Use CRD	1	Numeric		45
118	Other People Notice CRD	1	Numeric		46
119	CRD Should be Law	1	Numeric		46
120	CRD Not Used W/O Law	1	Numeric		46
121	Enforce CRD Law	1	Numeric		46
122	CRD Law Causes Use	1	Numeric		47
123	In Lap is Safe	1	Numeric		47

Variable Number	Variable Name	Field Width	Character Type	Mult Resp	Page Number
124	CRD is a Bother	1	Numeric		47
125	My Child Likes CRD	1	Numeric		48
126	Child Misbehaves in CRD	1	Numeric		48
127	Child Under 2 Likes CRD	1	Numeric		48
128	Childern 2-3 Like CRD	1	Numeric		49
129	Children Get Used to CRD	1	Numeric		49
130	Make Adult Belt Use Law	1	Numeric		49
131	Belt Law Infringe Rights	1	Numeric		50
132	Feds Do Too Much	1	Numeric		50
133	State Does Too Much	1	Numeric		50
134	Belts Uncomfortable	1	Numeric		51
135	Employment Status	1	Numeric		51
136	Occupation	2	Numeric		51
137	Spouse Employment Status	1	Numeric		52
138	Spouse Occupation	2	Numeric		53
139	Education Level	1	Numeric		54
140	Last Dentist Visit	1	Numeric		54
141	Smoked Cigarettes	1	Numeric		54
142	How Many Cigarettes	1	Numeric		55
143	Correct CRD Use	1	Numeric		55
144	Family Occupation	2	Numeric		55

Site Variables

The Site Variables are coded once for each site and are the same for all subjects at a given site on a given day.

Variable 1 **Site Number** MD1: 000 Field Width: 3
MD2: 999 Type: Numeric

Variable 2 **Respondent #** MD1: 0000 Field Width: 4
MD2: 9999 Type: Numeric

Variable 3 **Month** MD1: 00 Field Width: 2
MD2: 12 Type: Numeric

FREQ	Prcnt	Month
0	0.0	00. Missing Data
354	49.4	05.
98	13.7	06.
65	9.1	09.
200	27.9	10.

Variable 4 **Day** MD1: 00 Field Width: 2
MD2: 32 Type: Numeric

FREQ	Prcnt	Day
0	0.0	00. Missing Data
23	3.2	01.
32	4.5	02.
31	4.3	03.
28	3.9	04.
14	2.0	05.
22	3.1	06.
22	3.1	07.
49	6.8	08.
55	7.7	09.
53	7.4	10.
40	5.6	11.
17	2.4	12.
8	1.1	13.
21	2.9	14.
25	3.5	15.

FREQ	Prcnt	Var 4 Day
41	5.7	16.
21	2.9	17.
6	0.8	18.
5	0.7	19.
8	1.1	20.
12	1.7	21.
15	2.1	22.
11	1.5	23.
17	2.4	24.
31	4.3	25.
20	2.8	26.
16	2.2	27.
43	6.0	28.
11	1.5	29.
7	1.0	30.
13	1.8	31.

Variable 5 **Start Hour** MD1: 00 Field Width: 2
MD2: 25 Type: Numeric

FREQ	Prcnt	Start Hour
0	0.0	00. Missing Data
222	31.0	10.
469	65.4	11.
13	1.8	12.
4	0.6	13.
9	1.3	16.

Variable 6 **Start Minute** MD1: 99 Field Width: 2
MD2: 61 Type: Numeric

FREQ	Prcnt	Start Minute
275	38.4	00.
62	8.6	10.
88	12.3	15.
15	2.1	20.
28	3.9	25.
142	19.8	30.
14	2.0	38.
16	2.2	40.
37	5.2	45.
17	2.4	50.
23	3.2	55.
0	0.0	99. Missing Data

Variable 7 **Day of Week** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Day of Week
0	0.0	0. Missing Data
47	6.6	1. Monday
58	8.1	2. Tuesday
92	12.8	3. Wednesday
114	15.9	4. Thursday
156	21.8	5. Friday
153	21.3	6. Saturday
97	13.5	7. Sunday

Variable 8 **# Break Minutes** MD1: 99 Field Width: 2
MD2: None Type: Numeric

FREQ	Prcnt	# Break Minutes
613	85.5	00.
7	1.0	05.
4	0.6	07.
35	4.9	10.
44	6.1	15.
14	2.0	30.
0	0.0	99. Missing Data

Variable 9 **Lunch start - hour** MD1: 99 Field Width: 2
MD2: 25 Type: Numeric

FREQ	Prcnt	Lunch start - hour
208	29.0	00.
22	3.1	12.
31	4.3	13.
452	63.0	14.
4	0.6	15.
0	0.0	99. Missing Data

Variable 10 **Lunch start - minute** MD1: 99 Field Width: 2
MD2: 61 Type: Numeric

FREQ	Prcnt	Lunch start - minute
558	77.8	00.
18	2.5	05.
41	5.7	10.

FREQ	Prcnt	Var 10 Lunch start - minute
20	2.8	15.
11	1.5	20.
13	1.8	30.
6	0.8	35.
42	5.9	45.
8	1.1	50.
0	0.0	99. Missing Data

Variable 11 **Lunch end - hour** MD1: 99 Field Width: 2
MD2: 25 Type: Numeric

FREQ	Prcnt	Lunch end - hour
208	29.0	00.
45	6.3	13.
439	61.2	14.
25	3.5	15.
0	0.0	99. Missing Data

Variable 12 **Lunch end - minute** MD1: 99 Field Width: 2
MD2: 61 Type: Numeric

FREQ	Prcnt	Lunch end - minute
220	30.7	00.
6	0.8	05.
32	4.5	15.
17	2.4	20.
331	46.2	30.
18	2.5	35.
36	5.0	40.
29	4.0	45.
11	1.5	50.
17	2.4	55.
0	0.0	99. Missing Data

Variable 13 **End time - hour** MD1: 00 Field Width: 2
MD2: 25 Type: Numeric

FREQ	Prcnt	End time - hour
0	0.0	00. Missing Data
2	0.3	12.
6	0.8	14.
18	2.5	15.

FREQ	Prcnt	Var 13 End time - hour
90	12.6	16.
277	38.6	17.
169	23.6	18.
155	21.6	19.

Variable 14 **End time - minute** MD1: 99 Field Width: 2
MD2: 61 Type: Numeric

FREQ	Prcnt	End time - minute
382	53.3	00.
16	2.2	04.
61	8.5	05.
6	0.8	08.
11	1.5	10.
41	5.7	15.
34	4.7	20.
10	1.4	25.
63	8.8	30.
24	3.3	35.
7	1.0	40.
40	5.6	45.
18	2.5	50.
4	0.6	55.
0	0.0	99. Missing Data

Variable 15 **Start Respondent #** MD1: 0000 Field Width: 4
MD2: 9999 Type: Numeric

FREQ	Prcnt	Start Respondent #
0	0.0	0000. Missing Data
5	0.7	0001.
2	0.3	0006.
4	0.6	0008.
1	0.1	0012.
4	0.6	0013.
6	0.8	0017.
1	0.1	0024.
4	0.6	0026.
9	1.3	0030.
8	1.1	0039.
15	2.1	0047.
6	0.8	0063.
3	0.4	0069.
8	1.1	0072.
6	0.8	0080.

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FREQ	Prcnt	Var 15	Start Respondent #
14	2.0	0086.	
2	0.3	0100.	
4	0.6	0102.	
5	0.7	0106.	
9	1.3	0111.	
9	1.3	0120.	
13	1.8	0129.	
9	1.3	0142.	
8	1.1	0152.	
8	1.1	0160.	
6	0.8	0168.	
13	1.8	0174.	
2	0.3	0188.	
5	0.7	0190.	
8	1.1	0195.	
3	0.4	0203.	
6	0.8	0206.	
4	0.6	0212.	
19	2.6	0216.	
11	1.5	0235.	
8	1.1	0246.	
11	1.5	0254.	
6	0.8	0265.	
9	1.3	0271.	
14	2.0	0280.	
17	2.4	0294.	
11	1.5	0311.	
5	0.7	0322.	
8	1.1	0327.	
10	1.4	0335.	
13	1.8	0345.	
9	1.3	0358.	
3	0.4	0367.	
4	0.6	0370.	
9	1.3	0374.	
7	1.0	0383.	
11	1.5	0390.	
2	0.3	0401.	
5	0.7	0403.	
2	0.3	0408.	
5	0.7	0410.	
5	0.7	0415.	
6	0.8	0420.	
2	0.3	0426.	
2	0.3	0428.	
4	0.6	0430.	
2	0.3	0434.	
2	0.3	0436.	
5	0.7	0438.	
9	1.3	0443.	
5	0.7	0452.	

FREQ	Prcnt	Var 15	Start Respondent #
5	0.7	0457.	
2	0.3	0462.	
7	1.0	0471.	
10	1.4	0478.	
14	2.0	0488.	
6	0.8	0502.	
7	1.0	0508.	
7	1.0	0515.	
16	2.2	0522.	
17	2.4	0538.	
14	2.0	0555.	
9	1.3	0569.	
4	0.6	0578.	
8	1.1	0582.	
17	2.4	0590.	
9	1.3	0607.	
1	0.1	0616.	
4	0.6	0617.	
4	0.6	0621.	
8	1.1	0625.	
7	1.0	0633.	
11	1.5	0640.	
3	0.4	0651.	
5	0.7	0654.	
3	0.4	0659.	
2	0.3	0662.	
3	0.4	0664.	
3	0.4	0667.	
3	0.4	0670.	
9	1.3	0673.	
11	1.5	0682.	
16	2.2	0724.	
6	0.8	0740.	
15	2.1	0746.	

Variable 16 **End Respondent #** MD1: 0000 Field Width: 4
MD2: 9999 Type: Numeric

FREQ	Prcnt	End Respondent #
0	0.0	0000. Missing Data
5	0.7	0005.
2	0.3	0007.
4	0.6	0011.
1	0.1	0012.
4	0.6	0016.
6	0.8	0023.
1	0.1	0025.
4	0.6	0029.

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FREQ	Prcnt	Var 16 End Respondent #
9	1.3	0038.
8	1.1	0046.
15	2.1	0062.
6	0.8	0068.
3	0.4	0071.
8	1.1	0079.
6	0.8	0085.
14	2.0	0099.
2	0.3	0101.
4	0.6	0105.
5	0.7	0110.
9	1.3	0119.
9	1.3	0128.
13	1.8	0141.
9	1.3	0151.
8	1.1	0159.
8	1.1	0167.
6	0.8	0173.
13	1.8	0187.
2	0.3	0189.
5	0.7	0194.
8	1.1	0202.
3	0.4	0205.
6	0.8	0211.
4	0.6	0215.
19	2.6	0234.
11	1.5	0245.
8	1.1	0253.
11	1.5	0264.
6	0.8	0270.
9	1.3	0279.
14	2.0	0293.
17	2.4	0310.
11	1.5	0321.
5	0.7	0326.
8	1.1	0334.
10	1.4	0344.
13	1.8	0357.
9	1.3	0366.
3	0.4	0369.
4	0.6	0373.
9	1.3	0382.
7	1.0	0389.
11	1.5	0400.
2	0.3	0402.
5	0.7	0407.
2	0.3	0409.
5	0.7	0414.
5	0.7	0419.
6	0.8	0425.
2	0.3	0427.

FREQ	Prcnt	Var 16 End Respondent #
2	0.3	0429.
4	0.6	0433.
2	0.3	0435.
2	0.3	0437.
5	0.7	0442.
9	1.3	0451.
5	0.7	0456.
5	0.7	0461.
2	0.3	0463.
7	1.0	0477.
10	1.4	0487.
14	2.0	0501.
6	0.8	0507.
7	1.0	0514.
7	1.0	0521.
16	2.2	0537.
17	2.4	0554.
14	2.0	0568.
9	1.3	0577.
4	0.6	0581.
8	1.1	0589.
17	2.4	0606.
9	1.3	0615.
1	0.1	0616.
4	0.6	0620.
4	0.6	0624.
8	1.1	0632.
7	1.0	0639.
11	1.5	0650.
3	0.4	0653.
5	0.7	0658.
3	0.4	0661.
2	0.3	0663.
3	0.4	0666.
3	0.4	0669.
3	0.4	0672.
9	1.3	0681.
11	1.5	0692.
16	2.2	0739.
6	0.8	0745.
15	2.1	0760.

Variable 17 **Observer** MDl: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Observer
0	0.0	0. Missing Data
207	28.9	1. Karen
94	13.1	2. Meg
13	1.8	3. Linda
0	0.0	4. Kathy
0	0.0	5. Tom
209	29.1	6. Bob
194	27.1	7. Jethro

Variable 18 **Interviewer** MDl: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Interviewer
69	9.6	1. Karen
140	19.5	2. Lev
56	7.8	3. Barb
259	36.1	4. Kathy
193	26.9	5. Tom
0	0.0	6. Bob
0	0.0	7. Jethro

Variable 19 **Wave** MDl: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Field Interview Group
265	37.0	1. Wave 1 (Sept. - Oct. 1985)
452	63.0	2. Wave 2 (May - June 1986)

Variable 20 **Study Participation** MDl: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Study Participation
56	7.8	1. Refused Interview
4	0.6	2. Interviewed, Refused Questionaire
206	28.7	3. Interviewed, Took Quest., Quest. Not Returned
451	62.9	4. Full Participation

Observer Variables

The following variables were coded by the Observer as the subject drove into the survey area and during the interview.

Variable 21 **Driver Restraint Use** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Driver Restraint Use
17	2.4	0. Missing Data
272	37.9	1. None
428	59.7	2. Belted

Variable 22 **Driver Sex** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Driver Sex
0	0.0	0. Missing Data
257	35.8	1. Male
460	64.2	2. Female

Variable 23 **Driver Age-Estimated** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Driver Age-Estimated
1	0.1	0. Missing Data
299	41.7	1. 16-29
391	54.5	2. 30-59
26	3.6	3. 60+

Variable 24 **Driver Age-Self Reported** MD1: 00 Field Width: 2
MD2: None Type: Numeric

FREQ	Prcnt	Calculated from Driver Month and Year of Birth
1	0.1	15.
1	0.1	16.
3	0.4	17.
1	0.1	18.
9	1.3	19.

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FREQ	Prcnt	Var 24	Driver Age-Self Reported
9	1.3	20.	
12	1.7	21.	
19	2.6	22.	
20	2.8	23.	
29	4.0	24.	
36	5.0	25.	
43	6.0	26.	
46	6.4	27.	
44	6.1	28.	
37	5.2	29.	
48	6.7	30.	
31	4.3	31.	
41	5.7	32.	
43	6.0	33.	
30	4.2	34.	
34	4.7	35.	
17	2.4	36.	
14	2.0	37.	
18	2.5	38.	
10	1.4	39.	
5	0.7	40.	
6	0.8	41.	
5	0.7	42.	
3	0.4	43.	
2	0.3	44.	
4	0.6	45.	
1	0.1	47.	
2	0.3	48.	
1	0.1	49.	
1	0.1	50.	
5	0.7	51.	
3	0.4	52.	
1	0.1	53.	
1	0.1	54.	
4	0.6	55.	
3	0.4	59.	
4	0.6	60.	
2	0.3	61.	
1	0.1	62.	
1	0.1	64.	
1	0.1	66.	
2	0.3	69.	
2	0.3	70.	
1	0.1	71.	
1	0.1	77.	
1	0.1	83.	
58	8.1	99.	Missing Data

Variable 25 **Child Restraint Use** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Child Restraint Use
0	0.0	0. Missing Data
179	25.0	1. No Restraint
144	20.1	2. Belted
394	55.0	3. Child Restraint

Variable 26 **Child Restraint Use(Y/N)** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Recode of V25
0	0.0	0. Missing Data
538	75.0	1. Some Restraint
179	25.0	2. No Restraint

Variable 27 **Correctness of Use** MD1: 99 Field Width: 2
MD2: None Type: Numeric

Based on the individual and combined values of variables 32 - 48 and child age indicating correct use of the CRD.

FREQ	Prcnt	Scale Indicating Correct Use of Child's Restraint
146	20.4	00. Correct Use
3	0.4	01. Minor Incorrect Use
31	4.3	02.
20	2.8	04.
1	0.1	05. Moderate Incorrect Use (2-9)
32	4.5	06.
1	0.1	07.
25	3.5	08.
1	0.1	09.
8	1.1	10. Severe Incorrect Use (10+)
11	1.5	12.
38	5.3	14.
1	0.1	15.
4	0.6	16.
19	2.6	18.
2	0.3	19.
21	2.9	20.
2	0.3	21.
5	0.7	22.
4	0.6	24.
1	0.1	25.
2	0.3	26.

FREQ	Prcnt	Var 27 Correctness of Use
9	1.3	28.
6	0.8	34.
1	0.1	42.
323	45.0	99. Missing Data

Variable 28 **Child Seat Position** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Child Seat Position
2	0.3	0. Missing Data
50	7.0	1. Front Center
146	20.4	2. Front Right
166	23.2	3. Rear Left
134	18.7	4. Rear Center
209	29.1	5. Rear Right
4	0.6	6. Cargo
5	0.7	7. 3/4 Seat
1	0.1	8. Left Front

Variable 29 **Number Vehicle Occupants** MD1: 00 Field Width: 2
MD2: None Type: Numeric

FREQ	Prcnt	Number Vehicle Occupants
2	0.3	00. Missing Data
143	19.9	02.
272	37.9	03.
190	26.5	04.
79	11.0	05.
19	2.6	06.
7	1.0	07.
4	0.6	08.
1	0.1	10.

Variable 30 **Brand Name** MD1: 00 Field Width: 2
MD2: 99 Type: Numeric

FREQ	Prcnt	Brand Name
1	0.1	00. Missing Data
		INFANT SEATS
21	2.9	01. Infant Love Seat - Century
0	0.0	02. Cuddle Shuttle - Collier-Keyworth

FREQ	Prcnt	Var 30	Brand Name
1	0.1	03.	First Ride - Cosco
9	1.3	04.	Dyn-o-mite - Evenflo (Questor)
0	0.0	05.	Snug Seat - Graco
3	0.4	06.	Rock 'N' Ride - Kolcraft
			CONVERTIBLE SEATS
0	0.0	07.	Wonda Chair - Babyhood Industries
5	0.7	08.	Century Missing Model
22	3.1	09.	Century 100 - Century
31	4.3	10.	Century 200 - Century
10	1.4	11.	Century 300 - Century
0	0.0	12.	Century 400 XL - Century
1	0.1	13.	Collier-Keyworth Missing Model
1	0.1	14.	Roundtripper - Collier-Keyworth
8	1.1	15.	Safe & Sound - Collier-Keyworth
3	0.4	16.	Cosco Missing Model
1	0.1	17.	Commuter - Cosco
5	0.7	18.	Safe & Snug - Cosco
2	0.3	19.	Safe N Easy - Cosco
2	0.3	20.	Safe-T-Mate - Cosco
23	3.2	21.	Safe-T-Seat - Cosco
6	0.8	22.	Safe-T-Shield - Cosco
8	1.1	23.	Evenflo Missing Model
7	1.0	24.	Bobby-Mac Deluxe - Evenflo (Questor)
10	1.4	25.	Bobby-Mac Champion - Evenflo (Questor)
0	0.0	26.	Bobby-Mac Lite - Evenflo (Questor)
1	0.1	27.	Kantwet Care Seat - Evenflo (Questor)
67	9.3	28.	Kantwet One Step - Evenflo (Questor)
9	1.3	29.	Fisher-Price - Fisher-Price
1	0.1	30.	Guardian - Gerry
0	0.0	31.	GT 1000 - Graco
0	0.0	32.	Little Trav'ler - Graco
1	0.1	33.	International Missing Model
1	0.1	34.	Teddy Tot Astroseat 9100A - International
2	0.3	35.	Teddy Tot Astroseat 9300A - International
0	0.0	36.	Kolcraft Missing Model
5	0.7	37.	Hi Rider XL2 - Kolcraft
0	0.0	38.	Quickstep - Kolcraft
2	0.3	39.	Redi-Rider - Kolcraft
0	0.0	40.	Nissan - Nissan
0	0.0	41.	Pride-Trimble Missing Model
0	0.0	42.	Pride Ride 820 - Pride-Trimble
1	0.1	43.	Pride Ride 830 - Pride-Trimble
5	0.7	44.	Strolee Missing Model
9	1.3	45.	Wee Care (500 Series) - Strolee
15	2.1	46.	Wee Care (600 Series) - Strolee
0	0.0	47.	Travel Tot - Welsh
			TOODLER SEATS
31	4.3	48.	Child Love Seat - Century
0	0.0	49.	Bobby-Mac Lite - Evenflo (Questor)

FREQ	Prcnt	Var 30 Brand Name
0	0.0	50. Britax - Evenflo (Questor)
0	0.0	51. Kantwet Safe Guard - Evenflo (Questor)
0	0.0	52. EZ On Vest - Rupert
		BOOSTER SEATS
10	1.4	53. Commander - Century
4	0.6	54. Safe-T-Rider I, II - Century
0	0.0	55. Mopar Child Shield - Chrysler
5	0.7	56. Co-Pilot - Collier-Keyworth
3	0.4	57. Voyager - Collier-Keyworth
10	1.4	58. Explorer - Cosco
3	0.4	59. Travel Hi Lo - Cosco
4	0.6	60. Bobby Mac Wings - Evenflo (Questor)
0	0.0	61. Tot Guard - Ford
3	0.4	62. Teddy Tot Astrorider - International
1	0.1	63. Flip 'n Go - Kolcraft
7	1.0	64. Tot Rider - Kolcraft
2	0.3	65. Tot Rider XL - Kolcraft
24	3.3	66. Don't Know
13	1.8	67. Tot Rider Quick Step - Kolcraft
0	0.0	68. Quick Click - Strolee
1	0.1	69. Wee Care 602/604 - Strolee
0	0.0	70. Child Cushion - Volvo
		OTHERS
2	0.3	77. Refused Question
1	0.1	78. Seats manufactured prior to 1981 that do not meet federal standard
		UNAPPROVED DEVICE
5	0.7	79. Unapproved Other Device
289	40.3	99. No Child Seat

Variable 31 **CRD Present** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	CRD Present
0	0.0	0. Missing Data
429	59.8	1. Yes
288	40.2	2. No

Variable 32 **CRD Type** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	CRD Type
0	0.0	0. Missing Data
39	5.4	1. Infant Only
314	43.8	2. Toddler/Convertible
73	10.2	3. Booster
3	0.4	6. Don't Know
288	40.2	8. Skip

Variable 33 **Auto Belt Fastened** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Auto Belt Fastened
0	0.0	0. Missing Data
360	50.2	1. Yes
52	7.3	2. No
17	2.4	6. Don't Know
288	40.2	8. Skip

Variable 34 **Auto Belt Snug** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Auto Belt Snug
0	0.0	0. Missing Data
345	48.1	1. Yes
13	1.8	2. No
16	2.2	6. Don't Know
343	47.8	8. Skip

Variable 35 **Auto Belt Routing OK** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Auto Belt Routing OK
0	0.0	0. Missing Data
284	39.6	1. Yes
70	9.8	2. No
20	2.8	6. Don't Know
343	47.8	8. Skip

Variable 36 **Locking Clip** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Locking Clip
0	0.0	0. Missing Data
4	0.6	1. Yes
19	2.6	2. Required-Not Used
356	49.7	3. Not Required
19	2.6	6. Don't Know
319	44.5	8. Skip

Variable 37 **Seat Direction** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Seat Direction
0	0.0	0. Missing Data
389	54.3	1. Forward
32	4.5	2. Rearward
2	0.3	3. Sideward
4	0.6	6. Don't Know
290	40.4	8. Skip

Variable 38 **Seat Angle** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Seat Angle
0	0.0	0. Missing Data
111	15.5	1. Reclinded
310	43.2	2. Upright
7	1.0	6. Don't Know
289	40.3	8. Skip

Variable 39 **Tether Required** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Tether Required
0	0.0	0. Missing Data
76	10.6	1. Yes
338	47.1	2. No
14	2.0	6. Don't Know
289	40.3	8. Skip

Variable 40 **Tether Used** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Tether Used
0	0.0	0. Missing Data
11	1.5	1. Yes
65	9.1	2. No
10	1.4	6. Don't Know
631	88.0	8. Skip

Variable 41 **Tether Anchored** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Tether Anchored
0	0.0	0. Missing Data
11	1.5	1. Yes
0	0.0	2. No
10	1.4	6. Don't Know
696	97.1	8. Skip

Variable 42 **Anchored Properly** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Anchored Properly
0	0.0	0. Missing Data
5	0.7	1. Yes
5	0.7	2. No
11	1.5	6. Don't Know
696	97.1	8. Skip

Variable 43 **Is CRD Used** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Is CRD Used
0	0.0	0. Missing Data
394	55.0	1. Yes
35	4.9	2. No
288	40.2	8. Skip

Variable 44 **Is Shield Used** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Is Shield Used
0	0.0	0. Missing Data
45	6.3	1. Yes
23	3.2	2. No
314	43.8	3. Not Required
12	1.7	6. Don't Know
323	45.0	8. Skip

Variable 45 **Harness Fastened** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Harness Fastened
0	0.0	0. Missing Data
244	34.0	1. Yes
82	11.4	2. No
55	7.7	3. Not Required
12	1.7	6. Don't Know
324	45.2	8. Skip

Variable 46 **Harness Snug** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Harness Snug
0	0.0	0. Missing Data
157	21.9	1. Yes
87	12.1	2. No
13	1.8	6. Don't Know
460	64.2	8. Skip

Variable 47 **Harness Clip** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Harness Clip
0	0.0	0. Missing Data
50	7.0	1. Yes
192	26.8	2. No
15	2.1	6. Don't Know
460	64.2	8. Skip

Variable 48 **Harness Position** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Harness Position
0	0.0	0. Missing Data
186	25.9	1. Yes
58	8.1	2. No
13	1.8	6. Don't Know
460	64.2	8. Skip

Variable 49 **Vehicle Size** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Vehicle Size
		0. Missing Data
		1. Small
		2. Medium
		3. Large
		4. Pick-up
		5. Van
		6. Other

Variable 50 **Hour Interviewed** MD1: 00 Field Width: 2
MD2: None Type: Numeric

FREQ	Prcnt	Hour Interviewed
3	0.4	00. Missing Data
12	1.7	10.
133	18.5	11.
175	24.4	12.
140	19.5	13.
43	6.0	14.
61	8.5	15.
50	7.0	16.
67	9.3	17.
31	4.3	18.
2	0.3	19.

Variable 51 **Minute Interviewed** MD1: 99 Field Width: 2
MD2: None Type: Numeric

FREQ	Prcnt	Minute Interviewed
44	6.1	00.
2	0.3	01.
5	0.7	02.
5	0.7	03.
36	5.0	05.
4	0.6	06.
1	0.1	07.
6	0.8	08.
3	0.4	09.
39	5.4	10.
3	0.4	11.
3	0.4	12.
8	1.1	13.
2	0.3	14.
39	5.4	15.
2	0.3	16.
1	0.1	17.
2	0.3	18.
49	6.8	20.
2	0.3	21.
2	0.3	22.
1	0.1	23.
4	0.6	24.
45	6.3	25.
1	0.1	26.
2	0.3	27.
1	0.1	28.
64	8.9	30.
2	0.3	31.
2	0.3	32.
3	0.4	33.
40	5.6	35.
3	0.4	36.
4	0.6	37.
5	0.7	38.
3	0.4	39.
44	6.1	40.
6	0.8	42.
4	0.6	43.
2	0.3	44.
67	9.3	45.
1	0.1	46.
2	0.3	47.
2	0.3	48.
60	8.4	50.
3	0.4	51.
2	0.3	52.
3	0.4	53.

FREQ	Prcnt	Var 51	Minute Interviewed
3	0.4	54.	
63	8.8	55.	
2	0.3	56.	
5	0.7	57.	
5	0.7	58.	
2	0.3	59.	
3	0.4	99.	Missing Data

Variable 52 **License Plate Number** MD1: None Field Width: 6
MD2: None Type: Alphabetic

Variable 53 **Vehicle Sequence No.** MD1: None Field Width: 2
MD2: None Type: Numeric

FREQ	Prcnt	Vehicle sequence number at site.
45	6.3	01.
44	6.1	02.
43	6.0	03.
43	6.0	04.
40	5.6	05.
36	5.0	06.
33	4.6	07.
31	4.3	08.
27	3.8	09.
24	3.3	10.
23	3.2	11.
20	2.8	12.
17	2.4	13.
14	2.0	14.
12	1.7	15.
12	1.7	16.
12	1.7	17.
12	1.7	18.
11	1.5	19.
10	1.4	20.
9	1.3	21.
9	1.3	22.
9	1.3	23.
8	1.1	24.
8	1.1	25.
7	1.0	26.
7	1.0	27.
7	1.0	28.
7	1.0	29.
7	1.0	30.
7	1.0	31.

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FREQ	Prcnt	Var 53	Vehicle Sequence No.
7	1.0	32.	
6	0.8	33.	
5	0.7	34.	
5	0.7	35.	
5	0.7	36.	
5	0.7	37.	
5	0.7	38.	
5	0.7	39.	
5	0.7	40.	
5	0.7	41.	
5	0.7	42.	
5	0.7	43.	
5	0.7	44.	
5	0.7	45.	
5	0.7	46.	
5	0.7	47.	
5	0.7	48.	
5	0.7	49.	
4	0.6	50.	
2	0.3	51.	
2	0.3	52.	
2	0.3	53.	
2	0.3	54.	
2	0.3	55.	
2	0.3	56.	
2	0.3	57.	
2	0.3	58.	
2	0.3	59.	
2	0.3	60.	
1	0.1	61.	
1	0.1	62.	
1	0.1	63.	
1	0.1	64.	
1	0.1	65.	
1	0.1	66.	
0	0.0	99.	Missing Data

Interview Variables

The following variables are responses given by subjects and coded by the Interviewer.

Variable 54 **Child Under Four** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Child Under Four
56	7.8	0. Missing Data
661	92.2	1. Yes
0	0.0	2. No

Variable 55 **Is Driver Parent** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Is Driver Parent
56	7.8	0. Missing Data
548	76.4	1. Yes
113	15.8	2. No

Variable 56 **Parent in Car** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Parent in Car
56	7.8	0. Missing Data
41	5.7	1. Yes
71	9.9	2. No
549	76.6	8. Skip

Variable 57 **Child Birth Month** MD1: 00 Field Width: 2
MD2: 66 Type: Numeric

FREQ	Prcnt	Child Birth Month
56	7.8	00. Missing Data
55	7.7	01. January
52	7.3	02. February
68	9.5	03. March
53	7.4	04. April

FREQ	Prcnt	Var 57 Child Birth Month
61	8.5	05. May
56	7.8	06. June
51	7.1	07. July
54	7.5	08. August
51	7.1	09. September
58	8.1	10. October
48	6.7	11. November
52	7.3	12. December
2	0.3	66. Don't Know

Variable 58 **Child Birth Year** MD1: 00 Field Width: 2
MD2: None Type: Numeric

FREQ	Prcnt	Child Birth Year
56	7.8	00. Missing Data
2	0.3	66. Don't Know
10	1.4	81.
105	14.6	82.
193	26.9	83.
221	30.8	84.
115	16.0	85.
15	2.1	86.

Variable 59 **Child Age-months** MD1: 99 Field Width: 2
MD2: 66 Type: Numeric

FREQ	Prcnt	Child Age in Months Derived From Birth Month and Year
3	0.4	01.
3	0.4	02.
7	1.0	03.
6	0.8	04.
8	1.1	05.
7	1.0	06.
12	1.7	07.
5	0.7	08.
10	1.4	09.
12	1.7	10.
11	1.5	11.
16	2.2	12.
23	3.2	13.
18	2.5	14.
11	1.5	15.
12	1.7	16.
14	2.0	17.
15	2.1	18.

FREQ	Prcnt	Var 59 Child Age-months
26	3.6	19.
20	2.8	20.
21	2.9	21.
23	3.2	22.
22	3.1	23.
15	2.1	24.
17	2.4	25.
10	1.4	26.
22	3.1	27.
26	3.6	28.
25	3.5	29.
13	1.8	30.
23	3.2	31.
12	1.7	32.
13	1.8	33.
11	1.5	34.
14	2.0	35.
15	2.1	36.
12	1.7	37.
21	2.9	38.
11	1.5	39.
15	2.1	40.
14	2.0	41.
9	1.3	42.
9	1.3	43.
14	2.0	44.
11	1.5	45.
7	1.0	46.
15	2.1	47.
58	8.1	99. Missing Data

Variable 60 **Child Sex** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Child Sex
59	8.2	0. Missing Data
346	48.3	1. Male
312	43.5	2. Female

Variable 61 **Siblings** MD1: 0 Field Width: 1
MD2: 7 Type: Numeric

FREQ	Prcnt	Siblings
56	7.8	0. Missing Data
428	59.7	1. Yes
233	32.5	2. No
0	0.0	6. Don't Know

Variable 62 **Number Older Siblings** MD1: 99 Field Width: 2
MD2: None Type: Numeric

FREQ	Prcnt	Number Older Siblings
276	38.5	00.
251	35.0	01.
94	13.1	02.
22	3.1	03.
9	1.3	04.
8	1.1	05.
1	0.1	06.
56	7.8	99. Missing Data

Variable 63 **Number Younger Siblings** MD1: 99 Field Width: 2
MD2: None Type: Numeric

FREQ	Prcnt	Number Younger Siblings
600	83.7	00.
59	8.2	01.
2	0.3	02.
56	7.8	99. Missing Data

Variable 64 **Child Birth Order** MD1: 99 Field Width: 2
MD2: None Type: Numeric

FREQ	Prcnt	Number of Older Siblings Plus One
276	38.5	01.
251	35.0	02.
94	13.1	03.
22	3.1	04.
9	1.3	05.
8	1.1	06.
1	0.1	07.
56	7.8	99. Missing Data

Variable 65 **Days Driving W/Children** MD1: 9 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Days Driving W/Children
47	6.6	0.
30	4.2	1.
38	5.3	2.
60	8.4	3.
61	8.5	4.
67	9.3	5.
27	3.8	6.
328	45.7	7.
59	8.2	9. Missing Data

Variable 66 **Form** MD1: 0 Field Width: 1
MD2: 7 Type: Numeric

FREQ	Prcnt	Interview Form Used (Based on Restraints Used)
0	0.0	0. Missing Data
377	52.6	1. Form A
16	2.2	2. Form B
15	2.1	3. Form C
121	16.9	4. Form D
132	18.4	5. Form E
56	7.8	7. Refused Interview

Variable 67 **Learn About Restraints** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	Learn About Restraints
57	7.9	00. Missing Data
242	33.8	01. News Media
49	6.8	02. Doctor
23	3.2	03. Spouse
43	6.0	04. Health Care Professional
38	5.3	05. Friend
79	11.0	06. Relative
4	0.6	07. School/Daycare Teachers
41	5.7	08. Other
9	1.3	66. Don't Know
132	18.4	88. Skip

Variable 68 **Obtain Seat** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Obtain Seat
56	7.8	0. Missing Data
106	14.8	1. Gift
247	34.4	2. Purchase
49	6.8	3. Friend
4	0.6	4. Loan
2	0.3	5. Other
0	0.0	6. Don't Know
253	35.3	8. Skip

Variable 69 **Receive Instructions** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Receive Instructions
56	7.8	0. Missing Data
362	50.5	1. Yes
44	6.1	2. No
2	0.3	6. Don't Know
253	35.3	8. Skip

Variable 70 **How Instructions** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	How Instructions
57	7.9	0. Missing Data
14	2.0	1. Verbal
329	45.9	2. Written
16	2.2	3. Both
3	0.4	6. Don't Know
298	41.6	8. Skip

Variable 71 **Instructions-verbal** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	Instructions-verbal
57	7.9	00. Missing Data
0	0.0	01. Manufacturer
3	0.4	02. Store
9	1.3	03. Friend
10	1.4	04. Relative

FREQ	Prcnt	Var 71 Instructions-verbal
0	0.0	05. Spouse
1	0.1	06. Loan Program
5	0.7	07. Other
0	0.0	66. Don't Know
302	42.1	88. Skip
330	46.0	99. Not Applicable

Variable 72 **Instructions- Written** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	Instructions- Written
57	7.9	00. Missing Data
339	47.3	01. Manufacturer
2	0.3	02. Store
3	0.4	03. Friend
1	0.1	04. Relative
0	0.0	05. Spouse
1	0.1	06. Loan Program
1	0.1	07. Other
0	0.0	66. Don't Know
300	41.8	88. Skip
13	1.8	99. Not Applicable

Variable 73 **Who Installed Seat** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	Who Installed Seat
58	8.1	00. Missing Data
208	29.0	01. Mother
151	21.1	02. Father
23	3.2	03. Both Parents
1	0.1	04. Brother/sister
16	2.2	05. Other Relative
7	1.0	06. Else
0	0.0	66. Don't Know
253	35.3	88. Skip

Variable 74 **Help Installing Seat** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Help Installing Seat
60	8.4	0. Missing Data
11	1.5	1. Yes
393	54.8	2. No
0	0.0	6. Don't Know
253	35.3	8. Skip

Variable 75 **Who Help Install Seat** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	Who Help Install Seat
61	8.5	00. Missing Data
0	0.0	01. Store
0	0.0	02. Friend
3	0.4	03. Relative
6	0.8	04. Spouse
0	0.0	05. Loan Program
0	0.0	06. Other
0	0.0	66. Don't Know
647	90.2	88. Skip

Variable 76 **Installed Correctly** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Installed Correctly
57	7.9	0. Missing Data
364	50.8	1. Yes
40	5.6	2. No
3	0.4	6. Don't Know
253	35.3	8. Skip

Variable 77 **How Incorrectly Install** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	How Incorrectly Install
59	8.2	00. Missing Data
7	1.0	01. Belt Routing Incorrect
3	0.4	02. Not Belted In
24	3.3	03. Not Tethered
4	0.6	50. Other

FREQ	Prcnt	Var 77 How Incorrectly Install
620	86.5	88. Skip

Variable 78 **Why Incorrectly Install** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	Why Incorrectly Install
60	8.4	00. Missing Data
4	0.6	01. Doesn't Work in Car Type
1	0.1	02. Husband Installed
1	0.1	03. Child Asleep
1	0.1	04. Child in Cast
5	0.7	05. Inconvient
4	0.6	06. Hasn't Been Installed Yet
10	1.4	07. No Tether Holes in Vehicle
2	0.3	08. Only One CRD Used in 2 Cars
1	0.1	09. Tether Missing
1	0.1	10. Child Likes to Ride in Front Seat
7	1.0	50. Other
620	86.5	88. Skip

Variable 79 **Child Riding Correctly** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Child Riding Correctly
58	8.1	0. Missing Data
326	45.5	1. Yes
49	6.8	2. No
1	0.1	6. Don't Know
283	39.5	8. Skip

Variable 80 **How Incorrectly Riding** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	How Incorrectly Riding
59	8.2	00. Missing Data
11	1.5	01. Not Harnessed Properly
5	0.7	02. Shield Not Down
2	0.3	03. Harness Clip Not Used
1	0.1	04. Child Sitting on Pillow
3	0.4	05. Armrest Not Down
25	3.5	06. Harness Not Used
1	0.1	50. Other

FREQ	Prcnt	Var 80 How Incorrectly Riding
610	85.1	88. Skip

Variable 81 **Why Incorrectly Riding** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	Why Incorrectly Riding
61	8.5	00. Missing Data
17	2.4	01. Child Likes It This Way
2	0.3	02. Child Takes Harness Off
19	2.6	03. Short Distance
6	0.8	04. More Convenient
1	0.1	05. Child In Cast
3	0.4	06. Harness Clip Missing
4	0.6	07. Child's Comfort
3	0.4	08. Unable To Fasten Harness
1	0.1	09. Keep Child From Climbing Out
1	0.1	10. Husband Put Child In CRD
1	0.1	11. Child Being Fed
3	0.4	12. Child Wanted To Sit In Front/Rear Seat
1	0.1	13. CRD Not Installed
3	0.4	14. Parent Didn't Want To Install Tether
11	1.5	50. Other
580	80.9	88. Skip

Variable 82 **Have a Seat for Child** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Have a Seat for Child
57	7.9	0. Missing Data
163	22.7	1. Yes
90	12.6	2. No
0	0.0	6. Don't Know
407	56.8	8. Skip
0	0.0	9. Not Applicable

Variable 83 **Why Not Use Child Seat** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	Why Not Use Child Seat
57	7.9	00. Missing Data
5	0.7	01. Too Expensive
61	8.5	02. Child Doesn't Like Them

FREQ	Prcnt	Var 83 Why Not Use Child Seat
14	2.0	03. Too Much Trouble
15	2.1	04. Takes Too Much Room In the Car
1	0.1	05. Too Difficult To Install
1	0.1	06. Don't Think They Really Protect In A Crash
66	9.2	07. Child Too Big
37	5.2	08. CRD In Other Vehicle
20	2.8	09. CRD In Parents' Vehicle
0	0.0	10. Didn't Know They Were Available
2	0.3	11. Too Busy To Get One
30	4.2	12. Other
1	0.1	13. Short Distance
0	0.0	66. Don't Know
407	56.8	88. Skip

Variable 84 **Why Not Use Seat Belt** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	Why Not Use Seat Belt
57	7.9	00. Missing Data
52	7.3	01. Kid Objects
13	1.8	02. Trouble
5	0.7	03. Don't Protect
11	1.5	04. Not Enough Belts in Vehicle
31	4.3	05. Other
0	0.0	06. Don't Know
12	1.7	11. Short Distance
23	3.2	12. Claimed Belt Used
513	71.5	88. Skip

Variable 85 **Hear of CRD Law** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Hear of CRD Law
56	7.8	0. Missing Data
627	87.4	1. Yes
34	4.7	2. No
0	0.0	8. Skip

Variable 86 **Knowledge of Law** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	Knowledge of Law
57	7.9	0. Missing Data
62	8.6	1. Perfect
88	12.3	2. CRD < 1
252	35.1	3. Restrained < 4
196	27.3	4. Restrained, No Age
28	3.9	5. None
34	4.7	8. Skip

Variable 87 **Fear of Ticket** MD1: 0 Field Width: 1
MD2: 7 Type: Numeric

FREQ	Prcnt	Fear of Ticket
56	7.8	0. Missing Data
198	27.6	1. Great
140	19.5	2. Some
319	44.5	3. None
4	0.6	6. Don't Know
0	0.0	7. Refused Question

Variable 88 **Percent in Favor of Law** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Percent in Favor of Law
56	7.8	0. Missing Data
10	1.4	1. < 20%
31	4.3	2. 20-40%
100	13.9	3. 40-60%
211	29.4	4. 60-80%
299	41.7	5. > 80%
9	1.3	6. Don't Know
1	0.1	7. Refused Question
0	0.0	8. Skip

Variable 89 **Percent Obey Law** MD1: 0 Field Width: 1
MD2: 7 Type: Numeric

FREQ	Prcnt	Percent Obey Law
56	7.8	0. Missing Data
16	2.2	1. < 20%
71	9.9	2. 20-40%
228	31.8	3. 40-60%
218	30.4	4. 60-80%
124	17.3	5. > 80%
4	0.6	6. Don't Know
0	0.0	8. Skip

Variable 90 **How Often Police Stop** MD1: 0 Field Width: 1
MD2: 7 Type: Numeric

FREQ	Prcnt	How Often Police Stop
56	7.8	0. Missing Data
39	5.4	1. Most Times
123	17.2	2. Sometimes
361	50.3	3. Rarely
125	17.4	4. Never
13	1.8	6. Don't Know
0	0.0	8. Skip

Variable 91 **How Often Police Ticket** MD1: 0 Field Width: 1
MD2: 7 Type: Numeric

FREQ	Prcnt	How Often Police Ticket
56	7.8	0. Missing Data
213	29.7	1. Most Times
184	25.7	2. Sometimes
194	27.1	3. Rarely
50	7.0	4. Never
20	2.8	6. Don't Know
0	0.0	8. Skip

Variable 92 **Marital Status** MD1: 0 Field Width: 1
MD2: 7 Type: Numeric

FREQ	Prcnt	Marital Status
56	7.8	0. Missing Data
49	6.8	1. Single
568	79.2	2. Married
41	5.7	3. Divorced/separated
3	0.4	4. Widowed
0	0.0	8. Skip

Variable 93 **Family Income** MD1: 0 Field Width: 1
MD2: 7 Type: Numeric

FREQ	Prcnt	Family Income
56	7.8	0. Missing Data
81	11.3	1. Less than $12,000
195	27.2	2. $12,000-29,999
269	37.5	3. $30,000-49,999
94	13.1	4. Over $50,000
4	0.6	6. Don't Know
18	2.5	7. Refused Question
0	0.0	8. Skip

Variable 94 **Birth Month** MD1: 00 Field Width: 2
MD2: 77 Type: Numeric

FREQ	Prcnt	Birth Month
56	7.8	00. Missing Data
69	9.6	01. January
59	8.2	02. February
56	7.8	03. March
52	7.3	04. April
35	4.9	05. May
53	7.4	06. June
49	6.8	07. July
62	8.6	08. August
60	8.4	09. September
58	8.1	10. October
52	7.3	11. November
54	7.5	12. December
2	0.3	77. Refused Question
0	0.0	88. Skip

Variable 95 **Birth Year** MD1: 00 Field Width: 2
MD2: 77 Type: Numeric

FREQ	Prcnt	Birth Year
56	7.8	00. Missing Data
1	0.1	02.
1	0.1	09.
1	0.1	14.
3	0.4	16.
1	0.1	17.
1	0.1	20.
1	0.1	21.
1	0.1	23.
2	0.3	24.
4	0.6	25.
3	0.4	26.
3	0.4	30.
2	0.3	31.
1	0.1	32.
3	0.4	33.
4	0.6	34.
2	0.3	35.
1	0.1	36.
1	0.1	37.
2	0.3	38.
2	0.3	40.
3	0.4	41.
4	0.6	42.
4	0.6	43.
6	0.8	44.
6	0.8	45.
12	1.7	46.
12	1.7	47.
17	2.4	48.
14	2.0	49.
34	4.7	50.
30	4.2	51.
38	5.3	52.
44	6.1	53.
28	3.9	54.
45	6.3	55.
37	5.2	56.
50	7.0	57.
45	6.3	58.
43	6.0	59.
37	5.2	60.
28	3.9	61.
24	3.3	62.
17	2.4	63.
14	2.0	64.
9	1.3	65.
9	1.3	66.

FREQ	Prcnt	Var 95 Birth Year
4	0.6	67.
2	0.3	68.
3	0.4	69.
2	0.3	77. Refused Question
0	0.0	88. Skip

Variable 96 **Ethnic Background** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Ethnic Background
56	7.8	0. Missing Data
605	84.4	1. White
41	5.7	2. Black
5	0.7	3. Oriental
8	1.1	4. Hispanic
0	0.0	5. Native American
2	0.3	6. Other

Variable 97 **Take Questionnaire** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Take Questionnaire
56	7.8	0. Missing Data
657	91.6	1. Yes
4	0.6	2. No

Variable 98 **Incentive Offered** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Incentive Offered
56	7.8	0. Missing Data
642	89.5	1. Yes
19	2.6	2. No

Questionnaire Variables

The Questionnaire Variables are coded by the respondent interviewed at a later time and mailed back to UMTRI.

Variable 99 **Questionnaire Present** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Questionnaire Present
451	62.9	1. Yes
266	37.1	2. No

Variable 100 **Were You Driver** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Were You Driver
267	37.2	0. Missing Data
343	47.8	1. Yes
107	14.9	2. No

Variable 101 **Relation to Driver** MD1: 00 Field Width: 2
MD2: 88 Type: Numeric

FREQ	Prcnt	Relation to Driver
268	37.4	00. Missing Data
72	10.0	01. Spouse
9	1.3	02. Sister/Brother
9	1.3	03. Daughter/Son
2	0.3	04. Daughter/Son in Law
13	1.8	05. Friend
1	0.1	07. Other
343	47.8	88. Skip

Variable 102 **Relation to Child** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Relation to Child
267	37.2	0. Missing Data
414	57.7	1. Parent
1	0.1	2. Sister/Brother
15	2.1	3. Grandparent
10	1.4	4. Other Relative
7	1.0	5. Babysitter
3	0.4	6. Friend
0	0.0	7. Other

Variable 103 **What Kills Most Children** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	What Kills Most Children
284	39.6	0. Missing Data
42	5.9	1. Child Abuse
359	50.1	2. Motor Vehicle Accidents
6	0.8	3. Cancer, Including Leukemia
26	3.6	4. Other Diseases

Variable 104 **Ever in a Crash** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Ever in a Crash
270	37.7	0. Missing Data
355	49.5	1. Yes
92	12.8	2. No

Variable 105 **Injured in Crash** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Injured in Crash
269	37.5	0. Missing Data
149	20.8	1. Yes
299	41.7	2. No

Variable 106 **Significant Other Killed** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Significant Other Killed
270	37.7	0. Missing Data
178	24.8	1. Yes
269	37.5	2. No

Variable 107 **Sig. Other Hospitalized** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Sig. Other Hospitalized
275	38.4	0. Missing Data
280	39.1	1. Yes
162	22.6	2. No

Variable 108 **Est. Belted Fatalities** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Est. Belted Fatalities
279	38.9	0. Missing Data
2	0.3	1. More Than 1,200
43	6.0	2. 501 - 1,199
188	26.2	3. 251 - 500
205	28.6	4. Less Than 250

Variable 109 **Freq. Seat Belt Use** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Freq. Seat Belt Use
268	37.4	0. Missing Data
7	1.0	1. Never
30	4.2	2. Rarely
48	6.7	3. Sometimes
98	13.7	4. Most Times
266	37.1	5. Always

Variable 110 **When Seat Belt Used** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	When Seat Belt Used
270	37.7	0. Missing Data
76	10.6	1. Long Trips
15	2.1	2. Short Trips
83	11.6	3. No Difference By Trip Length
273	38.1	8. Skip

Variable 111 **How Often Child Rest.** MD1: 0 Field Width: 1
MD2: 6 Type: Numeric

FREQ	Prcnt	How Often Child Rest.
268	37.4	0. Missing Data
3	0.4	1. Never
2	0.3	2. Rarely
16	2.2	3. Sometimes
59	8.2	4. Most Times
348	48.5	5. Always
21	2.9	6. No Children Under Four

Variable 112 **When Children Restrained** MD1: 0 Field Width: 1
MD2: 8 Type: Numeric

FREQ	Prcnt	When Children Restrained
270	37.7	0. Missing Data
28	3.9	1. Long Trips
11	1.5	2. Short Trips
36	5.0	3. No Difference By Trip Length
372	51.9	8. Skip

Variable 113 **Other Children Rest.** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Other Children Rest.
266	37.1	0. Missing Data
4	0.6	1. Never
4	0.6	2. Rarely
17	2.4	3. Sometimes
35	4.9	4. Most Times
363	50.6	5. Always
28	3.9	6. Never Carry Other's Child

Variable 114 **Spouse Child Rest. Use** MD1: 0 Field Width: 1
MD2: 5 Type: Numeric

FREQ	Prcnt	Spouse Child Rest. Use
271	37.8	0. Missing Data
48	6.7	1. More Likely
54	7.5	2. Less Likely
310	43.2	3. Just As Likely
4	0.6	4. Don't Know
30	4.2	5. Not Married

Variable 115 **Est. Cost of CRD** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Est. Cost of CRD
268	37.4	0. Missing Data
9	1.3	1. $10 - $24
176	24.5	2. $25 - $39
229	31.9	3. $40 - $54
35	4.9	4. Over $55

Variable 116 **Use CRD Without Law** MD1: 0 Field Width: 1
MD2: 5 Type: Numeric

FREQ	Prcnt	Use CRD Without Law
267	37.2	0. Missing Data
4	0.6	1. Never
4	0.6	2. Rarely
68	9.5	3. Sometimes
364	50.8	4. Always
10	1.4	5. No Children Under Four

Variable 117 **% Friends Who Use CRD** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	% Friends Who Use CRD
269	37.5	0. Missing Data
12	1.7	1. Less Than 20%
25	3.5	2. 20 - 40%
37	5.2	3. 40 - 60%
83	11.6	4. 60 - 80%
281	39.2	5. More Than 80%
10	1.4	6. No Friends With Kids Under 4

Variable 118 **Other People Notice CRD** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Other People Notice CRD
270	37.7	0. Missing Data
323	45.0	1. Yes
124	17.3	2. No

Variable 119 **CRD Should be Law** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	CRD Should be Law
268	37.4	0. Missing Data
15	2.1	1. Disagree Strongly
5	0.7	2. Disagree Moderately
8	1.1	3. Disagree Somewhat
17	2.4	4. Neutral
16	2.2	5. Agree Somewhat
43	6.0	6. Agree Moderately
345	48.1	7. Agree Strongly

Variable 120 **CRD Not Used W/O Law** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	CRD Not Used W/O Law
269	37.5	0. Missing Data
36	5.0	1. Disagree Strongly
53	7.4	2. Disagree Moderately
75	10.5	3. Disagree Somewhat
117	16.3	4. Neutral
93	13.0	5. Agree Somewhat
36	5.0	6. Agree Moderately
38	5.3	7. Agree Strongly

Variable 121 **Enforce CRD Law** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Enforce CRD Law
268	37.4	0. Missing Data
6	0.8	1. Disagree Strongly
8	1.1	2. Disagree Moderately
6	0.8	3. Disagree Somewhat
21	2.9	4. Neutral

FREQ	Prcnt	Var 121 Enforce CRD Law
43	6.0	5. Agree Somewhat
64	8.9	6. Agree Moderately
301	42.0	7. Agree Strongly

Variable 122 **CRD Law Causes Use** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	CRD Law Causes Use
268	37.4	0. Missing Data
6	0.8	1. Disagree Strongly
10	1.4	2. Disagree Moderately
14	2.0	3. Disagree Somewhat
48	6.7	4. Neutral
84	11.7	5. Agree Somewhat
94	13.1	6. Agree Moderately
193	26.9	7. Agree Strongly

Variable 123 **In Lap is Safe** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	In Lap is Safe
269	37.5	0. Missing Data
391	54.5	1. Disagree Strongly
23	3.2	2. Disagree Moderately
10	1.4	3. Disagree Somewhat
6	0.8	4. Neutral
6	0.8	5. Agree Somewhat
4	0.6	6. Agree Moderately
8	1.1	7. Agree Strongly

Variable 124 **CRD is a Bother** MD1: 0 Field Width: 1
MD2: 9 Type: Numeric

FREQ	Prcnt	CRD is a Bother
269	37.5	0. Missing Data
165	23.0	1. Disagree Strongly
48	6.7	2. Disagree Moderately
26	3.6	3. Disagree Somewhat
56	7.8	4. Neutral
48	6.7	5. Agree Somewhat
36	5.0	6. Agree Moderately
51	7.1	7. Agree Strongly

FREQ	Prcnt	Var 124 CRD is a Bother
18	2.5	9. Not Applicable

Variable 125 **My Child Likes CRD** MD1: 0 Field Width: 1
MD2: 9 Type: Numeric

FREQ	Prcnt	My Child Likes CRD
271	37.8	0. Missing Data
40	5.6	1. Disagree Strongly
27	3.8	2. Disagree Moderately
36	5.0	3. Disagree Somewhat
76	10.6	4. Neutral
74	10.3	5. Agree Somewhat
74	10.3	6. Agree Moderately
102	14.2	7. Agree Strongly
17	2.4	9. Not Applicable

Variable 126 **Child Misbehaves in CRD** MD1: 0 Field Width: 1
MD2: 9 Type: Numeric

FREQ	Prcnt	Child Misbehaves in CRD
276	38.5	0. Missing Data
186	25.9	1. Disagree Strongly
83	11.6	2. Disagree Moderately
34	4.7	3. Disagree Somewhat
41	5.7	4. Neutral
34	4.7	5. Agree Somewhat
27	3.8	6. Agree Moderately
18	2.5	7. Agree Strongly
18	2.5	9. Not Applicable

Variable 127 **Child Under 2 Likes CRD** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Child Under 2 Likes CRD
268	37.4	0. Missing Data
16	2.2	1. Disagree Strongly
27	3.8	2. Disagree Moderately
17	2.4	3. Disagree Somewhat
59	8.2	4. Neutral
56	7.8	5. Agree Somewhat
104	14.5	6. Agree Moderately
170	23.7	7. Agree Strongly

FREQ	Prcnt	Var 127 Child Under 2 Likes CRD
0	0.0	9. Not Applicable

Variable 128 **Childern 2-3 Like CRD** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Childern 2-3 Like CRD
272	37.9	0. Missing Data
29	4.0	1. Disagree Strongly
24	3.3	2. Disagree Moderately
51	7.1	3. Disagree Somewhat
102	14.2	4. Neutral
90	12.6	5. Agree Somewhat
79	11.0	6. Agree Moderately
70	9.8	7. Agree Strongly

Variable 129 **Children Get Used to CRD** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Children Get Used to CRD
269	37.5	0. Missing Data
7	1.0	1. Disagree Strongly
12	1.7	2. Disagree Moderately
11	1.5	3. Disagree Somewhat
32	4.5	4. Neutral
60	8.4	5. Agree Somewhat
126	17.6	6. Agree Moderately
200	27.9	7. Agree Strongly

Variable 130 **Make Adult Belt Use Law** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Make Adult Belt Use Law
270	37.7	0. Missing Data
42	5.9	1. Disagree Strongly
23	3.2	2. Disagree Moderately
16	2.2	3. Disagree Somewhat
44	6.1	4. Neutral
37	5.2	5. Agree Somewhat
52	7.3	6. Agree Moderately
233	32.5	7. Agree Strongly

Variable 131 **Belt Law Infringe Rights** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Belt Law Infringe Rights
271	37.8	0. Missing Data
154	21.5	1. Disagree Strongly
65	9.1	2. Disagree Moderately
35	4.9	3. Disagree Somewhat
74	10.3	4. Neutral
37	5.2	5. Agree Somewhat
28	3.9	6. Agree Moderately
53	7.4	7. Agree Strongly

Variable 132 **Feds Do Too Much** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Feds Do Too Much
282	39.3	0. Missing Data
62	8.6	1. Disagree Strongly
55	7.7	2. Disagree Moderately
59	8.2	3. Disagree Somewhat
107	14.9	4. Neutral
57	7.9	5. Agree Somewhat
35	4.9	6. Agree Moderately
60	8.4	7. Agree Strongly

Variable 133 **State Does Too Much** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	State Does Too Much
287	40.0	0. Missing Data
61	8.5	1. Disagree Strongly
55	7.7	2. Disagree Moderately
62	8.6	3. Disagree Somewhat
111	15.5	4. Neutral
51	7.1	5. Agree Somewhat
34	4.7	6. Agree Moderately
56	7.8	7. Agree Strongly

Variable 134 **Belts Uncomfortable** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Belts Uncomfortable
274	38.2	0. Missing Data
173	24.1	1. Disagree Strongly
89	12.4	2. Disagree Moderately
33	4.6	3. Disagree Somewhat
47	6.6	4. Neutral
31	4.3	5. Agree Somewhat
40	5.6	6. Agree Moderately
30	4.2	7. Agree Strongly
0	0.0	8. Skip

Variable 135 **Employment Status** MD1: 0 Field Width: 1
MD2: 9 Type: Numeric

FREQ	Prcnt	Employment Status
269	37.5	0. Missing Data
244	34.0	1. Employed
12	1.7	2. Unemployed
186	25.9	3. Homemaker
6	0.8	4. Retired
0	0.0	8. Skip

Variable 136 **Occupation** MD1: 0 Field Width: 2
MD2: 88 Type: Numeric

Davis, James A.,"Occupational Classification Distributions," Appendix F In National Data Program for the Social Sciences. Codebook for the Spring 1975 General Social Survey. Chicago: National Opinion Research Center, July, 1975.

FREQ	Prcnt	Occupation
291	40.6	00. Missing Data
2	0.3	15.
3	0.4	16.
9	1.3	17.
9	1.3	20.
2	0.3	22.
10	1.4	23.
1	0.1	24.
4	0.6	25.
4	0.6	26.
3	0.4	27.
8	1.1	29.

FREQ	Prcnt	Var 136	Occupation
9	1.3	31.	
5	0.7	32.	
7	1.0	33.	
4	0.6	34.	
1	0.1	35.	
16	2.2	36.	
6	0.8	37.	
1	0.1	38.	
4	0.6	39.	
7	1.0	40.	
5	0.7	41.	
3	0.4	42.	
2	0.3	43.	
1	0.1	44.	
5	0.7	45.	
30	4.2	46.	
7	1.0	47.	
14	2.0	48.	
1	0.1	49.	
24	3.3	50.	
12	1.7	51.	
10	1.4	52.	
3	0.4	56.	
1	0.1	58.	
34	4.7	60.	
11	1.5	61.	
22	3.1	62.	
1	0.1	63.	
3	0.4	67.	
2	0.3	69.	
2	0.3	71.	
1	0.1	74.	
2	0.3	76.	
2	0.3	78.	
3	0.4	82.	
110	15.3	88.	No Occupation

Variable 137 **Spouse Employment Status** MD1: 0 Field Width: 1
MD2: 9 Type: Numeric

FREQ	Prcnt	Spouse Employment Status
267	37.2	0. Missing Data
354	49.4	1. Employed
10	1.4	2. Unemployed
39	5.4	3. Homemaker
5	0.7	4. Retired
42	5.9	9. Not Applicable

Variable 138 **Spouse Occupation** MD1: 0 Field Width: 2
MD2: 88 Type: Numeric

Davis, James A.,"Occupational Classification Distributions," Appendix F In National Data Program for the Social Sciences. Codebook for the Spring 1975 General Social Survey. Chicago: National Opinion Research Center, July, 1975.

FREQ	Prcnt	Spouse Occupation
297	41.4	00. Missing Data
1	0.1	12.
3	0.4	16.
15	2.1	17.
1	0.1	18.
3	0.4	20.
3	0.4	22.
1	0.1	23.
2	0.3	25.
1	0.1	26.
13	1.8	27.
2	0.3	28.
14	2.0	29.
3	0.4	30.
5	0.7	31.
13	1.8	32.
1	0.1	33.
5	0.7	34.
1	0.1	35.
8	1.1	36.
12	1.7	37.
4	0.6	39.
15	2.1	40.
8	1.1	41.
10	1.4	42.
2	0.3	45.
9	1.3	46.
14	2.0	47.
15	2.1	48.
5	0.7	49.
40	5.6	50.
21	2.9	51.
1	0.1	52.
1	0.1	53.
1	0.1	54.
2	0.3	55.
1	0.1	56.
5	0.7	57.
2	0.3	58.
11	1.5	60.
5	0.7	61.
7	1.0	62.
2	0.3	66.

FREQ	Prcnt	Var 138 Spouse Occupation
20	2.8	67.
4	0.6	68.
6	0.8	69.
1	0.1	70.
2	0.3	71.
2	0.3	72.
2	0.3	74.
5	0.7	76.
3	0.4	78.
9	1.3	82.
36	5.0	88. No Occupation
42	5.9	99. No Spouse

Variable 139 **Education Level** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Education Level
267	37.2	0. Missing Data
1	0.1	1. Less Than 8th Grade
21	2.9	2. 8th - 11th Grade
103	14.4	3. High School Graduate
160	22.3	4. Some College/Vocational School
96	13.4	5. College Graduate
69	9.6	6. Post Graduate Education

Variable 140 **Last Dentist Visit** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Last Dentist Visit
270	37.7	0. Missing Data
250	34.9	1. Last 6 Months
88	12.3	2. 6 to 12 Months
54	7.5	3. 1 to 2 Years
55	7.7	4. More Than 2 Years

Variable 141 **Smoked Cigarettes** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Smoked Cigarettes
270	37.7	0. Missing Data
211	29.4	1. Never Smoked
124	17.3	2. Smoked In Past

FREQ	Prcnt	Var 141 Smoked Cigarettes
112	15.6	3. Smoke Now

Variable 142 **How Many Cigarettes** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	How Many Cigarettes
271	37.8	0. Missing Data
77	10.7	1. Less Than Half Pack a Day
100	13.9	2. Half to One Pack a Day
57	7.9	3. One to Two Packs a Day
1	0.1	4. More Than Two Packs a Day
211	29.4	8. Never Smoked

Variable 143 **Correct CRD Use** MD1: 0 Field Width: 1
MD2: None Type: Numeric

FREQ	Prcnt	Based on V25 and V27
0	0.0	0. Missing Data
179	25.0	1. No Restraint
144	20.1	2. Belted
248	34.6	3. Incorrect CRD
146	20.4	4. Correct CRD

Variable 144 **Family Occupation** MD1: 0 Field Width: 2
MD2: 88 Type: Numeric

Davis, James A.,"Occupational Classification Distributions," Appendix F In National Data Program for the Social Sciences. Codebook for the Spring 1975 General Social Survey. Chicago: National Opinion Research Center, July, 1975.

FREQ	Prcnt	Highest Family Occupation Code
281	39.2	00. Missing Data
2	0.3	16.
10	1.4	17.
1	0.1	18.
4	0.6	20.
2	0.3	22.
6	0.8	23.
1	0.1	25.
2	0.3	26.
8	1.1	27.

Child Restraint Study
Questionnaire Data

FREQ	Prcnt	Var 144	Family Occupation
1	0.1	28.	
14	2.0	29.	
1	0.1	30.	
7	1.0	31.	
11	1.5	32.	
3	0.4	33.	
4	0.6	34.	
1	0.1	35.	
11	1.5	36.	
10	1.4	37.	
1	0.1	38.	
5	0.7	39.	
17	2.4	40.	
7	1.0	41.	
10	1.4	42.	
1	0.1	43.	
1	0.1	44.	
7	1.0	45.	
18	2.5	46.	
14	2.0	47.	
21	2.9	48.	
5	0.7	49.	
44	6.1	50.	
23	3.2	51.	
5	0.7	52.	
1	0.1	53.	
1	0.1	54.	
1	0.1	55.	
3	0.4	56.	
1	0.1	57.	
3	0.4	58.	
31	4.3	60.	
13	1.8	61.	
21	2.9	62.	
2	0.3	66.	
21	2.9	67.	
4	0.6	68.	
8	1.1	69.	
1	0.1	70.	
2	0.3	71.	
2	0.3	72.	
3	0.4	74.	
7	1.0	76.	
5	0.7	78.	
11	1.5	82.	
17	2.4	88.	No Occupation

Appendix D

Interview Comments and Other Responses

INTERVIEW COMMENTS AND OTHER RESPONSES

QUES	COMMENT	CODE	CASES
11	Lamaze Class	04	6
	Hospital	04	5
	News media + knowledge since 1957	01	1
	Re:seat belts		
	OTHER		
11	Always Knew	08	16
	Common Sense	08	7
	Own decision/own incentive	08	2
	Store/salesman	08	4
	By having one	08	1
	In college/ health & Child courses	08	1
	Other older Kids	08	1
	Work/former police officer	08	1
	Witnessed accident/experienced accident	08	2
	Sec. of State office/posters/The law	08	2
12	COMMENT		
	Garage sale	02	8
	Through work/insurance company	02	2
	Used	02	3
	Parents provided	05	1
	Used from relative	05	1
13	COMMENT		
	With 5 kids I know how to put it in		1
15	OTHER		
	Verbal:Nurse at hospital	07	1
	Verbal:Doctor	07	1
	Verbal:Yard sale person	07	2
	Written:Hospital handout sheet	07	1
16	COMMENT		
	Grandma	05	2
16	OTHER		
	Babysitter(self)	07	1
	Driver	07	2
	Friend	07	1

20	OTHER		
	Seat in reclined position	50	1
	Not an approved child seat	50	2
21	OTHER		
	Its belted instead	50	1
	In front seat/usually sits in rear where clip not needed	50	1
	Car seat straps don't stay hooked	50	1
	More comfort for baby	50	1
	Not an approved child seat	50	2
23	OTHER		
	Not an approved child seat	50	1
24	OTHER		
	Sibling broke harness last week	50	1
	Child had lap belt on	50	2
	Child getting ready to eat	50	1
	Harness clip doesn't stay up/old seat	50	1
	Not an approved seat	50	1
	Kids fighting over who in seat so belted both instead	50	2
	Was sleeping so just belted instead	50	1
	Was in CRD took out/got out on approach to Micky Dees	50	2
26	COMMENTS		
	Seat belts work just the same +	03	1
	Uses seat belt now +	03	1
	Not enough room when 3 kids in car +	03	1
	Not enough room when everyone in car +	06	1
	Not driving own car +	05	1
	If we are letting states have abortions why do we have to use seat belts to save them		1
26	OTHER		
	Cleaned out car-didn't put seat back in	05	1
	Thought under 3 years didn't need a seat	05	1
	Usually in seat belt in rear	05	1
	In a hurry-forgot it	05	2
	Don't own a car	05	2
	Not using own car today/in for repair	05	2
	Uses seat belt instead	05	6
	Kid crawls out of harness/belts work just as well	05	1
	Needs repair or replacement	05	2
	Left at relatives	05	2
	Don't have one	05	2
	In trunk didn't get it out	05	1
	Front doors do not work good/difficult to use	05	1
	Too many people in car	05	1
	Too heavy to carry from upstairs apt. by self	05	1
	No seatbelts in back seat to hold seat	05	1

27	COMMENTS		
	Kid wanted to lay down to sleep +	02	1
	Child being fed		1
27	OTHER		
	Neglect	05	1
	Child unbuckles her/himself	05	11
	Child too small for belt	05	1
	Sitting in someones lap	05	3
	Child wants to look outside	05	1
	Not use to it/didn't think of it	05	2
	Never have used it	05	1
	Forgot	05	1
	Buckle broken	05	1
	Front doors do not work good/difficult to use	05	1
	No reason	05	1
	Time-back seat folded down	05	1
	Child sleeping on floor	05	1
	No seat belt in back seat	05	1

Appendix E

Charts on Correctness of Child Restraint Use

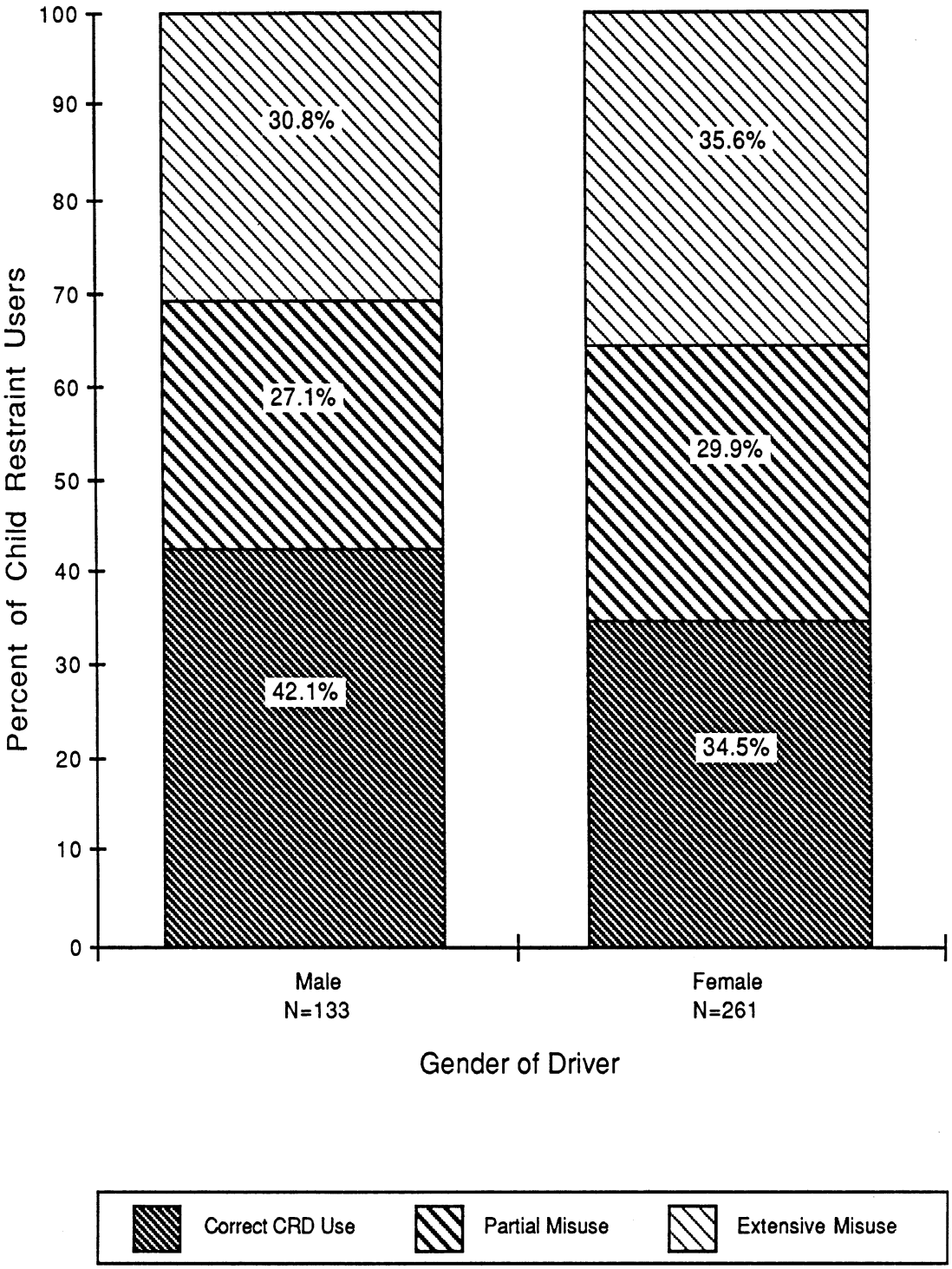

Figure E.1: Correctness of Child Restraint Use by Gender of Driver

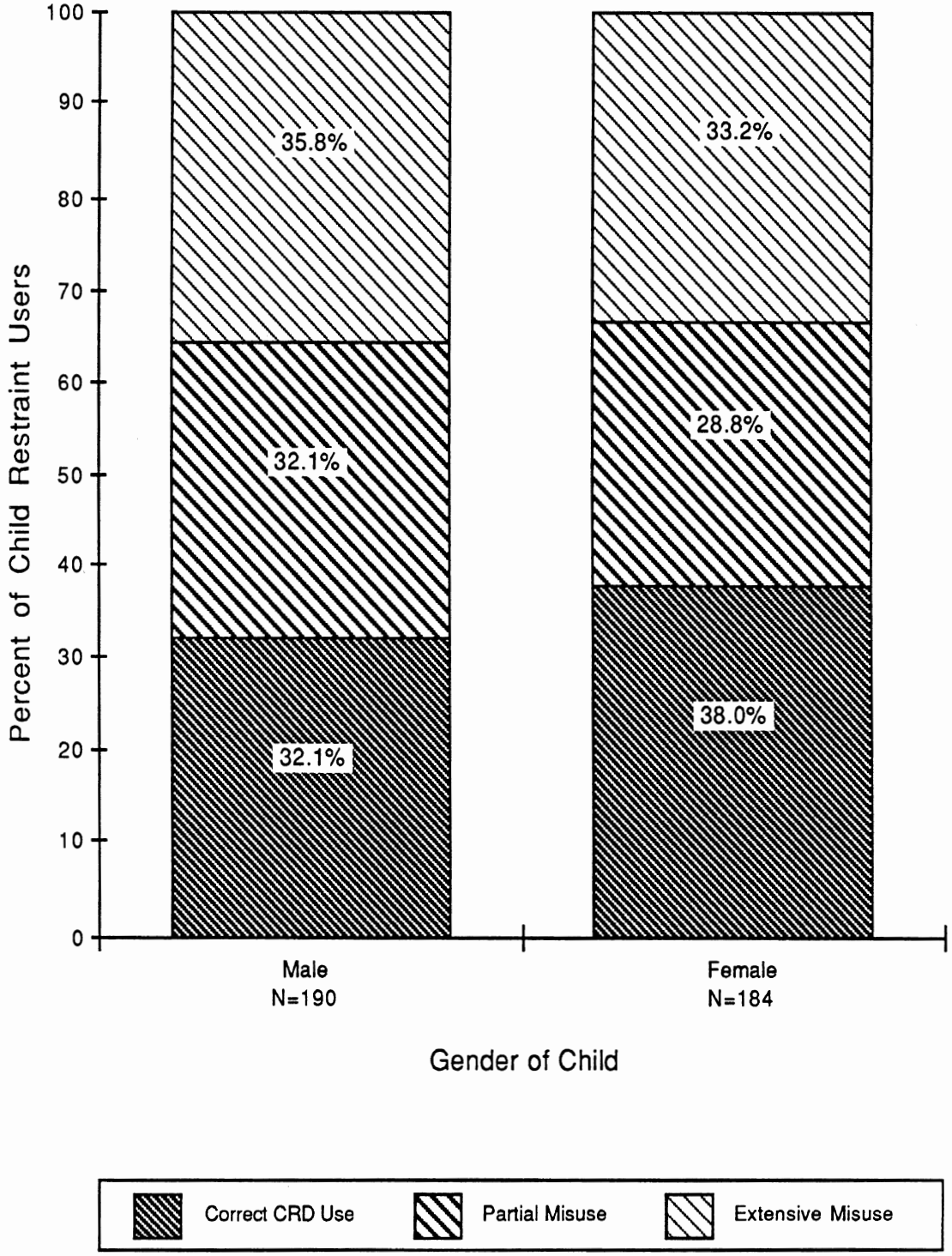

Figure E.2: Correctness of Child Restraint Use by Gender of Child

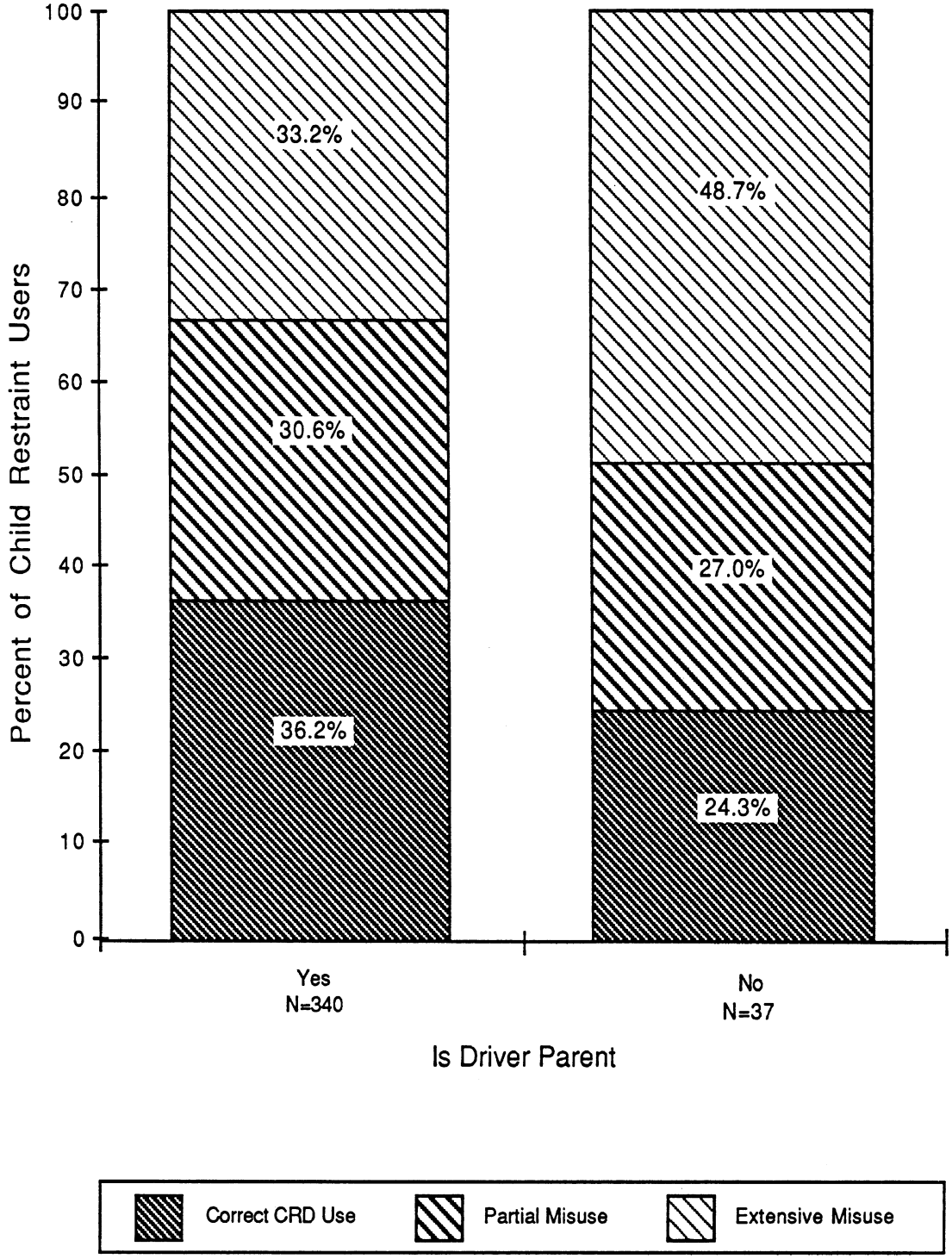

Figure E.3: Correctness of Child Restraint Use by Relationship of Driver to Child

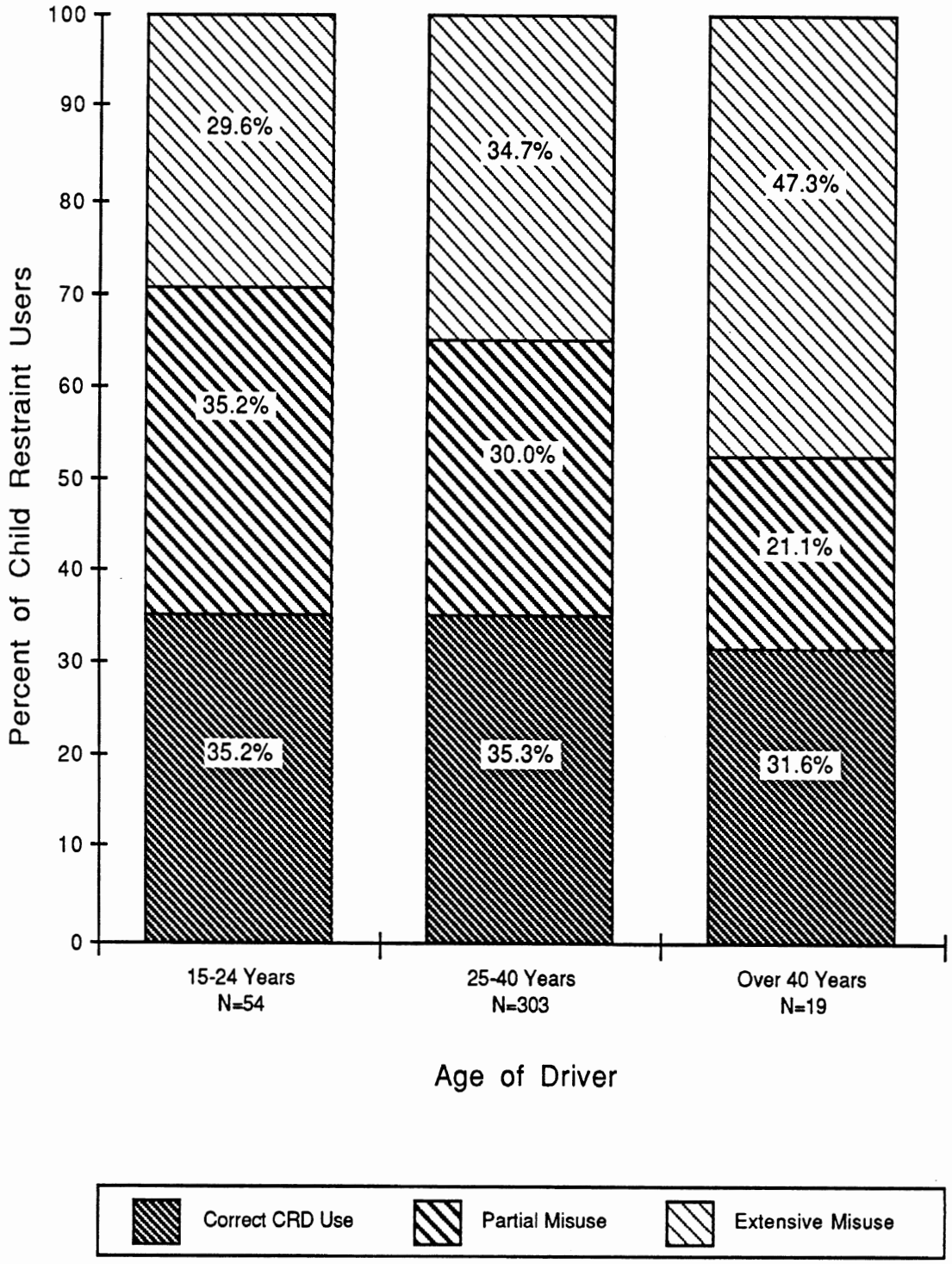

Figure E.4: Correctness of Child Restraint Use by Age of Driver

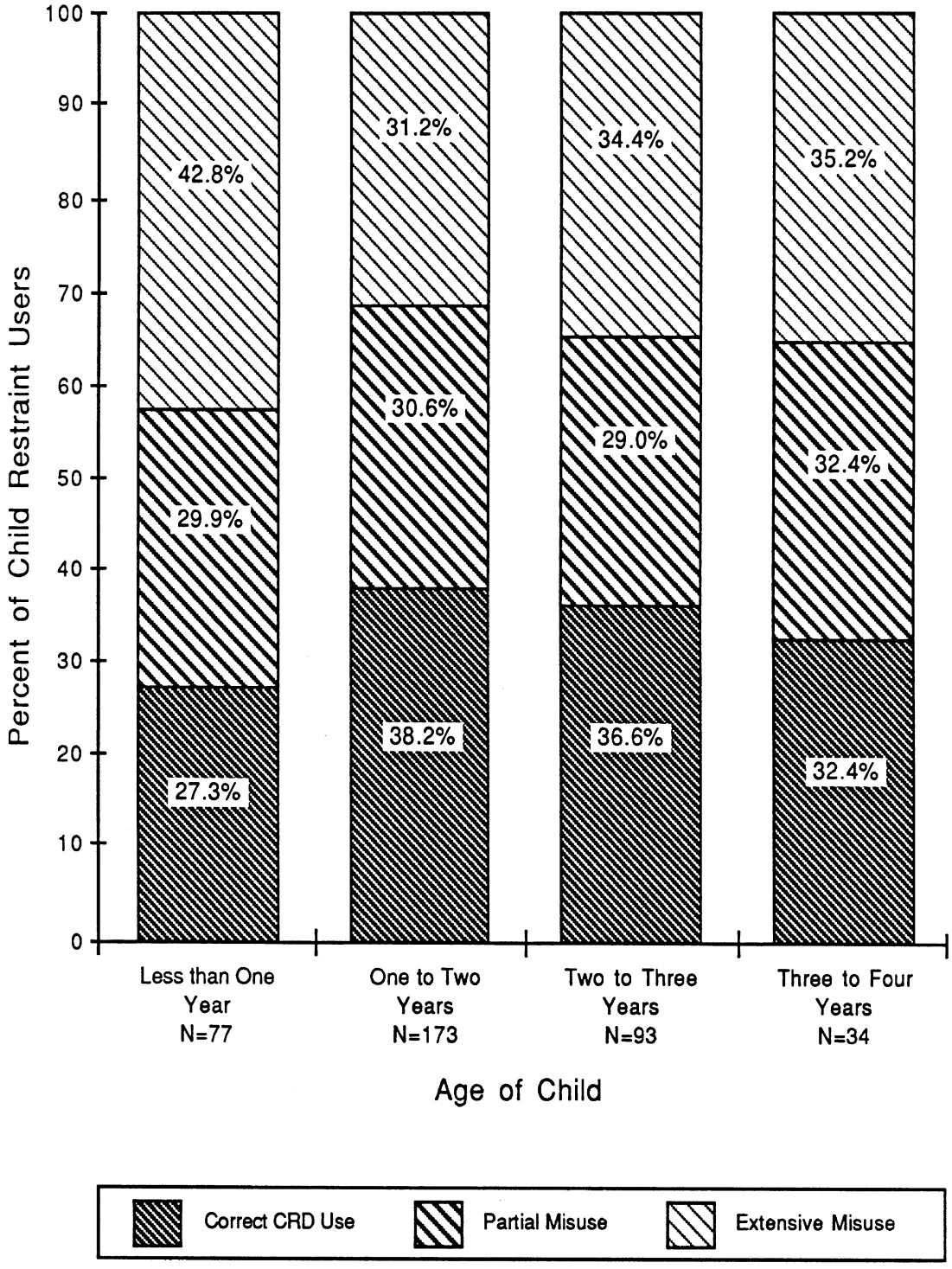

Figure E.5: Correctness of Child Restraint Use by Age of Child

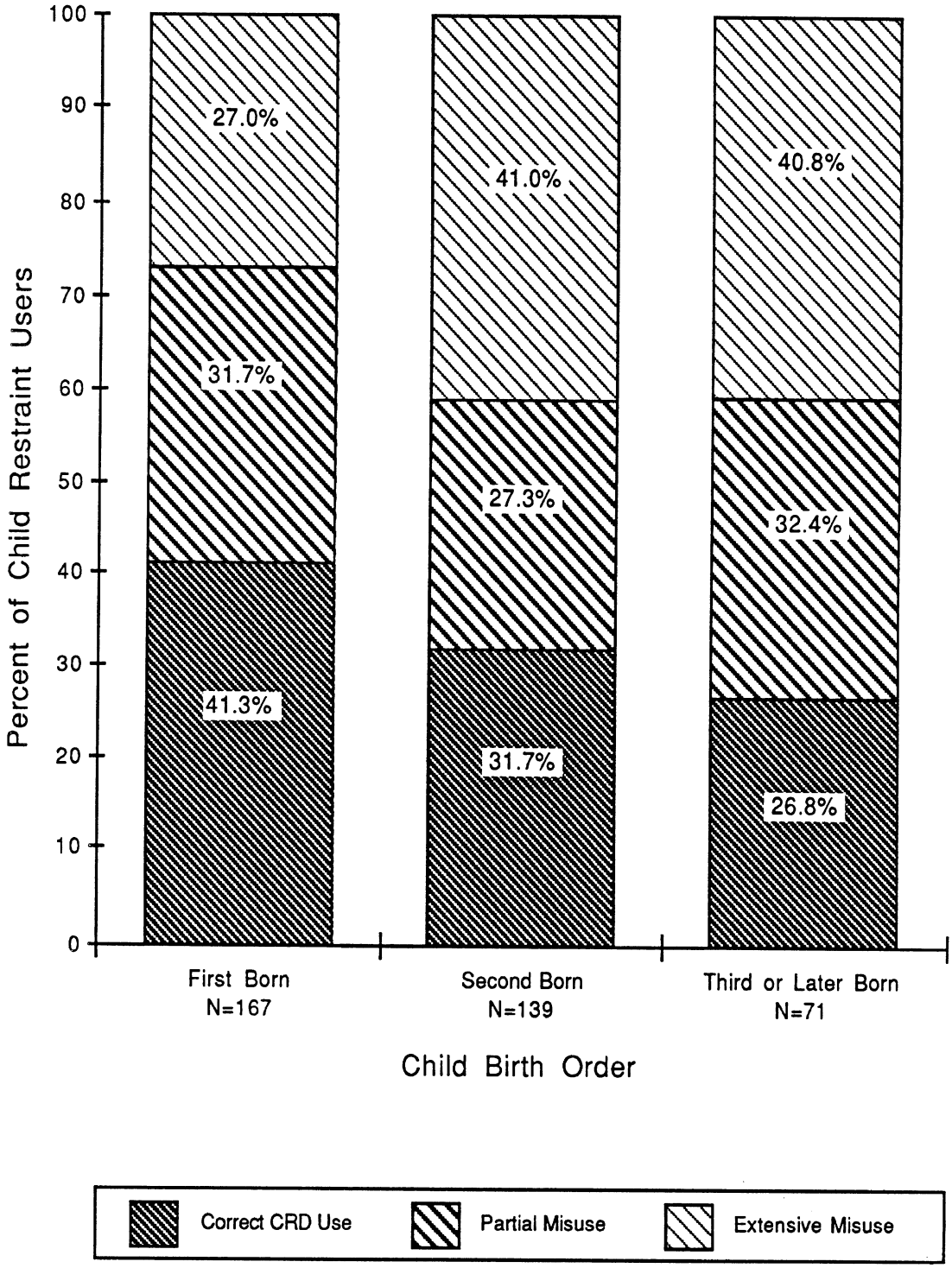

Figure E.6: Correctness of Child Restraint Use by Child Birth Order

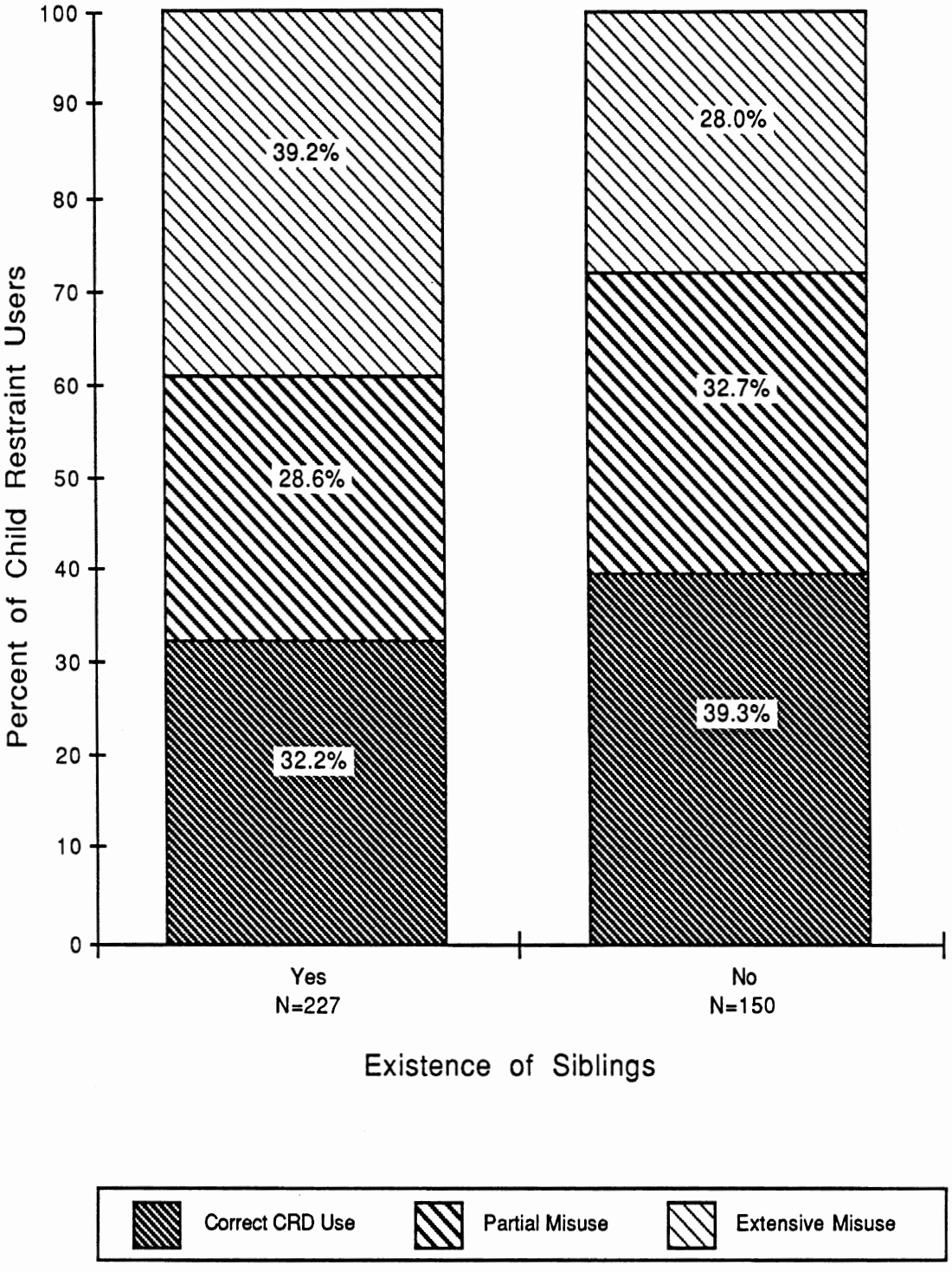

Figure E.7: Correctness of Child Restraint Use by Whether Child Has Siblings

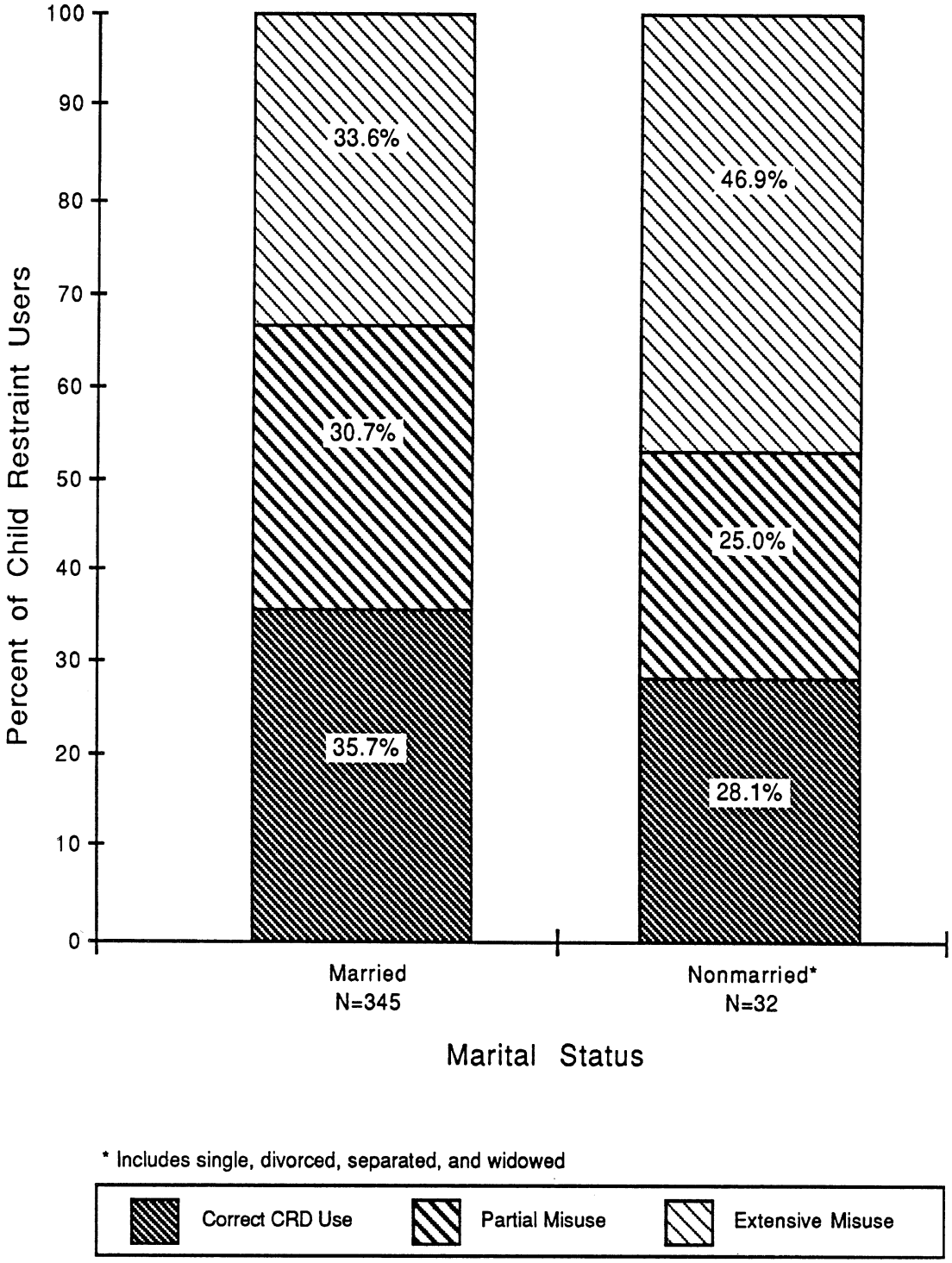

Figure E.8: Correctness of Child Restraint Use by Marital Status

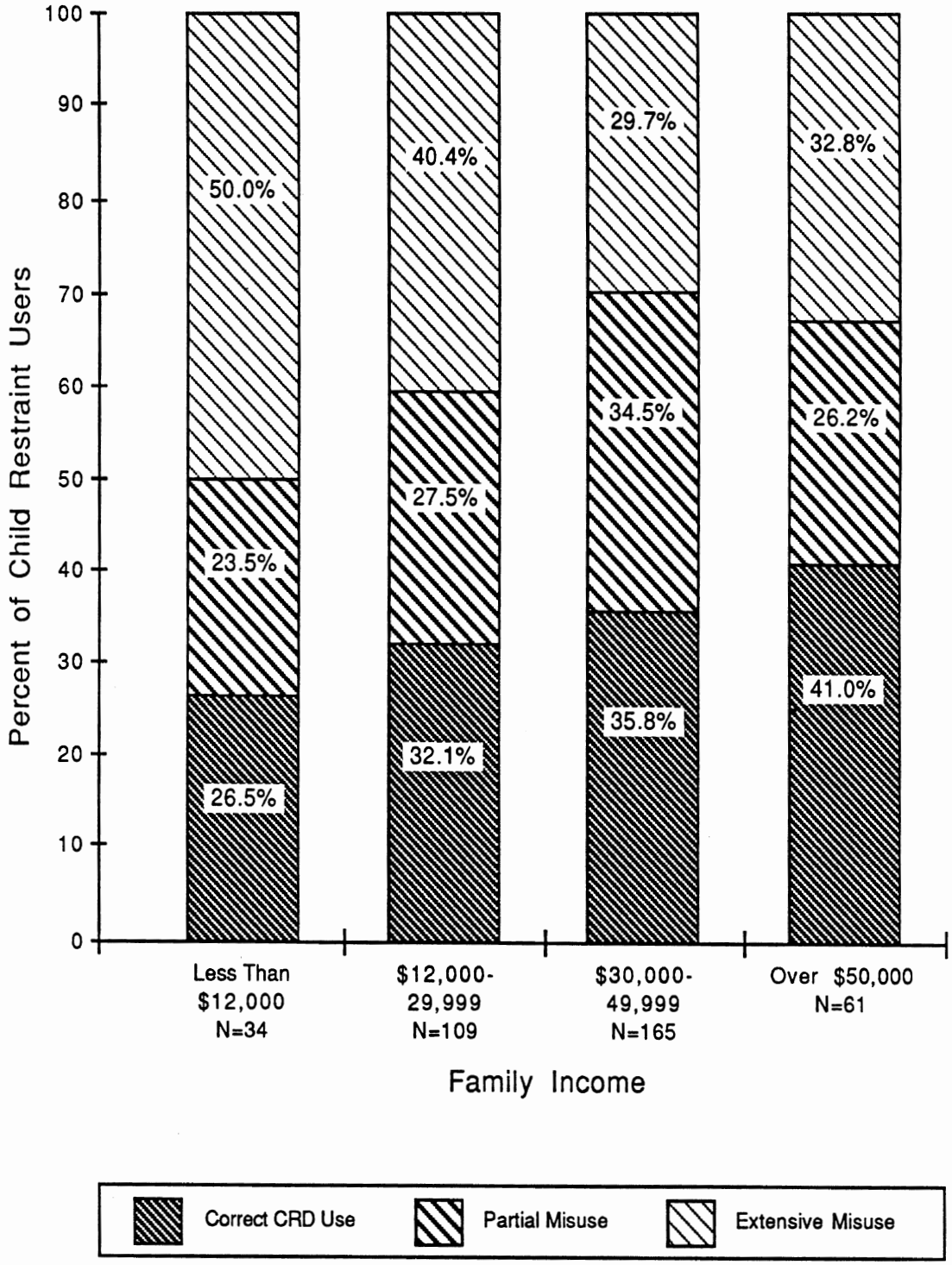

Figure E.9: Correctness of Child Restraint Use by Family Income

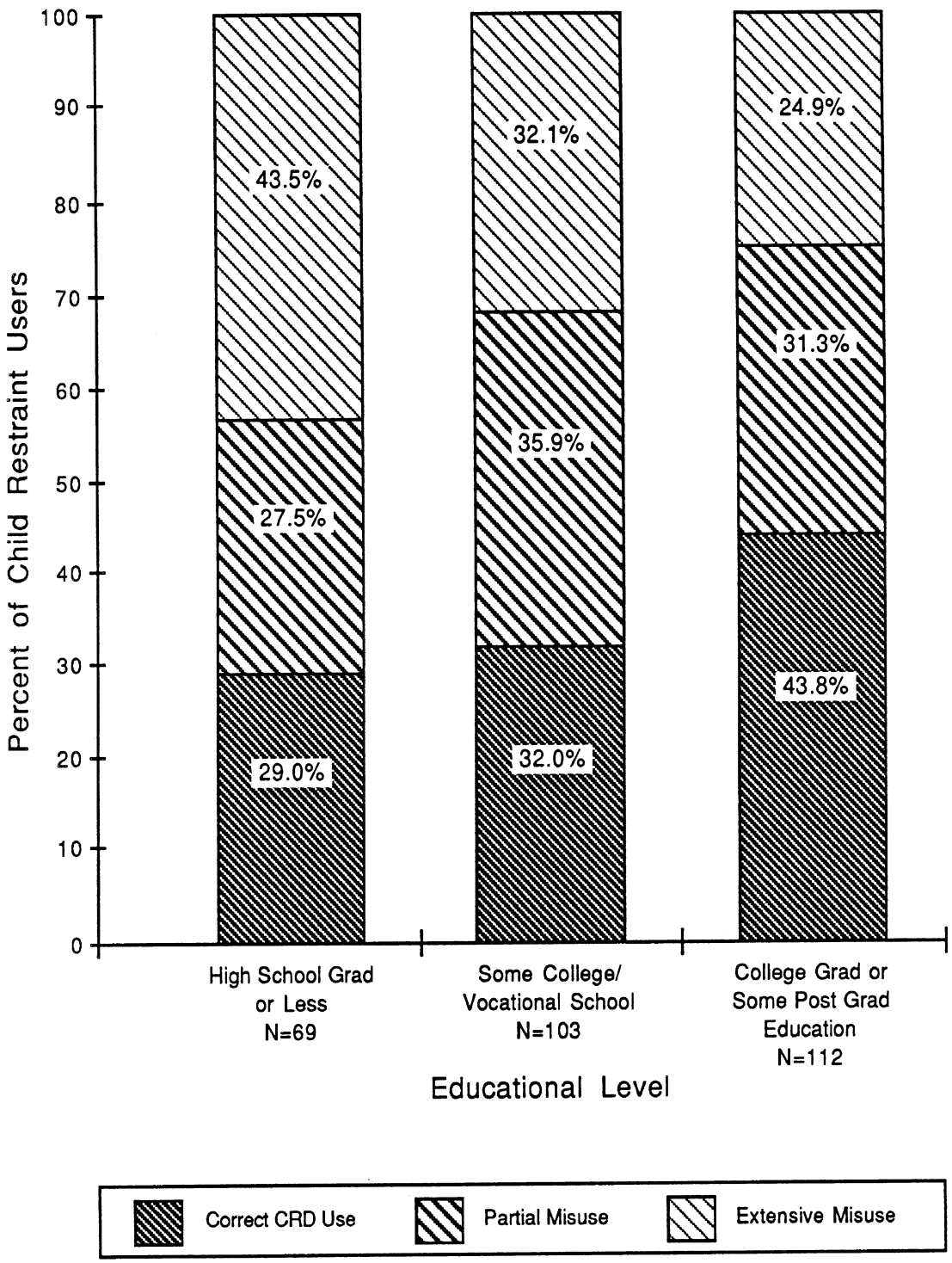

Figure E.10: Correctness of Child Restraint Use by Educational Level

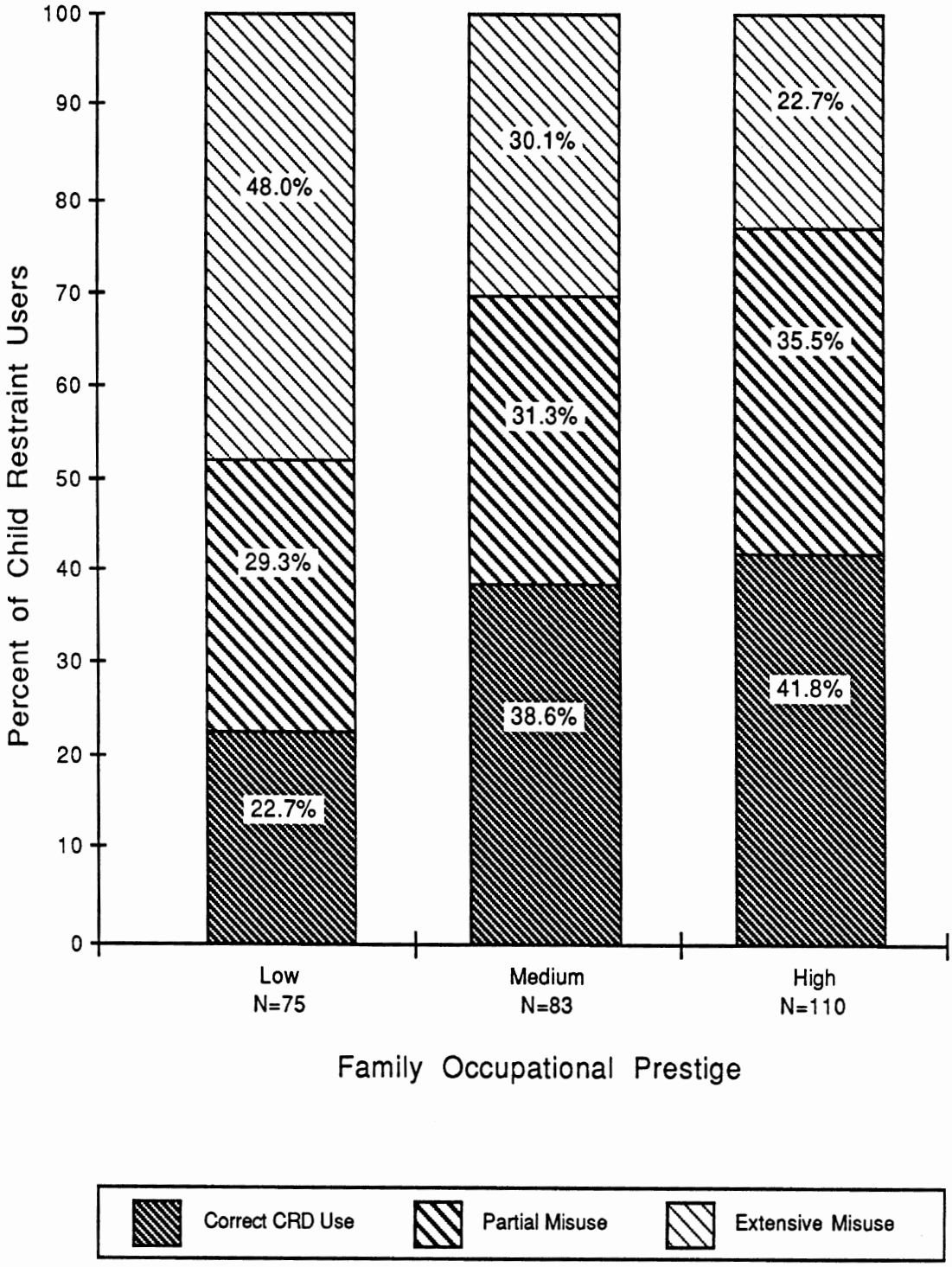

Figure E.11: Correctness of Child Restraint Use by Family Occupational Prestige

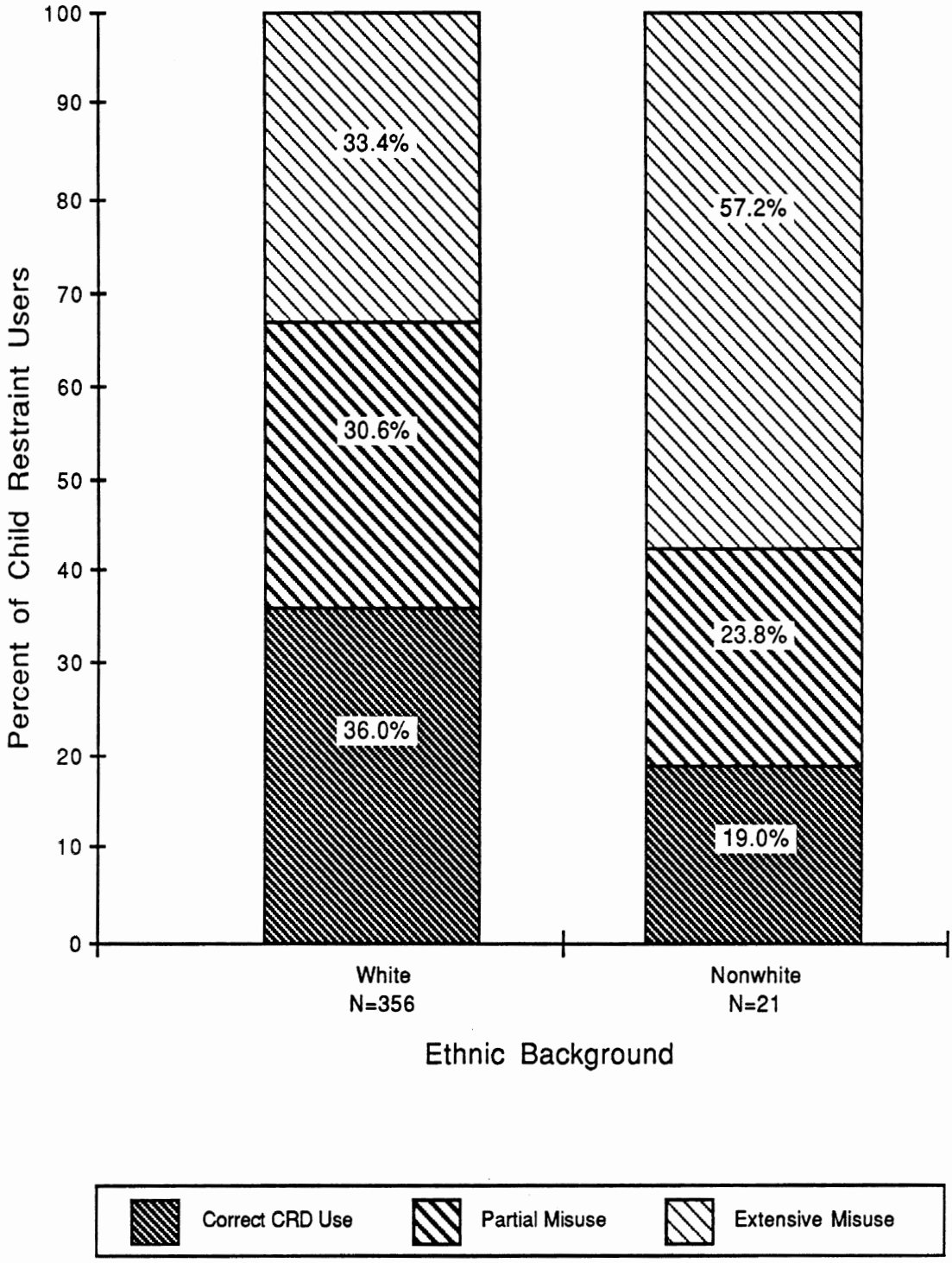

Figure E.12: Correctness of Child Restraint Use by Ethnic Background

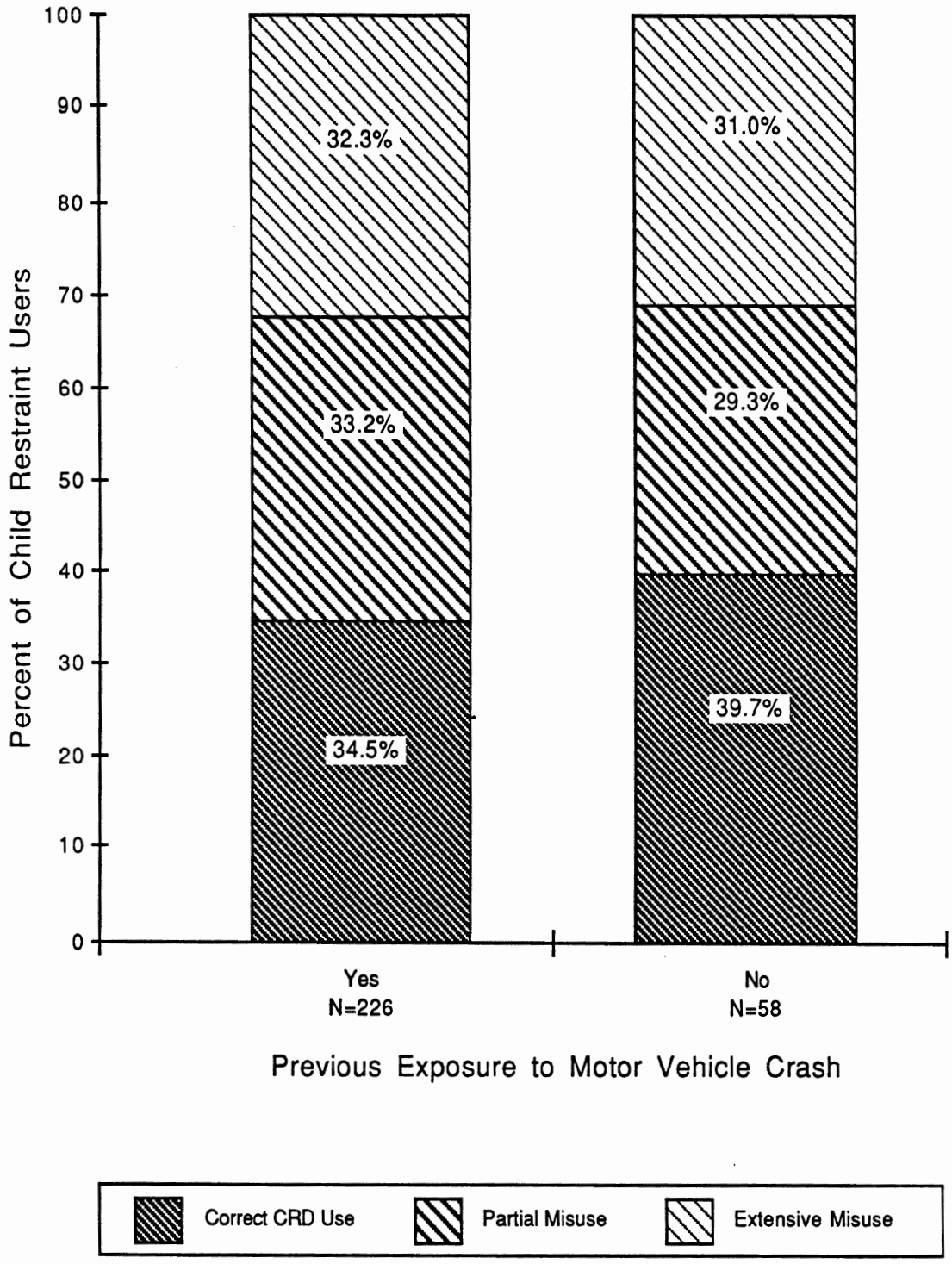

Figure E.13: Correctness of Child Restraint Use by Previous Exposure to Motor Vehicle Crash

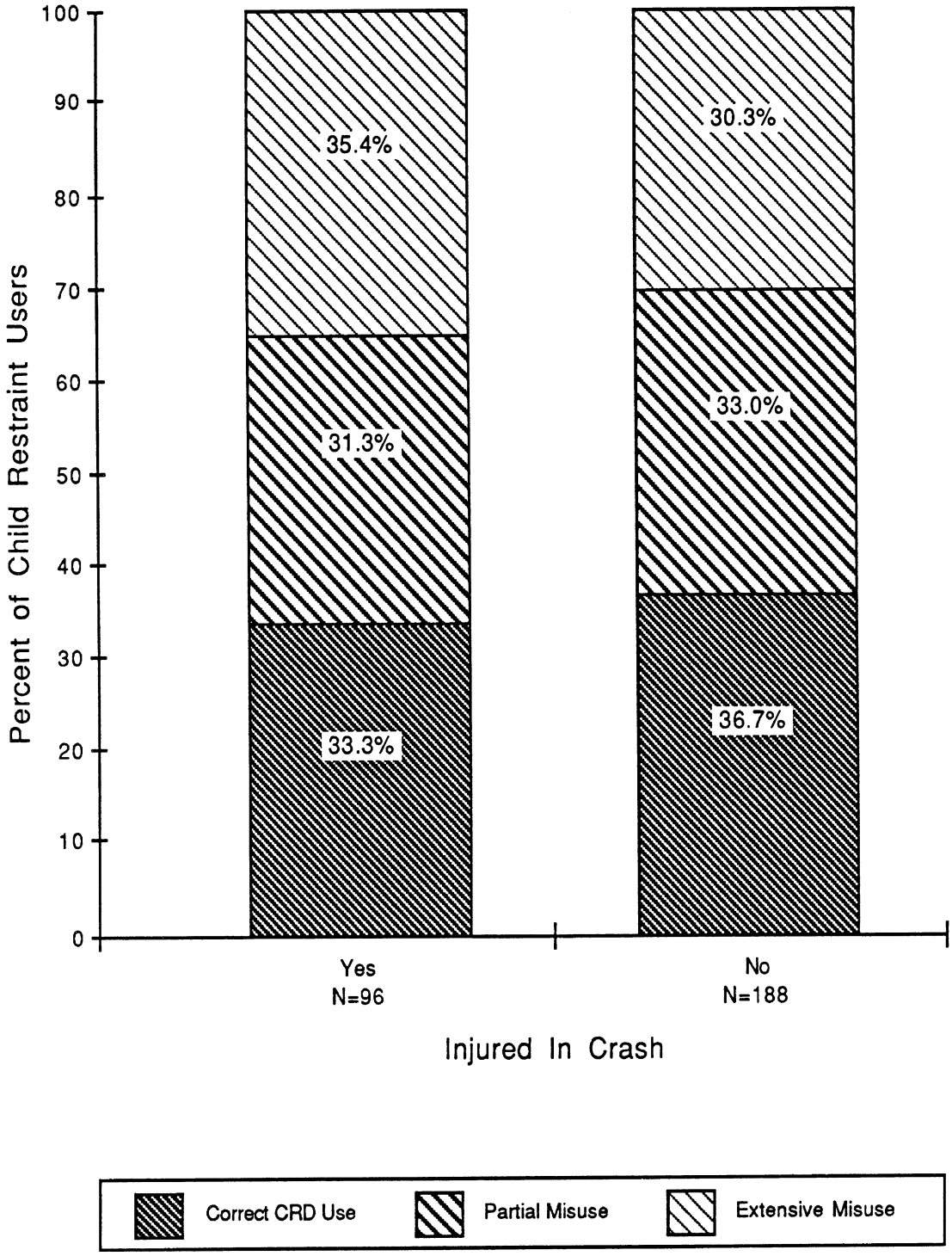

Figure E.14: Correctness of Child Restraint Use by Previous Injury in Motor Vehicle Crash

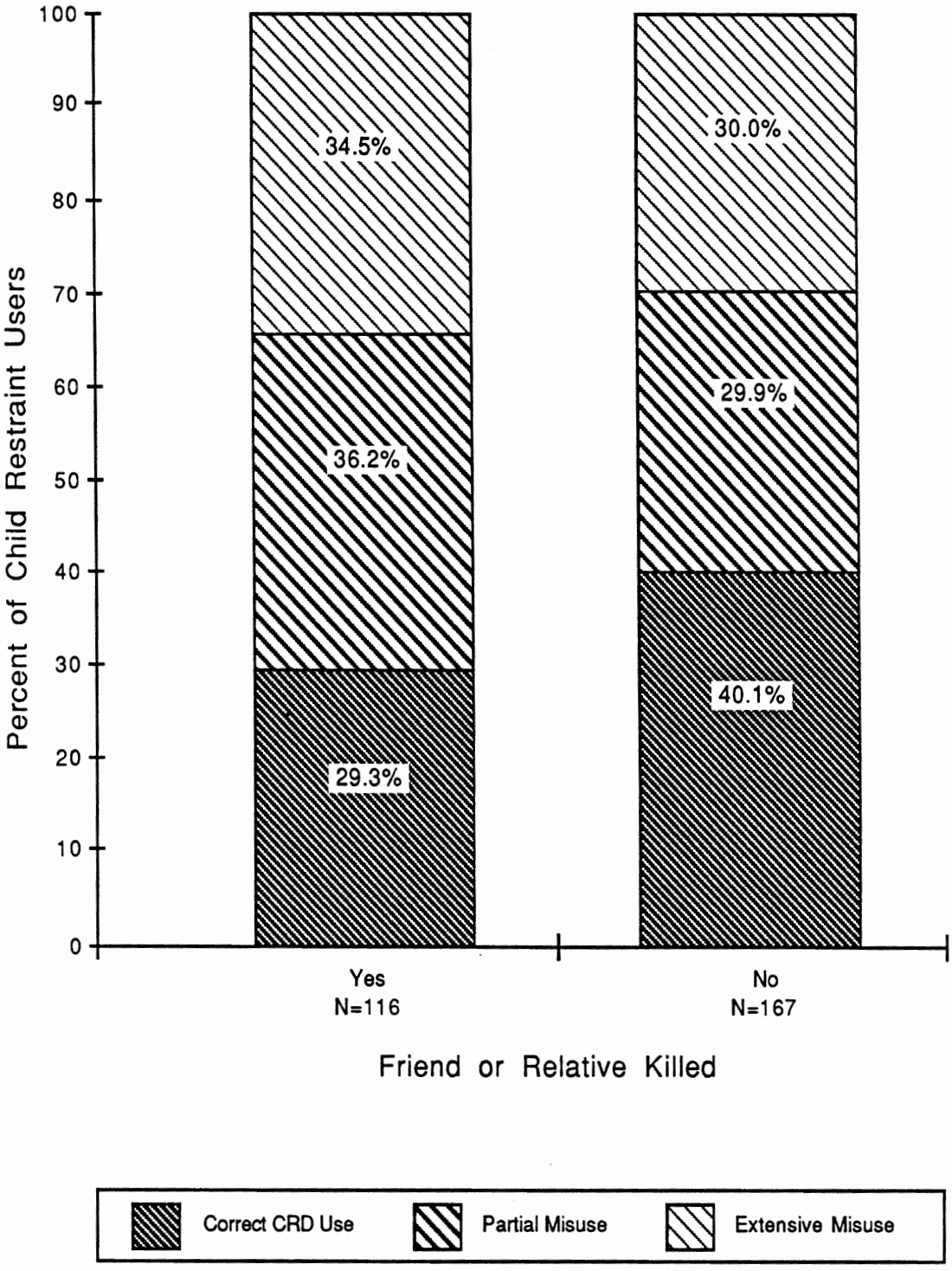

Figure E.15: Correctness of Child Restraint Use by Crash-Related Mortality of Friend or Relative

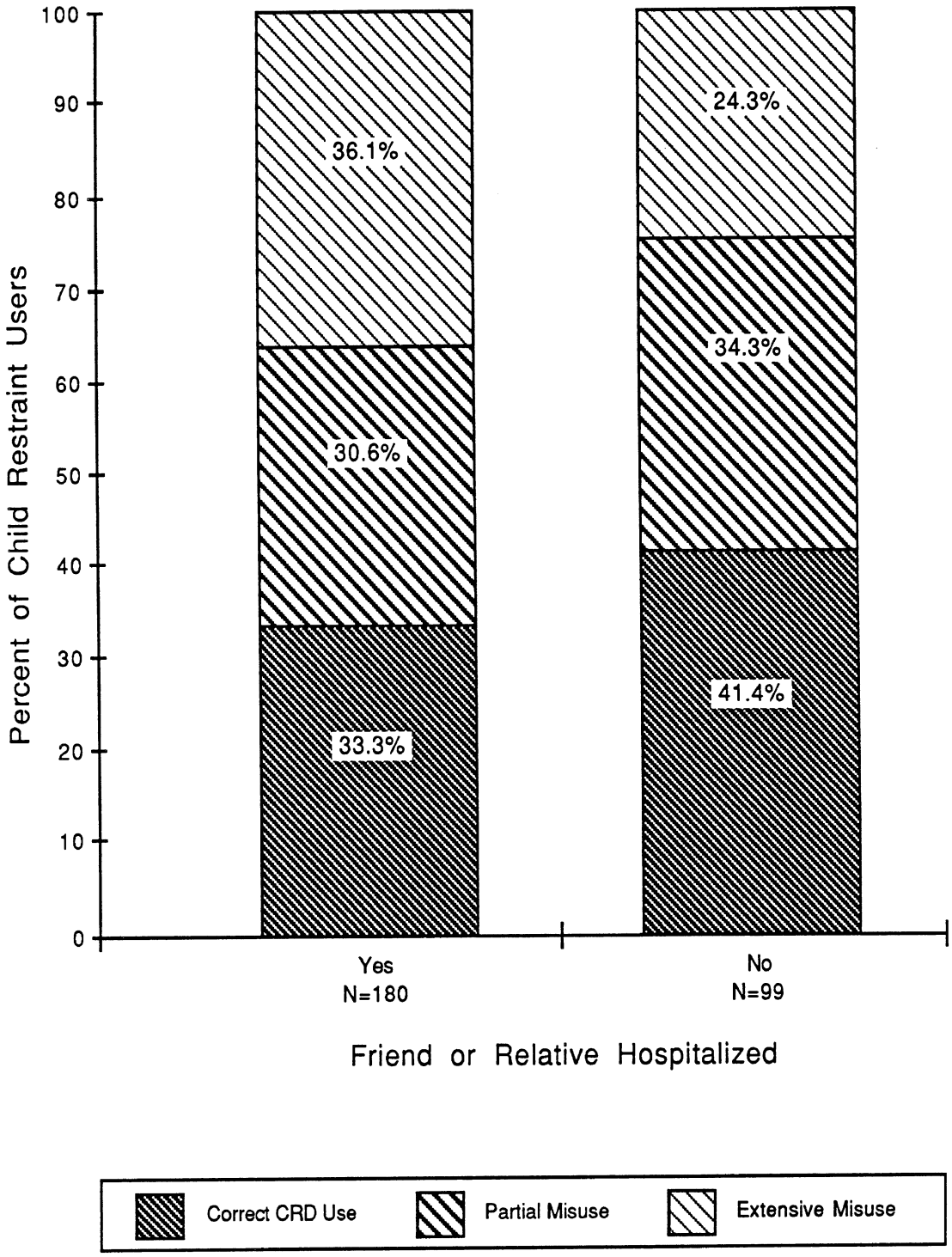

Figure E.16: Correctness of Child Restraint Use by Crash-Related Hospitalization of Friend or Relative

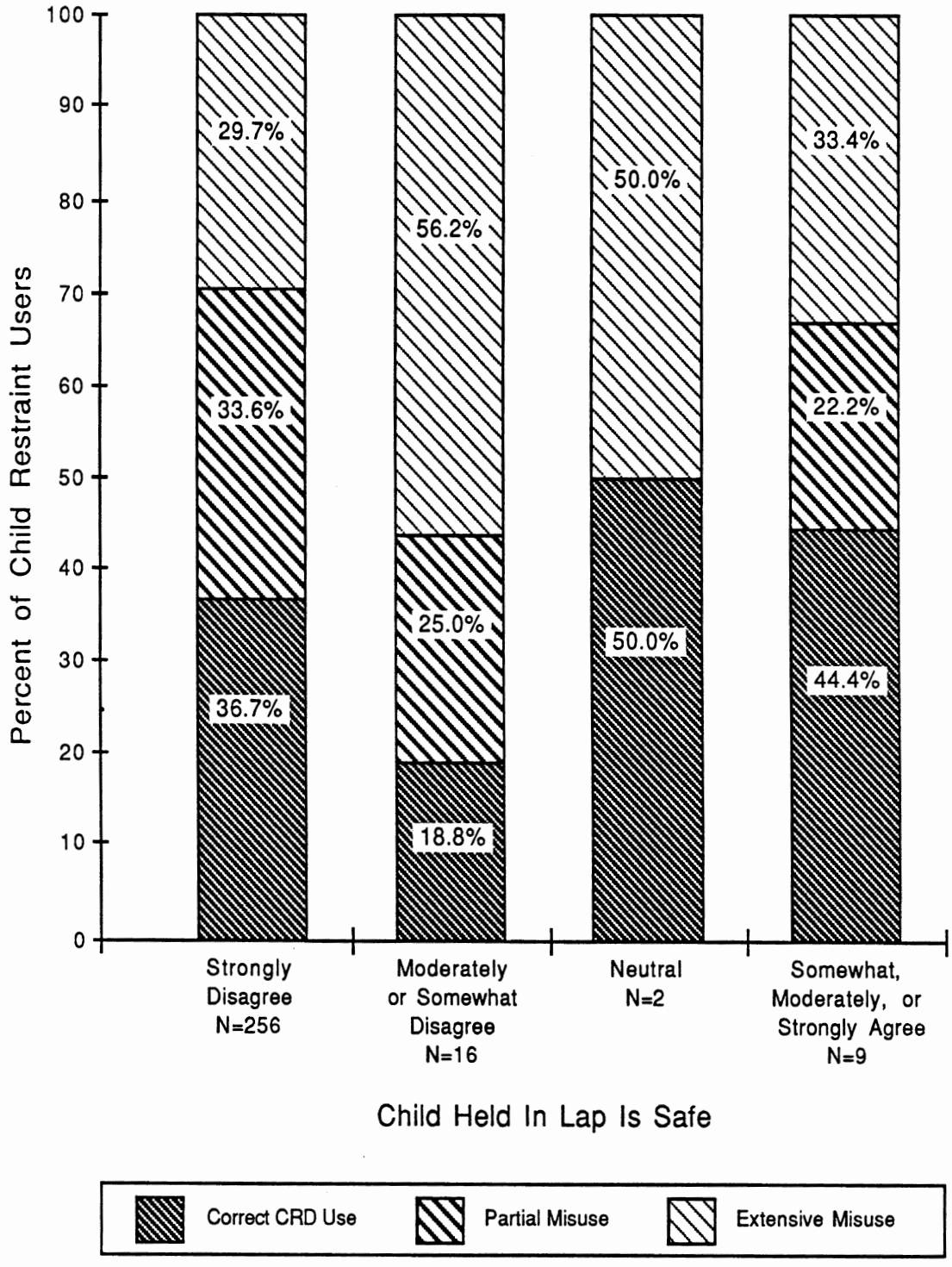

Figure E.17: Correctness of Child Restraint Use by Belief That Child Held in Lap Is Safe

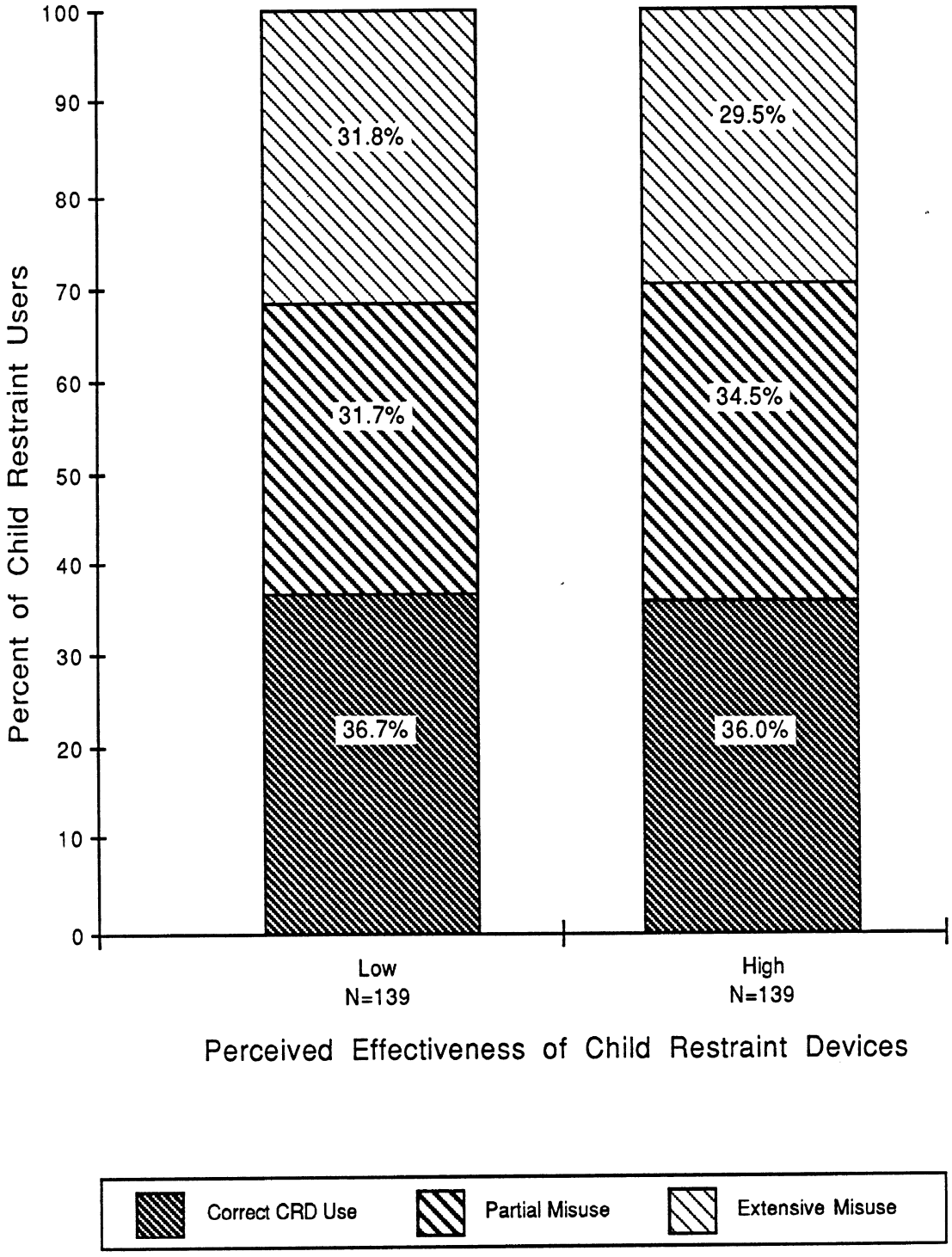

Figure E.18: Correctness of Child Restraint Use by Perceived Effectiveness of Child Restraint Devices

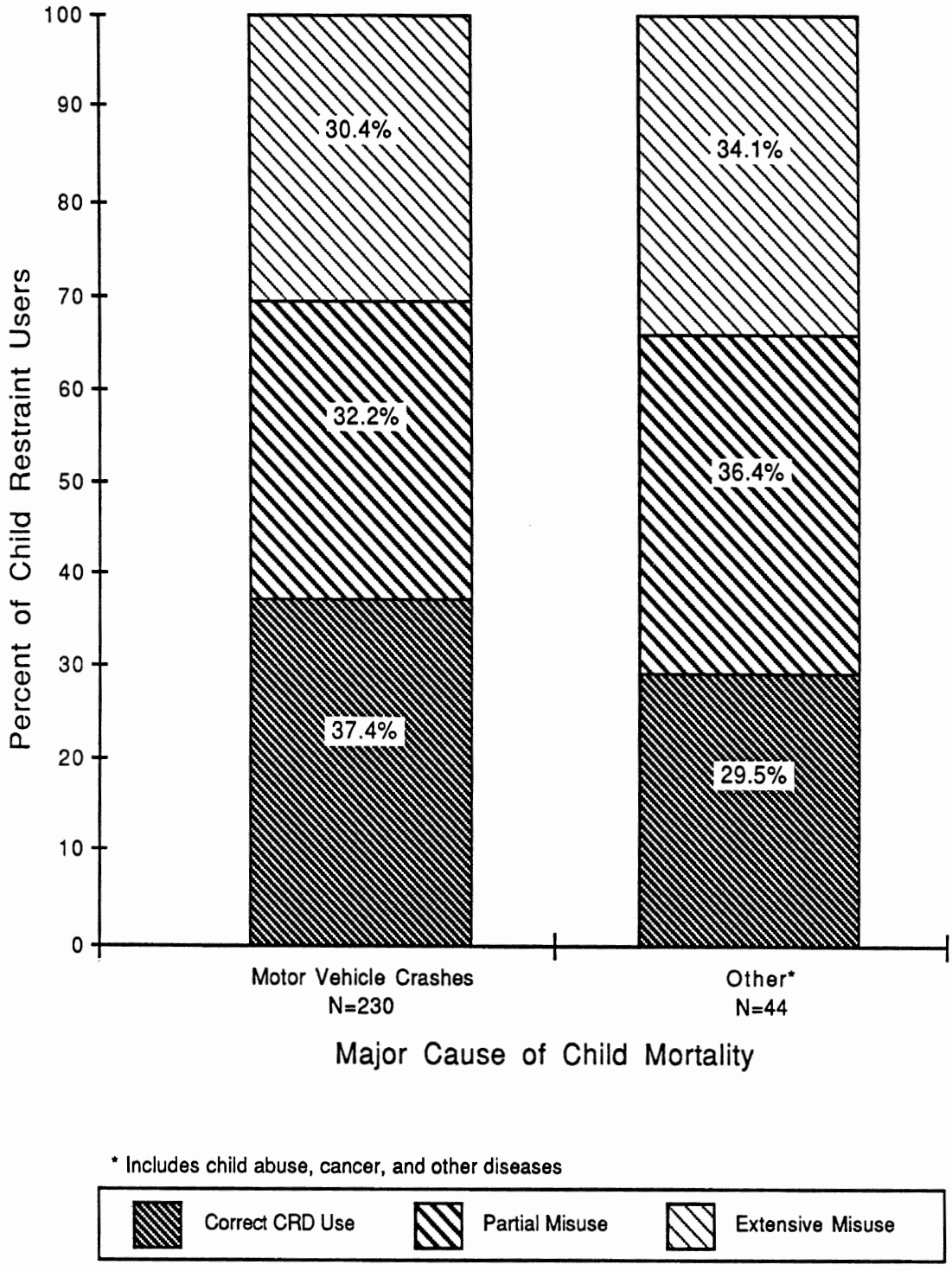

Figure E.19: Correctness of Child Restraint Use by Belief about Major Cause of Child Mortality

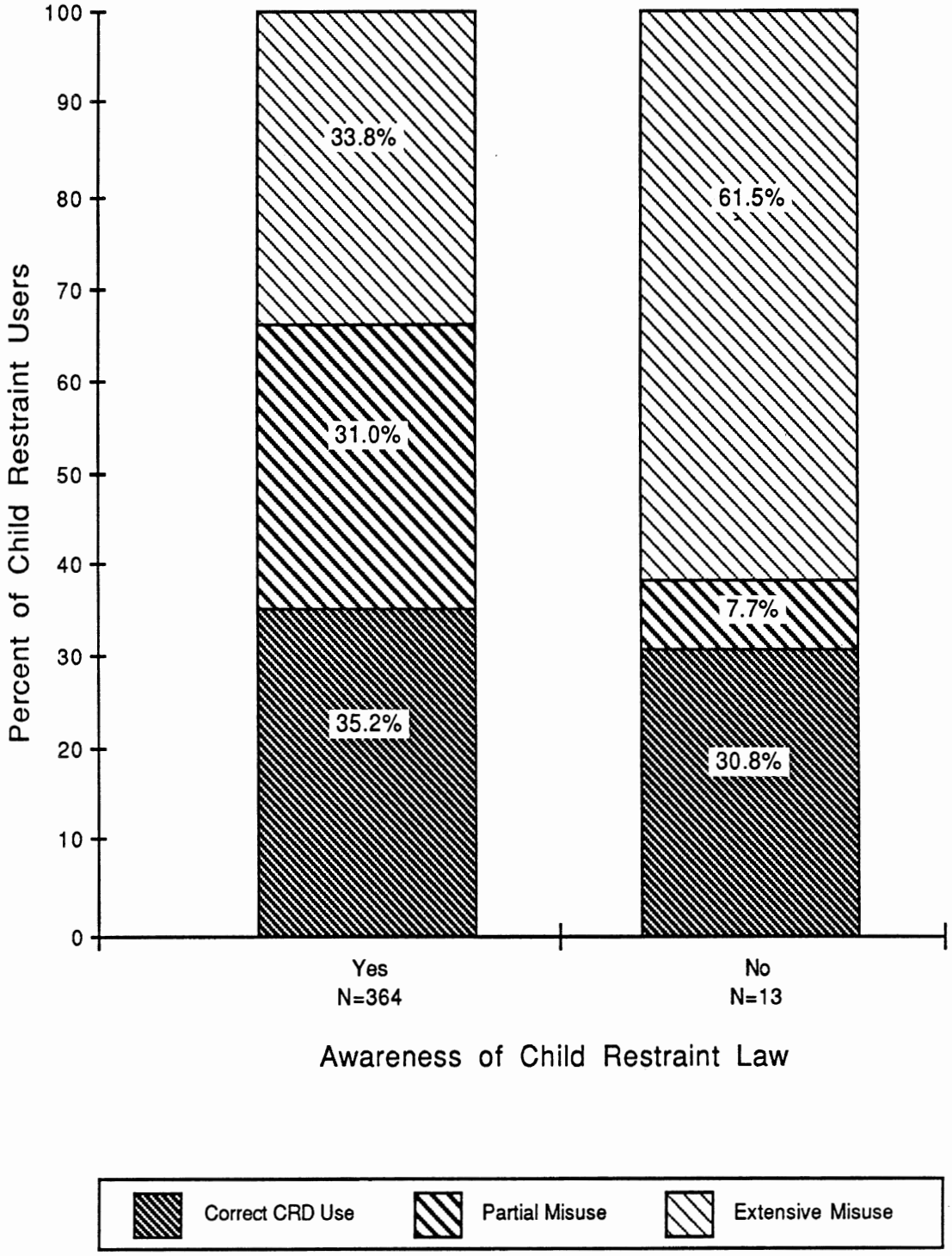

Figure E.20: Correctness of Child Restraint Use by Awareness of Child Restraint Law

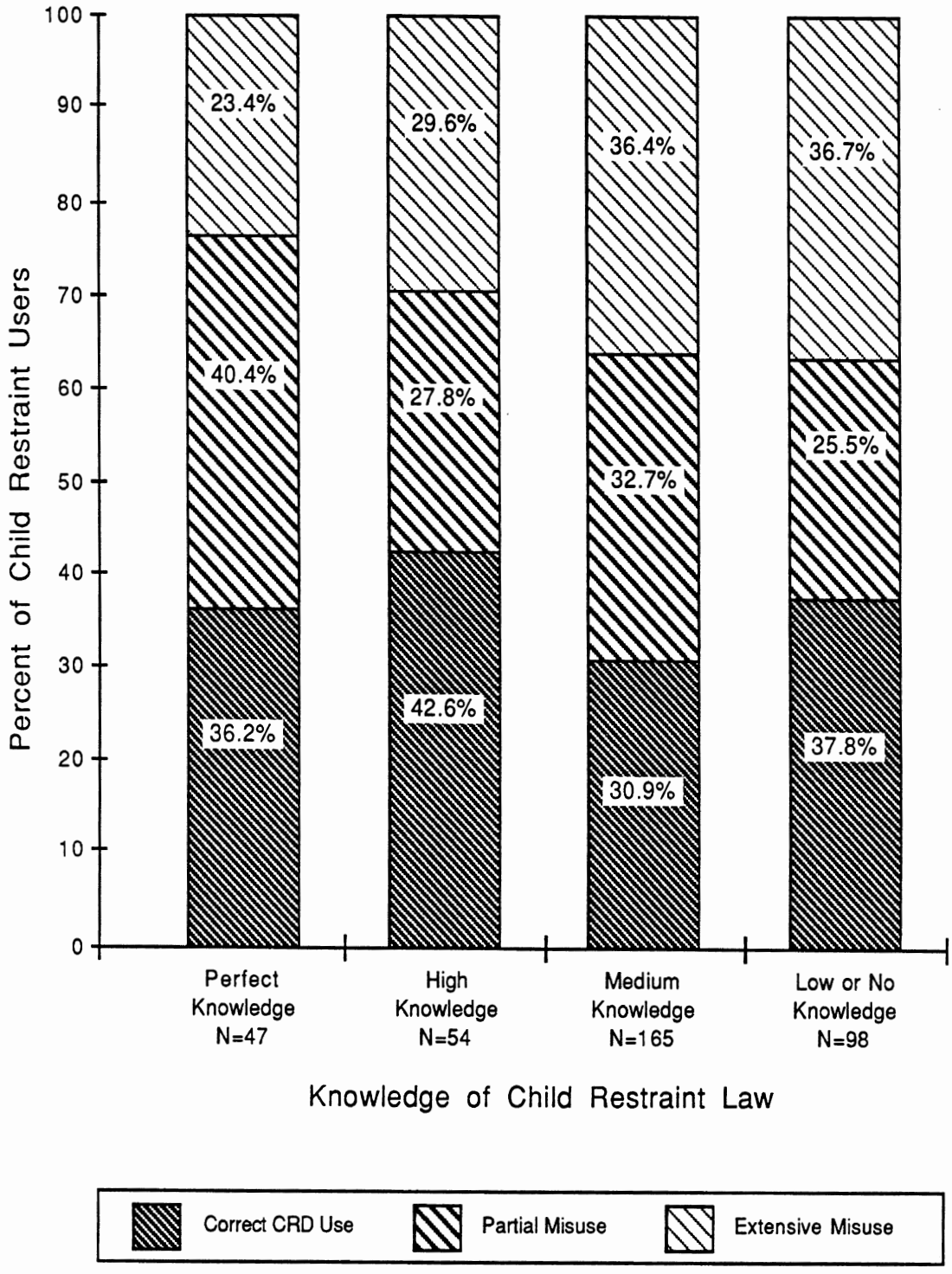

Figure E.21: Correctness of Child Restraint Use by Knowledge of Child Restraint Law

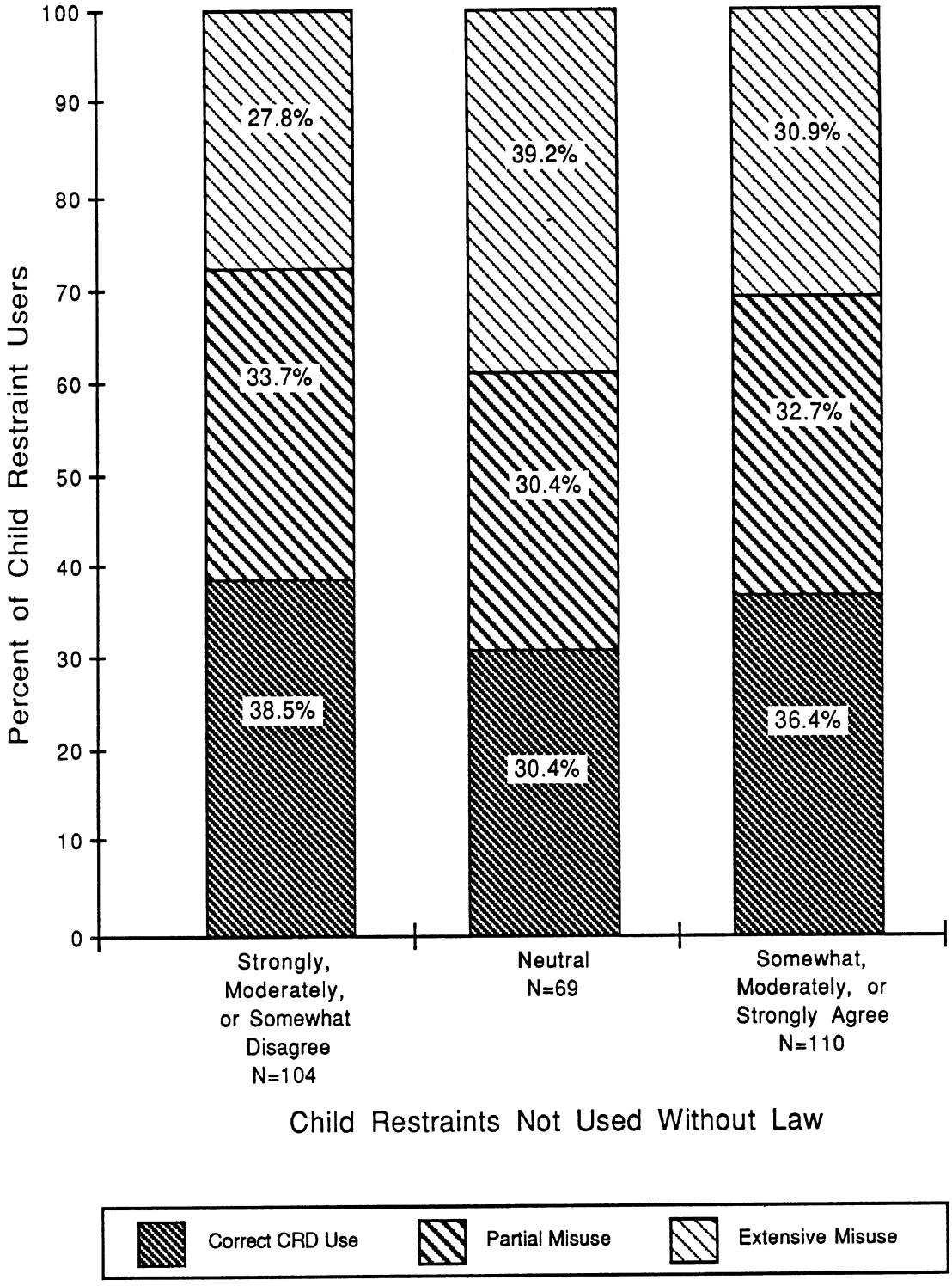

Figure E.22: Correctness of Child Restraint Use by Belief That Child Restraints Would Not Be Used Without Child Restraint Law

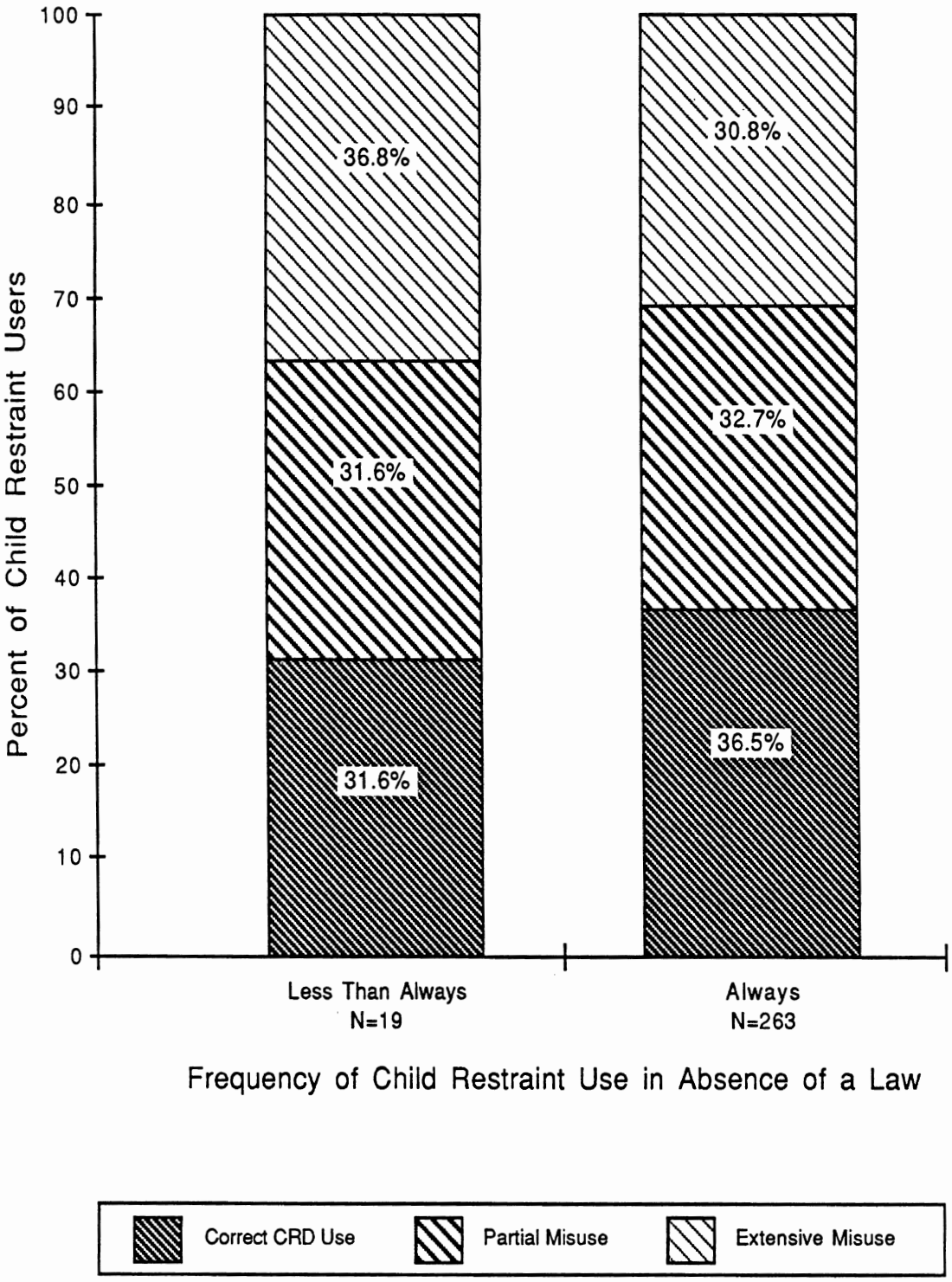

Figure E.23: Correctness of Child Restraint Use by Estimated Frequency of Child Restraint Use in Absence of a Child Restraint Law

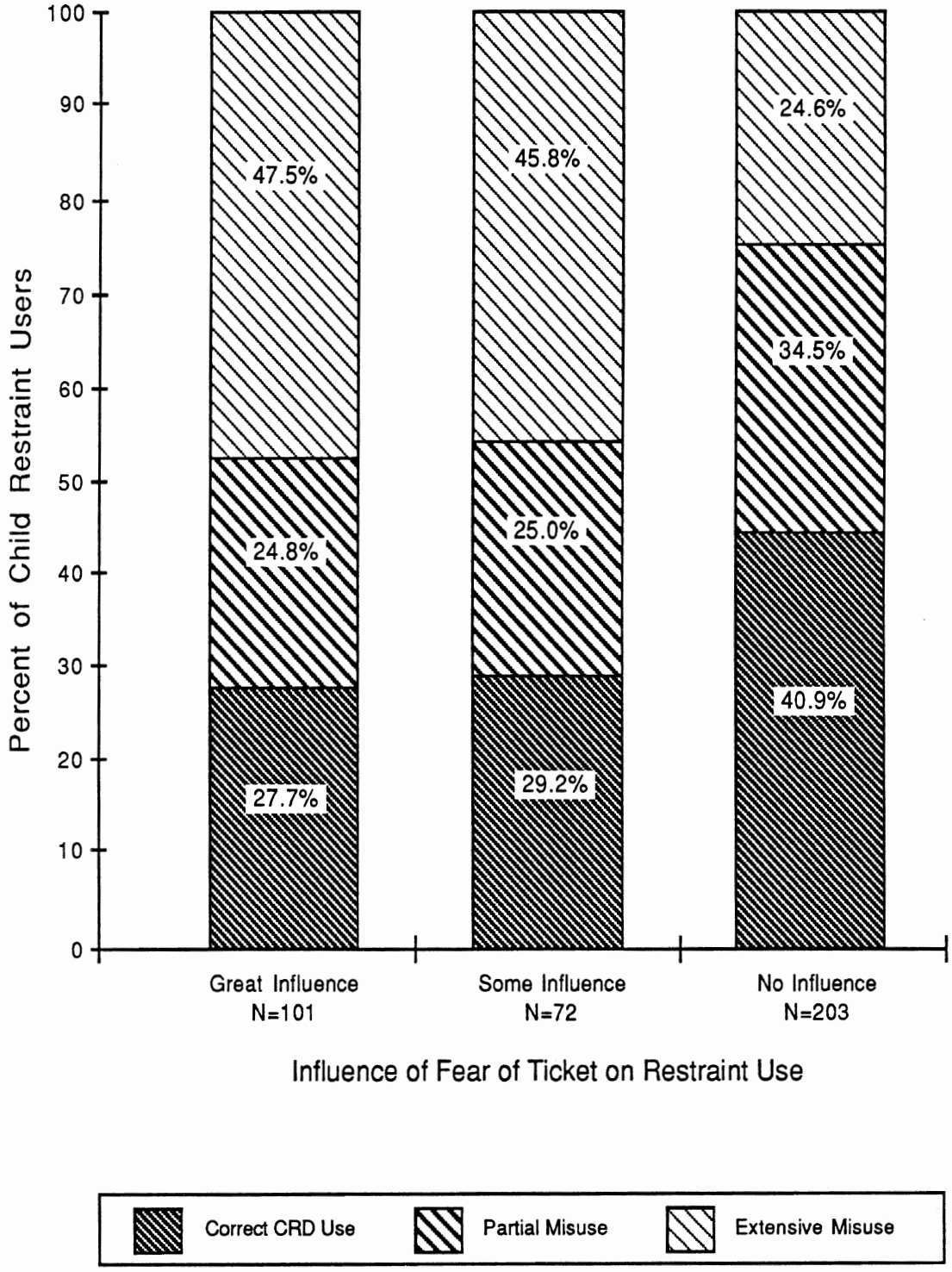

Figure E.24: Correctness of Child Restraint Use by Influence of Fear of Ticket on Decision to Use Restraints

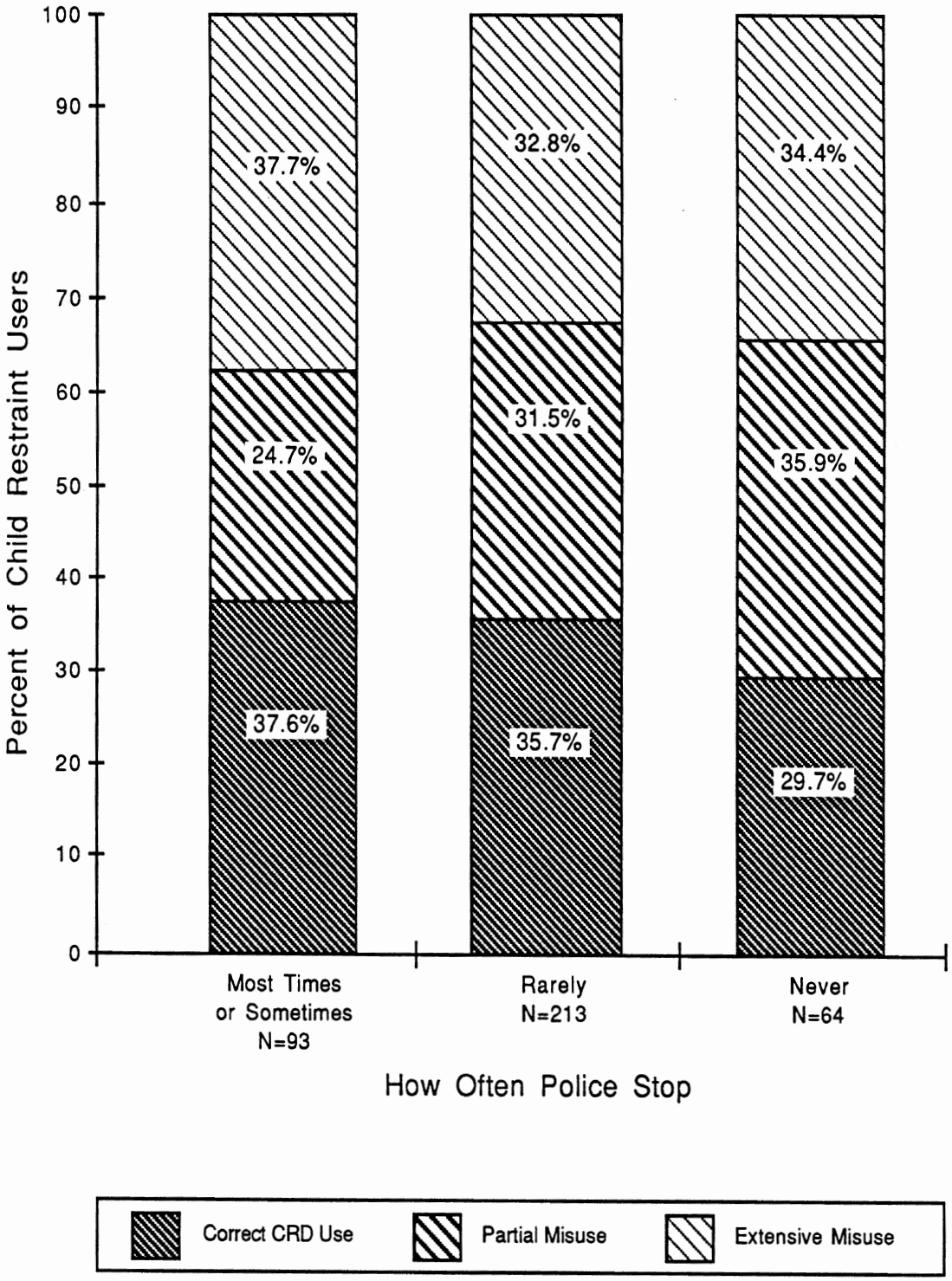

Figure E.25: Correctness of Child Restraint Use by Perception of How Often Police Stop Violators of Law

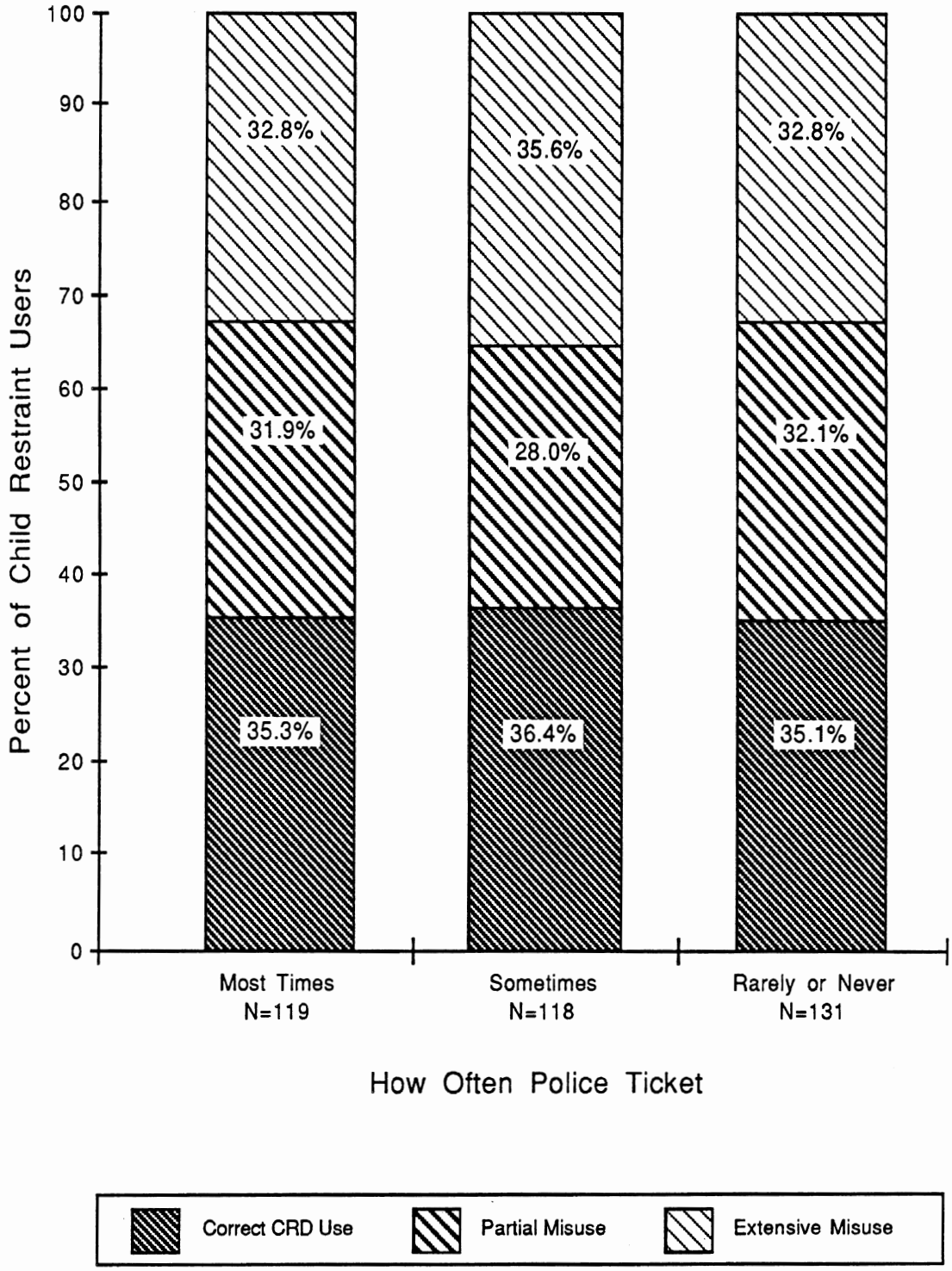

Figure E.26: Correctness of Child Restraint Use by Perception of How Often Police Ticket Violators of Law

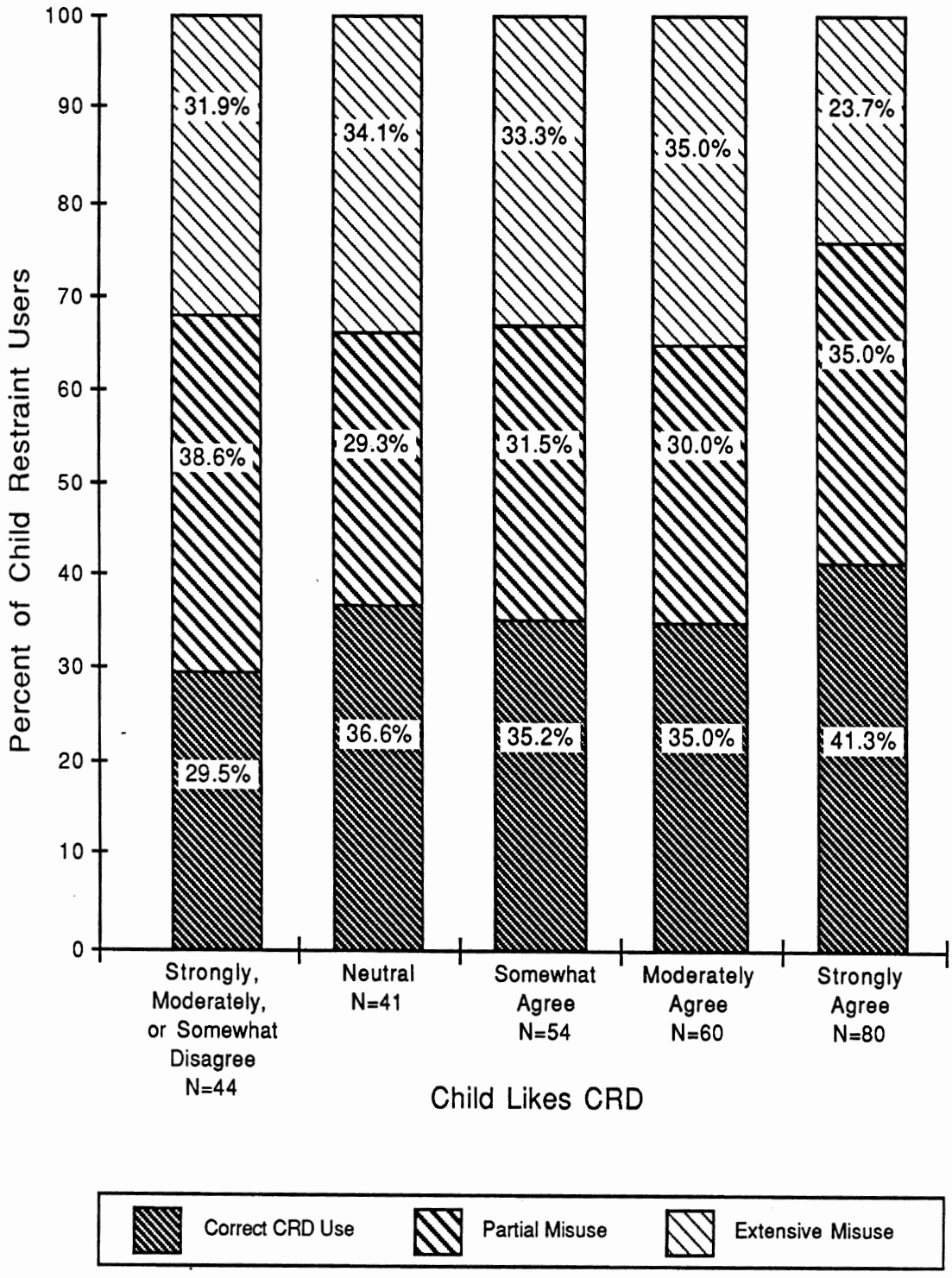

Figure E.27: Correctness of Child Restraint Use by Belief That Child Likes Child Restraint

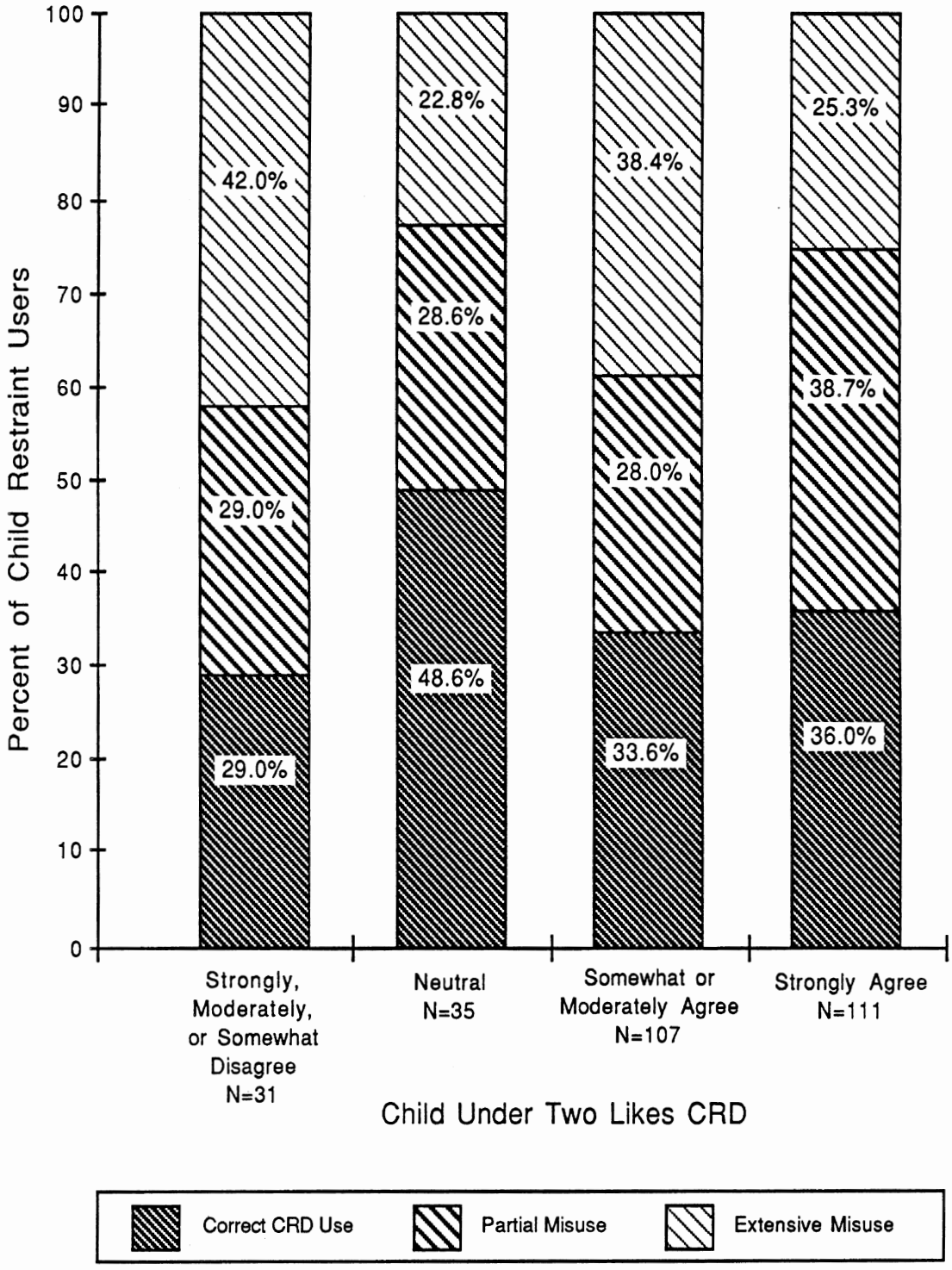

Figure E.28: Correctness of Child Restraint Use by Belief That Child Under Age of Two Likes Child Restraint

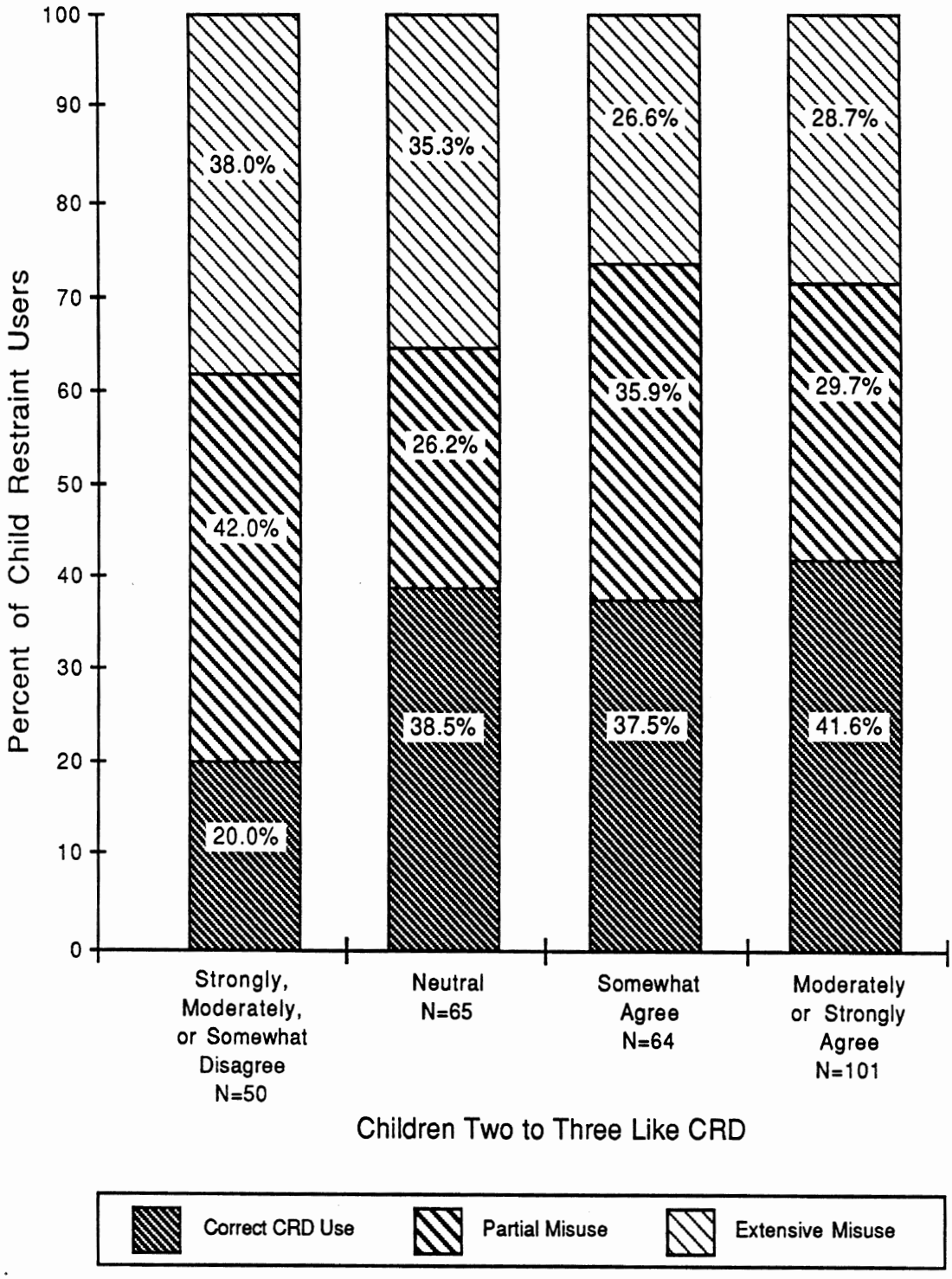

Figure E.29: Correctness of Child Restraint Use by Belief That Children Age Two to Three Like Child Restraints

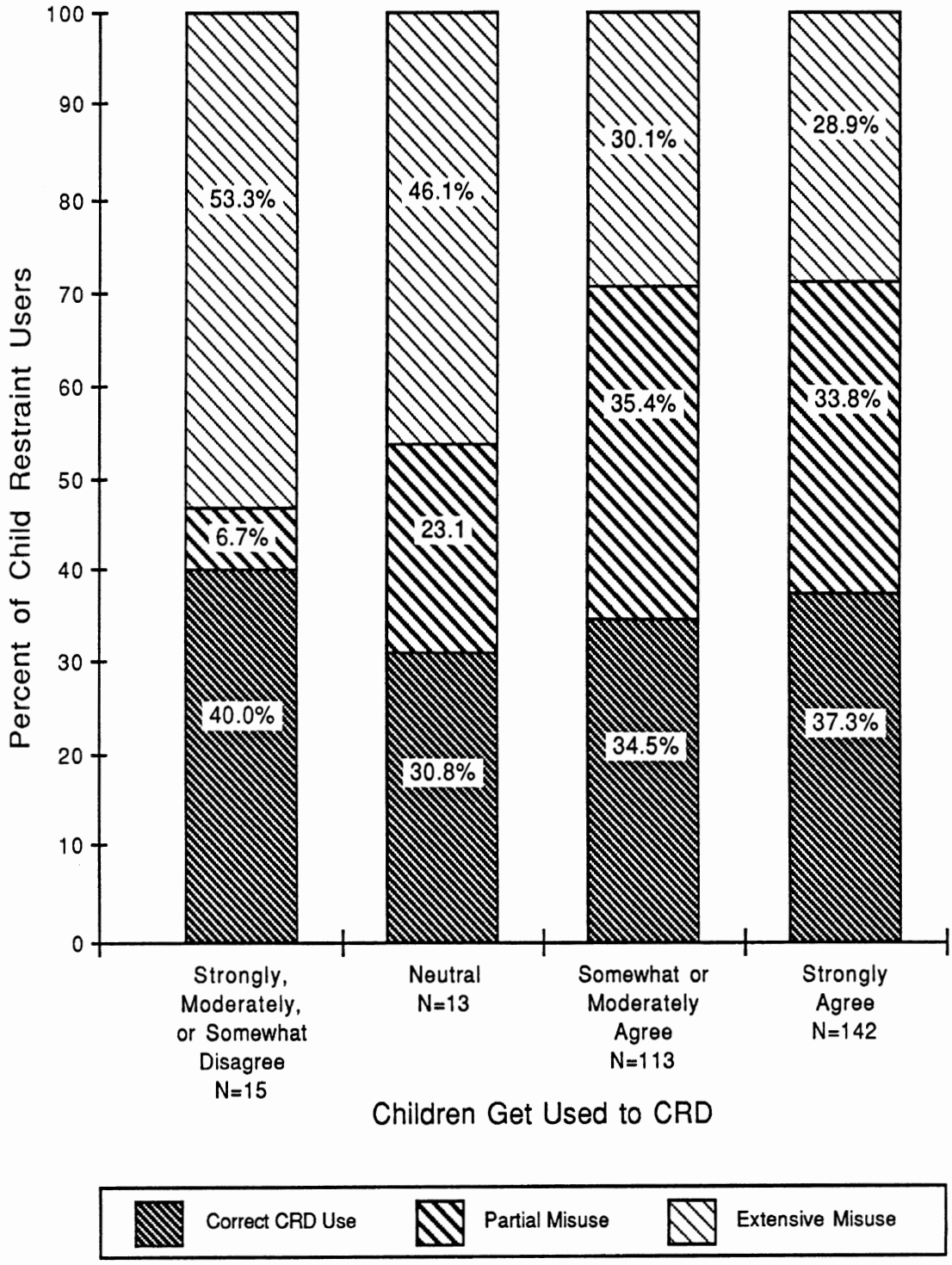

Figure E.30: Correctness of Child Restraint Use by Belief That Children Get Used to Restraint Devices

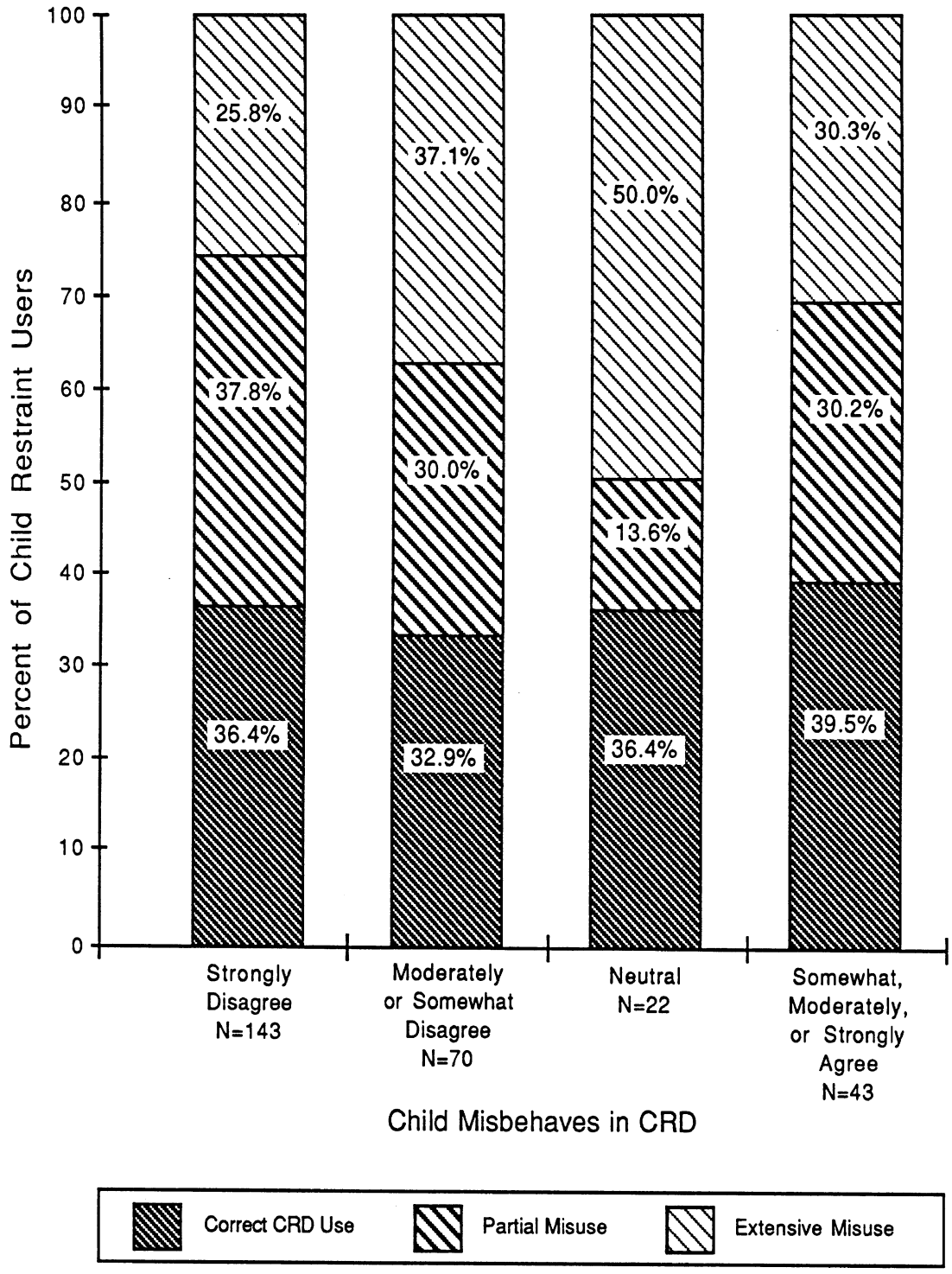

Figure E.31: Correctness of Child Restraint Use by Belief That Child Misbehaves in Child Restraint

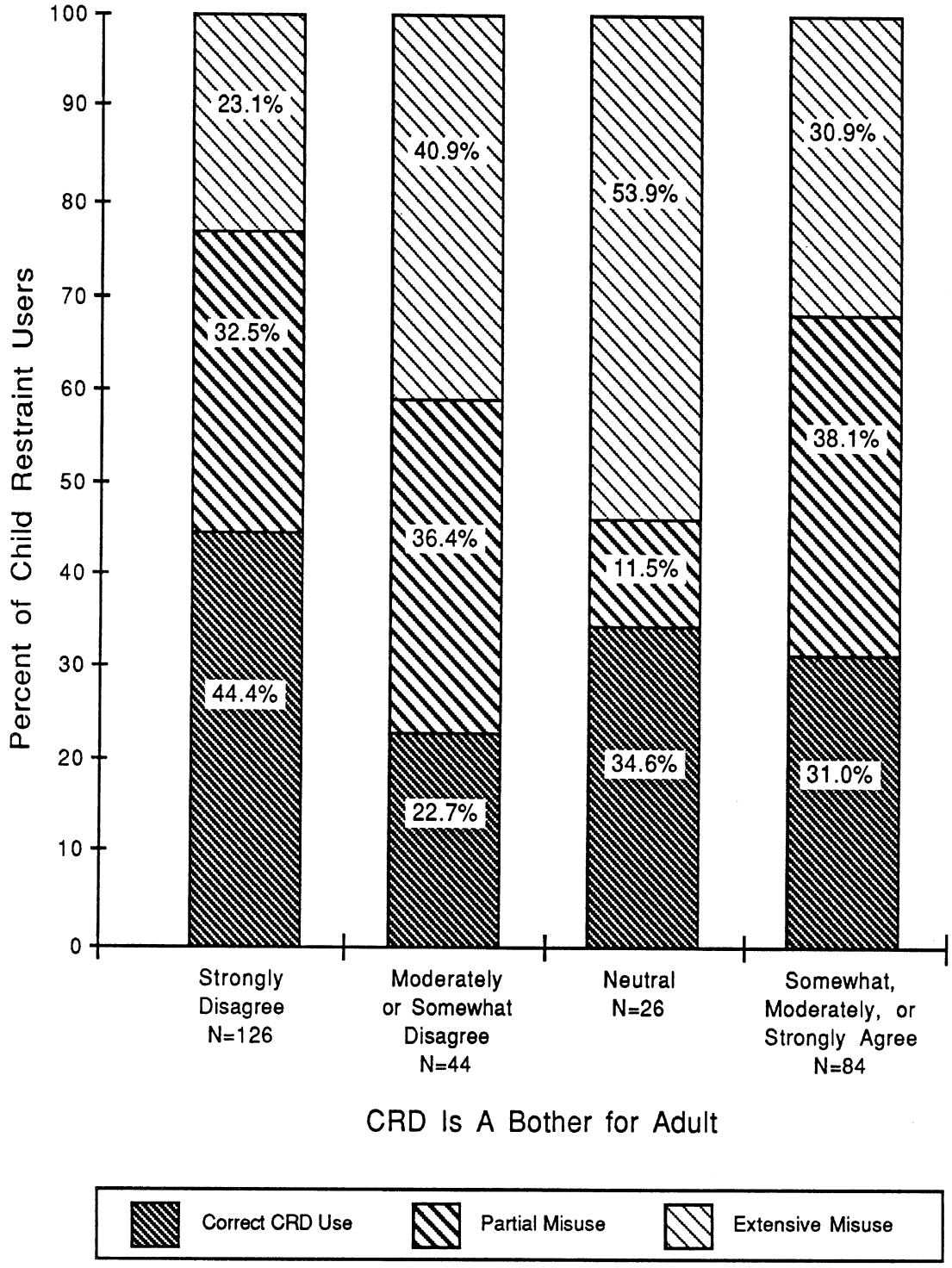

Figure E.32: Correctness of Child Restraint Use by Belief That Child Restraint Is a Bother for Adult

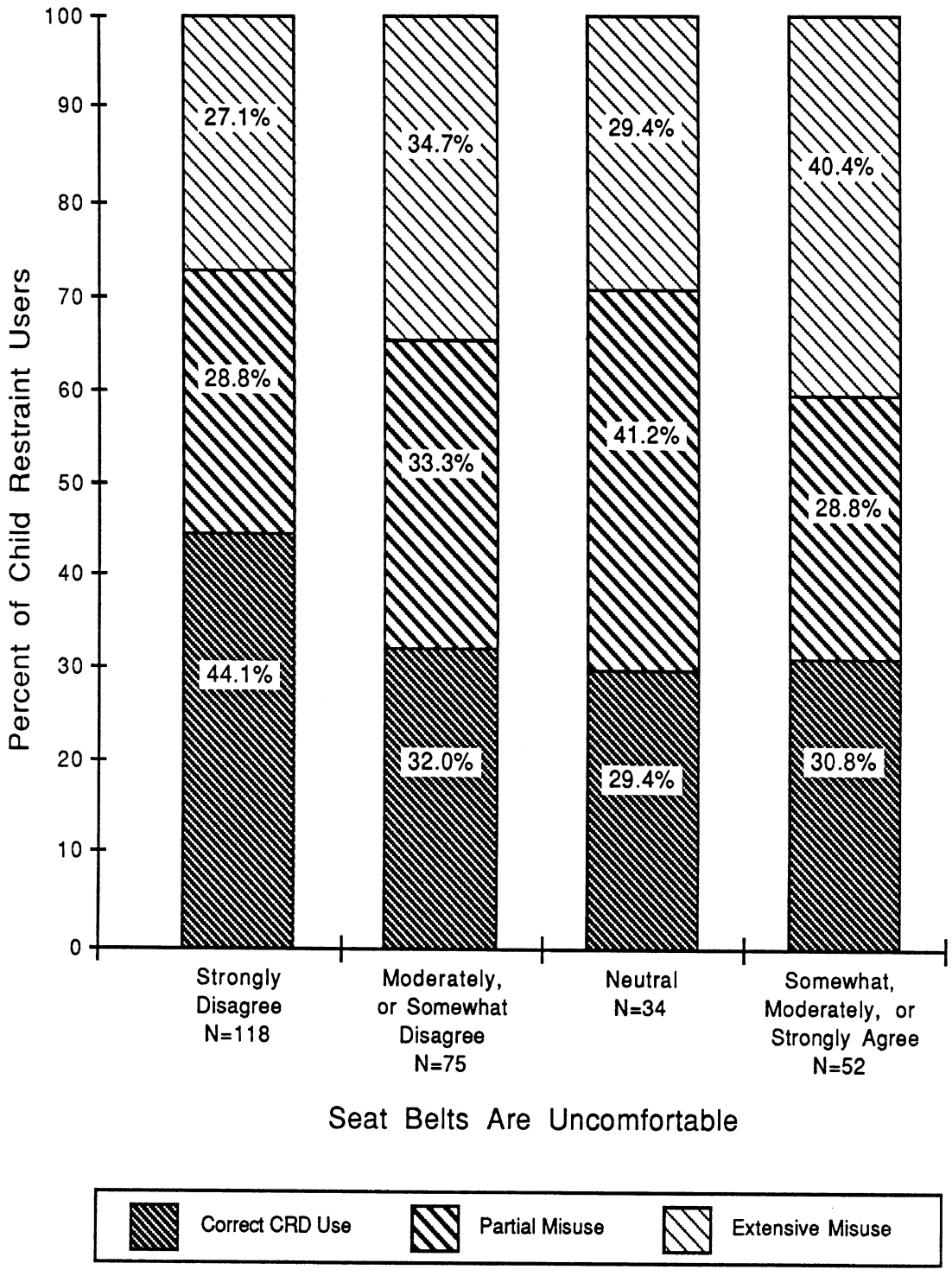

Figure E.33: Correctness of Child Restraint Use by Belief That Adult Seat Belts Are Uncomfortable

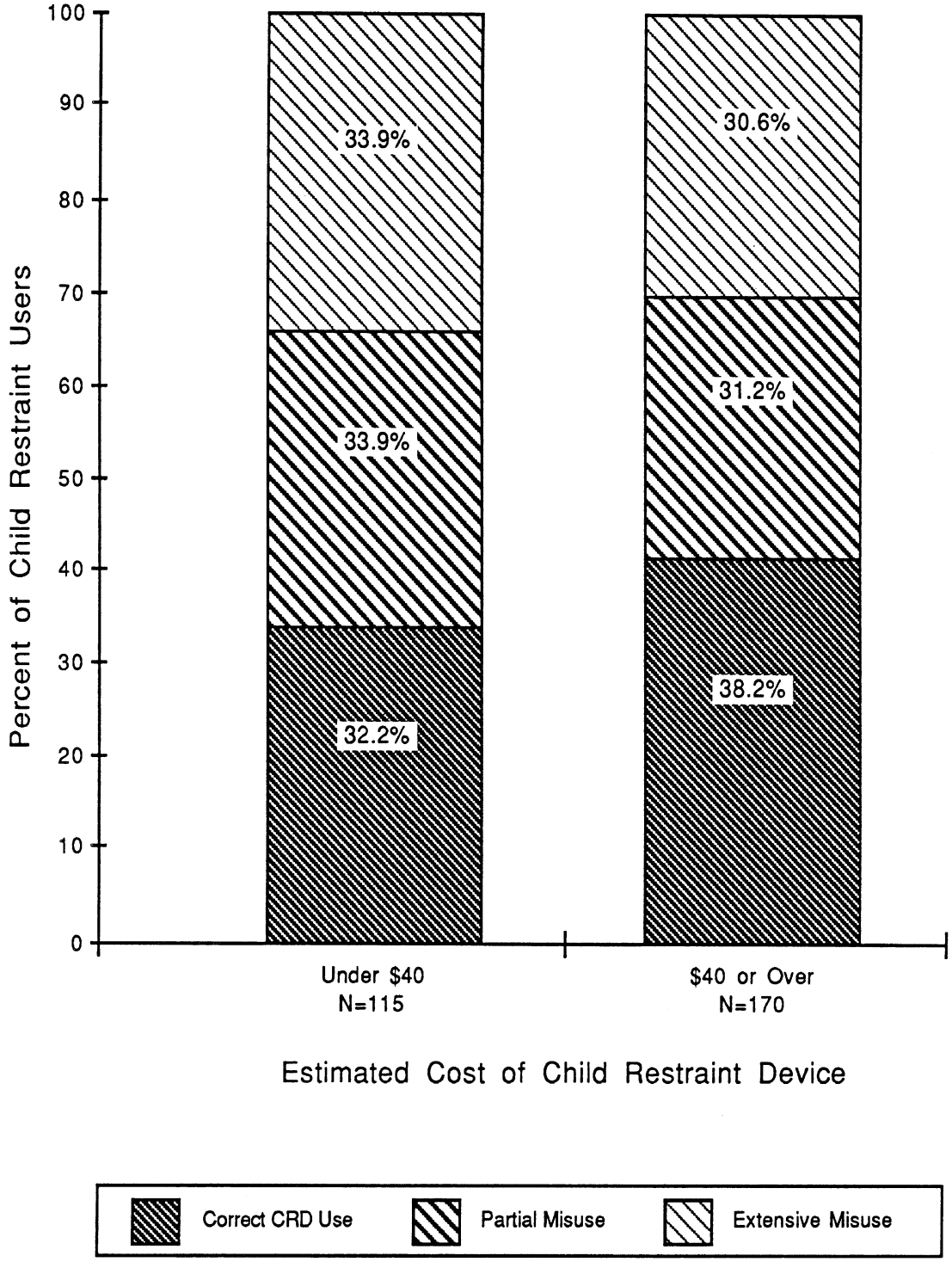

Figure E.34: Correctness of Child Restraint Use by Estimated Cost of Child Restraint Device

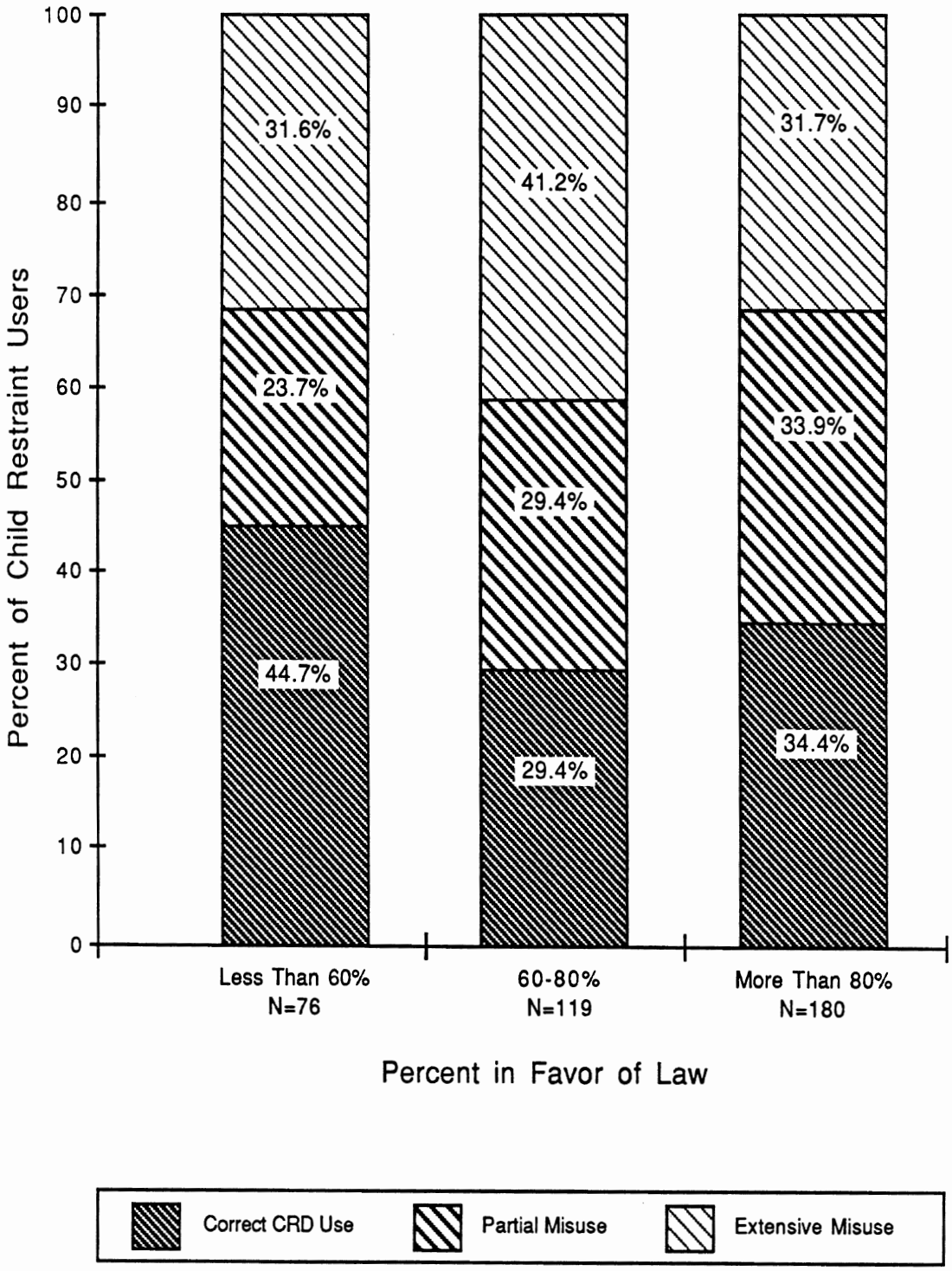

Figure E.35: Correctness of Child Restraint Use by Perception of Public Support for Child Restraint Law

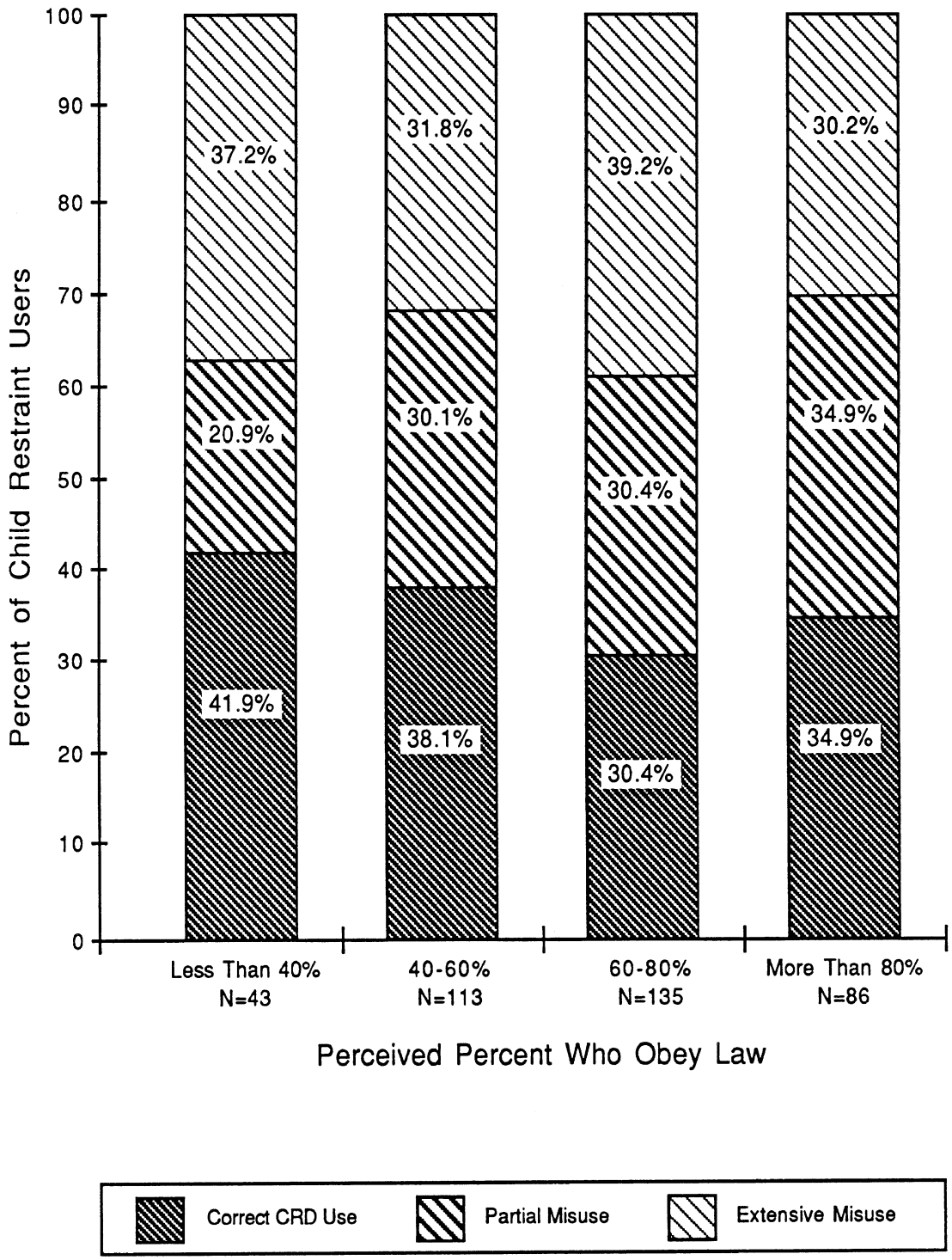

Figure E.36: Correctness of Child Restraint Use by Perception of Obedience to Child Restraint Law

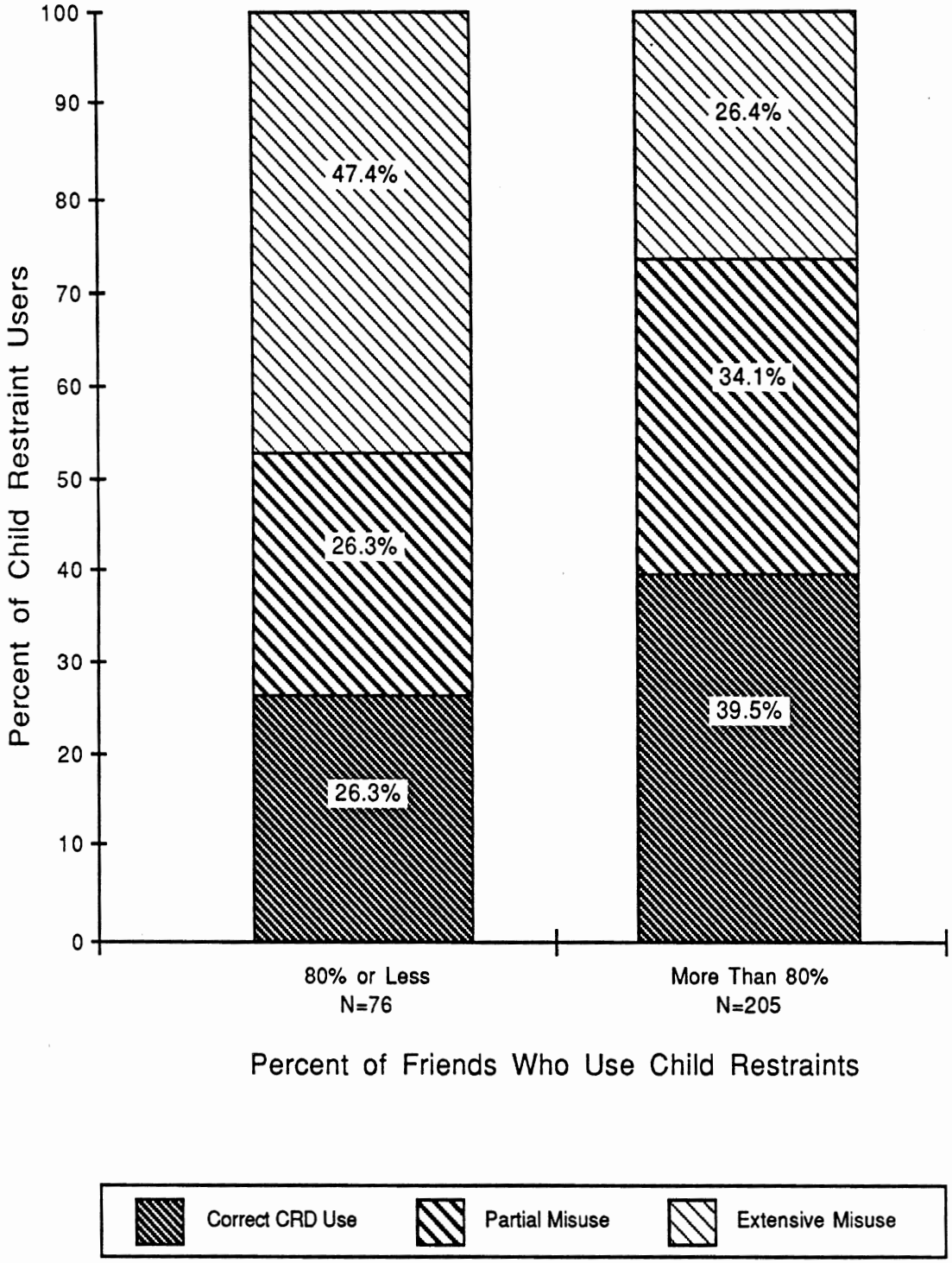

Figure E.37: Correctness of Child Restraint Use by Percent of Friends Who Use Child Restraints

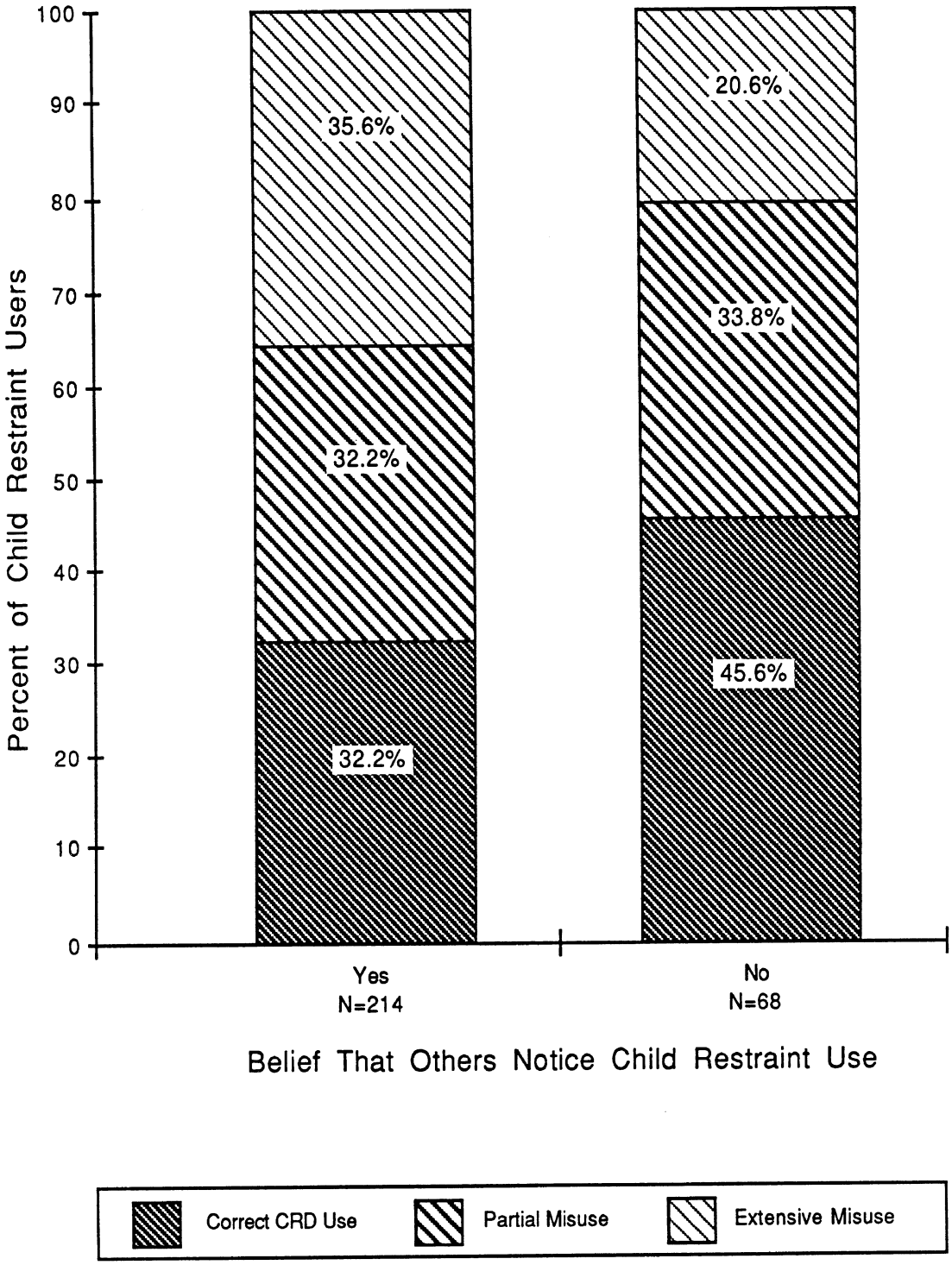

Figure E.38: Correctness of Child Restraint Use by Belief That Others Notice Child Restraint Use

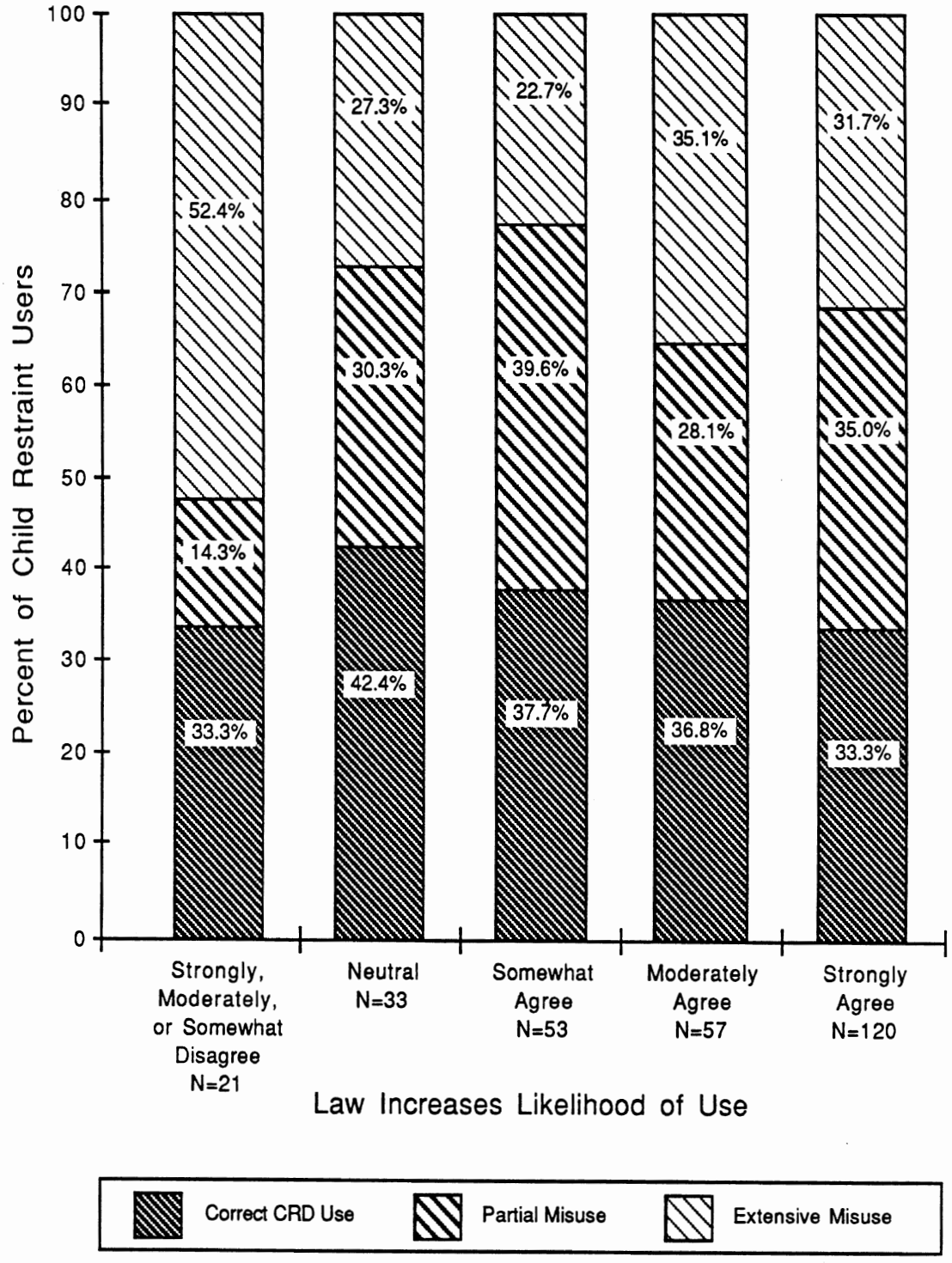

Figure E.39: Correctness of Child Restraint Use by Belief That Child Restraint Law Increases Likelihood of Child Restraint Use

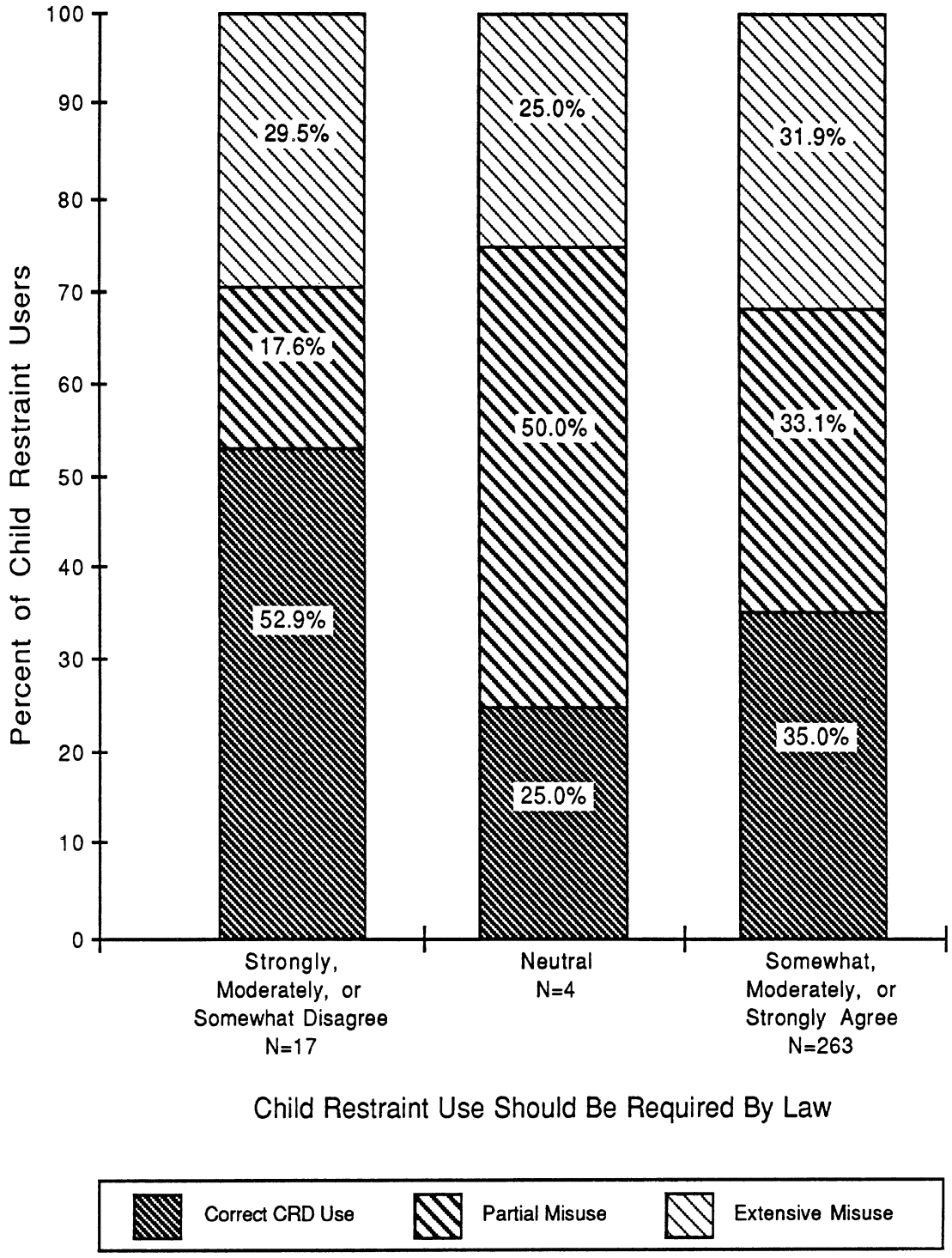

Figure E.40: Correctness of Child Restraint Use by Belief That Child Restraint Use Should Be Required by Law

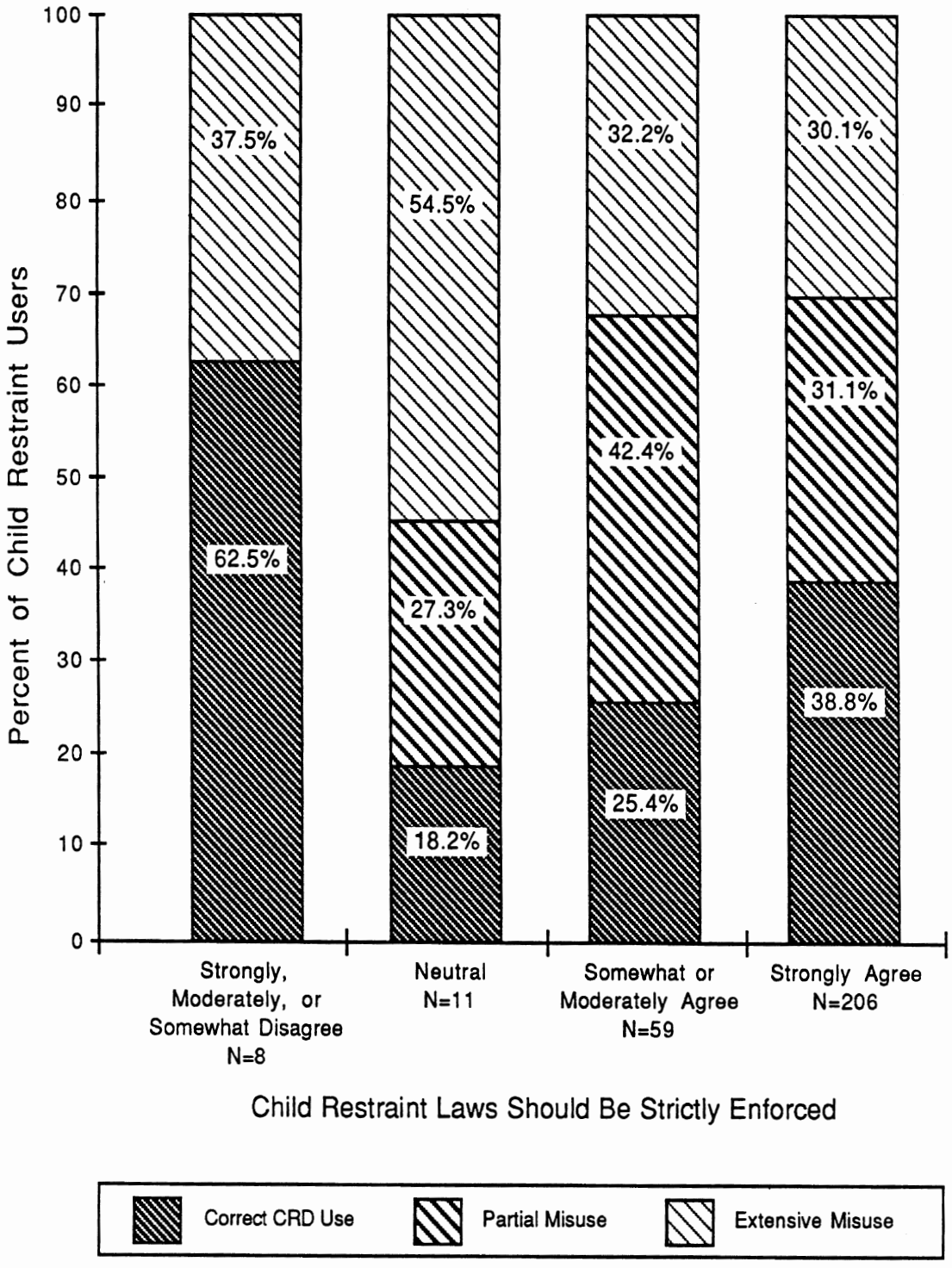

Figure E.41: Correctness of Child Restraint Use by Belief That Child Restraint Laws Should Be Strictly Enforced

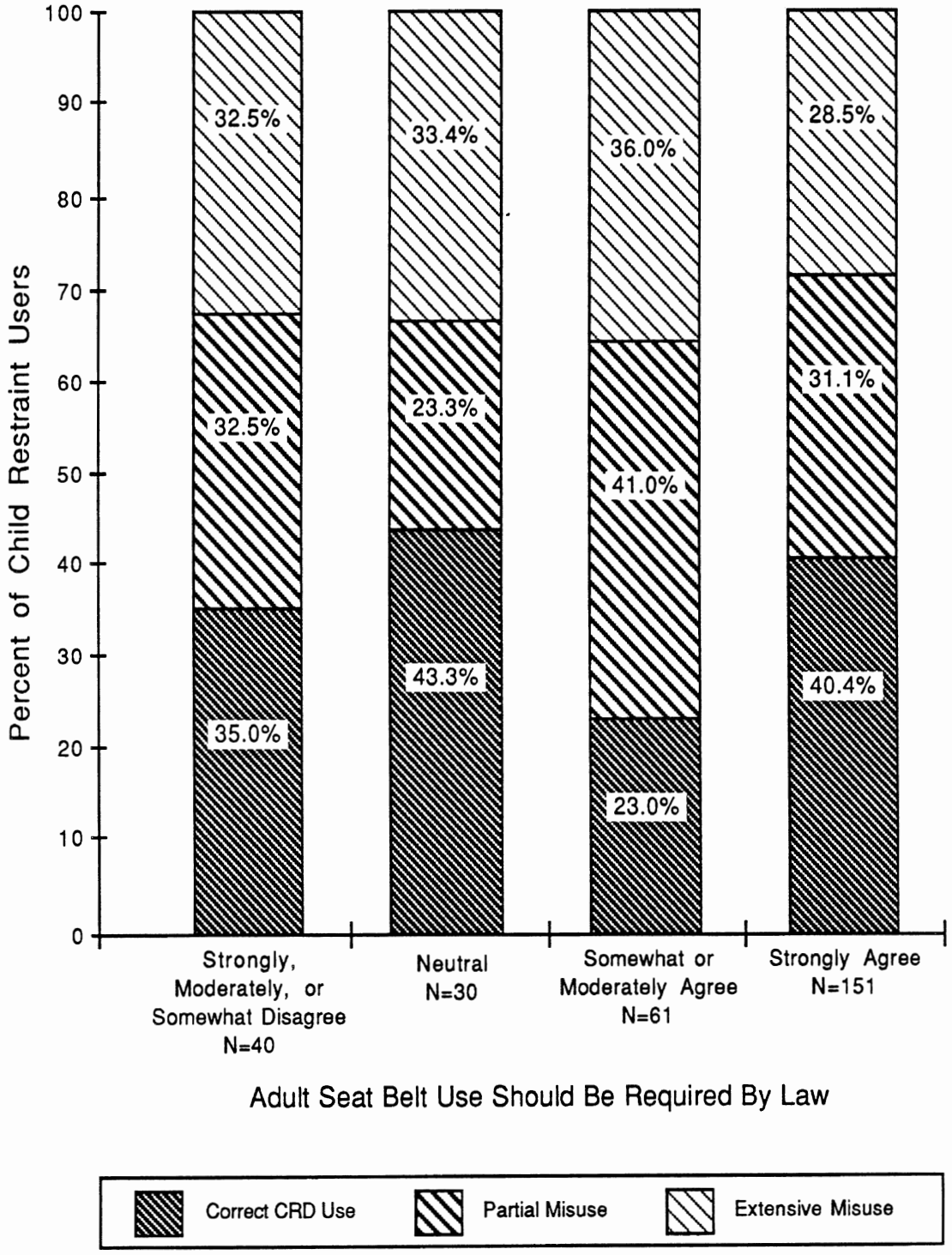

Figure E.42: Correctness of Child Restraint Use by Belief That Adult Seat Belt Use Should Be Required by Law

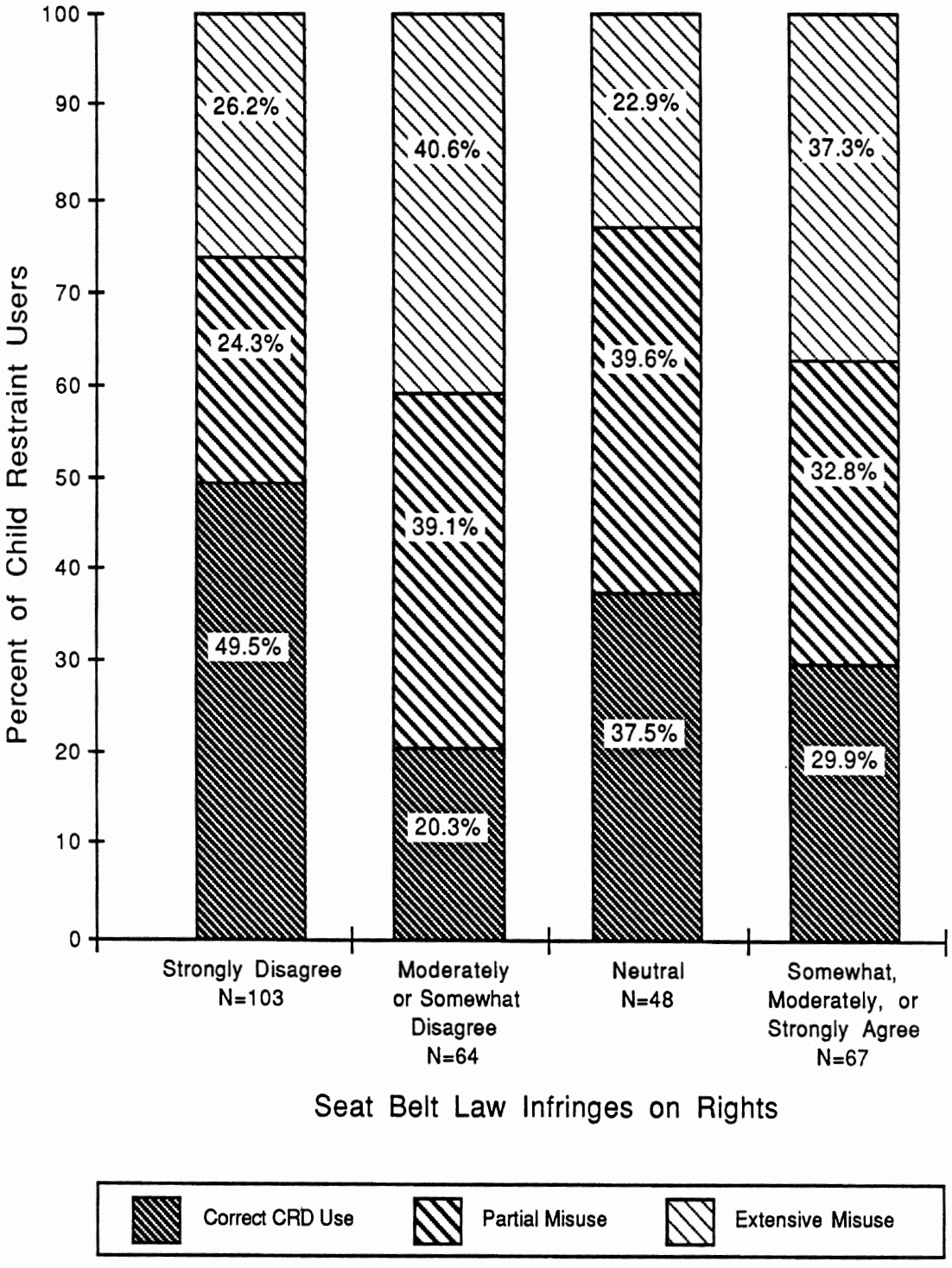

Figure E.43: Correctness of Child Restraint Use by Belief That Seat Belt Law Infringes on Individual Rights

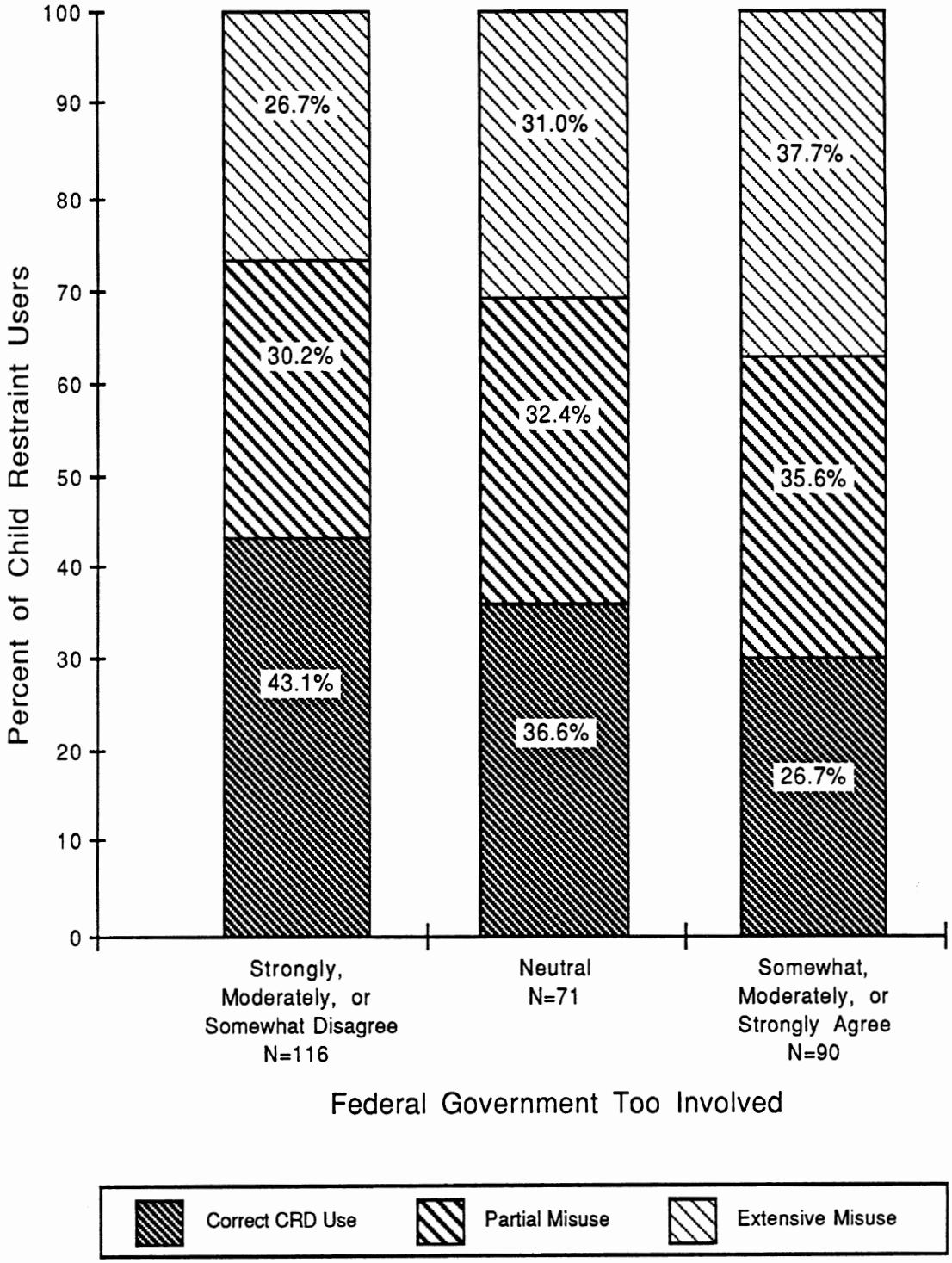

Figure E.44: Correctness of Child Restraint Use by Belief That Federal Government Is too Involved in Individual and Private Business

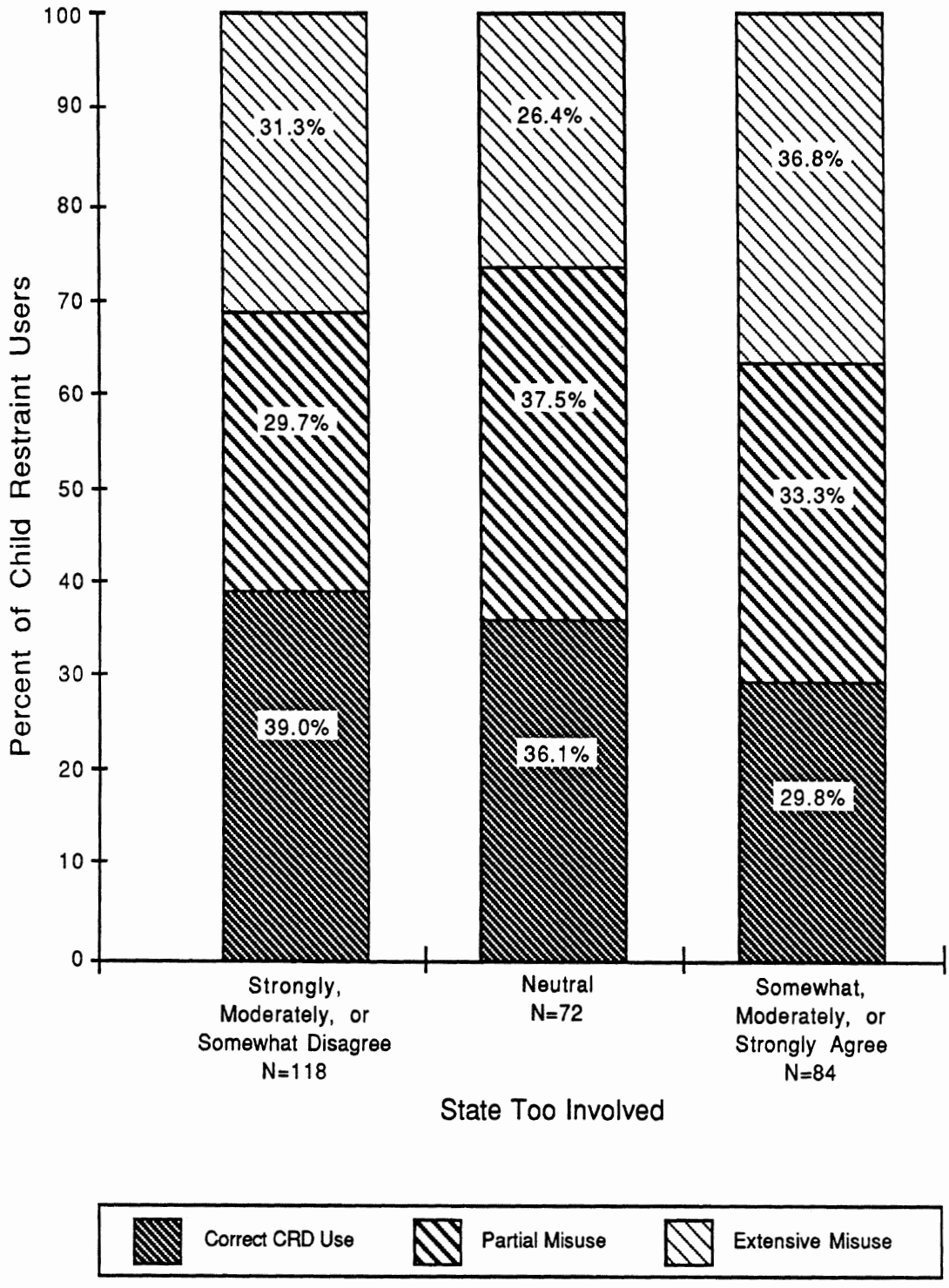

Figure E.45: Correctness of Child Restraint Use by Belief That State Government Is Too Involved in Individual and Private Business

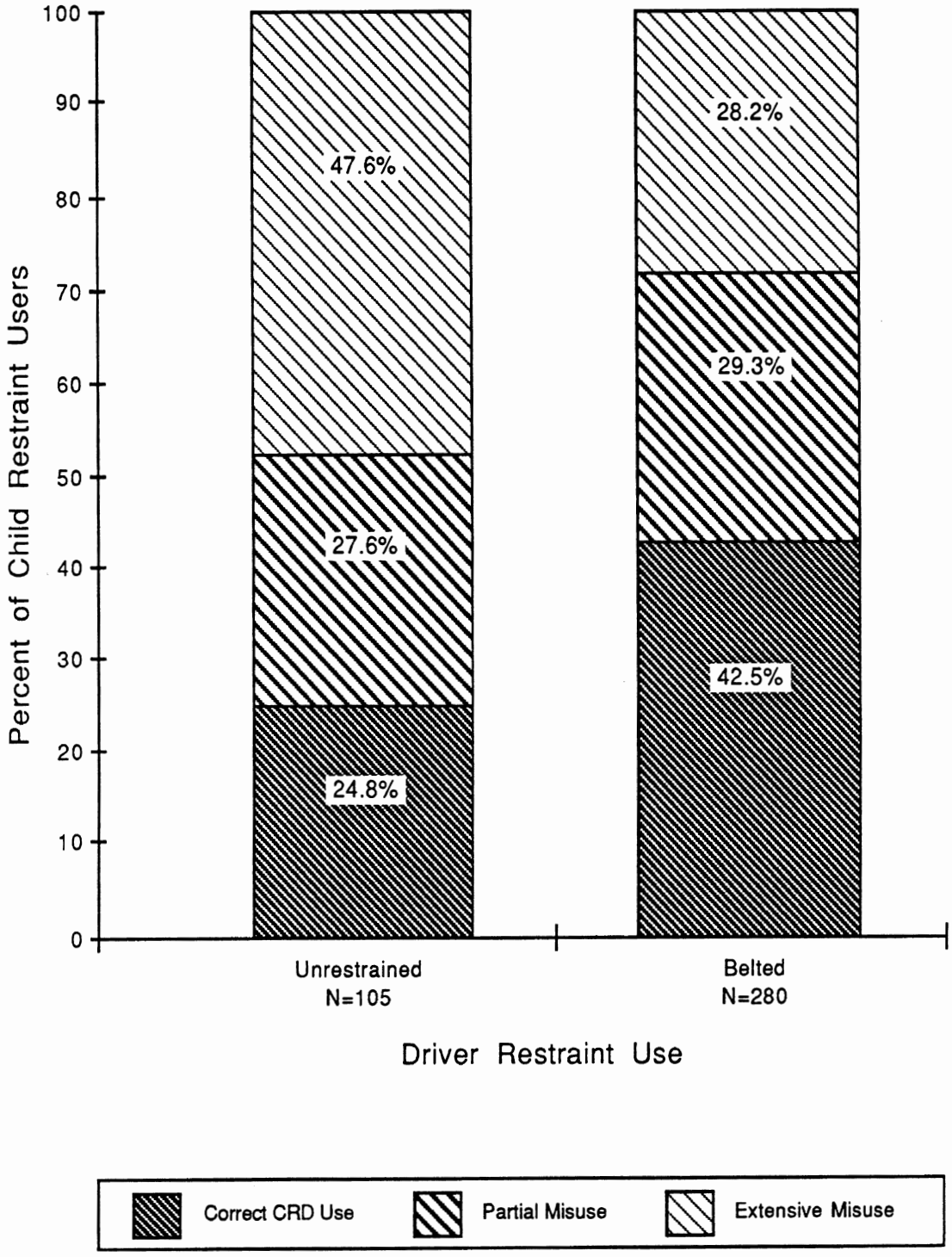

Figure E.46: Correctness of Child Restraint Use by Driver Restraint Use

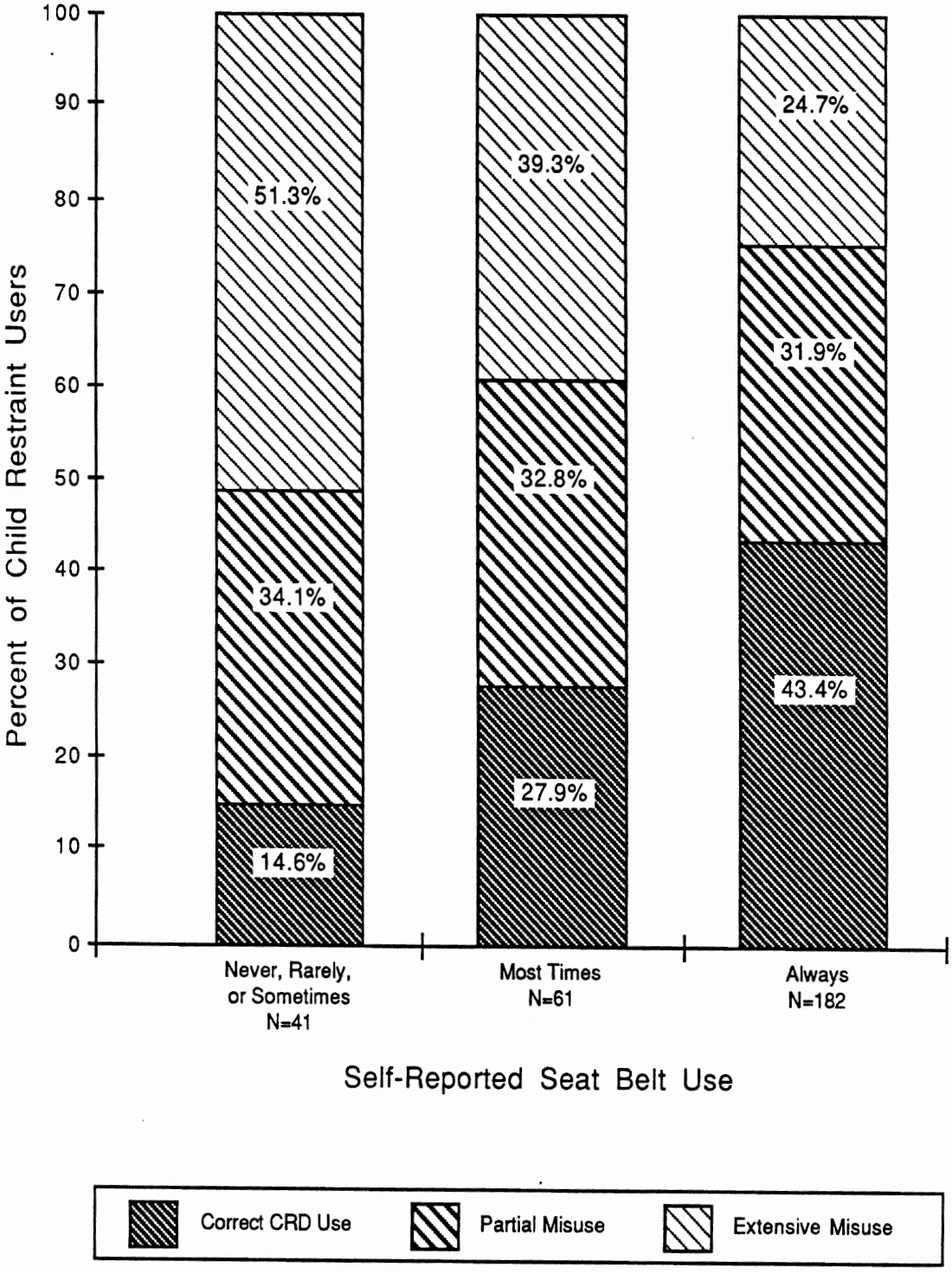

Figure E.47: Correctness of Child Restraint Use by Self-Reported Seat Belt Use

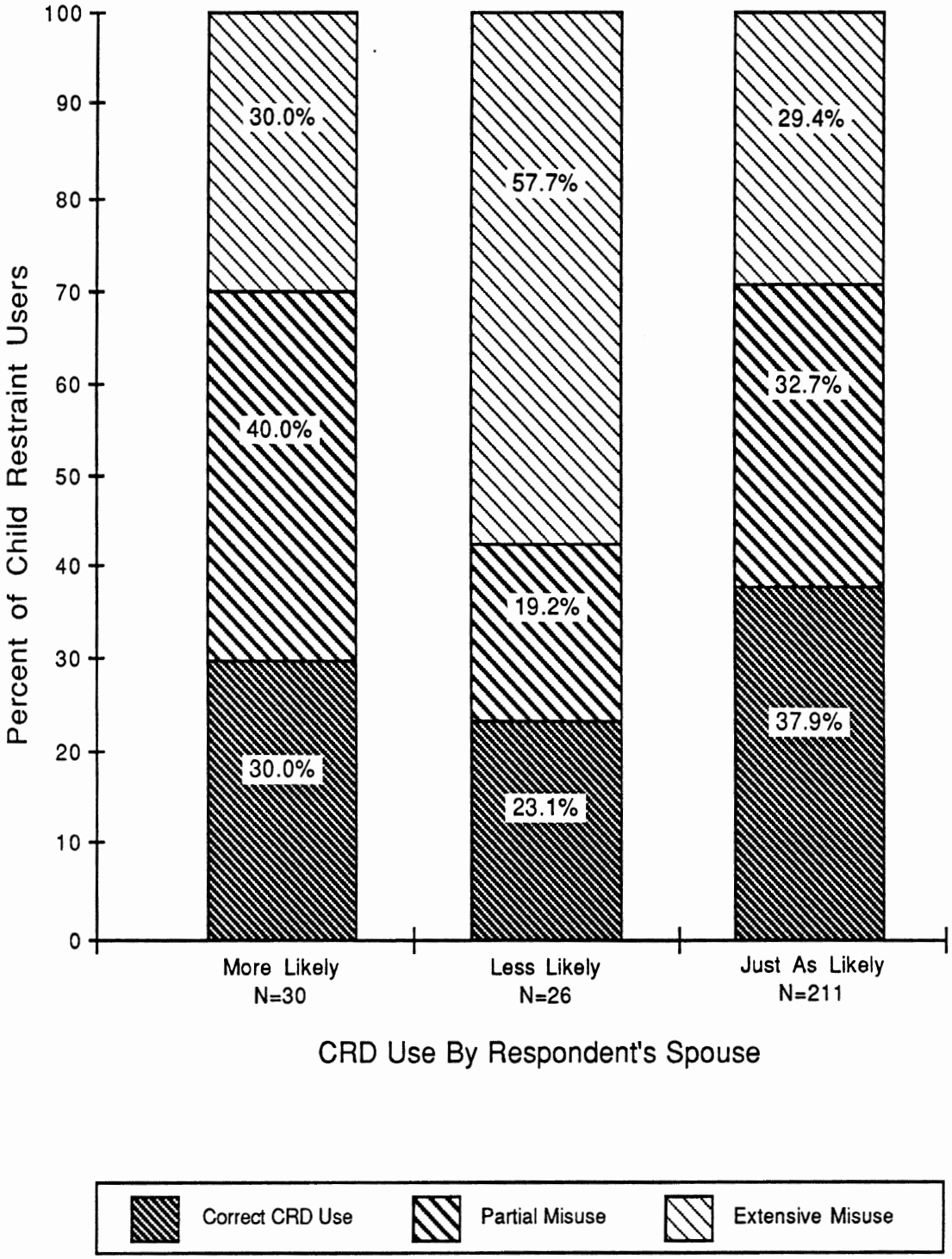

Figure E.48: Correctness of Child Restraint Use by Likelihood of Respondent's Spouse to Use Child Restraint

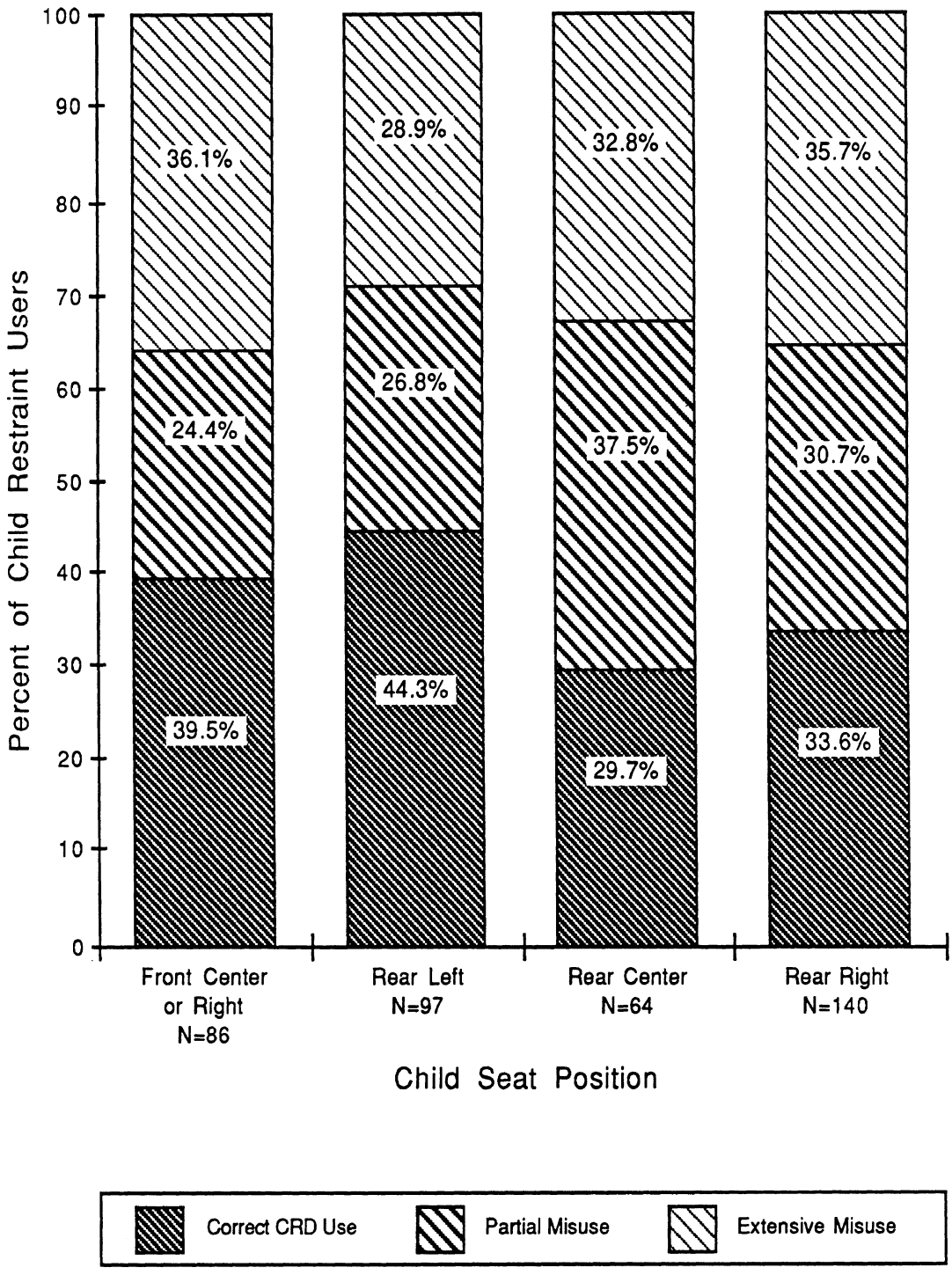

Figure E.49: Correctness of Child Restraint Use by Child Seat Position

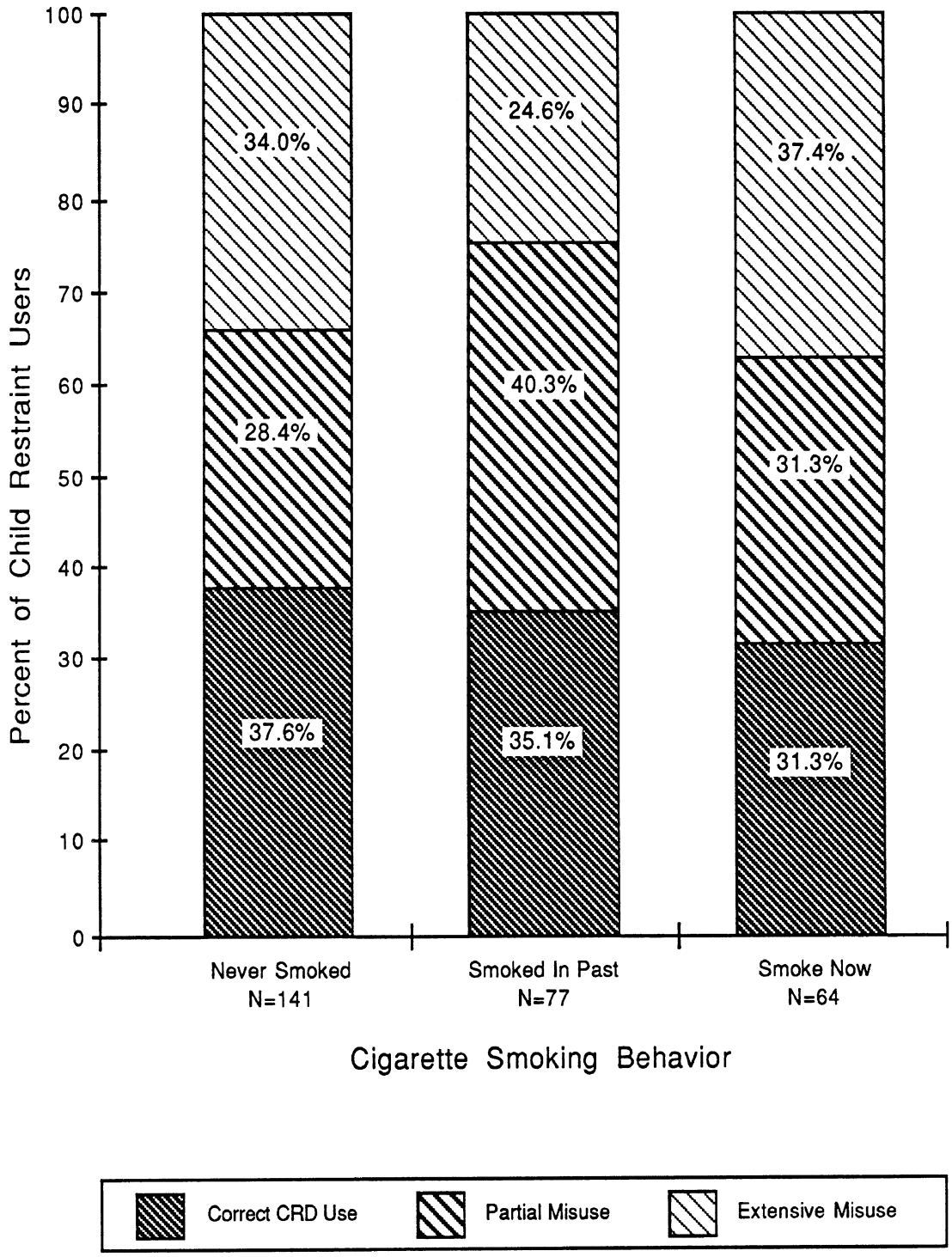

Figure E.50: Correctness of Child Restraint Use by Cigarette Smoking Behavior

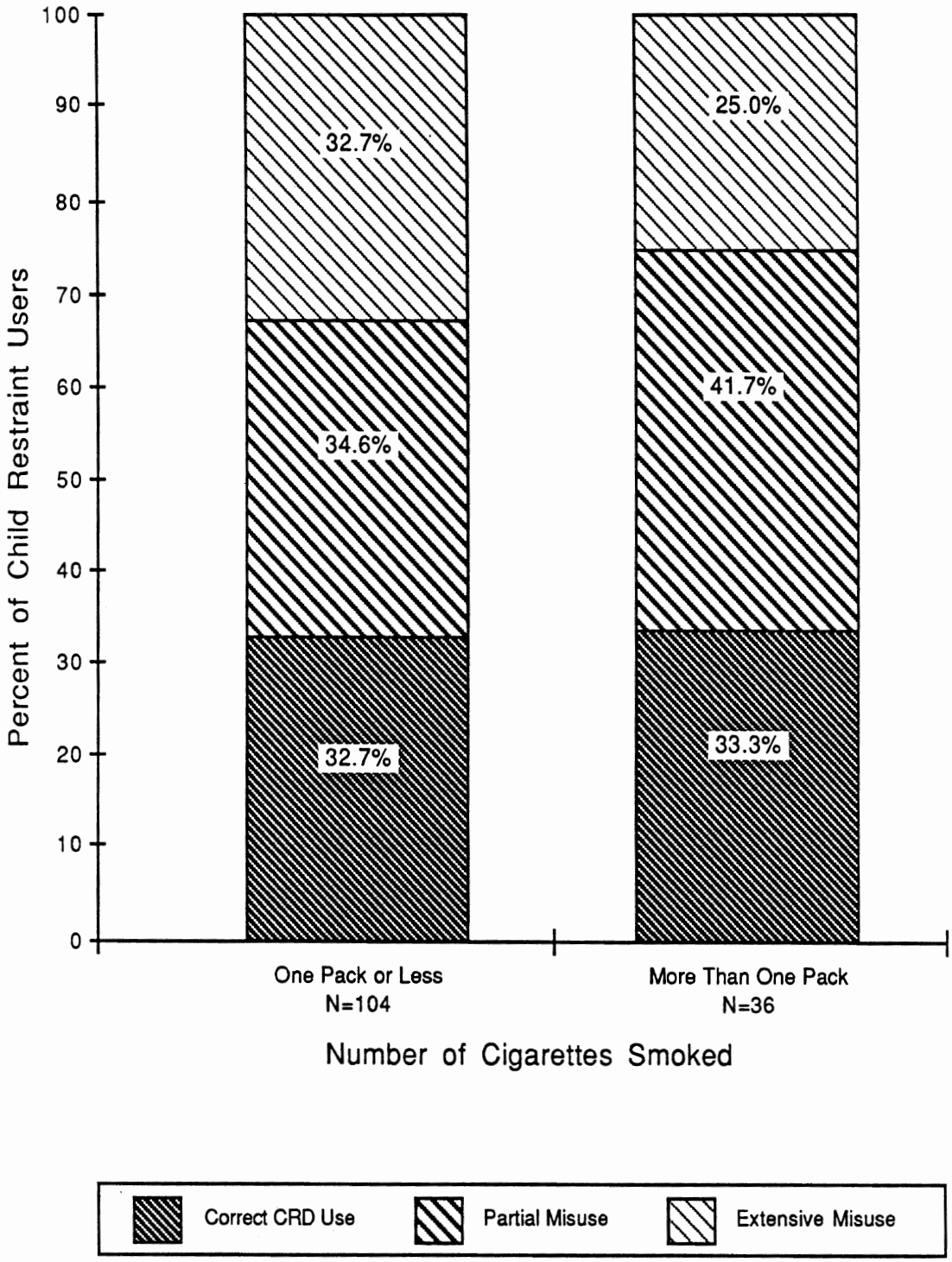

Figure E.51: Correctness of Child Restraint Use by Number of Cigarettes Smoked

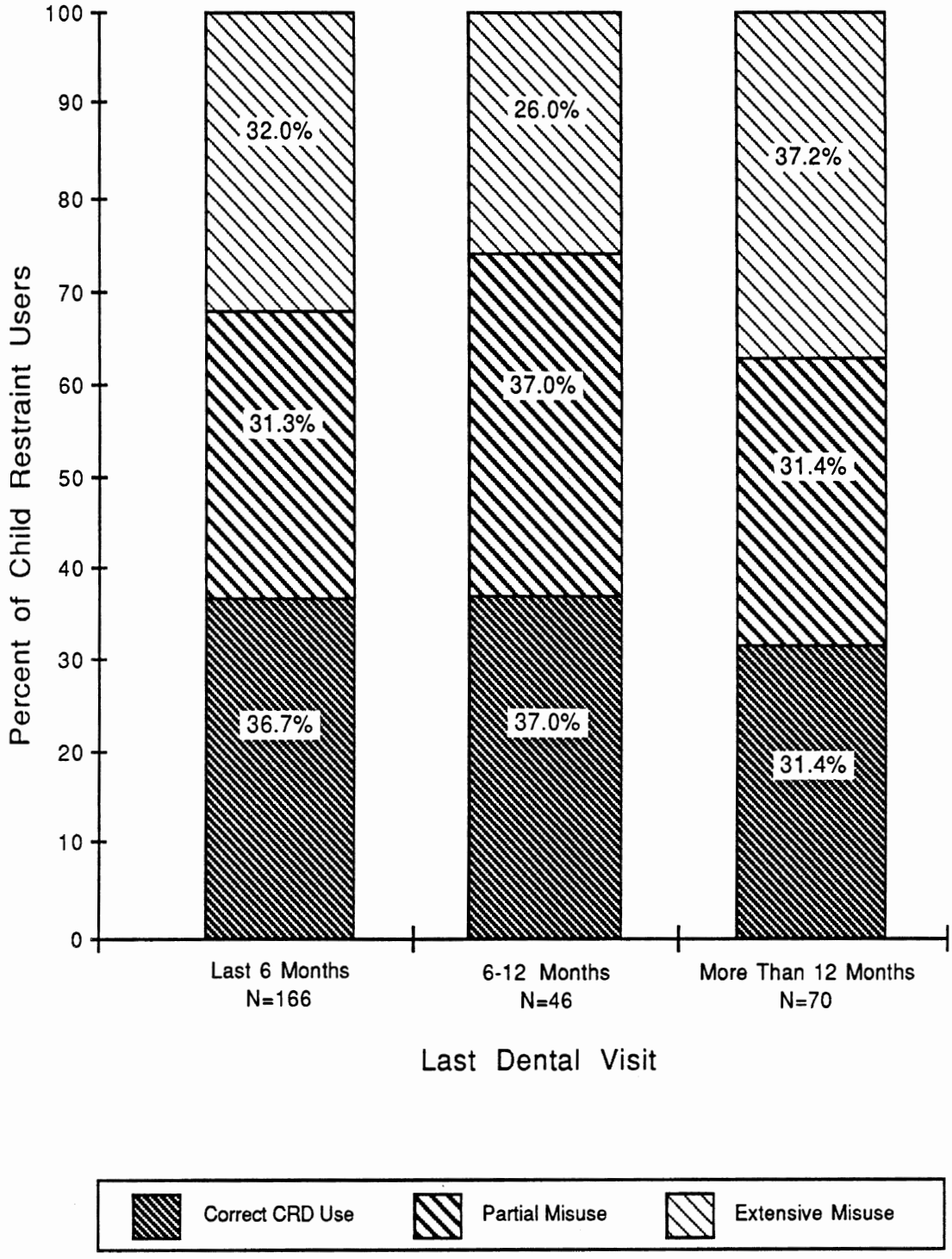

Figure E.52: Correctness of Child Restraint Use by Last Dental Visit

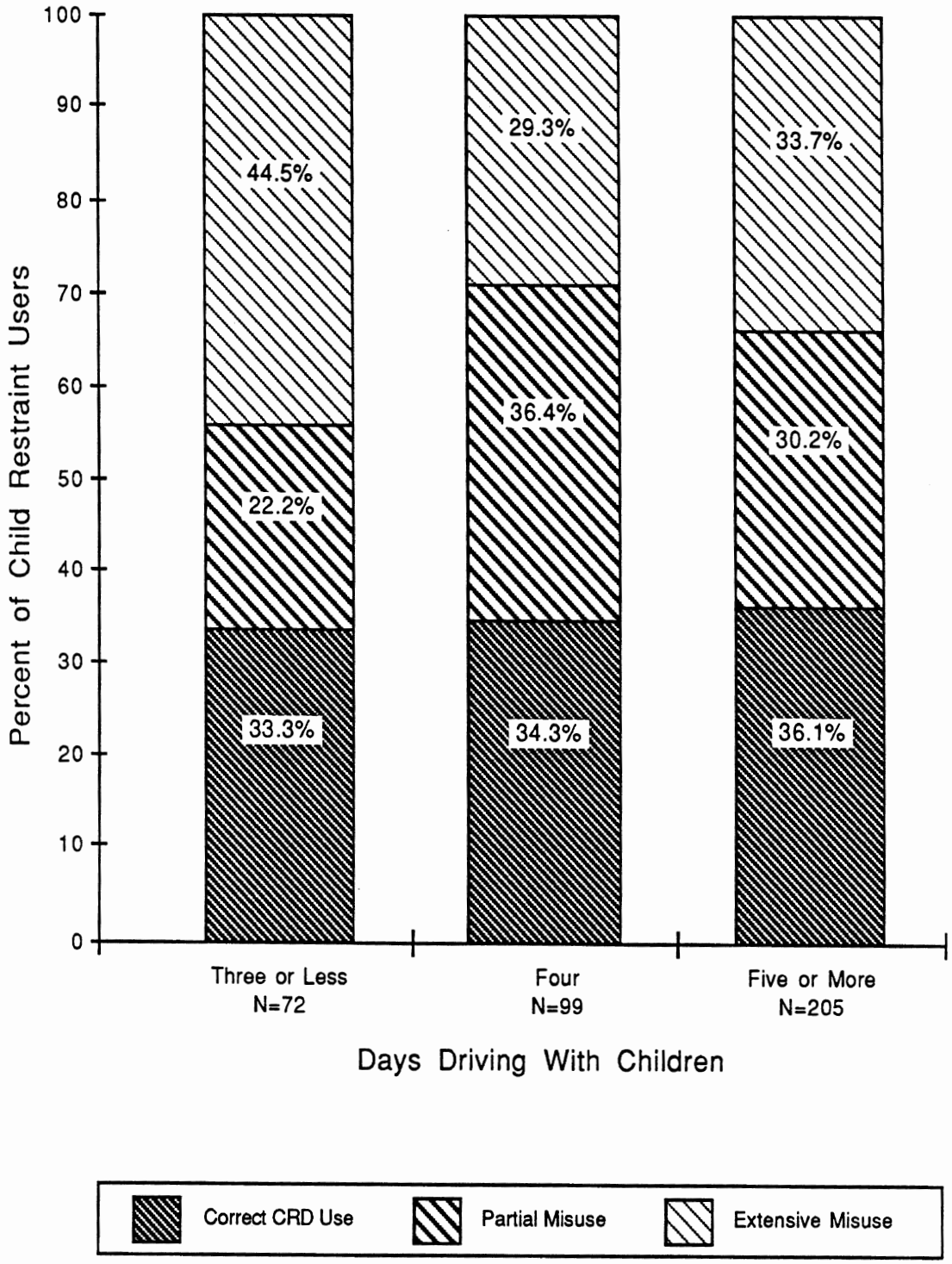

Figure E.53: Correctness of Child Restraint Use by Days Driving with Children

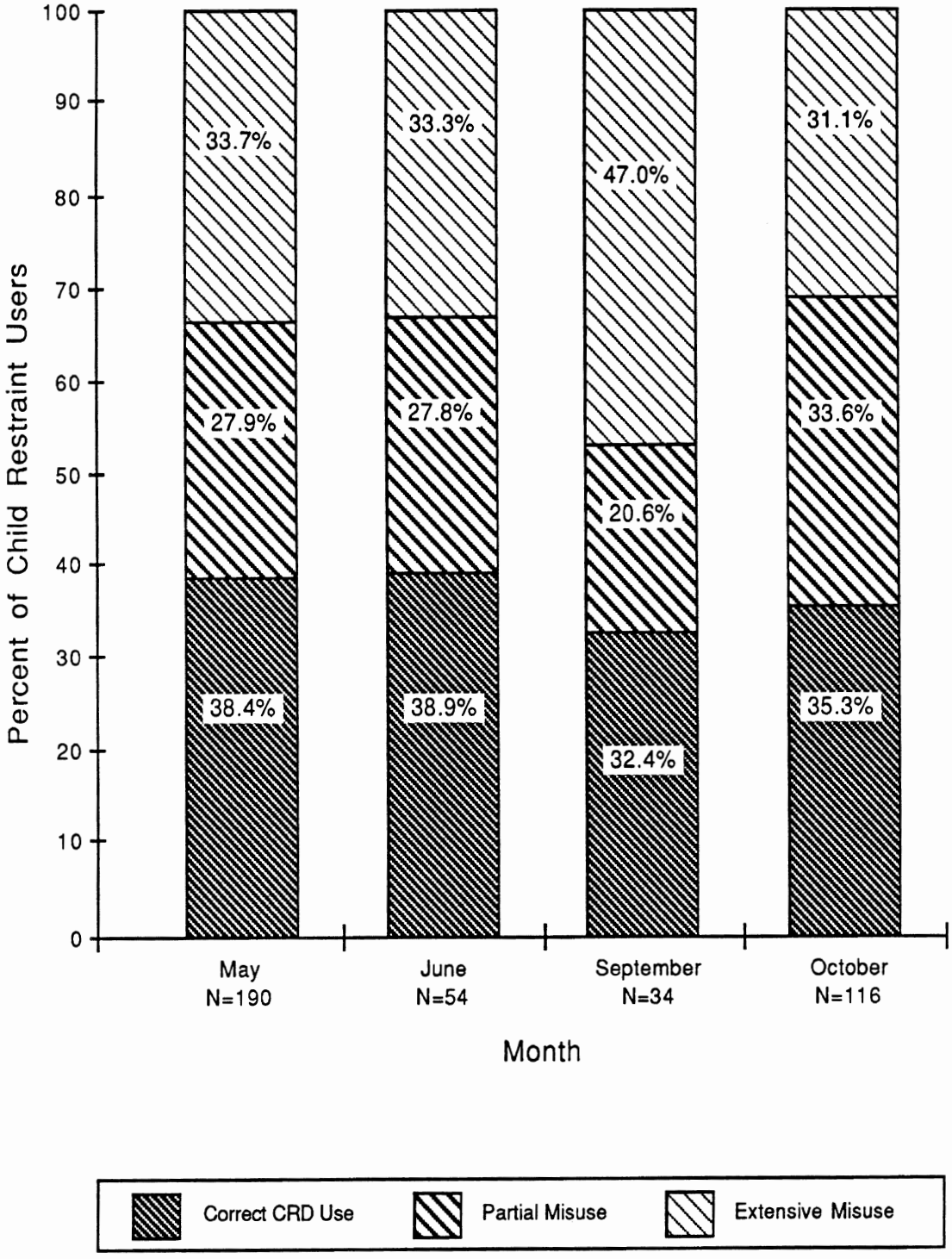

Figure E.54: Correctness of Child Restraint Use by Month of Observation

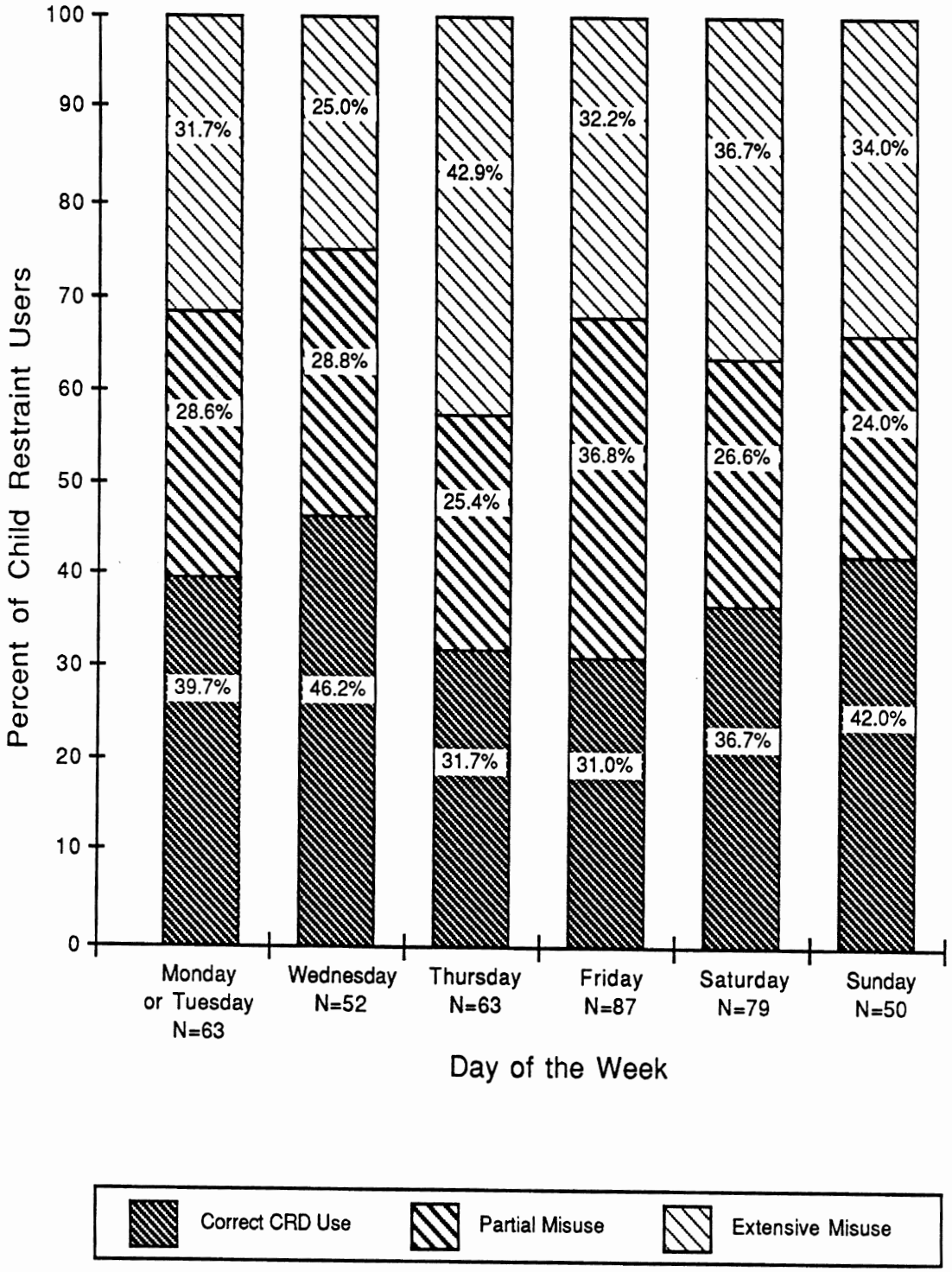

Figure E.55: Correctness of Child Restraint Use by Day of the Week

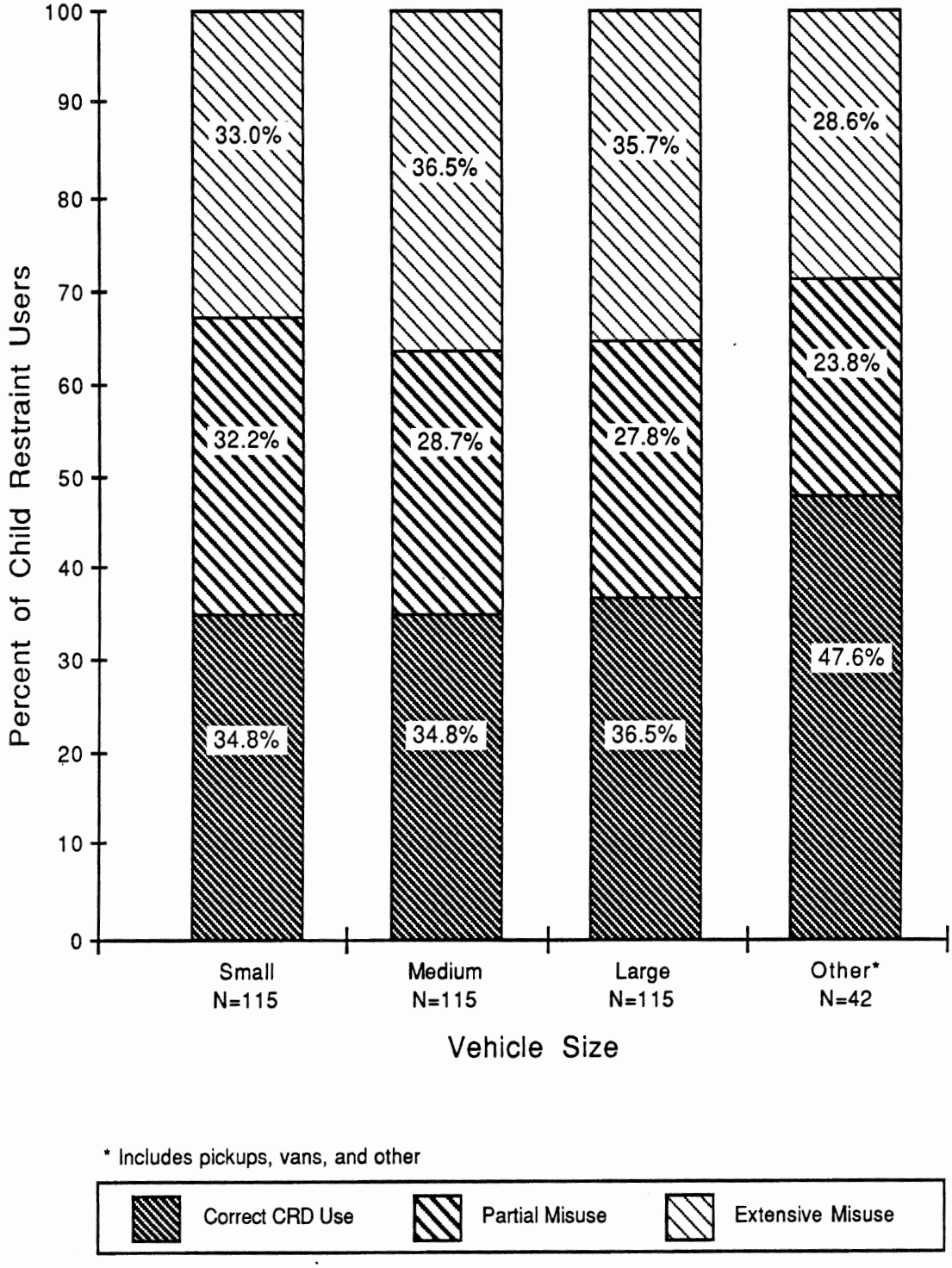

Figure E.56: Correctness of Child Restraint Use by Vehicle Size

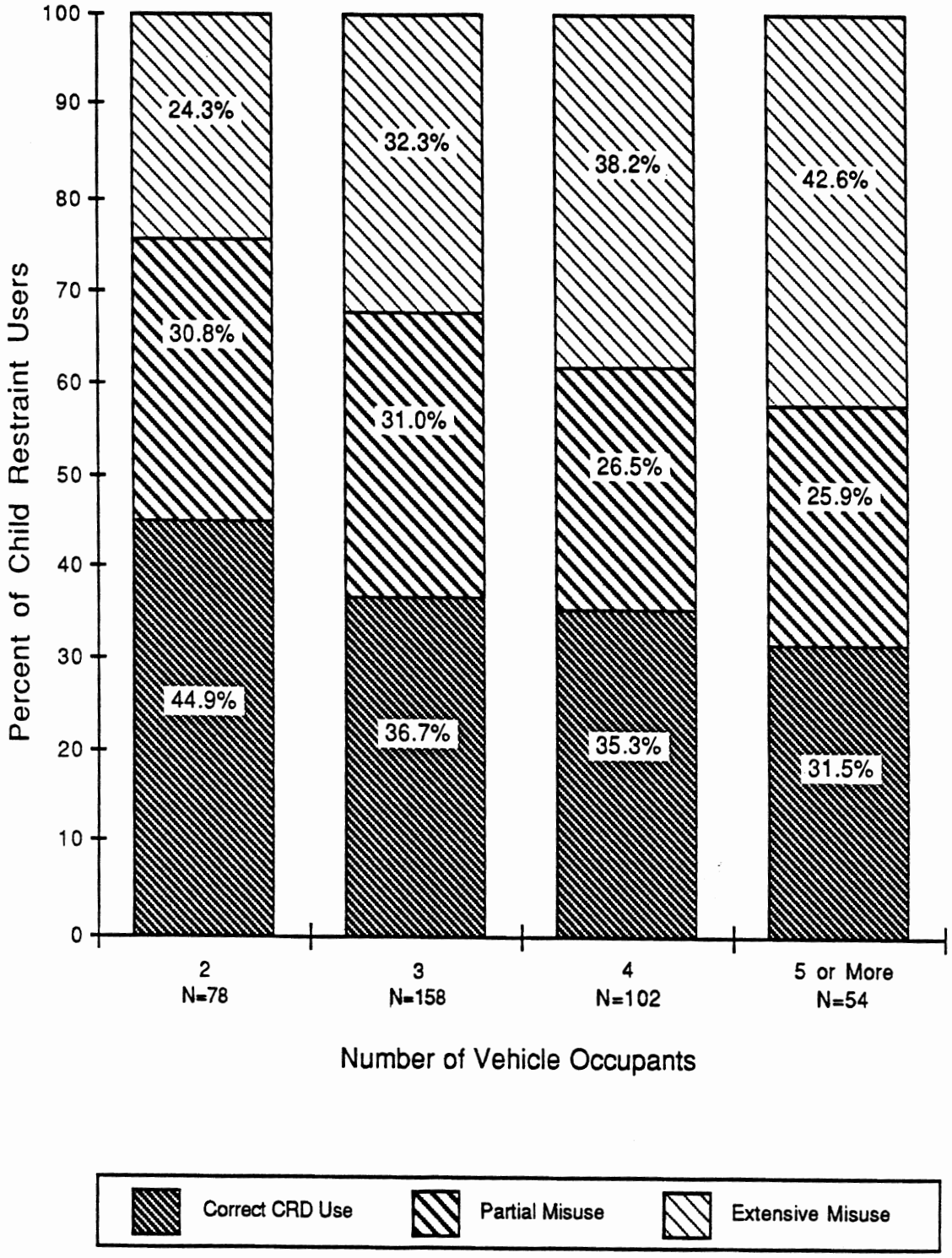

Figure E.57: Correctness of Child Restraint Use by Number of Vehicle Occupants