

# **1996 Utah Health Status Survey Report**

## **INTERPERSONAL VIOLENCE IN UTAH**

**Bureau of Surveillance and Analysis  
Office of Public Health Data**



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# Interpersonal Violence in Utah

Bureau of Surveillance and Analysis  
Office of Public Health Data

April 1998

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## PREFACE

The information in this report is based on data collected in the 1996 Utah Health Status Survey. The survey represents the third of its type, with previous surveys conducted in 1986 and 1991. It provides information on a variety of topics related to health status and health care delivery systems at statewide and health district levels. These topics are presented in separate reports for release in 1997 and 1998 under the headings listed below.

*Health Insurance Coverage*  
*Health Care Access and Utilization*  
*Health Status in Utah: Medical Outcomes*  
*Study SF-12*  
*Socio-Economic Status and Health*  
*Limitations of Activities in Utah*

*Overview*  
*Lifestyle Factors: Alcohol, Tobacco,*  
*Exercise, and 5-A-Day*  
*Chronic Medical Conditions*  
*Injuries in Utah*  
*Hypertension and Cholesterol*  
*Migration Patterns to Utah*

The survey was funded by a one-time legislative appropriation and was designed, analyzed, and reported by the Utah Department of Health, Bureau of Surveillance and Analysis. The survey sample was designed to be representative of Utahns, and is perhaps best described as a weighted probability sample consisting of approximately 6,300 households disproportionately stratified by twelve local health districts that cover the entire state.

The Gallup Organization conducted the telephone interviews using computer-assisted random digit dialing techniques. In each household, one adult (age 18 or older) was randomly selected to respond to survey questions about themselves, about the household as a unit, or with regard to each household member. In addition to “core” survey questions that were asked of every household, sets of supplemental questions were administered to different subsets of the overall sample. The survey results were weighted to reflect the age, sex, geographic distribution, and Hispanic status of the population. The interview process took place over a three month period from June to August, 1996. The cooperation rate was 66.3%. A detailed description of the methodology can be found in the *Technical Notes* section of this report.

The information in this report can be used to facilitate policy and planning decisions. While it is intended primarily for public health program managers, administrators, and other health care professionals in the public and private health care sectors, the report may also be of interest to anyone wishing to inform themselves on the current health situation in Utah.



## INTRODUCTION

Interpersonal violence is increasingly recognized as an important issue in public health. Violent acts, such as child abuse, domestic violence, elder abuse, and gang violence cause physical and emotional harm to persons, and harm families and communities. The prevalence of interpersonal violence may indeed have implications for the overall health of society.

Strong social and legal sanctions against perpetrators of interpersonal violence make it difficult to identify or estimate the frequency of interpersonal violence. Much of the information about the scope or magnitude of the problem has been gathered by medical and legal systems. Data from these sources have obvious shortcomings. Emergency rooms and hospitals can report only those incidents of violence that have been treated at their facilities, and physicians often underreport cases because many do not routinely ask patients about their experiences with interpersonal violence. Likewise, information collected by the legal system is limited to incidents that were reported to authorities. Attempts to gather a more representative measure of the problem have led the public health field to search for population-based methods of data collection, such as surveys. Information collected by health surveys is subject to other difficulties such as respondents refusing to disclose information, or reporting inaccurate information. Many factors may inhibit people from reporting violent incidents to the legal system, medical personnel, or survey interviewers. The private nature of the event, fear of retribution from a familiar perpetrator, perceived stigma, or the belief that no purpose would be served in reporting the incident keep an unknown number of victims or family members from talking about these episodes. It is likely that all measures of interpersonal violence, including surveys, underestimate the actual extent of the problem.

In the 1996 Health Status Survey, survey respondents were asked about incidents of interpersonal violence in their households. In many contexts, the word “violence” is associated with a particular type of violence, for instance domestic violence or child abuse. In this report, violence was defined as being

*“... intentionally, hit, slapped, pushed, or kicked by someone, or had a weapon used against them, or was otherwise hurt by another person.”*

This included being hurt by other household members as well as by people from outside the household. It also included incidents of violence among adults, between adults and children, and also among children.

The 1996 Utah Health Status Survey violence questions were administered to a subset of 1,113 out of 6,369 survey households. Survey respondents in these households were asked whether any household member had been a victim of interpersonal violence. Each respondent who indicated that there had been at least one such incident was asked how many incidents of interpersonal violence occurred among members of their household during the past year, as well as specific characteristics about the most recent incident. Information collected on incidents included: identity of the most recent victim in the household; whether the incident happened at home; the age of the perpetrator; whether the perpetrator was known to the victim; whether the victim was injured and if so, if they were examined by a doctor; and whether the incident was reported to the police or other authorities.

One caveat requires mention. The number of households in which a violent incident occurred was small (n=93). Since we asked about only the most recent incident in the household, we are basing a number

of our survey estimates on data from this very small sample size. We have reported 95% confidence intervals throughout the report. The reader should attend to these confidence intervals, and interpret the data accordingly.

This report presents three different kinds of information about violence:

1. Characteristics of households where violent incidents occurred (Figures 1-5, Table 1),
2. Demographic characteristics of persons who were victims of violent incidents (Table 2), and
3. Characteristics of violent incidents, themselves (Figures 6-20, Tables 3-10).

The reader should note that the first type of information describes households, while the latter two describe incidents. The way the questions were asked does not allow us to report the characteristics of an unduplicated sample of individual people who were victims of violence. Rather we describe the characteristics of victims based on a representative sample of incidents. Because an individual may have been victimized multiple times, it is inappropriate to apply the incident level estimates to persons. In households where more than one person was the victim of a violent incident, our sample would tend to over represent those persons who were more often victims of a violent incident. All the information in this report is presented at the household or the incident level, never at the person level of analysis.

## *SUMMARY OF FINDINGS*

- Methodological issues worth noting:
  - Throughout the report, a violent incident “includes any time when a household member may have been intentionally, hit, slapped, pushed, or kicked by someone, or had a weapon used against them, or was otherwise hurt by another person.” This included being hurt by other household members as well as by people from outside the household.
  - The information that was reported on violent incidents was collected from a small number of households. As a result, the 95% confidence intervals for the population estimates in this report tend to be wide.
  - The information presented here describes households where violence occurred and incidents of violence. It does not describe persons who were victims of violence.
- Overall, 9.1% of all households surveyed (an estimated 58,700 Utah households) reported at least one incident of violence in the previous 12 months. In those households, there was a median of three violent incidents in the last year.
- In 46% of violent incidents a person was injured, defined as “...a bruise, broken bone or tooth, a cut or a scrape.”
- Violent incidents most often involved a perpetrator and victim who were age 18 or over (40.4%) or a perpetrator and victim who were under age 18 (see table below).

	Perpetrator Was a Child, Age 12 or Under	Perpetrator Was an Adolescent, Age 13 to 17	Perpetrator Was an Adult, Age 18 or Over
Victim was 17 or Under	31%	18%	9%
Victim was 18 or Over	1%	1%	40%

- Estimates from the survey indicate that approximately 701,700<sup>1</sup> incidents of interpersonal violence occurred in Utah in 1996. The 95% confidence interval for this estimate is 263,200 to 1,140,200 violent incidents.
- Households that were more likely to have had at least one violent incident were:
  - Households at or below the Federal Poverty Level (28% of such households),
  - Households where the occupants were renting (14% of such households),

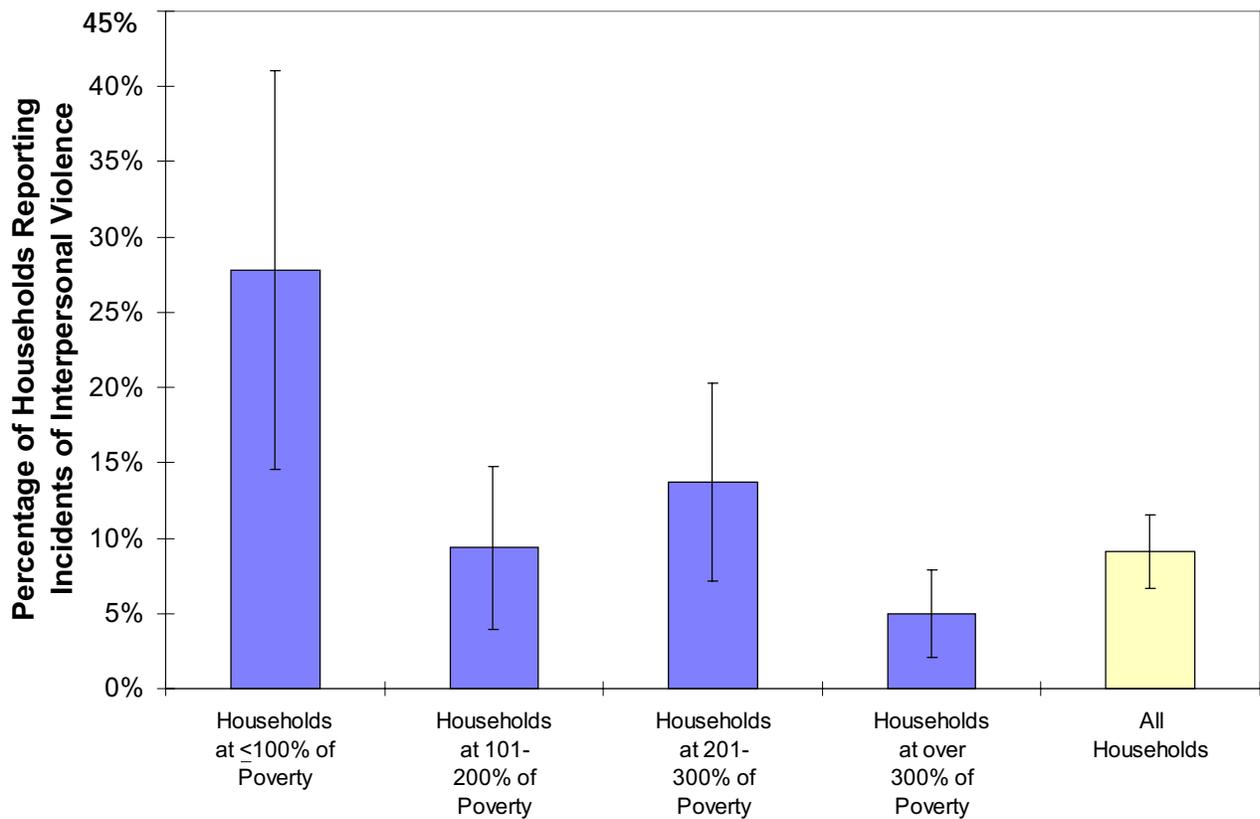
<sup>1</sup> This estimate was based on the number of incidents reported by respondents. Nearly 11% of those respondents indicated that members of their household had experienced 97 or more incidents of violence during the previous year. For those households, a value of 97 was used to estimate the total number of incidents and the 95% confidence interval for the total number of incidents.

- Households with more members,
  - Households with children,
  - Households that include members whose self-reported health was fair or poor (14%).
- Of all violent incidents, 57% were perpetrated on children age 17 or under. Of those violent incidents involving victims who were children,
    - Almost all (97%) victims knew the perpetrator,
    - Most perpetrators were age 17 or under (84%),
    - Most victims (74%) were male,
    - Most incidents happened at the victims home, yard, or property (53%),
    - About a third of the incidents (34%) were reported to have resulted in an injury, and
    - One-third of the incidents (33%) were reported to the police or other authorities.
  - 43% of all violent incidents were perpetrated on adults (age 18 or over). Of those incidents,
    - About half (45%) were perpetrated by another household member, and three-quarters (74%) of the time the victim knew the perpetrator,
    - Nearly all incidents (95%) were perpetrated by another adult,
    - The victims were about equally likely to be male or female (46% and 54%, respectively),
    - Most of the incidents happened away from the victims house, yard, or property (60%),
    - About two-thirds of the incidents (63%) were reported to have resulted in an injury, and
    - Almost half the incidents (45%) were reported to the police or other authorities.
  - In 62% of all violent incidents, the victim was male. Of those incidents,
    - 39% were perpetrated by another household member,
    - Most (62%) incidents were perpetrated by a child, age 17 or under,
    - Most (69%) were perpetrated on a child, age 17 or under,
    - About half (45%) occurred at the victims home (house, yard, or property),
    - About half (43%) the incidents resulted in injury, and
    - About half (44%) were reported to the police or other authorities.
  - In 38% of all violent incidents, the victim was female. Of those incidents involving female victims,
    - 60% were perpetrated by another household member,
    - Most (68%) incidents were perpetrated by an adult, age 18 or over,
    - Most (61%) were perpetrated on an adult, age 18 or over,
    - Half (50%) of these violent incidents occurred at home (house, yard, or property),
    - About half (51%) resulted in injury, and
    - Less than a third (30%) of the violent incidents were reported to the police or other authorities.
  - 62% of reported violent incidents were not reported to the police or other authorities. Of those incidents that were not reported,
    - Almost all (97%) violent incidents were perpetrated by a person known to the victim,
    - Most perpetrators were under age 18 (57%),
    - Most (62%) victims were children age 17 or under,
    - Most victims were male (57%),
    - About half (55%) these incidents occurred away from the victims home,
    - Injury was a result of these incidents about half the time (47%), and
    - Injured victims were rarely examined by a doctor.

# HIGHLIGHTS

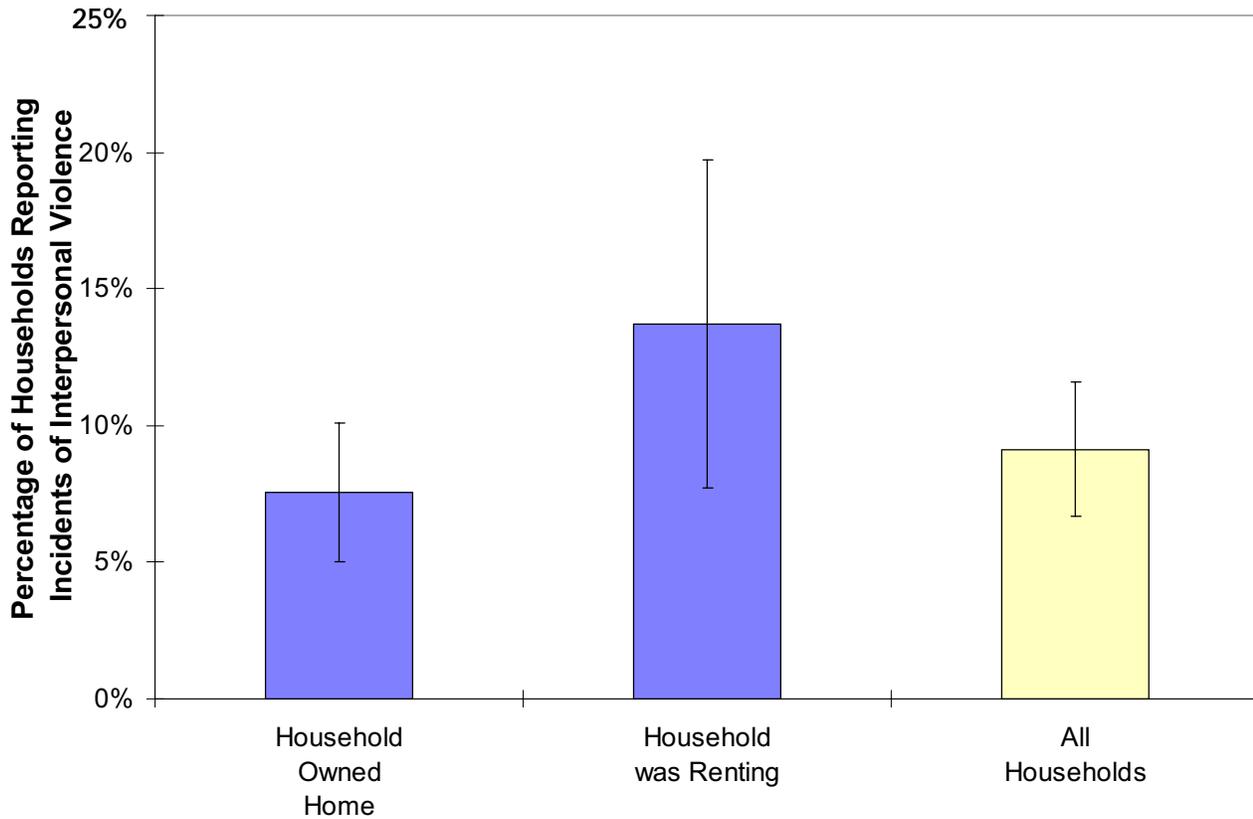


Figure 1. Percentage of Households Reporting Incidents of Violence by Poverty Status. Violent Incidents in Utah, 1996.



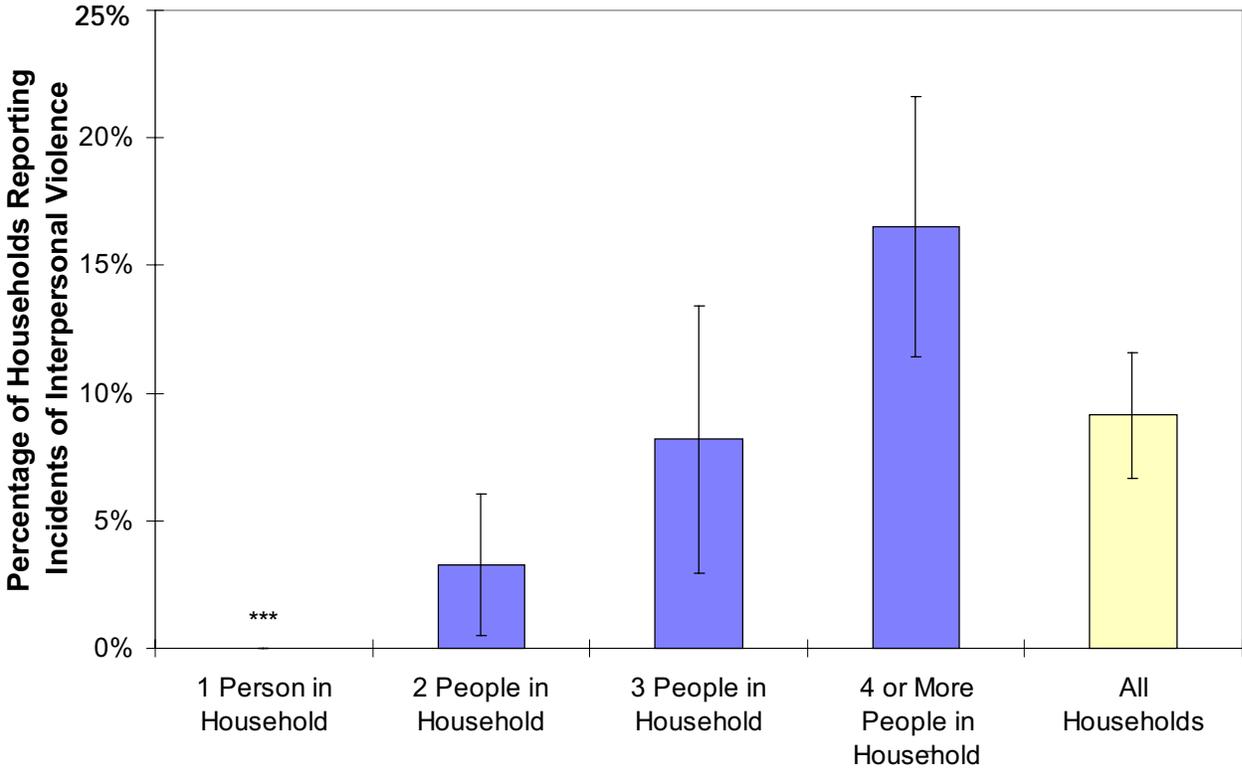
- **Overall, 9.1% of households surveyed reported at least one incident of violence in the previous 12 months.**
- **Households at or below the poverty line were more likely to report incidents of interpersonal violence.**

Figure 2. Percentage of Households Reporting Incidents of Violence by Home Ownership. Violent Incidents in Utah, 1996.



- **Households living in rented homes reported incidents of interpersonal violence more often than did households who owned their homes.**

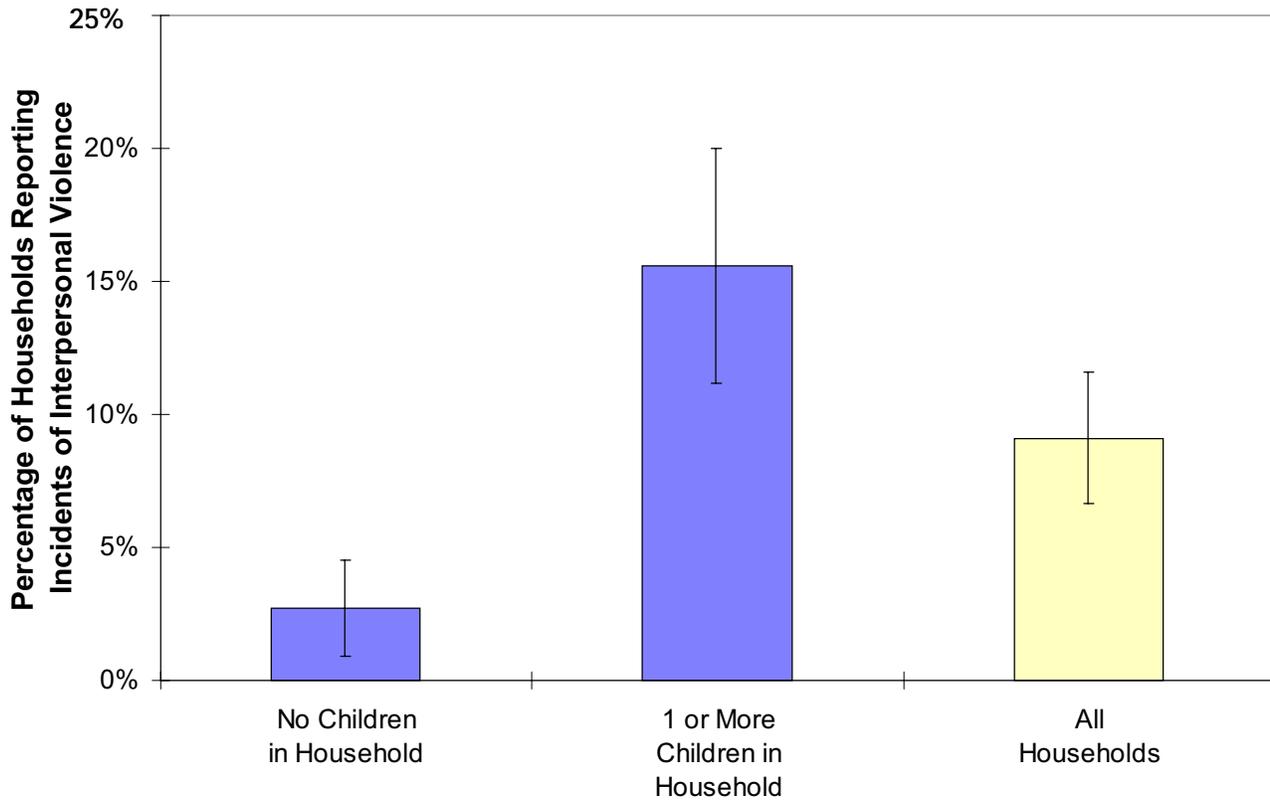
Figure 3. Percentage of Households Reporting Incidents of Violence by Household Size. Violent Incidents in Utah, 1996.



\*\*\* Insufficient sample size for calculation of population estimates.

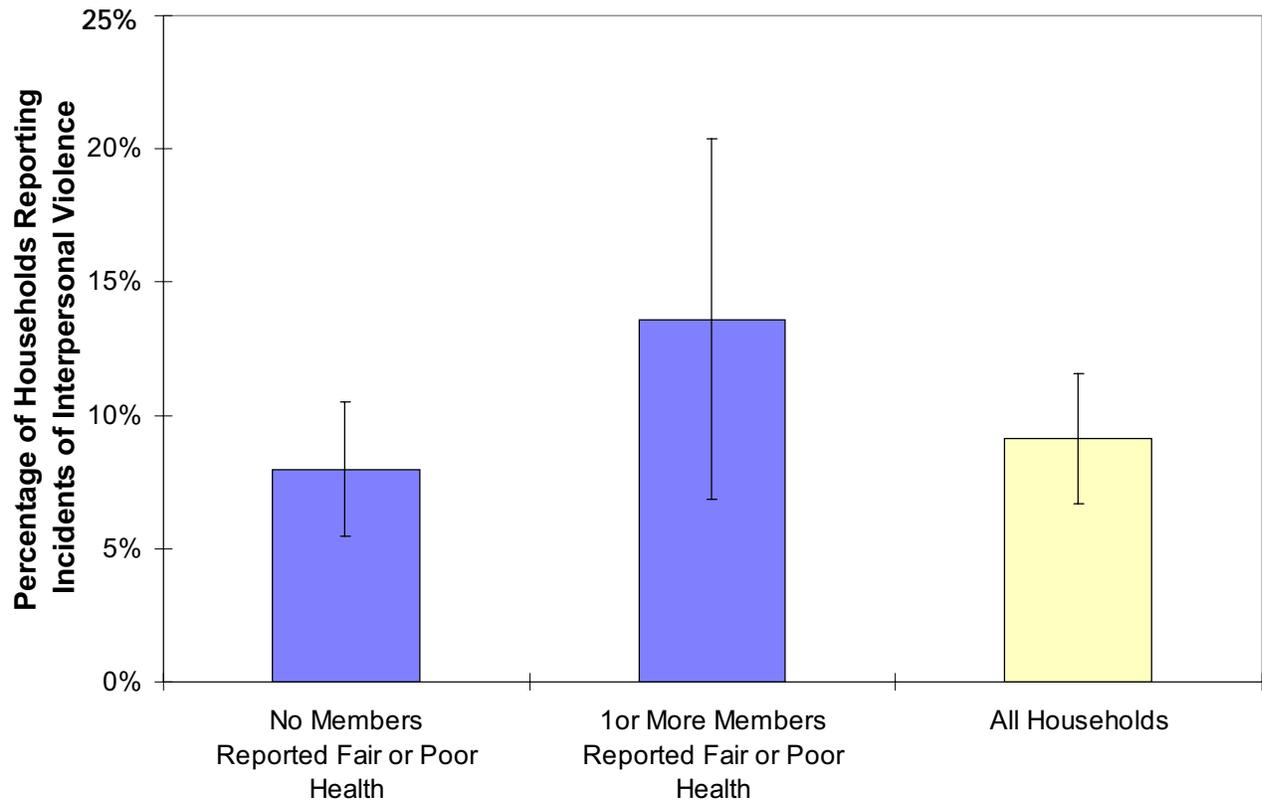
- **Larger households (with four or more members) were more likely to report incidents of interpersonal violence.**

Figure 4. Percentage of Households Reporting Incidents of Violence by Presence of Children in Household. Violent Incidents in Utah, 1996.



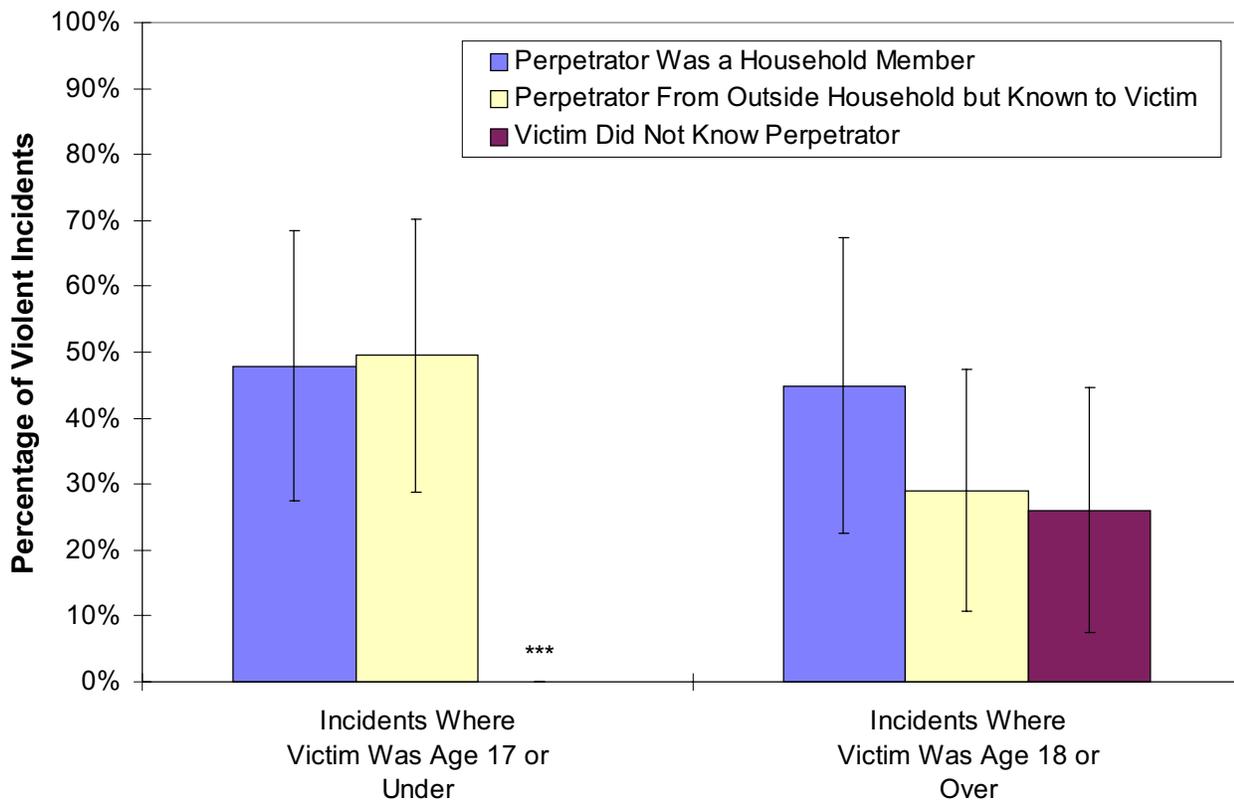
- **Households with children were more likely to report incidents of interpersonal violence than households without children.**

Figure 5. Percentage of Households Reporting Incidents of Violence by General Health Status of Household Members. Violent Incidents in Utah, 1996.



- **Households containing one or more members who reported fair or poor health status were more likely to report violent incidents.**

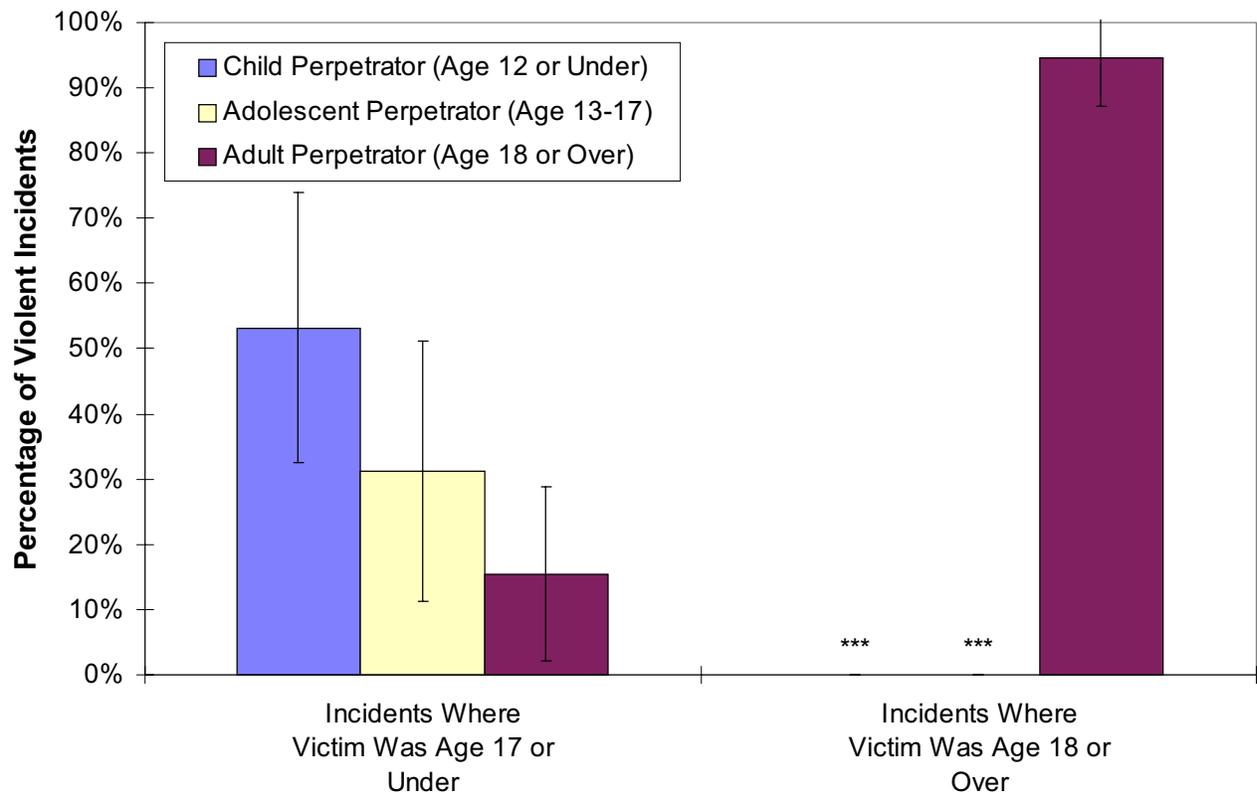
Figure 6. Familiarity of Perpetrator of Violence by Age of Victim.  
Violent Incidents in Utah, 1996.



\*\*\* Insufficient sample size for calculation of population estimates.

- **Perpetrators of violent incidents against children, age 17 or under, were almost always known to the victim.**
- **Perpetrators of violent incidents involving adults, age 18 or over, were usually known to the victim.**

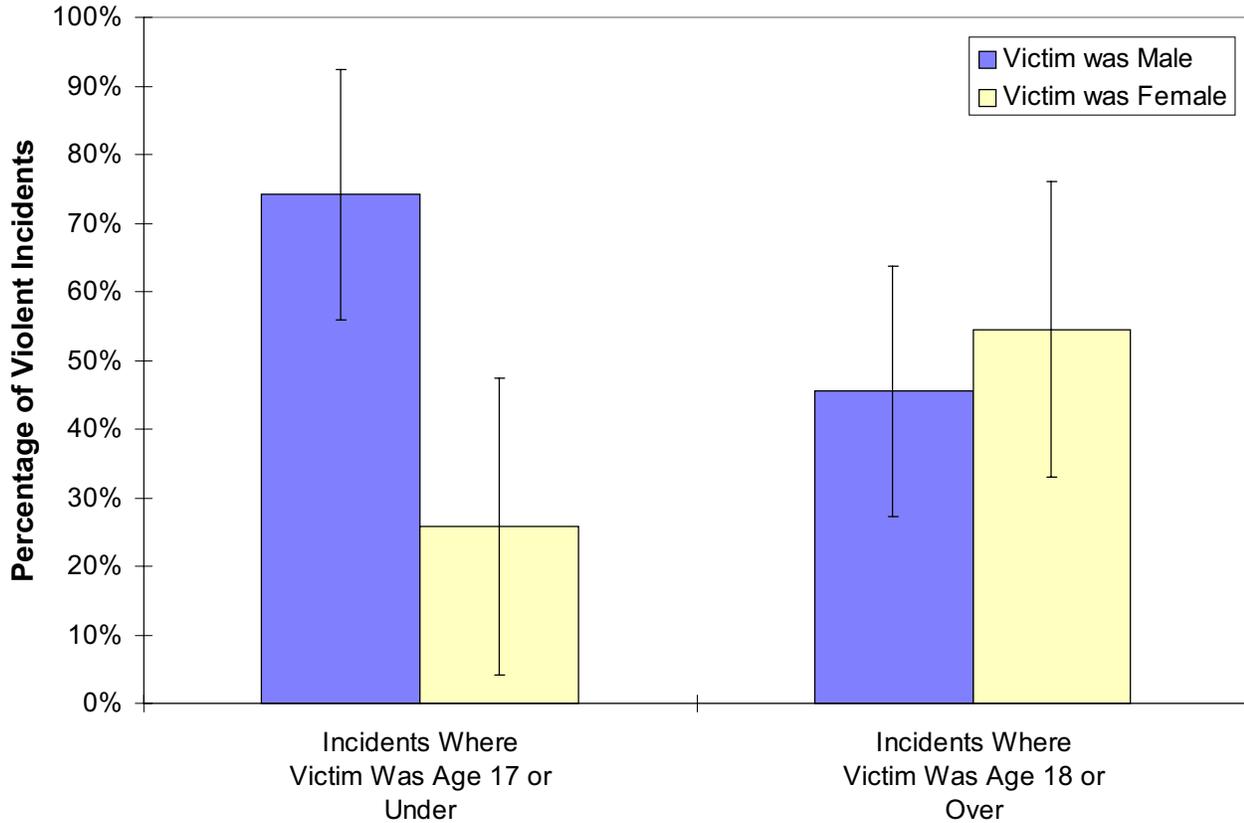
Figure 7. Age of Perpetrator of Violence by Age of Victim.  
Violent Incidents in Utah, 1996.



\*\*\* Insufficient sample size for calculation of population estimates.

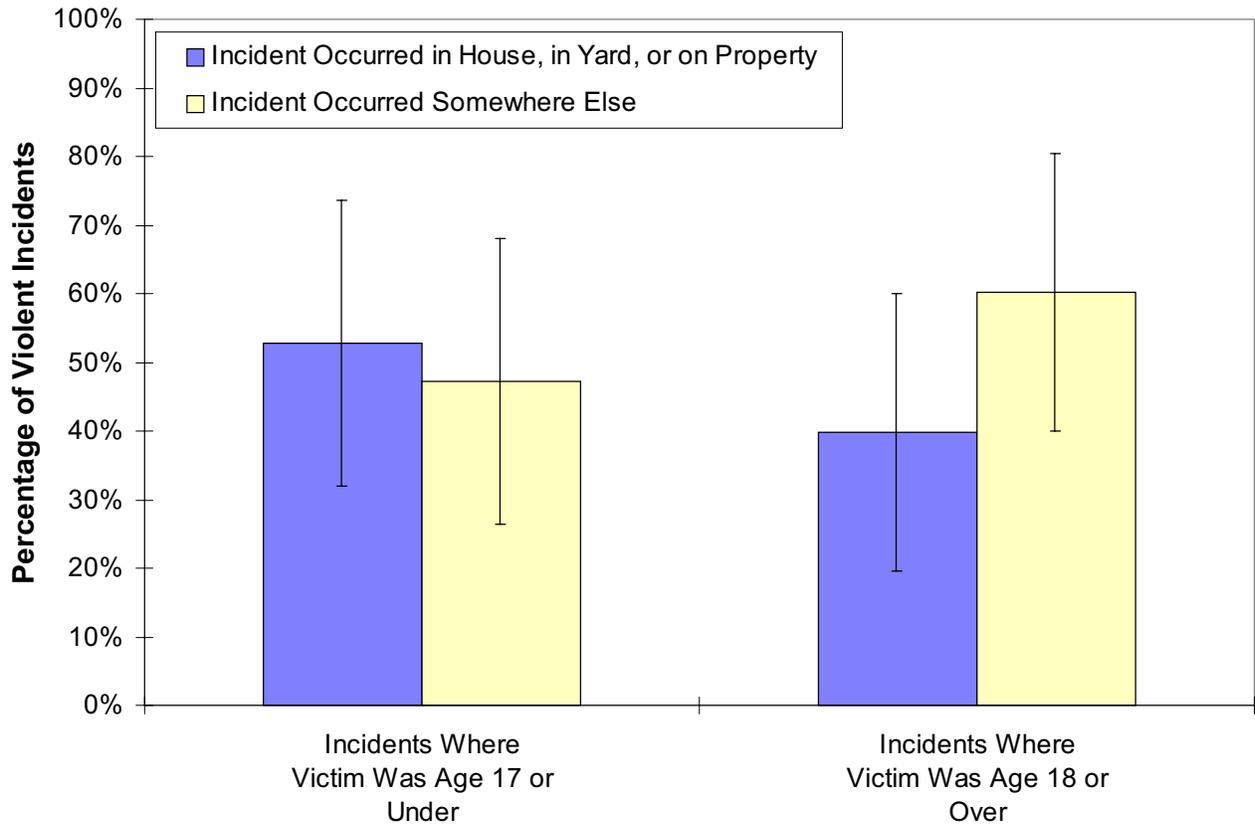
- **Perpetrators of violent incidents against children, age 17 or under, were generally age 17 or under themselves.**

Figure 8. Sex of Victim of Violence by Age of Victim.  
Violent Incidents in Utah, 1996.



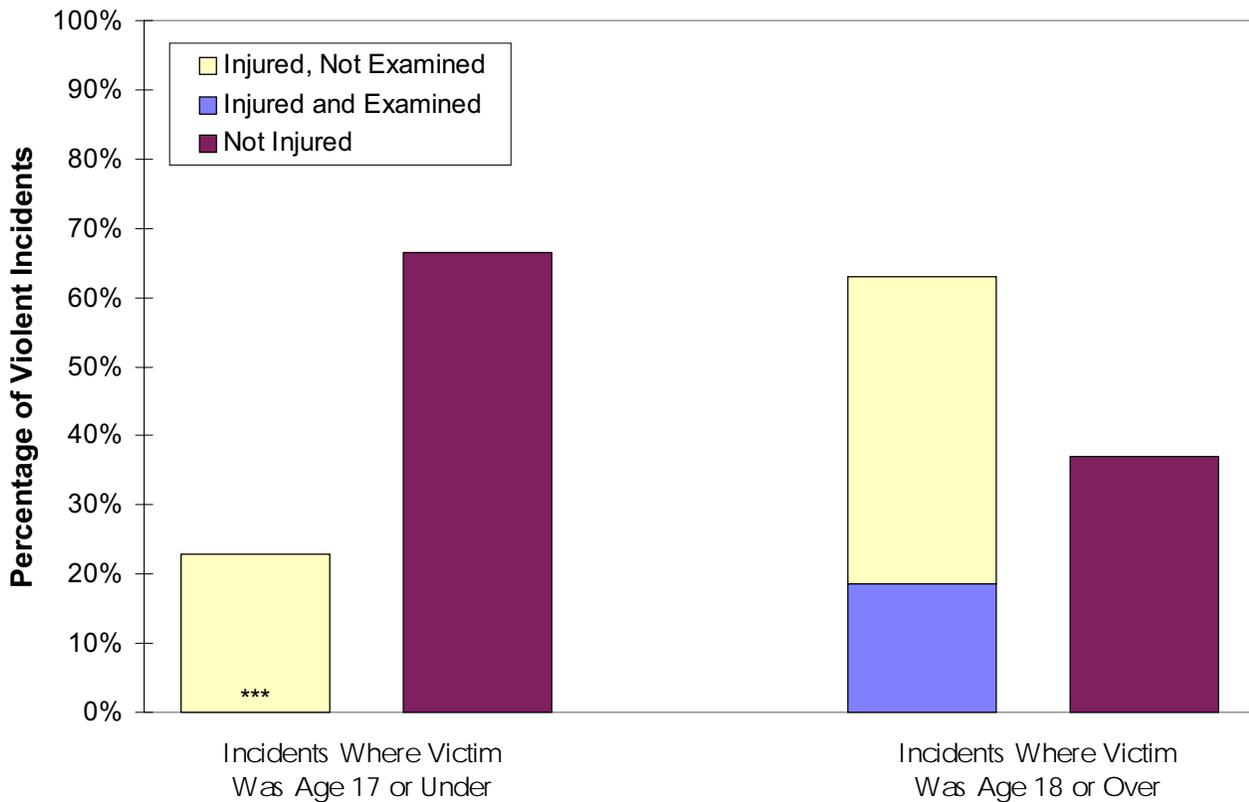
- **Victims of interpersonal violence who were children, age 17 or under, were usually boys.**
- **Adult victims of interpersonal violence were equally likely to be men or women.**

Figure 9. Location of Violent Incidents by Age of Victim.  
Violent Incidents in Utah, 1996.



- **When the victim of violence was an adult, incidents of violence were more likely to occur away from the victim's home.**

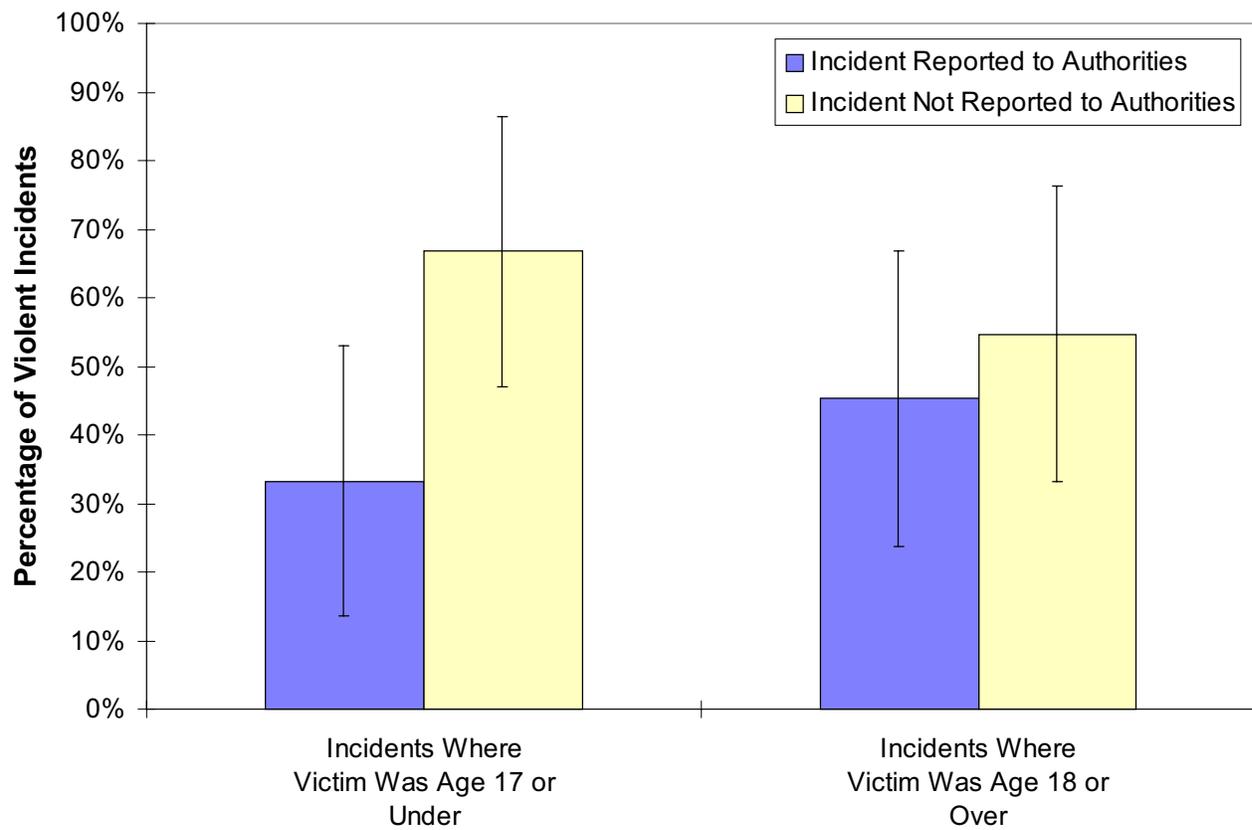
Figure 10. Whether the Victim of Violence was Injured and Examined by a Doctor by Age of Victim. Violent Incidents in Utah, 1996.



\*\*\* Insufficient sample size for calculation of population estimates.

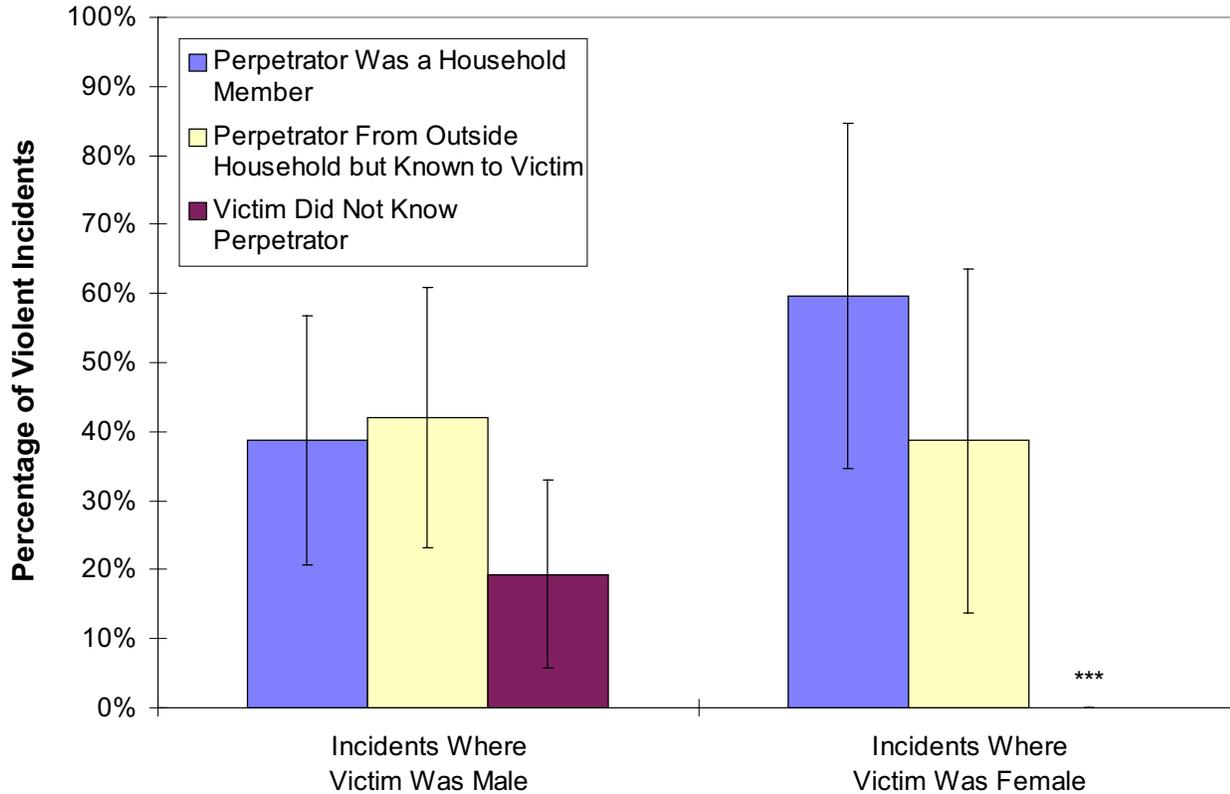
- **Victims who were children, age 17 or under, were usually not injured. If injury did occur, child victims were almost never examined by a doctor.**
- **Adult victims, age 18 or over, were often injured, but were infrequently examined by a doctor.**

Figure 11. Whether the Incident of Violence was Reported to Authorities by Age of Victim. Violent Incidents in Utah, 1996.



- **Incidents involving victims age 17 or under, were somewhat less likely to be reported to the police or other authorities than incidents involving victims age 18 or over.**

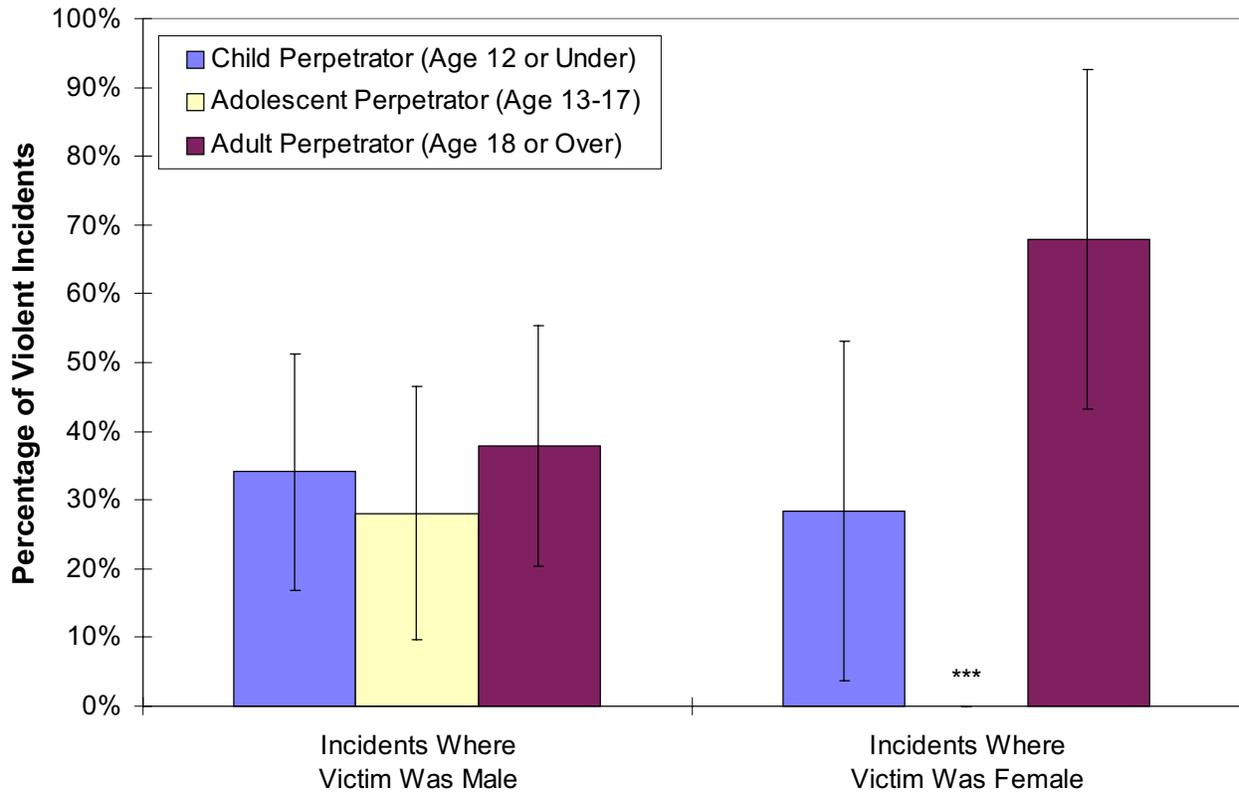
Figure 12. Familiarity of Perpetrator of Violence by Sex of Victim.  
Violent Incidents in Utah, 1996.



\*\*\* Insufficient sample size for calculation of population estimates.

- **Perpetrators of violent incidents against men and boys were usually known to the victim.**
- **Perpetrators of violent incidents against women and girls were almost always known to the victim and the perpetrator was usually a household member.**

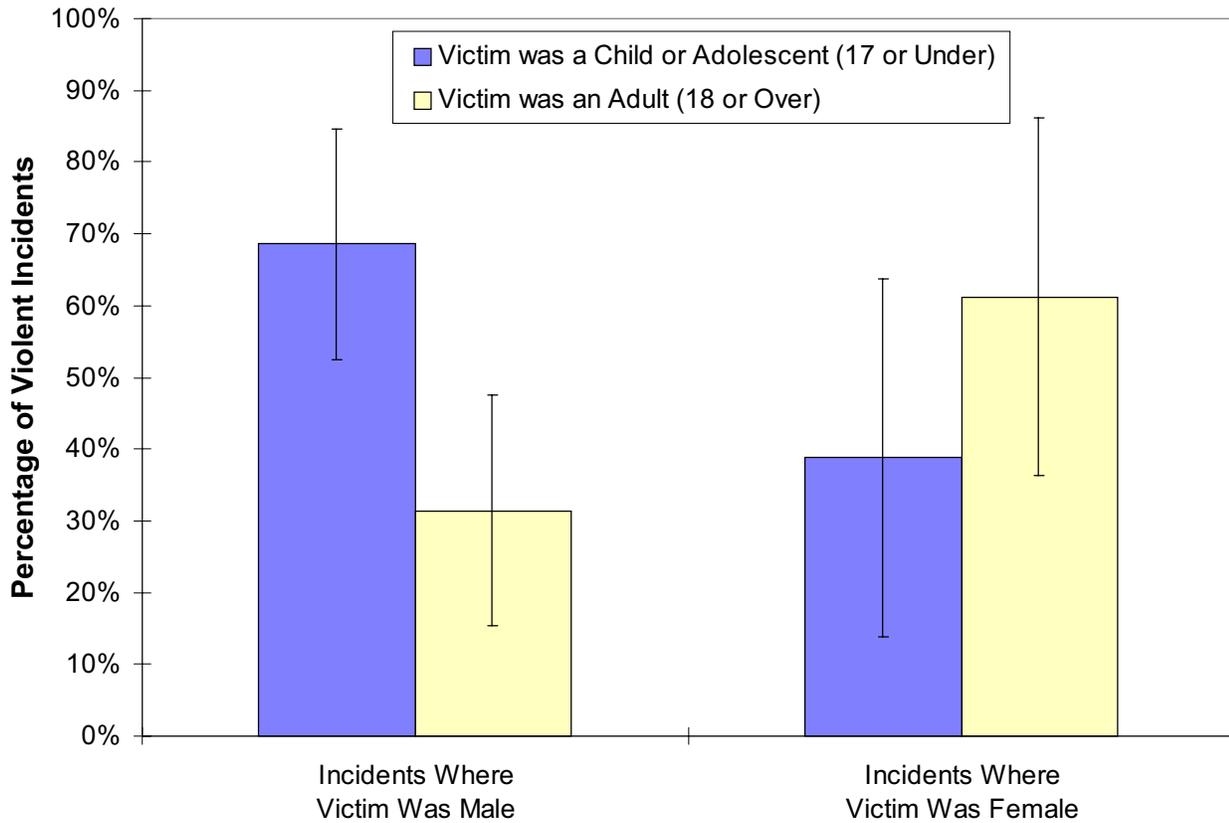
Figure 13. Age of Perpetrator of Violence by Sex of Victim.  
Violent Incidents in Utah, 1996.



\*\*\* Insufficient sample size for calculation of population estimates.

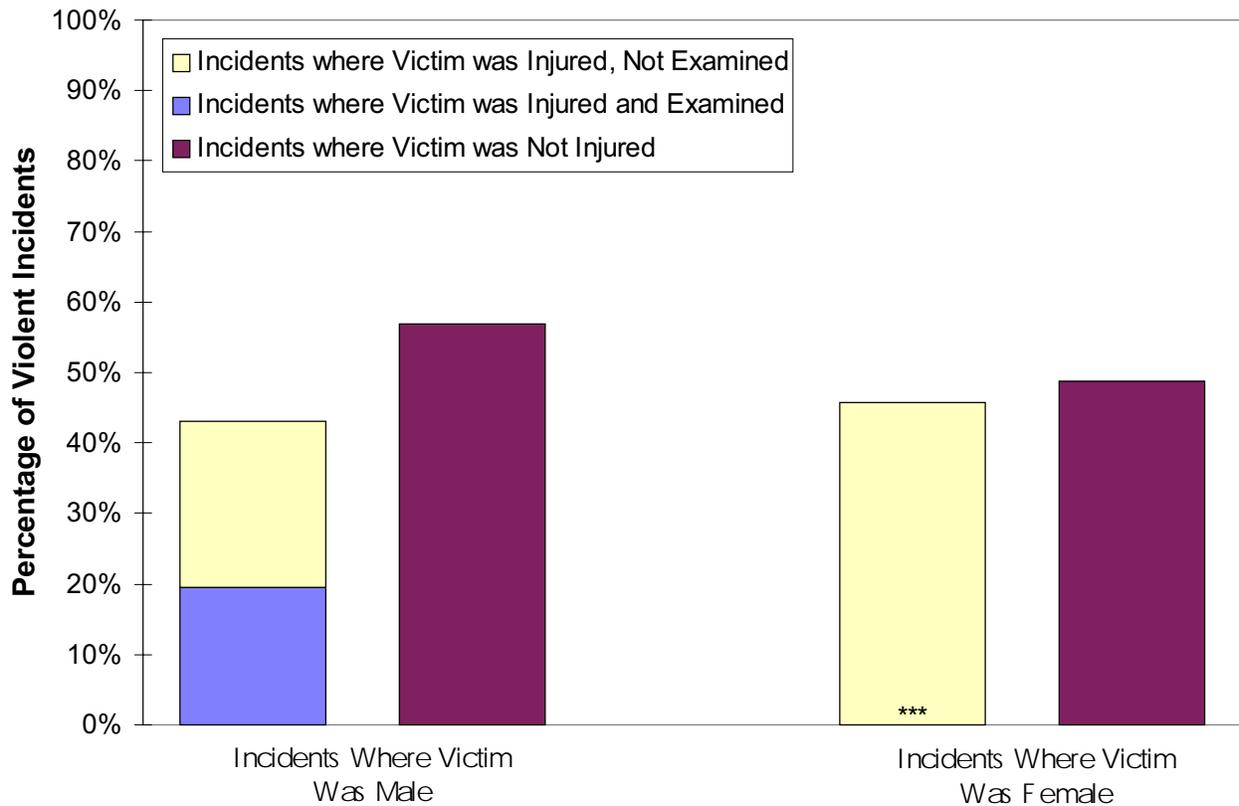
- **Perpetrators of violent incidents against women and girls were usually adults, age 18 or over.**

Figure 14. Age of Victim of Violence by Sex of Victim.  
Violent Incidents in Utah, 1996.



- **Male victims of violent incidents were usually boys, age 17 or under.**
- **Female victims were usually women, age 18 or over.**

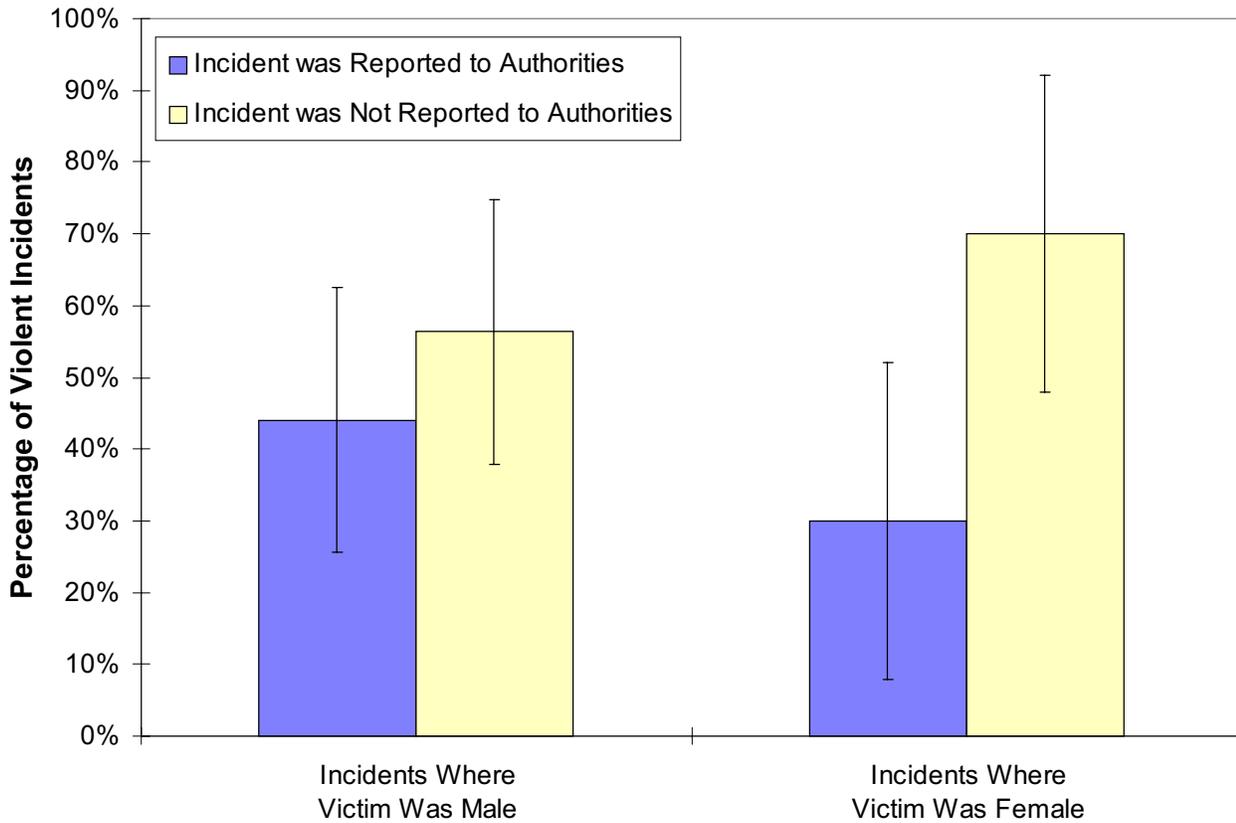
Figure 15. Whether the Victim of Violence was Injured and Examined by a Doctor by Sex of Victim. Violent Incidents in Utah, 1996.



\*\*\* Insufficient sample size for calculation of population estimates.

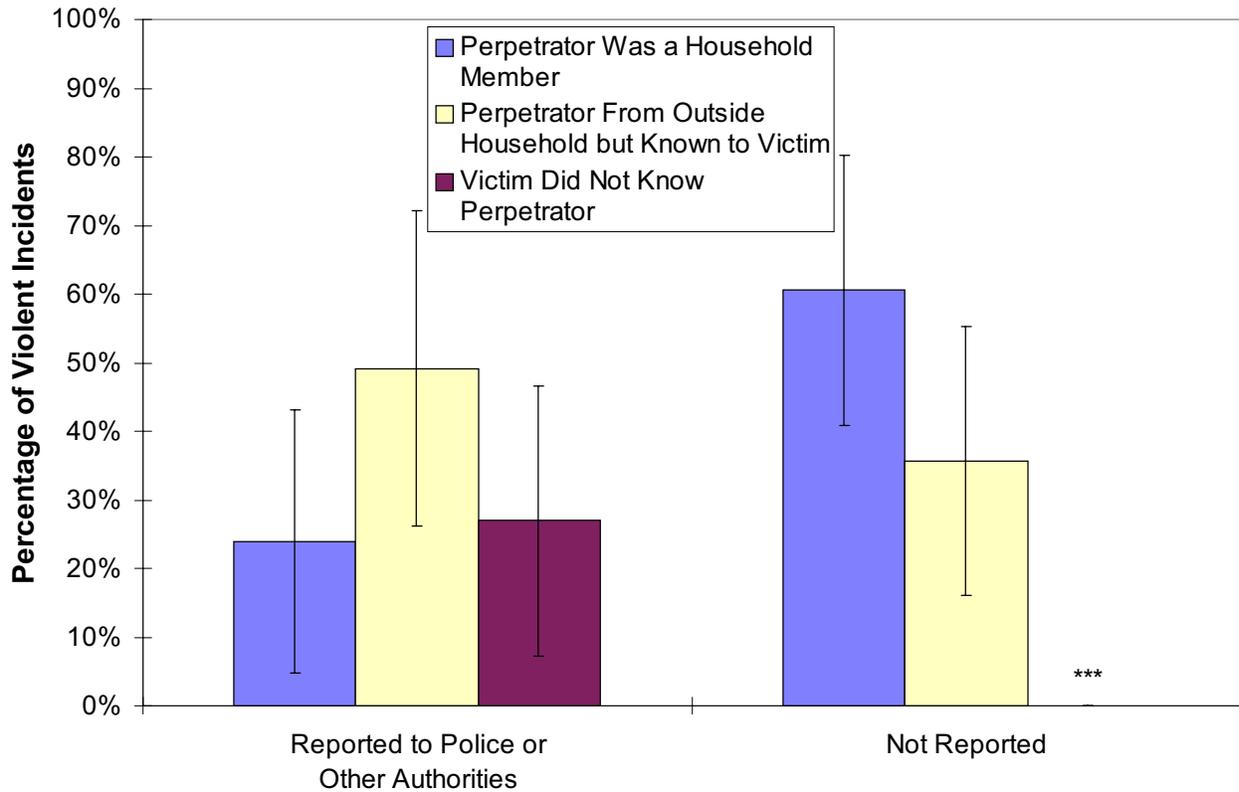
- **Female victims who were injured as the result of interpersonal violence were rarely examined by a doctor.**

Figure 16. Whether the Incident of Violence was Reported to Authorities by Sex of Victim. Violent Incidents in Utah, 1996.



- **Female victims of interpersonal violence did not often report the incident to police or other authorities.**

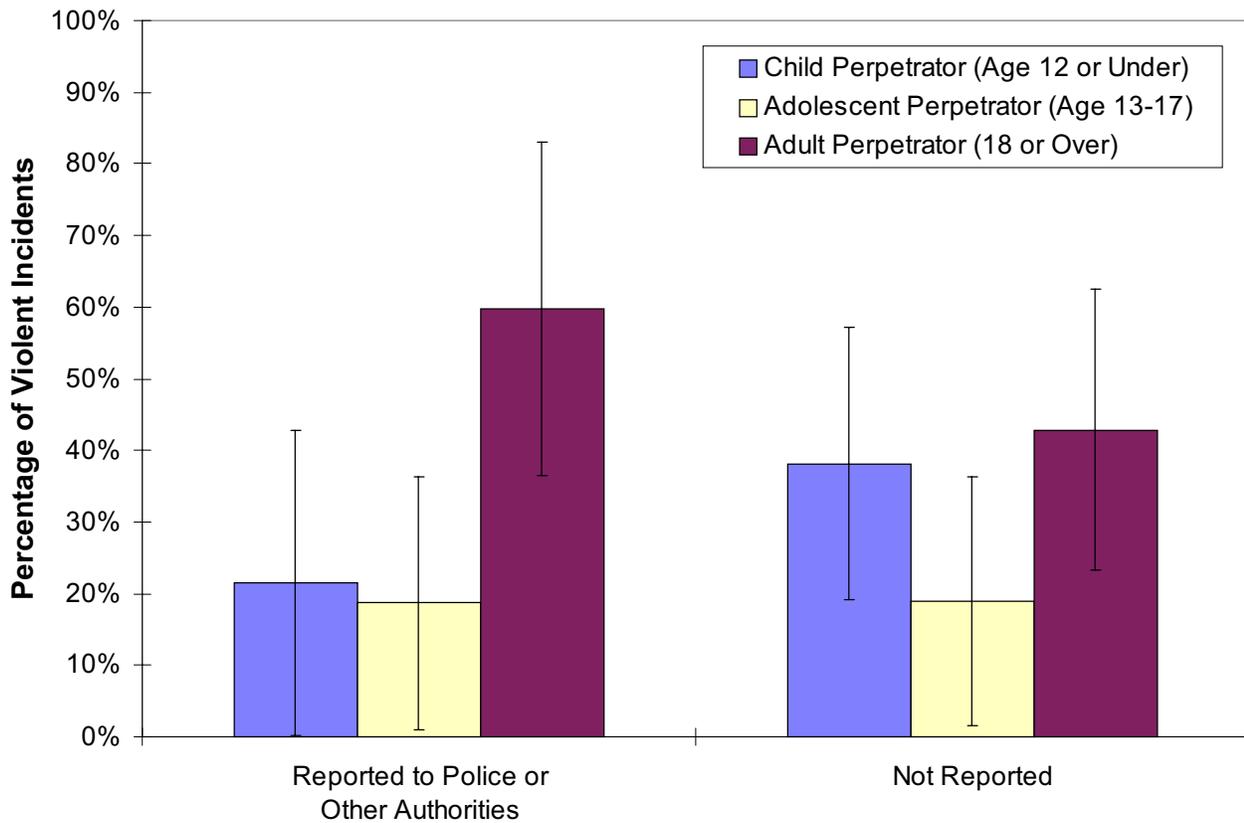
Figure 17. Familiarity of Perpetrator of Violence by Whether the Incident was Reported to Authorities. Violent Incidents in Utah, 1996.



\*\*\* Insufficient sample size for calculation of population estimates.

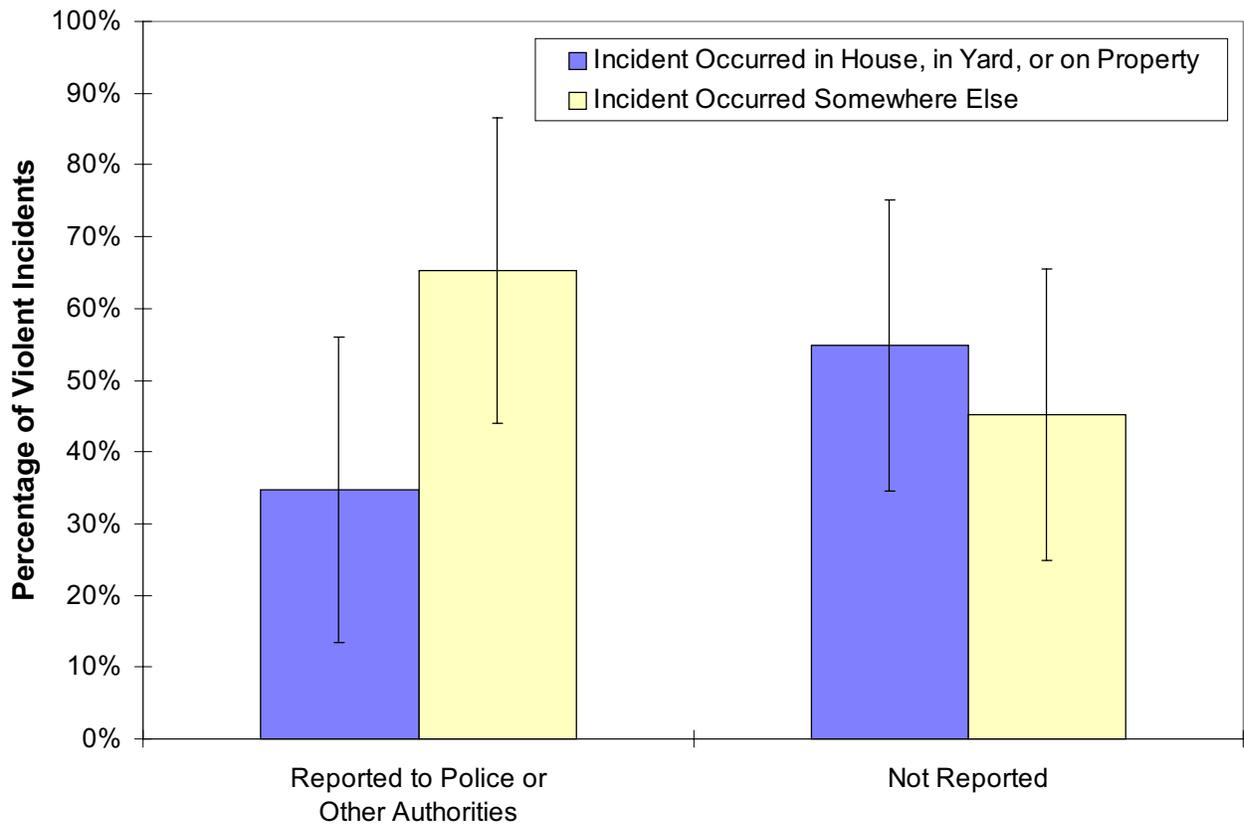
- **Perpetrators of incidents that were reported to police or other authorities, were usually known to the victim. These perpetrators were most likely from outside the victim’s household.**
- **Perpetrators of unreported violent incidents were almost always known to the victim and were usually household members.**

Figure 18. Age of Perpetrator by Whether the Incident of Violence was Reported to Authorities. Violent Incidents in Utah, 1996.



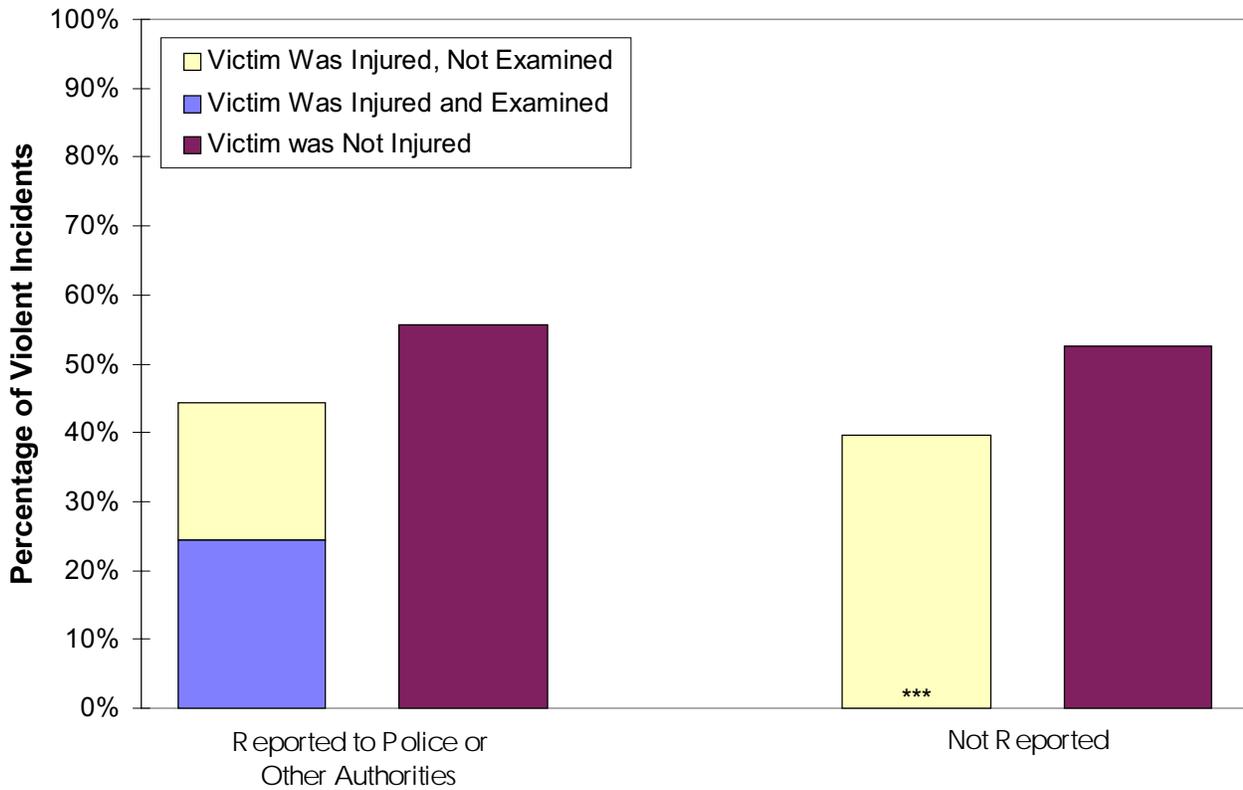
- **Perpetrators of violent incidents that were reported to police or other authorities were usually adults, age 18 or over.**

Figure 19. Incident Location by Whether the Incident of Violence was Reported to Authorities. Violent Incidents in Utah, 1996.



- **Most incidents of interpersonal violence that were reported to police or other authorities occurred away from the victims' homes.**

Figure 20. Whether the Victim of Violence was Injured and Examined by a Doctor by Whether the Incident was Reported to Authorities.  
Violent Incidents in Utah, 1996.



\*\*\* Insufficient sample size for calculation of population estimates.

- **Injured victims who did not report the violent incident to police or other authorities, rarely sought medical attention for the injury.**

# **REFERENCE TABLES**



**Table 1. Number of Violent Incidents by Household Demographic Characteristics.  
Violent Incidents in Utah, 1996.**

	Utah Population Estimates		Estimates of Violent Incidents in Utah Households		
	Percentage Distribution of Utah Households	Number of Utah Households <sup>1</sup>	Percentage of Households in Category with $\geq 1$ Incident of Violence <sup>2</sup>	Number of Households with $\geq 1$ Incident of Violence <sup>1</sup>	Median Number of Violent Incidents in Household
<u>Poverty Status of Household</u>					
Households at $\leq 100\%$ of Poverty	7%	45,900	28% $\pm$ 13%	12,800	5.0
Households at 101-200% of Poverty	25%	175,600	9% $\pm$ 5%	16,500	3.0
Households at 201-300% of Poverty	24%	172,500	14% $\pm$ 7%	23,700	2.0
Households at over 300% of Poverty	45%	249,900	5% $\pm$ 3%	12,500	2.0
All Households	100%	643,800	9% $\pm$ 2%	58,700	3.0
<u>Household Own Home?</u>					
Household Owned Home	75%	499,700	8% $\pm$ 3%	37,700	2.0
Household was Renting	25%	144,100	14% $\pm$ 6%	19,800	3.0
All Households	100%	643,800	9% $\pm$ 2%	58,700	3.0
<u>Number of People in Household</u>					
1 Person in Household	17%	35,600	*** $\pm$ ***	***	2.0
2 People in Household	28%	119,000	3% $\pm$ 3%	3,900	2.0
3 People in Household	16%	96,600	8% $\pm$ 5%	7,900	2.0
4 or More People in Household	39%	392,500	17% $\pm$ 5%	64,800	3.0
All Households	100%	643,800	9% $\pm$ 2%	58,700	3.0
<u>Presence of Children in Household</u>					
No Children in Household	48%	205,300	3% $\pm$ 2%	5,564	1.0
1 or More Children in Household	52%	438,500	16% $\pm$ 4%	68,300	3.0
All Households	100%	643,800	9% $\pm$ 2%	58,700	3.0
<u>General Health Status of Household Members</u>					
No Members Reported Fair or Poor Health	79%	504,400	8% $\pm$ 3%	40,200	2.0
1 or More Members Reported Fair or Poor Health	21%	139,500	14% $\pm$ 7%	19,000	5.0
All Households	100%	643,800	9% $\pm$ 2%	58,700	3.0

**Table 1. (Continued)**

	Utah Population Estimates		Estimates of Violent Incidents in Utah Households		
	Percentage Distribution of Utah Households	Number of Utah Households <sup>1</sup>	Percentage of Households in Category with $\geq 1$ Incident of Violence <sup>2</sup>	Number of Households with $\geq 1$ Incident of Violence <sup>1</sup>	Median Number of Violent Incidents in Household
<u>Location of Household</u>					
Wasatch Front	77%	496,800	10% $\pm$ 3%	47,700	2.0
Non-Wasatch Front	23%	147,000	7% $\pm$ 2%	10,900	3.0
All Households	100%	643,800	9% $\pm$ 2%	58,700	3.0
<u>Alcohol Consumption in Household</u>					
Yes	36%	212,500	8% $\pm$ 4%	17,200	3.0
No	64%	431,300	10% $\pm$ 3%	41,700	2.0
All Households	100%	643,800	9% $\pm$ 2%	58,700	3.0
<u>Guns in Household</u>					
Yes	45%	319,000	11% $\pm$ 4%	33,500	3.0
No	55%	324,900	9% $\pm$ 3%	27,700	2.0
All Households	100%	643,800	9% $\pm$ 2%	58,700	3.0

<sup>1</sup> Rounded to the nearest 100 persons. Numbers in this column may not sum to the same totals because of missing values on the grouping variable.

<sup>2</sup> Plus or minus 95% confidence interval.

\*\*\* Insufficient sample size for calculation of population estimates.

**Table 2. Violent Incidents by Demographic Characteristics of Victims.**  
**Violent Incidents in Utah, 1996.**

	Estimates of Violent Incidents by Demographic Characteristics of Victims		Utah Population Estimates	
	Percentage Distribution of Violent Incidents in Utah <sup>1</sup>	Percentage Distribution of Utahns	Number of Persons <sup>2</sup>	
<u>Age of Victim</u>				
12 or Under	42% ± 15%	22.7%	452,100	
13 to 17	15% ± 11%	9.9%	196,500	
18 to 34	24% ± 11%	27.2%	541,100	
35 to 49	19% ± 13%	20.3%	403,900	
50 or Over	*** ± ***	20.0%	398,300	
	100%	100.0%	1,991,900	
<u>Sex of Victim</u>				
Males	62% ± 15%	49.5%	986,400	
Females	38% ± 15%	50.5%	1,005,400	
	100%	100.0%	1,991,900	
<u>Victim Had Health Insurance Coverage?</u>				
Yes	83% ± 9%	90.5%	1,802,700	
No	17% ± 9%	9.5%	189,200	
	100%	100.0%	1,991,900	
<u>Victim Had a Medical Condition?</u>				
Yes	22% ± 12%	20.9%	416,300	
No	78% ± 12%	79.1%	1,575,600	
	100%	100.0%	1,991,900	
<u>Annual Household Income of Victim</u>				
≤ \$15k	28% ± 13%	6.7%	133,500	
\$15-\$35k	26% ± 14%	29.9%	595,600	
\$35-\$55k	33% ± 15%	33.3%	663,300	
\$55k and Over	12% ± 8%	30.1%	599,600	
	100%	100.0%	1,991,900	

**Table 2. (Continued)**

	Estimates of Violent Incidents by Demographic Characteristics of Victims	Utah Population Estimates	
	Percentage Distribution of Violent Incidents in Utah <sup>1</sup>	Percentage Distribution of Utahns	Number of Persons <sup>2</sup>
<u>General Health Status of Victim</u>			
Good/Very Good/ Excellent	90% ± 8%	91.4%	1,820,600
Fair/Poor	10% ± 8%	8.6%	171,300
	100%	100.0%	1,991,900
<u>Education Level of Victim (Age 18 and Over)</u>			
High School Graduate or Less	41% ± 21%	37.6%	505,000
Some Post High School Education	59% ± 21%	62.4%	838,200
	100%	100.0%	1,343,200
<u>Marital Status of Victim (Age 18 and Over)</u>			
Married	47% ± 23%	68.4%	918,700
Divorced/Widowed/Separated	26% ± 17%	13.4%	180,000
Never Married	28% ± 17%	18.2%	244,500
	100%	100.0%	1,343,200

Note: This table describes violent incidents in Utah. The information about the violent incidents was collected at the incident level, and not at the level of the individual victims of violence. Because an individual may have been victimized multiple times, it is inappropriate to apply the above percentages to people.

<sup>1</sup> Plus or minus 95% confidence interval.

<sup>2</sup> Rounded to the nearest 100 persons. Numbers in this column may not sum to the same totals because of missing values on the grouping variable.

\*\*\* Insufficient sample size for calculation of population estimates

**Table 3. Selected Characteristics of Violent Incidents.  
Violent Incidents in Utah, 1996.**

	Percentage Distribution of Violent Incidents <sup>1</sup>
<u>Was the Perpetrator Known to the Victim?</u>	
Perpetrator From Within Household	47% ± 15%
Perpetrator Known From Outside Household	41% ± 15%
Perpetrator Not Known to the Victim	13% ± 9%
	100%
<u>Age of Perpetrator</u>	
Child (Age 12 or Under)	32% ± 14%
Adolescent (Age 13-17)	19% ± 13%
Adult (18 or Over)	49% ± 15%
	100%
<u>Age of Victim</u>	
Child or Adolescent (17 or Under)	57% ± 15%
Adult (18 or Over)	43% ± 15%
	100%
<u>Sex of Victim</u>	
Male	62% ± 15%
Female	38% ± 15%
	100%
<u>Did the Incident Happened at Home?</u>	
In House, in Yard, or on Property	47% ± 15%
Somewhere Else	53% ± 15%
	100%
<u>Was Victim Injured<sup>2</sup> and Examined by a Doctor?</u>	
Injured and Examined	14% ± 10%
Injured, Not Examined	32% ± 13%
Not Injured	54% ± 15%
	100%
<u>Was Incident Reported to Police or Other Authorities?</u>	
Yes	38% ± 14%
No	62% ± 14%
	100%

Note: This table describes violent incidents in Utah. The information about the violent incidents was collected at the incident level, and not at the level of the individual victims of violence. Because an individual may have been victimized multiple times, it is inappropriate to apply the above percentages to people

<sup>1</sup> Plus or minus 95% confidence interval.

<sup>2</sup> Injury such as "a bruise, broken bone or tooth, a cut or a scrape."

**Table 4. Selected Characteristics of Violent Incidents by Age of Victim.  
Violent Incidents in Utah, 1996.**

	Percentage Distribution of Violent Incidents		
	Overall	Incidents Where Victim Was Age 17 or Under <sup>1</sup>	Incidents Where Victim Was Age 18 or Over <sup>1</sup>
Percentage of All Violent Incidents by Age of the Victim		57% ± 15%	43% ± 15%
<u>Was the Perpetrator Known to the Victim?</u>			
Perpetrator Was a Household Member	47% ± 15%	48% ± 21%	45% ± 22%
Perpetrator From Outside Household but Known to Victim	41% ± 15%	49% ± 21%	29% ± 18%
Victim Did Not Know Perpetrator	13% ± 9%	*** ± ***	26% ± 19%
	100%	100%	100%
<u>Age of Perpetrator</u>			
Child (Age 12 or Under)	32% ± 14%	53% ± 21%	*** ± ***
Adolescent (Age 13-17)	19% ± 13%	31% ± 20%	*** ± ***
Adult (18 or Over)	49% ± 15%	16% ± 13%	95% ± 7%
	100%	100%	100%
<u>Sex of Victim</u>			
Male	62% ± 15%	74% ± 18%	46% ± 22%
Female	38% ± 15%	26% ± 18%	54% ± 22%
	100%	100%	100%
<u>Did the Incident Happened at Home?</u>			
In House, in Yard, or on Property	47% ± 15%	53% ± 21%	40% ± 20%
Somewhere Else	53% ± 15%	47% ± 21%	60% ± 20%
	100%	100%	100%
<u>Was Victim Injured<sup>2</sup> and Examined by a Doctor?</u>			
Injured and Examined	14% ± 10%	*** ± ***	19% ± 15%
Injured, Not Examined	32% ± 13%	23% ± 17%	44% ± 21%
Not Injured	54% ± 15%	66% ± 20%	37% ± 24%
	100%	100%	100%
<u>Was Incident Reported to Police or Other Authorities?</u>			
Yes	38% ± 14%	33% ± 20%	45% ± 21%
No	62% ± 14%	67% ± 20%	55% ± 21%
	100%	100%	100%

Note: This table describes violent incidents in Utah. The information about the violent incidents was collected at the incident level, and not at the level of the individual victims of violence. Because an individual may have been victimized multiple times, it is inappropriate to apply the above percentages to people.

<sup>1</sup> Plus or minus 95% confidence interval.

<sup>2</sup> Injury such as "a bruise, broken bone or tooth, a cut or a scrape."

\*\*\* Insufficient sample size for calculation of population estimates.

**Table 5. Selected Characteristics of Violent Incidents by Sex of Victim.  
Violent Incidents in Utah, 1996.**

	Percentage Distribution of Violent Incidents		
	Overall	Incidents Where Victim Was Male <sup>1</sup>	Incidents Where Victim Was Female <sup>1</sup>
Percentage of All Violent Incidents by Sex of the Victim		62% ± 15%	38% ± 15%
<u>Was the Perpetrator Known to the Victim?</u>			
Perpetrator Was a Household Member	47% ± 15%	39% ± 18%	60% ± 25%
Perpetrator From Outside Household but Known to Victim	41% ± 15%	42% ± 19%	39% ± 25%
Victim Did Not Know Perpetrator	13% ± 9%	19% ± 14%	*** ± ***
	100%	100%	100%
<u>Age of Perpetrator</u>			
Child (Age 12 or Under)	32% ± 17%	34% ± 17%	28% ± 25%
Adolescent (Age 13-17)	19% ± 18%	28% ± 18%	*** ± ***
Adult (18 or Over)	49% ± 18%	38% ± 18%	68% ± 25%
	100%	100%	100%
<u>Age of Victim</u>			
Child or Adolescent (17 or Under)	57% ± 15%	69% ± 16%	39% ± 25%
Adult (18 or Over)	43% ± 15%	31% ± 16%	61% ± 25%
	100%	100%	100%
<u>Did the Incident Happened at Home?</u>			
In House, in Yard, or on Property	47% ± 19%	45% ± 19%	50% ± 26%
Somewhere Else	53% ± 15%	55% ± 19%	50% ± 26%
	100%	100%	100%
<u>Was Victim Injured<sup>2</sup> and Examined by a Doctor?</u>			
Injured and Examined	14% ± 10%	19% ± 15%	*** ± ***
Injured, Not Examined	32% ± 13%	24% ± 15%	46% ± 25%
Not Injured	54% ± 15%	57% ± 19%	49% ± 26%
	100%	100%	100%
<u>Was Incident Reported to Police or Other Authorities?</u>			
Yes	38% ± 14%	44% ± 18%	30% ± 22%
No	62% ± 14%	56% ± 18%	70% ± 22%
	100%	100%	100%

Note: This table describes violent incidents in Utah. The information about the violent incidents was collected at the incident level, and not at the level of the individual victims of violence. Because an individual may have been victimized multiple times, it is inappropriate to apply the above percentages to people.

<sup>1</sup> Plus or minus 95% confidence interval.

<sup>2</sup> Injury such as "a bruise, broken bone or tooth, a cut or a scrape."

\*\*\* Insufficient sample size for calculation of population estimates.

**Table 6. Selected Characteristics of Violent Incidents by Whether the Perpetrator Was Known to the Victim. Violent Incidents in Utah, 1996.**

	Percentage Distribution of Violent Incidents			
	Overall	Incidents Where the Perpetrator Was a Household Member <sup>1</sup>	Incidents Where the Perpetrator Was From Outside the Household But Known to the Victim <sup>1</sup>	Incidents Where the Victim Did Not Know the Perpetrator <sup>1</sup>
Percentage of All Violent Incidents by Whether Perpetrator Was Known to the Victim		47% ± 15%	41% ± 15%	13% ± 9%
<u>Age of Perpetrator</u>				
Child (Age 12 or Under)	32% ± 14%	30% ± 18%	42% ± 25%	*** ± ***
Adolescent (Age 13-17)	19% ± 13%	*** ± ***	28% ± 23%	*** ± ***
Adult (18 or Over)	49% ± 15%	46% ± 22%	31% ± 20%	94% ± 15%
	100%	100%	100%	100%
<u>Age of Victim</u>				
Child or Adolescent (17 or Under)	57% ± 15%	59% ± 22%	69% ± 20%	*** ± ***
Adult (18 or Over)	43% ± 15%	41% ± 22%	31% ± 20%	88% ± 17%
	100%	100%	100%	100%
<u>Sex of Victim</u>				
Male	62% ± 15%	51% ± 22%	64% ± 24%	95% ± 11%
Female	38% ± 15%	49% ± 22%	36% ± 24%	*** ± ***
	100%	100%	100%	100%
<u>Did the Incident Happened at Home?</u>				
In House, in Yard, or on Property	47% ± 15%	79% ± 23%	26% ± 19%	0% ± *
Somewhere Else	53% ± 15%	21% ± 23%	74% ± 19%	100% ± *
	100%	100%	100%	100%
<u>Was Victim Injured<sup>2</sup> and Examined by a Doctor?</u>				
Injured and Examined	14% ± 10%	*** ± ***	22% ± 21%	40% ± 35%
Injured, Not Examined	32% ± 13%	35% ± 20%	34% ± 22%	*** ± ***
Not Injured	54% ± 15%	65% ± 20%	44% ± 25%	46% ± 37%
	100%	100%	100%	100%
<u>Was Incident Reported to Police or Other Authorities?</u>				
Yes	38% ± 14%	20% ± 17%	46% ± 24%	82% ± 24%
No	62% ± 14%	80% ± 17%	54% ± 24%	18% ± 24%
	100%	100%	100%	100%

Note: This table describes violent incidents in Utah. The information about the violent incidents was collected at the incident level, and not at the level of the individual victims of violence. Because an individual may have been victimized multiple times, it is inappropriate to apply the above percentages to people.

<sup>1</sup> Plus or minus 95% confidence interval.

<sup>2</sup> Injury such as "a bruise, broken bone or tooth, a cut or a scrape."

\* 100% and 0% have standard errors but they were not calculated here.

\*\*\* Insufficient sample size for calculation of population estimates.

**Table 7. Selected Characteristics of Violent Incidents by Age of the Perpetrator.  
Violent Incidents in Utah, 1996.**

	Percentage Distribution of Violent Incidents			
	Overall	Perpetrator Was a Child (Age 12 or Under) <sup>1</sup>	Perpetrator Was an Adolescent (Age 13-17) <sup>1</sup>	Perpetrator Was an Adult (Age 18 or Over) <sup>1</sup>
Percentage of All Violent Incidents by Age of the Perpetrator		32% ± 14%	19% ± 13%	49% ± 15%
<u>Was the Perpetrator Known to the Victim?</u>				
Perpetrator Was a Household Member	47% ± 15%	44% ± 26%	38% ± 37%	52% ± 20%
Perpetrator From Outside Household but Known to Victim	41% ± 15%	54% ± 26%	60% ± 37%	25% ± 16%
Victim Did Not Know Perpetrator	13% ± 9%	*** ± ***	*** ± ***	23% ± 17%
	100%	100%	100%	100%
<u>Age of Perpetrator</u>				
Child or Adolescent (17 or Under)	57% ± 15%	95% ± 9%	95% ± 7%	18% ± 15%
Adult (18 or Over)	43% ± 15%	*** ± ***	*** ± ***	82% ± 15%
	100%	95%	95%	100%
<u>Sex of Victim</u>				
Male	62% ± 15%	66% ± 28%	92% ± 9%	48% ± 20%
Female	38% ± 15%	34% ± 28%	8% ± 9%	52% ± 20%
	100%	100%	100%	100%
<u>Did the Incident Happened at Home?</u>				
In House, in Yard, or on Property	47% ± 15%	55% ± 28%	40% ± 37%	45% ± 20%
Somewhere Else	53% ± 15%	45% ± 28%	60% ± 37%	55% ± 20%
	100%	100%	100%	100%
<u>Was Victim Injured<sup>2</sup> and Examined by a Doctor?</u>				
Injured and Examined	14% ± 10%	15% ± 23%	*** ± ***	18% ± 14%
Injured, Not Examined	32% ± 13%	*** ± ***	43% ± 38%	37% ± 18%
Not Injured	54% ± 15%	68% ± 26%	54% ± 38%	45% ± 21%
	100%	83%	100%	100%
<u>Was Incident Reported to Police or Other Authorities?</u>				
Yes	38% ± 14%	26% ± 25%	38% ± 35%	47% ± 20%
No	62% ± 14%	74% ± 25%	62% ± 35%	54% ± 20%
	100%	100%	100%	100%

Note: This table describes violent incidents in Utah. The information about the violent incidents was collected at the incident level, and not at the level of the individual victims of violence. Because an individual may have been victimized multiple times, it is inappropriate to apply the above percentages to people.

<sup>1</sup> Plus or minus 95% confidence interval.

<sup>2</sup> Injury such as "a bruise, broken bone or tooth, a cut or a scrape."

\*\*\* Insufficient sample size for calculation of population estimates.

**Table 8. Selected Characteristics of Violent Incidents by Whether the Incident Occurred at the Victim's Home,<sup>1</sup> or Somewhere Else. Violent Incidents in Utah, 1996.**

	Percentage Distribution of Violent Incidents		
	Overall	In House, in Yard, or on Property <sup>2</sup>	Somewhere Else <sup>2</sup>
Percentage of All Violent Incidents by Whether the Incident Occurred at the Victims Home		47% ± 15%	53% ± 15%
<u>Was the Perpetrator Known to the Victim?</u>			
Perpetrator Was a Household Member	47% ± 15%	78% ± 16%	*** ± ***
Perpetrator From Outside Household but Known to Victim	41% ± 15%	22% ± 16%	57% ± 22%
Victim Did Not Know Perpetrator	13% ± 9%	0% ± *	24% ± 17%
	100%	100%	100%
<u>Age of Perpetrator</u>			
Child (12 or Under)	32% ± 14%	37% ± 19%	27% ± 21%
Adolescent (Age 13-17)	19% ± 13%	16% ± 17%	21% ± 19%
Adult (18 or Over)	49% ± 15%	47% ± 19%	51% ± 23%
	100%	100%	100%
<u>Age of Victim</u>			
Child or Adolescent (17 or Under)	57% ± 18%	64% ± 18%	51% ± 23%
Adult (18 or Over)	43% ± 18%	36% ± 18%	49% ± 23%
	100%	100%	100%
<u>Sex of Victim</u>			
Male	62% ± 15%	60% ± 18%	64% ± 23%
Female	38% ± 15%	40% ± 18%	36% ± 23%
	100%	100%	100%
<u>Was Victim Injured<sup>3</sup> and Examined by a Doctor?</u>			
Injured and Examined	14% ± 10%	8% ± 9%	20% ± 17%
Injured, Not Examined	32% ± 13%	39% ± 19%	26% ± 17%
Not Injured	54% ± 15%	53% ± 20%	54% ± 22%
	100%	100%	100%
<u>Was Incident Reported to Police or Other Authorities?</u>			
Yes	38% ± 25%	28% ± 18%	47% ± 22%
No	62% ± 25%	72% ± 18%	53% ± 22%
	100%	100%	100%

Note: This table describes violent incidents in Utah. The information about the violent incidents was collected at the incident level, and not at the level of the individual victims of violence. Because an individual may have been victimized multiple times, it is inappropriate to apply the above percentages to people.

<sup>1</sup> In house, in yard, or on property.

<sup>2</sup> Plus or minus 95% confidence interval.

<sup>3</sup> Injury such as "a bruise, broken bone or tooth, a cut or a scrape."

\* 100% and 0% have standard errors but they were not calculated here.

\*\*\* Insufficient sample size for calculation of population estimates.

**Table 9. Selected Characteristics of Violent Incidents by Whether the Victim was Injured,<sup>1</sup> and if Injured, Examined by a Doctor. Violent Incidents in Utah, 1996.**

	Percentage Distribution of Violent Incidents			
	Overall	Injured and Examined by a Doctor <sup>2</sup>	Injured, Not Examined <sup>2</sup>	Not Injured <sup>2</sup>
Percentage of All Violent Incidents by Whether the Victim Was Injured		14% ± 10%	32% ± 13%	54% ± 15%
<u>Was the Perpetrator Known to the Victim?</u>				
Perpetrator Was a Household Member	47% ± 15%	*** ± ***	50% ± 23%	56% ± 22%
Perpetrator From Outside Household but Known to Victim	41% ± 15%	63% ± 35%	44% ± 23%	33% ± 22%
Victim Did Not Know Perpetrator	13% ± 9%	36% ± 35%	*** ± ***	*** ± ***
	100%	100%	100%	100%
<u>Age of Perpetrator</u>				
Child (Age 12 or Under)	32% ± 14%	*** ± ***	17% ± 17%	40% ± 21%
Adolescent (Age 13-17)	19% ± 13%	*** ± ***	25% ± 24%	19% ± 18%
Adult (18 or Over)	49% ± 15%	61% ± 41%	57% ± 24%	41% ± 22%
	100%	100%	100%	100%
<u>Age of Victim</u>				
Child or Adolescent (17 or Under)	57% ± 18%	43% ± 40%	41% ± 24%	71% ± 22%
Adult (18 or Over)	43% ± 18%	57% ± 40%	59% ± 24%	29% ± 22%
	100%	100%	100%	100%
<u>Sex of Victim</u>				
Male	62% ± 15%	85% ± 18%	46% ± 23%	66% ± 23%
Female	38% ± 15%	*** ± ***	54% ± 23%	34% ± 23%
	100%	85%	100%	100%
<u>Did the Incident Happened at Home?</u>				
In House, in Yard, or on Property	47% ± 15%	*** ± ***	57% ± 23%	47% ± 22%
Somewhere Else	53% ± 15%	74% ± 30%	43% ± 23%	53% ± 22%
	100%	74%	100%	100%
<u>Was Incident Reported to Police or Other Authorities?</u>				
Yes	38% ± 25%	66% ± 42%	24% ± 17%	40% ± 22%
No	62% ± 25%	*** ± ***	76% ± 17%	60% ± 22%
	100%	100%	100%	100%

Note: This table describes violent incidents in Utah. The information about the violent incidents was collected at the incident level, and not at the level of the individual victims of violence. Because an individual may have been victimized multiple times, it is inappropriate to apply the above percentages to people.

<sup>1</sup> Injury such as "a bruise, broken bone or tooth, a cut or a scrape."

<sup>2</sup> Plus or minus 95% confidence interval.

\*\*\* Insufficient sample size for calculation of population estimates.

**Table 10. Selected Characteristics of Violent Incidents by Whether the Incident was Reported to Police or Other Authorities. Violent Incidents in Utah, 1996.**

	Percentage Distribution of Violent Incidents		
	Overall	Reported to Police or Other Authorities <sup>1</sup>	Not Reported <sup>1</sup>
Percentage of All Violent Incidents by Whether the Incident Was Reported		38% ± 25%	62% ± 25%
<u>Was the Perpetrator Known to the Victim?</u>			
Perpetrator Was a Household Member	47% ± 15%	24% ± 19%	61% ± 20%
Perpetrator From Outside Household but Known to Victim	41% ± 15%	49% ± 23%	36% ± 20%
Victim Did Not Know Perpetrator	13% ± 9%	27% ± 20%	*** ± ***
	100%	100%	100%
<u>Age of Perpetrator</u>			
Child (Age 12 or Under)	32% ± 14%	22% ± 21%	38% ± 19%
Adolescent (Age 13-17)	19% ± 13%	19% ± 18%	19% ± 17%
Adult (18 or Over)	49% ± 15%	60% ± 23%	43% ± 20%
	100%	100%	100%
<u>Age of Victim</u>			
Child or Adolescent (17 or Under)	57% ± 15%	49% ± 23%	62% ± 20%
Adult (18 or Over)	43% ± 15%	51% ± 23%	38% ± 20%
	100%	100%	100%
<u>Sex of Victim</u>			
Male	62% ± 15%	70% ± 21%	57% ± 20%
Female	38% ± 15%	30% ± 21%	43% ± 20%
	100%	100%	100%
<u>Did the Incident Happened at Home?</u>			
In House, in Yard, or on Property	47% ± 15%	35% ± 21%	55% ± 20%
Somewhere Else	53% ± 15%	65% ± 21%	45% ± 20%
	100%	100%	100%
<u>Was Victim Injured<sup>2</sup> and Examined by a Doctor?</u>			
Injured and Examined	14% ± 10%	24% ± 18%	*** ± ***
Injured, Not Examined	32% ± 13%	20% ± 15%	40% ± 19%
Not Injured	54% ± 15%	56% ± 22%	53% ± 20%
	100%	100%	100%

Note: This table describes violent incidents in Utah. The information about the violent incidents was collected at the incident level, and not at the level of the individual victims of violence. Because an individual may have been victimized multiple times, it is inappropriate to apply the above percentages to people.

<sup>1</sup> Plus or minus 95% confidence interval.

<sup>2</sup> Injury such as "a bruise, broken bone or tooth, a cut or a scrape."

\*\*\* Insufficient sample size for calculation of population estimates.

# **TECHNICAL NOTES**



# *General Technical Background to the 1996 Health Status Survey*

## Introduction

The purpose of this section is to provide the reader with a general methodological overview of the project. Persons interested in obtaining additional or more detailed information may contact:

Bureau of Surveillance and Analysis  
Office of Public Health Data  
Utah Department of Health  
PO Box 142101  
Salt Lake City, UT 84114-2101  
Phone: (801) 538-6108  
E-mail: phdata@doh.state.ut.us

## Sample Design

The 1996 Utah Health Status Survey represents the third such survey; previous surveys were conducted in 1986 and 1991. The statistical estimates in this report are based on *1996 Utah Health Status Survey* data.

The sample was a **complex survey sample** designed to be representative of all Utahns. It is best described as a weighted probability sample of approximately 6,300 households disproportionately stratified by twelve local health districts that cover the entire state. Five hundred household interviews were conducted in each health district, except Salt Lake City/County Health District, in which eight hundred household interviews were conducted in order to increase the precision of statewide estimates.

A **single stage, non-clustered, equal probability of selection telephone calling design** was used to generate telephone numbers, more specifically referred to as the *Casady-Lepkowski* (1993) calling design. This method begins by building a *base sampling frame* consisting of all possible telephone numbers from all working prefixes in Utah. Telephone numbers are arranged sequentially into groups of 100 by selecting all telephone numbers within an area code and prefix, plus the first and second digits of the suffix (e.g., 801-538-10XX represents a group that includes all 100 phone numbers between 801-538-1000 and 801-538-1099). Each group of 100 telephone numbers is classified as either high density (at least one residential listing) or low density (no listed residential phone numbers in the group). All low density groups are removed, and high density groups are retained. Telephone numbers are randomly selected from the high-density list. This sampling design ensures that both listed and unlisted phone numbers are included in the sample.

The survey interview was conducted with **one randomly-selected adult** (age 18 or older) in each household. To select this person, Gallup interviewers collected household membership information from the household contact person (the person who answered the telephone). One household member was then selected at random from the list of all household members age 18 or over. Survey questions were then asked about either, 1) all household members, 2) the survey respondent only, 3) a randomly selected adult or child household member (selected using the same method as was used to select the respondent), or 4) the household as a whole. Thus, the survey sample varies, depending on the within-household reference sample that was used for each set of survey questions. Each within-household reference sample has known probabilities of selection and can be generalized to the Utah population.

Survey Data Collection

The Utah Department of Health contracted with The Gallup Organization to collect the survey data. Gallup incorporated the telephone survey instrument into a **computer-assisted random digit dialing software program**, called SURVENT. Interviews were conducted by trained interviewers in a supervised environment across six sites. Interviews were conducted in Spanish when appropriate.

**Computer-assisted telephone interviewing** was chosen as the method of data collection for several reasons. First, it yields higher response rates, thus resulting in a more representative sample and reducing the amount of bias inherent in mail survey response rates. Second, it helps reduce non-sampling error by standardizing the data collection process. Data-entry errors are reduced because interviewers are not allowed to enter non-valid codes. It was also efficient because it allowed interviewers to enter responses directly into the database.

**The survey questionnaire** was divided into *core* and *supplemental modules*. Core questions were asked of all households in the sample. Table 1 describes the types of “core” questions that were asked, and about whom they were asked. Notice that *not all questions were asked with regard to everyone in the household*.

**Table 1.**  
***CORE MODULE QUESTIONS***

<b><u>Question Topic</u></b>	<b><u>Within-Household Reference Sample</u></b>
Demographic characteristics	All household members
Presence of chronic medical condition	All household members
Health insurance status	All household members
Injury incidence/safety issues	All household members
Lifestyle (smoking, drinking, exercise)	All household members
Subjective mental/physical health (SF12)	Respondent only (randomly-selected adult)
Health screening exam usage	Respondent only (randomly-selected adult)
Access to care/primary provider	Randomly-selected household member of any age
Household-level demographic characteristics	The household as a whole

In addition to the core survey questions (above), one of six different *supplemental modules* was administered to primarily non-overlapping randomly-assigned subsets of (approximately 1,000) households. Table 2 shows the types of questions asked in the supplemental module questions, and about whom they were asked.

**Table 2.**  
***SUPPLEMENTAL MODULE QUESTIONS***

<u>Type of Question</u>	<u>Within-Household Reference Sample</u>
Limitations of activities	All household members
Migration	Respondent only (randomly-selected adult)
Health Plan Consumer Satisfaction	Respondent only (randomly-selected adult)
Fertility	Respondent or spouse only
Health Care Utilization	Randomly-selected household member of any age
Interpersonal violence	The household as a whole

\*Note: All supplemental module questions were asked only of a subset of households.

While both core and supplemental modules yielded sufficient sample sizes to construct state-level estimates for the Utah population, the information collected from supplemental modules was not intended for use in district-level analyses.

### Cooperation rate

The interview process took place over a three month period (from June to August, 1996), and resulted in a cooperation rate of 66.3%. If necessary, up to nine telephone attempts were made to contact a selected household. After a randomly-selected survey respondent was identified, up to nine attempts were made to conduct the interview with that person.

### Weighting and Estimation Methods

**Post-survey weighting adjustments** were made so that the Health Status Survey findings could be more accurately generalized to Utah's population. Two types of post-survey weighting adjustments were made, one that adjusted for random sampling variation, and one that adjusted for disproportionate sampling (such as the over-sampling of smaller local health districts across the state). Although the two types of adjustment are distinct conceptually, they were accomplished in a single step.

The post-survey weighting adjustments weighted the sample to be proportionately consistent with the age, sex, geographic, and Hispanic status distribution of the 1996 Utah population. Utah population estimates by sex, single year of age, and county of residence were provided by the Utah Governor's Office of Planning and Budget (GOPB) (the estimates used were those compiled in 1994). Estimates of Utah's Hispanic population for 1996 were derived by calculating the average annual rate of increase of Hispanic persons for each health district using data from 1990 to 1994 Bureau of the Census reports, and then projecting those increases to 1996 GOPB local health district population counts. Total state estimates for Hispanic persons were calculated by summing across local health districts.

The post-survey weighting variables adjusted for the following factors:

1. The number of **phones** in the household.
2. The total **number of persons in the household** to which the data will be generalized (1 for questions that were asked about every household member, the number of adults in the household for questions that were asked only of the respondent, the number of persons in the household for questions that were asked of a randomly-selected household member).
3. The proportion of **Hispanic persons** in each local health district.
4. The **age and sex** distribution of each local health district.
5. The probabilities of selection for each **local health district**.

**Population count estimates.** Once a percentage was calculated for a variable of interest (e.g., the percentage uninsured) using appropriately weighted survey data, a population count (N) to which the percentage applied was estimated. In some cases analyses referenced certain age or sex groups, Hispanic persons or combinations of Utah counties. These total population group counts were readily available from the sources described earlier. However, for other groups where population counts were largely unavailable (e.g., analyses that examined the distribution of adult males by marital status), the population counts were estimated. This was achieved by multiplying the appropriate 1996 population total for that group (from 1996 GOPB estimates) by a proportion obtained from a frequency distribution or cross tabulation analysis of survey data. For instance, to calculate a population count for adult males who were married, the population of adult males from GOPB was multiplied by percentage of married adult males in the 1996 Utah Health Status Survey sample. Thus, any population count estimates not derived directly from existing age, sex, Hispanic status or county population estimates were derived from 1996 Health Status Survey data, and must be considered estimates.

**Missing Values.** Another consideration that affected the presentation of the population estimates in table format was the inclusion or exclusion of missing values (“don’t know” and “refused to answer”). Population percentage estimates were calculated after removing the “don’t know” and “refused to answer” responses from the denominator. This, in effect, assumed that persons who gave these answers were distributed identically on the variable of interest to those who gave a valid answer to that variable. For instance, that among those who did not know whether they were insured, we assumed that 90.47% of them were insured and 9.53% were not insured -- percentages identical to those found among the sample members who answered the question with a valid response.

Removing the missing cases from an analysis is rather simple and straightforward for analyses of a single variable. However, when one variable is cross-tabulated by another variable, all missing cases from both variables must be removed from the analysis. Removing the missing cases in itself is not a problem. However, a problem is encountered when a population estimate for a given variable, such as the percentage of all Utahns that have health insurance, differs slightly from an analysis of “all Utahns” versus an analysis of “all Utahns by age group.” This is because the missing cases on the age variable have been removed from one analysis and not from another. Since the percentage of all Utahns that have health insurance was calculated on slightly different samples, the resulting percentage estimates are slightly different. This problem was resolved by reporting the best population estimate available for any given population subgroup. For instance, in the table of insurance rates for all Utahns by age, the population estimate from an analysis that includes Utahns of all ages, regardless of whether they reported missing values on the age variable has been substituted for the original total row in that table. The only drawback to this strategy is that the population count figures for Utahns with and without health insurance in tables like the “Utahns by Age Group” table do

not sum to the same number derived from the analysis of all Utahns regardless of whether they had missing values on the age variable. As a result, the tables appear as though they do not “add up.”

### Limitations and Other Special Considerations

Estimates developed from the sample may differ from the results of a complete census of all households in Utah due to two types of error, sampling and non-sampling error. Each type of error is present in estimates based on a survey sample. Good survey design and data collection techniques serve to minimize both sources of error.

**Sampling error** refers to random variation that occurs because only a subset of the entire population is sampled and used to estimate the finding in the entire population. It is often mis-termed “margin of error” in popular use. Sampling error is expressed as a *confidence interval*. The 95% confidence interval (calculated as 1.96 times the standard error of a statistic) indicates the range of values within which the statistic would fall 95% of the time if the researcher were to calculate the statistic (e.g., a percentage) from an infinite number of samples of size  $n$  drawn from the same base population. It is typically expressed as the “plus or minus” term, as in the following example:

“The percentage of those polled who said they would vote for Bill Clinton was 52%, plus or minus 2%.”

Because local health districts were disproportionately stratified and then weighted to reflect the Utah population, the sample was considered a complex survey sample design. Estimating the sampling error for a complex survey design requires special statistical techniques, derived from the standard error for each estimate. SUDAAN software (Research Triangle Institute) was chosen to estimate the standard errors of the survey estimates because it employs a statistical routine (Taylor-series expansion) that accounts for the complex survey design.

Figures in this report include bars showing this estimated confidence interval around the parameter estimate. In cases where the confidence interval was greater in magnitude than the estimate, the estimate was not given. Estimates were not computed where the sample denominators were less than  $n=50$ . Readers should note that we have always presented the confidence interval as though it were symmetric, that is, of equal value both above and below (plus and minus) the estimate. It is often the case, however, that a confidence interval will be nonsymmetric. This occurs when the distribution is positively or negatively skewed, such as when a percentage is close to 0% or 100%. However, because the software program we use provides only symmetric confidence intervals, we are unable to provide the asymmetric estimates.

**Non-sampling error** also exists in survey estimates. Sources of non-sampling error include idiosyncratic interpretation of survey questions by respondents, variations in interviewer technique, household non-response to questions, coding errors, and so forth. No specific efforts were made to quantify the magnitude of non-sampling error.

**Comparability** with other surveys is an issue with all surveys. Differences in survey design, survey questions, estimation procedures, the socio-demographic and economic context, and changes in the structure and financing of the health care delivery system may all affect comparison between the 1996 Utah Health Status Survey and other surveys, including those conducted by the U.S. Bureau of the Census, the Behavioral Risk Factor Surveillance System surveys, and previous Utah Department of Health, Health Status Surveys.

**Telephone surveys** exclude certain population segments from the sampling frame, including persons in group living quarters (e.g., military barracks, nursing homes) and households without telephones. At the time of the 1990 Decennial Census, only four percent of Utah households were without telephone service. Typically, telephone surveys are biased because telephone households under-represent lower income and certain minority populations. In addition, studies have shown that non-telephone households tend to have lower rates of health care utilization (especially dental care), poorer health habits and health status, and lower rates of health insurance coverage (Thornberry and Massey, 1988).

Despite these overall disparities between telephone and non-telephone households, new survey research (Keeter, 1995) suggests that a similarity exists between data from non-telephone households and telephone households that experienced an interruption in service over the past 12 months. This similarity exists because many, if not most, households currently without telephones did have service in the recent past, and will have service again in the future. Therefore, certain households with telephones (those that had a recent interruption in service) are representative of “nonphone” households, allowing health status survey estimates that have been corrected for telephone noncoverage bias to be produced where indicated.

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### *For Further Reading on Interpersonal Violence:*

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