

SOS FIRES: Youth Intervention Programs

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December 1, 1997 (updated March 12, 2010)

Dear Reader:

This study is intended to shed valuable light on the problem of child firesetting. The experience and knowledge that has been gained by SOS FIRES: Youth Intervention Programs is valuable, but only if shared. By utilizing this information as a tool for understanding the specific behaviors in which children engage when misusing fire we hope to learn more about the thinking errors children make as they encounter fire in their environment.

It would be inappropriate for this report to be released without thanking the individuals who have made it possible. Thanks to the generous donation of their time and professional opinions, the following people have greatly contributed to this project:

Dave Centers

Jim Crawford

Shelli Greenslade

Caryl Henderson

Ken Jones

*The Staff of the Portland Fire Bureau's Public Education Office
and*

The Board and Advisory Committee for SOS FIRES

Thank you for taking the time to broaden your knowledge about children and fire. Too often, children are the innocent victims of our society's apathy toward fire. Knowledge is our most effective tool to overcome this apathy. We hope this report has provided a higher level of knowledge for the community of dedicated professionals addressing child firesetting.

Sincerely,

Don Porth, President

and the Staff of SOS FIRES: Youth Intervention Programs

The Project

The intent of this project is not to address the raw numbers that make up the population of firesetters in this report. It is, rather, to make trend comparisons between the different age groups and levels of concern.

Child behavior is very much influenced by the environment in which children live and play. However, a child's understanding of the elements in their environment is usually limited by their ability to comprehend, which can usually be gauged by age.

Drawing on the developmental age categorization used in the education system, (which, admittedly is not perfect) this report has clustered children into four age groups: Preschool, age 1-5; Elementary, age 6-11; Middle, age 12-14; and High, age 15-17. If child behavior can be better understood based on their ability to learn and comprehend, then educational intervention can be better presented to meet the needs of children.

“Child behavior is very much influenced by the environment in which children live and play.”

The graphs and discussion in this report are separated by the level of concern: *Little Concern*; *Definite Concern*; and *Extreme Concern*. These are labels taken from the juvenile firesetter assessment tool developed by the U.S. Fire Administration. All of the children in this report were assessed under these criteria.

Little Concern is a term that means a child's firesetting will most likely be resolved by the presentation of educational intervention. Their firesetting behavior is most likely a result of curiosity or lack of information about fire and its consequences.

Definite Concern is a term for reactionary firesetting. In other words, the child is exhibiting firesetting behavior as a reaction to some type of stress, crisis, or dysfunction occurring within their life. Educational intervention, while important, will not likely resolve the firesetting behavior. Most likely, some type of behavior modification is necessary. This may require mental health intervention, medical treatment, parental intervention or other such assistance.

Extreme Concern is a term that is an extension of *Definite Concern*. This category represents children who have an immediate need for some type of intervention beyond education. When a child presents a behavior profile that, coupled with the firesetting behavior, makes it appear likely that the firesetting behavior will continue before the family can access qualified assistance, they are deemed *Extreme Concern* Firesetters. Urgency is the key criteria for this category.

The Subjects

The subjects of this study were taken from the database of the Portland Fire Bureau's Juvenile Firesetter Program. Cases were drawn from fiscal year's 1992-93, 1993-94, 1994-95, and 1995-96. During this time, 551 children were interviewed, assessed, and categorized by the program. **Figure 1** shows the disposition of these referrals.

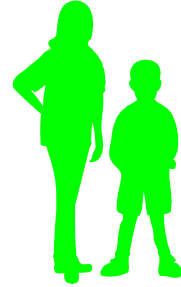
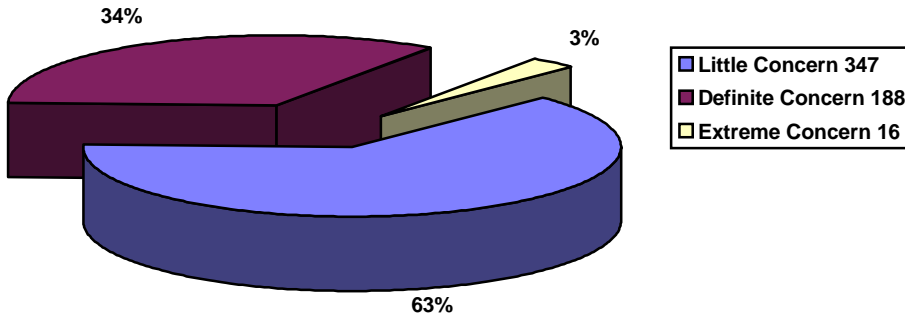


Figure 1 Final Disposition of All Children Seen



The gender distribution is shown in **Figure 2**. The sample included 87% boys and 13% girls. Of interesting note is the gender distribution between age groups. The percentage of boys and girls within *each* group is shown below:

Preschool	1-5	92.3% boys - 7.7% girls
Elementary	6-11	89.0% boys - 11.0% girls
Middle	12-14	74.4% boys - 25.6% girls
High	15-17	68.4% boys - 31.6% girls *

* Three of the subjects in this age group were actually 18 years or over. Due to their developmental level, which was below 18 years, they were entered into the program for education and assessment and are therefore included in this report.

Figure 2 Distribution by Age Group

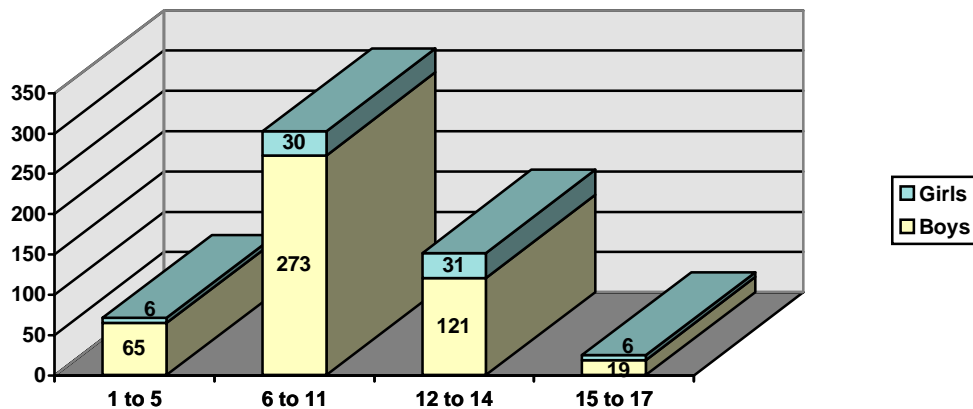
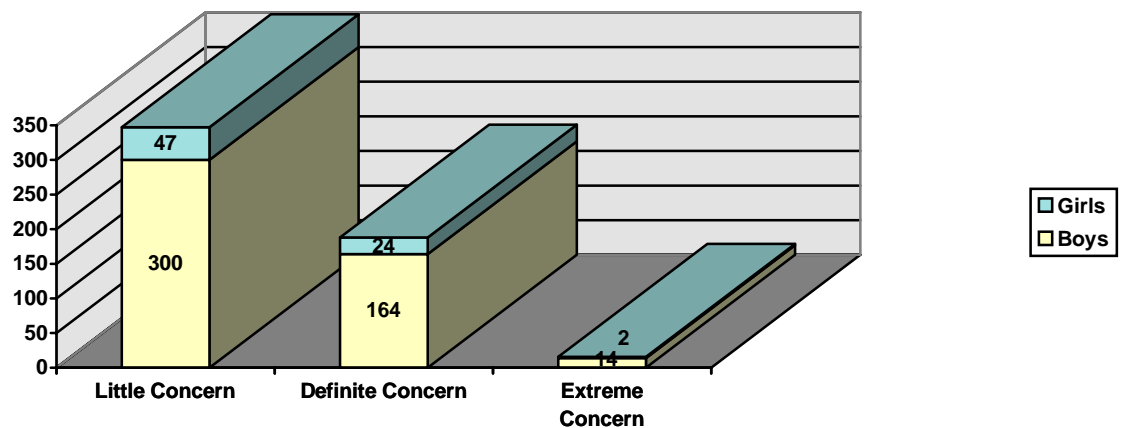


Figure 3 illustrates the distribution by final disposition. Of the 551 children seen, 63% were Little Concern, 34.1% were Definite Concern, and 2.9% were Extreme Concern. Perhaps of greater interest is the gender distribution within these levels of concern and how it contrasts with the gender distribution within age groups.

Little Concern	84.3% boys - 15.7% girls
Definite Concern	85.4% boys - 14.6% girls
Extreme Concern	85.7% boys - 14.3% girls

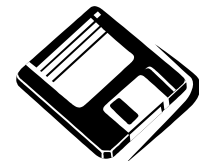
This would seem to indicate that the age of a child presents strong indications of the gender probability, with girls becoming more likely to be involved as they get older. While the behavior is predominately represented by boys, girls are consistently represented within the different levels of concern.

Figure 3 Gender Distribution by Level Of Concern



The Data Presented

The presentation of the data is a combination of narrative and graph. Each graph is numbered and configured in a twelve-graph series. Nine different Behavior Points within the firesetting behavior are included in this report. They are:



Behavior Points

- *Day of the week of the incident*
- *Time of day of the incident*
- *Ignition source*
- *First item ignited*
- *Location of incident*
- *Did the child have access to matches/lighters*
- *Were associates involved in the incident*
- *Were there smokers living in the home*
- *Was this a repeat referral to the program*

The numbered graphs to support the written discussion will follow the text of this paper. Each graph will contain the following information:

- *figure number*
- *level of concern*
- *total number of children within that particular sample*
- *the age group*
- *the Behavior Point.*

The first three graphs in each Behavior Point will be the Preschool 1-5 age group. The three graphs within each age group will be titled Little Concern, Definite Concern, and Extreme Concern. The next three graphs will be the Elementary 6-11 age group, also with the different levels of concern presented. The third group will be the Middle 12-14 age group followed by the High 15-17 age group. Each Behavior Point listed above will be presented in a similar fashion.

This should offer the reader a description of the significance of each Behavior Point as well as a visual comparison to present any distinguishable differences between the age groups and concern levels within a Behavior Point. Again, the point of this report is not to compare the raw numbers but, rather, the patterns that appear so the different Behavior Points can be compared.

Day of Week

Figures 4-15 in Appendix A present the behavior as it occurred on varying days of the week.



Children within the 1-5 age group are difficult to characterize. While some may experience very structured lives which include day care/preschool environments, others may deal with little structure. Also, they may not be receiving effective fire safety education. Of particular note within this age group is the early week rise. These children may receive additional attention during the weekends and find stress or reduced supervision in the transition days of Sunday, Monday, and even Tuesday.

The 6-11 age group presents a more consistent pattern which is high at the beginning of the week, tapering off until Sunday or Monday. Probably due to a more structured school environment, the pattern is less erratic than the preschool group.

The 12-14 age group again shows indications of the early week transition theory. However, the little concern kids show spikes in the firesetting activity on Tuesday, Wednesday, and Thursday. This age group and concern level is probably most prone to firesetting due to boredom which might be consistent with the mid-week pattern.

The 15-17 age group presents a similar pattern, quite likely for the same reasons, as the prior group.

Interestingly, in all categories, the Friday and Saturday incidents tend to be relatively low across the board. Additional supervision and family togetherness may well be the key to this dynamic.

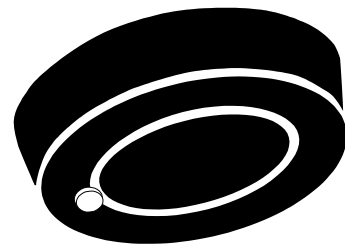
Time of Day

Figures 16-27 present the behavior broken down according to the time of day. The time of day, much like the day of week, may indicate times when supervision is low, thus offering opportunity for children to misuse fire.

The 1-5 age group shows the most activity between 10 am and 7 pm with peaks around the dinner hour. The pattern is most pronounced in the little concern category. The time around the dinner hour is usually a busy one for adults. Consequently, supervision is often low. The definite concern category is more evenly distributed, beginning around 6 am and peaking in early afternoon, what might be characterized as nap time. The little concern group also has spikes during this time.

A similar pattern holds true in the 6-11 age group. The peaks in this group coincide with the approximate time school ends. Again, supervision may be lacking during these times allowing children the opportunity to experiment. Definite concern firesetters may have difficulty coping with their stress during these unsupervised times, thus leading to the firesetting behavior.

The extreme concern category in both the 1-5 and 6-11 age group show virtually all of the activity between 10 am and 4 pm. Interestingly, these children with the highest level of concern choose common daytime hours to express this behavior.

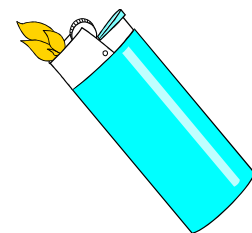


The 12-14 age group peaks most predominantly between 10 am and 1 pm, through the lunch hours. As will be discussed later, this group also tends to choose the school as a place of choice for fire use. Other peaks occur during the early evening, a time for independent action and/or low supervision.

The 15-17 age group is very similar to the 12-14, probably for the same reasons.

Ignition Source

Figures 28-39 illustrate the ignition source used. This offers some surprising comparisons. While availability is a key element, ability and choice are also factors to consider. Across the board, heating appliances and “other” were a minimal consideration.



The 1-5 age group, as might be expected, used lighters over three times more often than matches. Most young children are not capable of successfully manipulating matches, particularly book matches. While the graph does not show it, almost all match activity in this age group is done by five year olds. In 1-4 year olds, match use was extremely rare.

An important point to note is the date that child resistant lighters became required by law. Half of the subjects in this report were collected before that date and half after. Even after the legal requirement (issued July 1, 1994) that disposable lighters contain the child resistant feature, many of the non-child resistant lighters were still in circulation. This point should become more clear as additional information is collected in subsequent years.

The 6-11 age group presents a much greater balance between matches and lighters. Little concern kids favor matches almost two to one and is the only age group and category to prefer matches. For the function of firesetting, lighters would clearly be the most efficient and easiest to conceal. However, from the standpoint of curiosity and experimentation, matches may prove more attractive.

The 12-14 age group as well as the 15-17 age group show a preference for lighters. It is very common for middle and high school students to engage in lighter play. This is often associated with smoking. Lighters are not only convenient to purchase or find but they also provide a variety other game-type functions.

Match use by girls, regardless of age, is rare. Almost all firesetting activity by girls utilizes lighters. Regardless of the age group, the ignition source offers no distinction based on level of concern.

Item Ignited

Figures 40-51 illustrate the item first ignited during the firesetting. The item ignited can often offer clues to the motivation for the firesetting behavior. The key to decipher the letter codes on the graphs is shown below. Across the board, the most common item ignited is paper and trash.

Bedding/furniture and simply flicking lighters or lighting matches are common in the 6-11 age groups. The 1-5 age group has a high number of bedding/clothing fires. As will be seen later in this report, these bedroom items would be consistent with where fires are started by these kids.

The 12-14 and 15-17 age group shows similar patterns to the younger age groups. There is also more use of aerosol sprays and fireworks in these ages. This would be consistent with the lighter games discussed earlier. These kids are often looking for dangerous, experimental, and daring behaviors, often promoted by peer pressure and the feeling of immortality that often accompanies adolescence.

In all age groups, no clear separation seems present between the different levels of concern.



ITEM IGNITED KEY

A	Paper, trash, or other ordinary combustibles	B	Leaves, grass, or needles
C	Sticks, branches or kindling	D	Garbage/dumpster
E	Matches only/Lighter flicking only	F	Child's own toys
G	Other child's toys	H	Person (self or other)
I	Mattress or box spring	J	Bedding or clothing
K	Furniture	L	Rug or carpeting
M	Draperies or curtains	N	Aerosol spray
O	Fireworks	P	Candles, incense, or kerosene lamp
Q	Walls or doors Other	R	

Incident Location

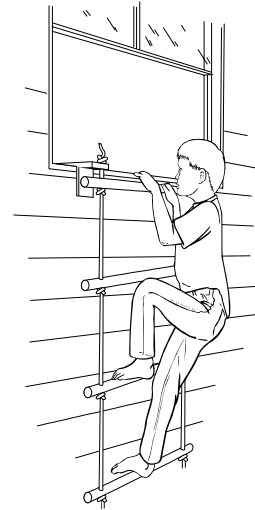
Figures 52-63 show the various locations in which child firesetting occurs. The key to decipher the letter codes is shown below.

The 1-5 and 6-11 age group find the bedroom to be the most common location. The 1-5 year olds seem to favor rooms within the house, probably because of their limited mobility.

The 6-11 age group, while commonly setting fires in the bedroom, begin to transition to the yard. The school also becomes a factor for this age group.

The 12-14 age group show a clear preference for the school. This is particularly common for girls in this age group. This same pattern continues with the 15-17 age group.

In all age groups, the yard remains a common place for firesetting. The school is a location of moderate firesetting for the 6-11 age group but becomes the most common location in the 12-14 and 15-17 age groups.



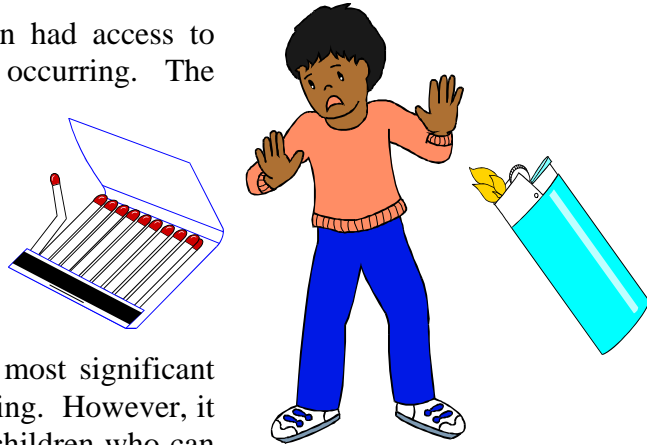
LOCATION OF INCIDENT KEY

A	Bedroom	B	Bathroom
C	Kitchen	D	Living Room
E	Closet (any room)	F	School (anywhere at school)
G	Yard	H	Field (beyond yard)
I	Garage	J	Basement
K	Porch	L	Laundry Room
M	Street/Sidewalk	N	Miscellaneous

Access to Matches/Lighters

Figures 64-75 show whether children had access to matches/lighters prior to the incident occurring. The answer to this is not surprising to anyone who has dealt with this issue. A universal “yes” to all age groups and levels of concern was found.

Access to matches/lighters is one of the primary reasons for firesetting behavior and may provide the single most significant answer to the problem of child firesetting. However, it should be recognized that with older children who can successfully obtain matches and lighters from a variety of sources, it represents a behavioral choice as much as availability.



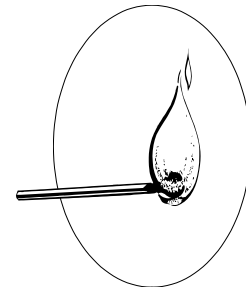
Associates Involved in Incident

Figures 76-87 illustrate the dynamic of another individual being involved in the incident. Peer pressure, particularly in the case of older children, is a powerful force with which children are often not equipped to deal.

The 1-5 age group most often acts alone. This seems consistent with the idea that most children this age are learning a great deal from their environment and the things they find within it.

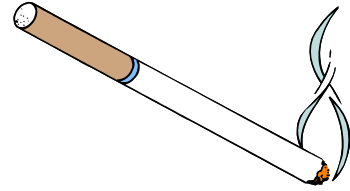
The 6-11 age group reverses this pattern, with the exception of the definite concern firesetters. Children at this age who may be experiencing a crisis may actually revert back to behavioral characteristics of the younger age group. Also of particular note within this age group is that most of the girls act alone. This is in sharp contrast to the two older age classifications.

The 12-14 age group shifts even further into acting with others. This is a time when peer pressure becomes strong influence in a child’s life. Girls shift more to the side of acting with others too. This same pattern continues with the 15-17 age group.



Smokers in the Home

Figures 88-99 show the prevalence of smokers in the home of the child firesetters. While smoking alone is unlikely to cause a child to misuse matches and lighters, access to the materials may. In fact, the graphs for the 1-5 and 6-11 age groups are very similar in both this category and the “Access to matches/lighters” category.



Approximately $\frac{2}{3}$ of the 1-5 and 6-11 age groups report a smoker in the home. Young children are greatly influenced by adult behavior and modeling.

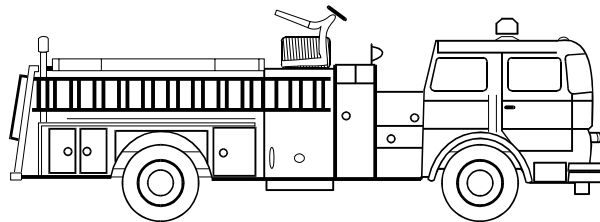
The trend breaks almost even in the 12-14 age group and reverses in the 15-17 age group. Older children may be making their own choices and be less influenced by easy availability. Also, the 12-14 and 15-17 age groups can easily purchase matches/lighters if they so desire.

Interestingly, approximately 60% of this population have adult smokers in the home while in the state of Oregon, the prevalence of smoking among adults is only 26%.

Repeat Referrals to the Program

Figures 100-111 show the children in the sample that had been referred to the program for a second or greater time.

Across the age groups, a very small percentage of Little Concern firesetters are referred again or will be expected to repeat the behavior. The likelihood of a Definite Concern firesetter grows and the Extreme Concern firesetter is as likely to be referred back as not.



Discussion

It is important to realize that no single Behavior Point will provide the solution to child firesetting. Perhaps, an exploration of the many points combined will more effectively lend a useful perspective.

The availability of matches and lighters to children may be the single most significant factor in child firesetting. However, it should be remembered that children have a natural curiosity/fascination with fire that must be tempered with accurate and appropriate information coupled with appropriate parental modeling. It is also incumbent upon parents to create a safe living environment for the child.

THE PRESCHOOL CHILD

Because of their limited knowledge and high desire to explore and learn, these children are particularly susceptible to match/lighter availability. They tend to be less mobile so their fire activity, regardless of the level of concern, tends to be in areas of regular access such as the bedroom and yard. This same group of children have a high level of bedding/clothing fires, consistent with the place of origin. Lighters are the easiest ignition source to operate and, due to size and color, are likely to be seen as attractive to these younger children. Match use is very rare in children ages 1-4. Matches become a significant ignition source beginning at age 5.

The prevalence of an adult smoker in the home of these children occurs at about the same rate as match/lighter accessibility. While it is difficult to examine each family individually, times typical of firesetting are the early afternoon. These are times usually associated with post-preschool, nap time, or times of boredom. These may also be times of low supervision.

Less than 8% of the children in this age group are girls. Whether boys or girls, most children this age act alone in their firesetting.

THE ELEMENTARY CHILD

At this age, the number of girls increases to 11% but they continue to act alone in most cases. Match play, in the Little Concern category, exceeds lighter play for the only time in the study. Children at this age begin to be seen by parents as more independent and capable of making independent decisions (to some extent) than the preschool child. Their firesetting still centers around the home but shifts to a later hour of the day, around the dinner hour. This is typically a busy time for adults and supervision may be low.

While kids should now be receiving fire safety education in school, it may not always be happening. When it is given, it may be focused on fire survival skills such as “Stop, Drop, and Roll” rather than proactive concepts such as “Matches/Lighters are Tools, Not Toys.” While kids are literally “learning sponges” at this age, they must receive the appropriate instruction before they can exhibit the proper behavior.

Access to matches/lighters and the prevalence of adult smokers in the home remain high. This age group continues to be greatly influenced by the adults in their environment. The yard now becomes the most common location for firesetting. This is consistent with the increased mobility and independence of the elementary child.

THE MIDDLE/HIGH CHILD

The Middle and High groups presented very similar profiles so they will be discussed collectively in this section.

Girls continue to grow in numbers, making up over 25% of the sample in this age group (almost 32% are in the 15-17 age group). They also begin to exhibit more firesetting in connection with others. This pattern is also strong with boys. Peer pressure and the need for affiliation becomes a powerful force with these children and likely accounts for this change.

Fires now appear most frequently at school during the times normally associated with lunch. This may be a time for independent activity.

Lighters are by far the ignition source of choice at this age. Items lit tend to be paper, trash, or articles of little or no value. This is not to imply that their fires do not get out of control and lead to criminal charges such as arson or reckless burning. However, the first item lit is not necessarily of significant substance.

These children also have a propensity for daring and exciting activities. An example of this is "Huffing." This is the behavior of inhaling the butane gas within a lighter then blowing it out as an open lighter flame is held up to the exhaled butane. The result is a torch-like effect from the mouth. This can also be replicated by capturing the butane within the hand and igniting it as it is released. There are many other methods for misuse of butane vapors.

While the study does not indicate the smoking status of the children in this age group, this is an age where kids have the ability to purchase smoking materials and access matches/lighters if they choose. Personal choice becomes a factor in their behavior.

The category of arson is intentionally omitted from this study. It is a criminal definition that only applies to a certain age range. The term or criminal definition of arson is, in itself, not necessarily an indicator of motive. Neither does it indicate a solution to the problem at hand.

LITTLE CONCERN FIRESETTING

These children represent the same gender distribution as the entire sample (about 85% boys, 15% girls). The elementary children are the only ones to choose matches over lighters as their primary ignition source. Matches, while less efficient for purposeful firesetting, would probably be more fascinating for the curious child.

Regardless of age, these children rarely repeat the behavior once appropriate educational intervention has been provided.

DEFINITE CONCERN FIRESETTING

The gender breakdown for these kids again remains the same as the previous group. Aside from ordinary trash, clothing/bedding tends to be the next most commonly ignited item.

Recidivism becomes more common at this age, occurring in about 16% of the sample who received appropriate educational intervention. These children also need intervention beyond education and the parents must follow through for success to be recognized.

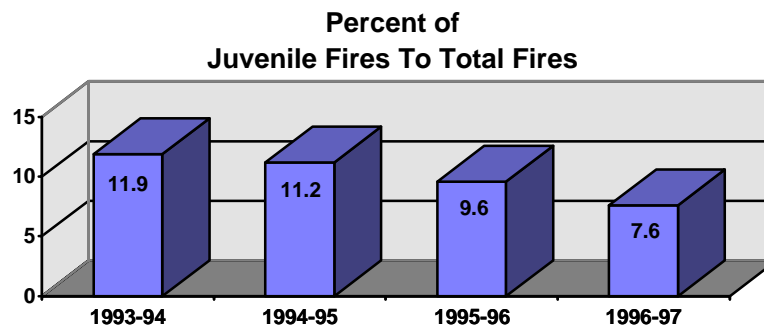
EXTREME CONCERN FIRESETTING

The sample was very small in this group so definitive answers are impossible. However, it can be said that even after appropriate educational intervention, approximately 50% of these children can be expected to repeat the behavior. It should be noted that these children need much more than educational intervention and it is incumbent upon the parents to follow through with recommendations.

An Educational Opportunity

The majority of the children in this study (63%) were deemed “little concern” firesetters. The firesetting behavior of these children occurred for the primary reason of curiosity or lack of information about fire. If this is in fact true, then these same children would probably not engage in the behavior initially had they been provided with appropriate and accurate information. Therefore, much firesetting behavior could be eliminated if aggressive and comprehensive education programs were provided to children.

This point may be illustrated by the Youth Education Program delivered by the Portland Fire Bureau. At the end of fiscal year 1993-94, the City of Portland’s youth fire problem represented 11.9% of all fires occurring with their response area. The following year, a focused campaign to provide a more comprehensive education delivery system was established and implemented. This included the primary components of an Adopt-A-School Program to increase the presence of the firefighters in the schools, curriculum distribution (utilizing the National Fire Protection Association’s Learn-Not-To-Burn Curriculum), and additional educational delivery to schools serving the most at-risk communities for youth firesetting. At the end of fiscal year 1996-97, the youth fire problem had dropped 36% to 7.6% of the total fire problem. Also, during this same time period, not one fire death resulted from a child-set fire. The prior eight years found 16 child-caused fire deaths.



Conclusions

Youth firesetting is a dangerous behavior that cannot be ignored. While it seems mysterious and difficult to combat, there are many clues to lead the interventionist to solutions. This report has endeavored to provide some of those clues. Yet this is but a small sample of the information potential that data collection and evaluation can provide. (contact SOS FIRES for more details on firesetting behavior or data collection)

To approach youth firesetter intervention without understanding the audience is like throwing darts blindfolded. You may hit your target, but it is likely to occur more by chance than design. The same can be said for children misusing fire. Time is far better spent tailoring your approach to the needs of your target audience than by providing information without benefit of evaluating the results.

Education can quell the youth fire problem, but only when properly targeted, designed, and delivered. The behaviors causing the problem must be considered as well as how to best reach children. What motivates their behavior is the surest clue to solving the youth firesetter problem.

APPENDIX A “DAY OF WEEK”

Figure 4 LITTLE CONCERN (35) Age 1-5 Day of Week

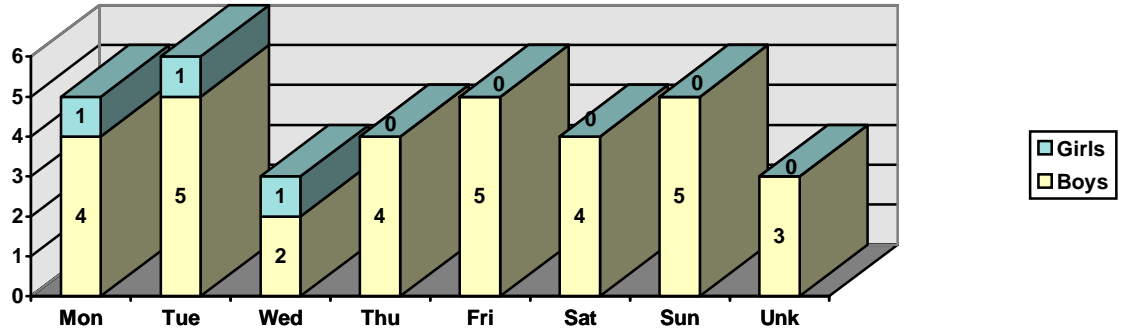


Figure 5 DEFINITE CONCERN (30) Age 1-5 Day of Week

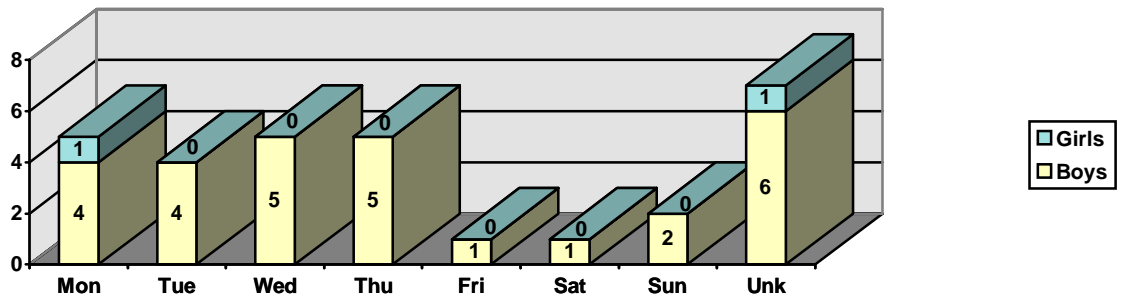


Figure 6 EXTREME CONCERN (6) Age 1-5 Day of Week

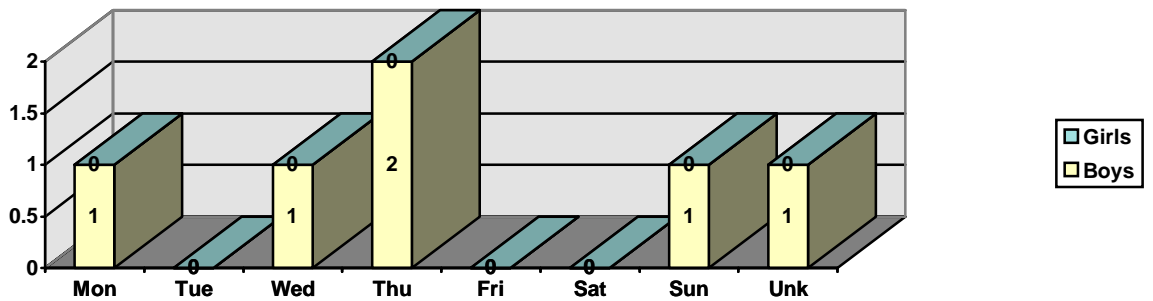


Figure 7 LITTLE CONCERN (191) Age 6-11 Day of Week

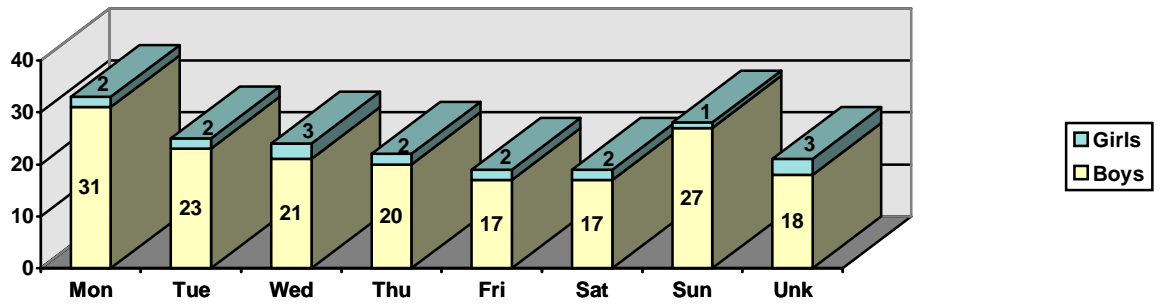


Figure 8 DEFINITE CONCERN (103) Age 6-11 Day of Week

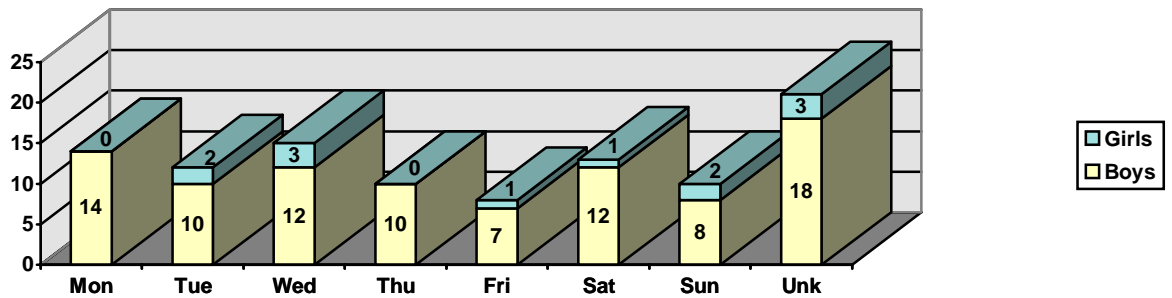


Figure 9 EXTREME CONCERN (9) Age 6-11 Day of Week

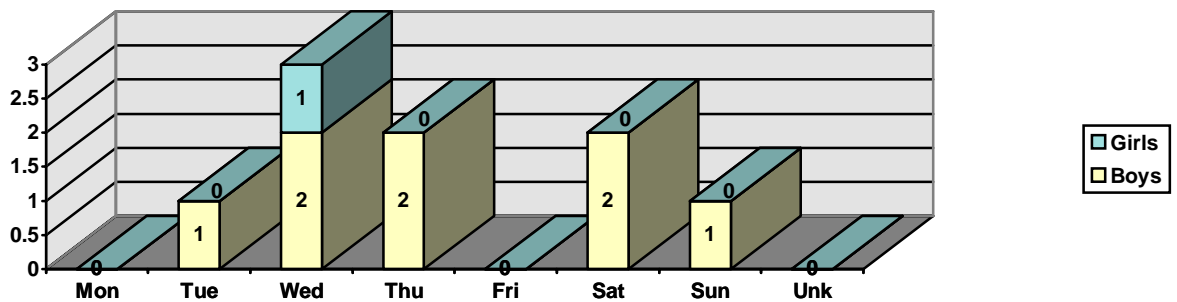


Figure 10 LITTLE CONCERN (106) Age 12-14 Day of Week

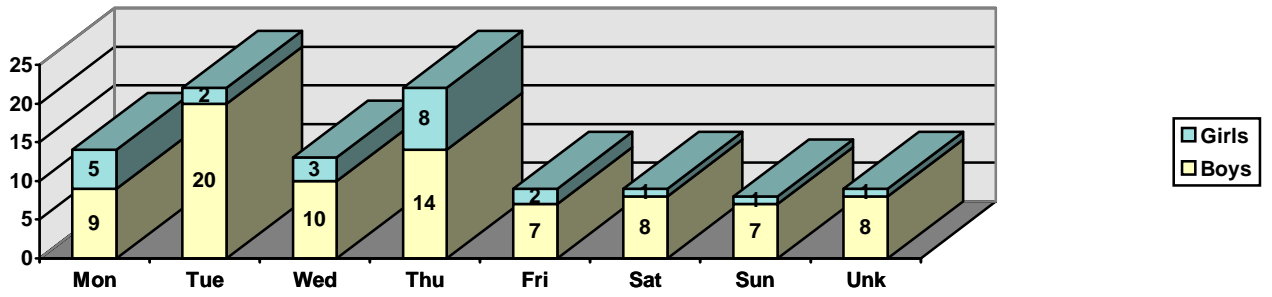


Figure 11 DEFINITE CONCERN (45) Age 12-14 Day of Week

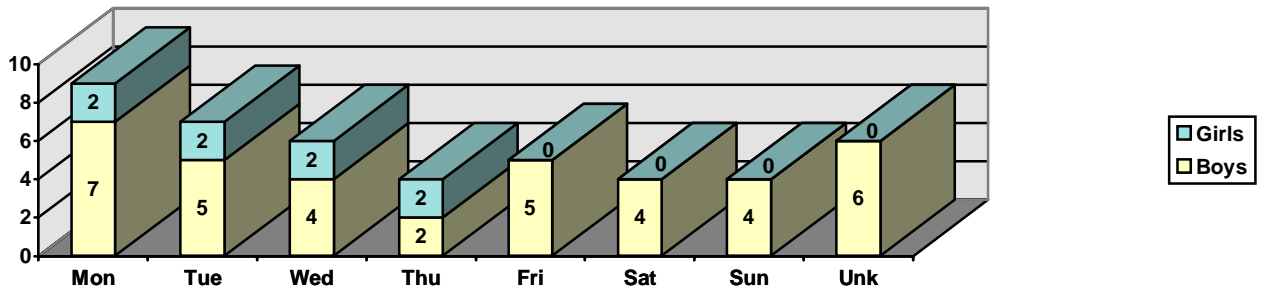


Figure 12 EXTREME CONCERN (1) Age 12-14 Day of Week

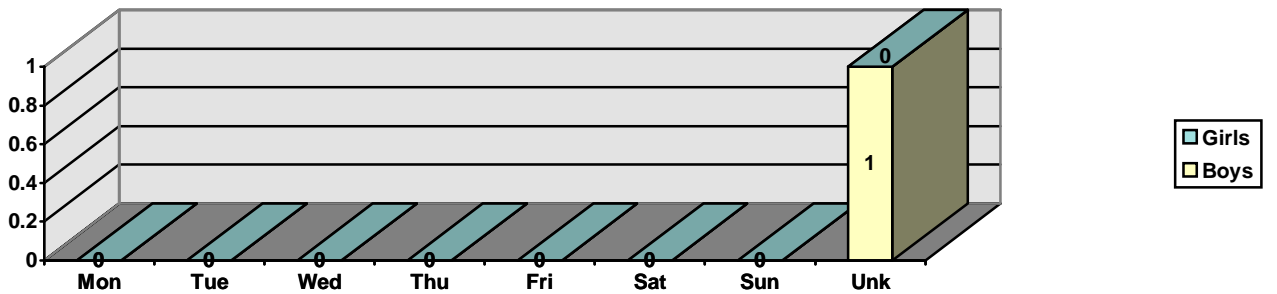


Figure 13 LITTLE CONCERN (15) Age 15-17 Day of Week

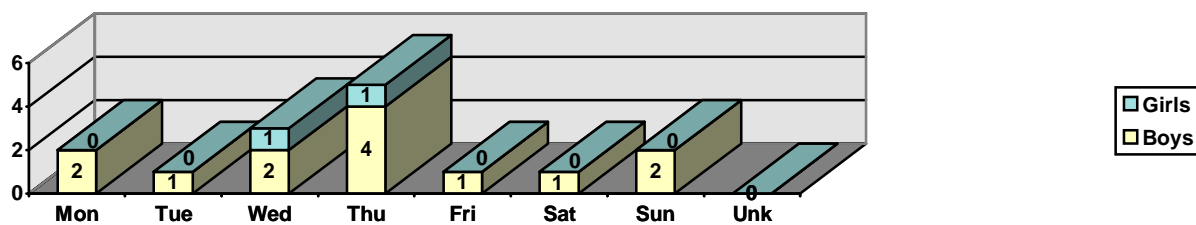


Figure 14 DEFINITE CONCERN (10) Age 15-17 Day of Week

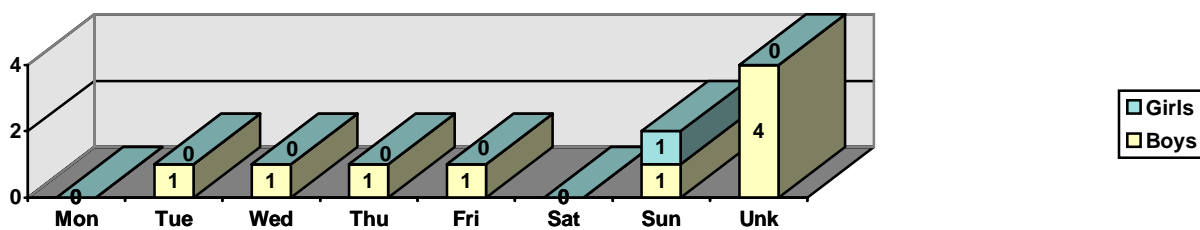
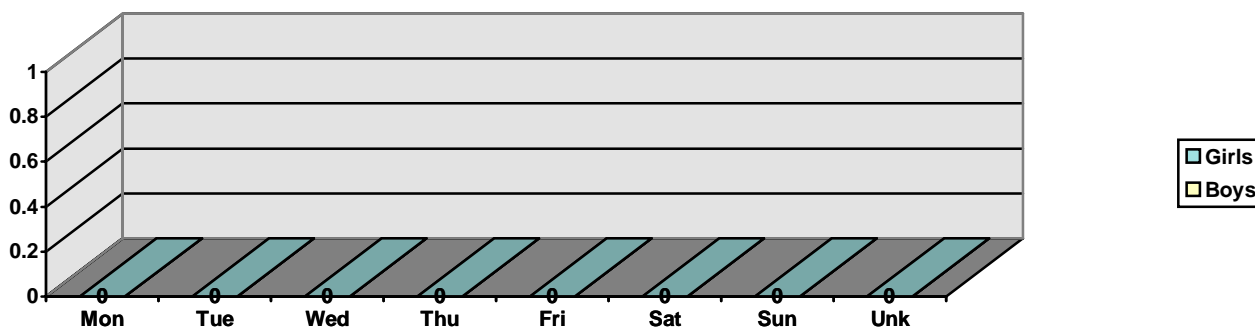


Figure 15 EXTREME CONCERN (0) Age 15-17 Day of Week



APPENDIX B “TIME OF DAY”

Figure 166 LITTLE CONCERN (35) Age 1-5 Time of Day

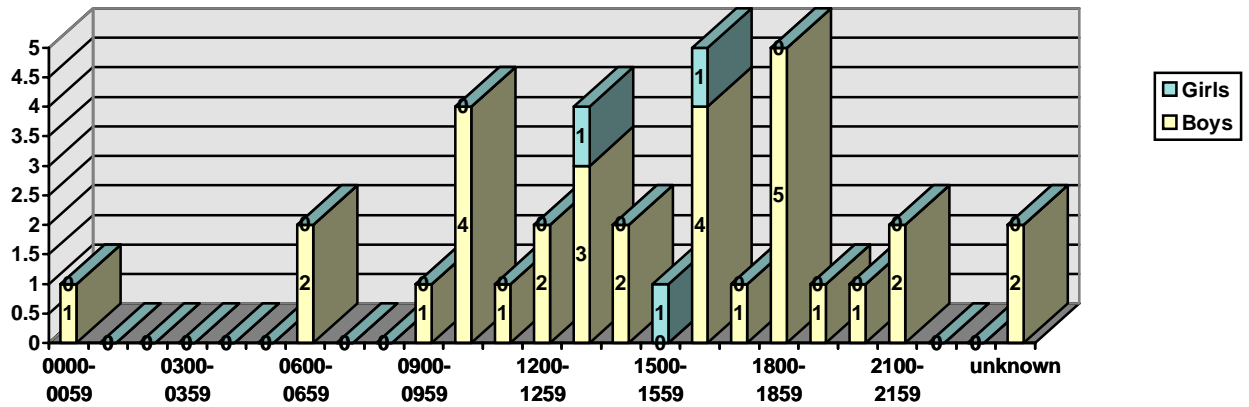


Figure 177 DEFINITE CONCERN (30) Age 1-5 Time of Day

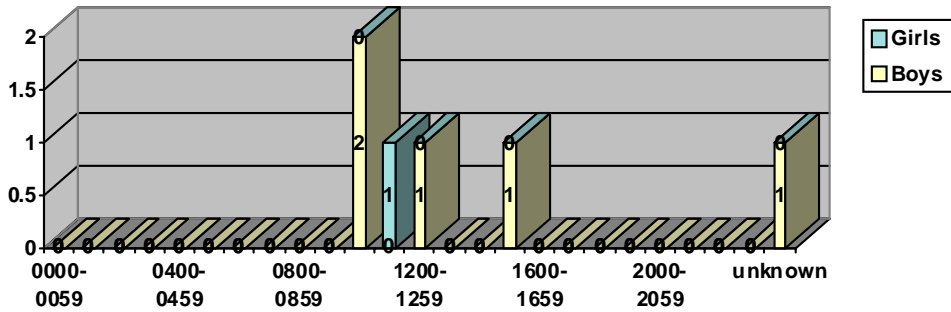


Figure 18 EXTREME CONCERN (6) Age 1-5 Time of Day

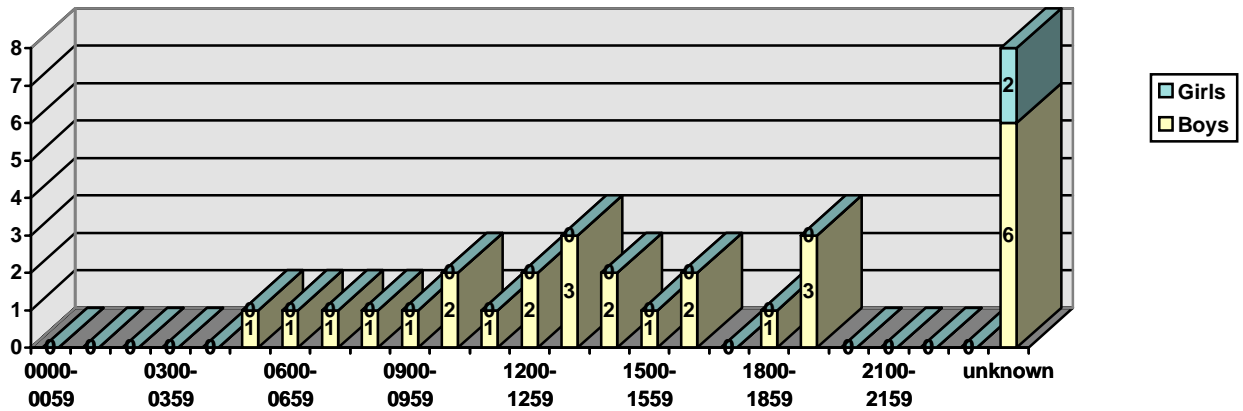


Figure 19 LITTLE CONCERN (191) Age 6-11 Time of Day

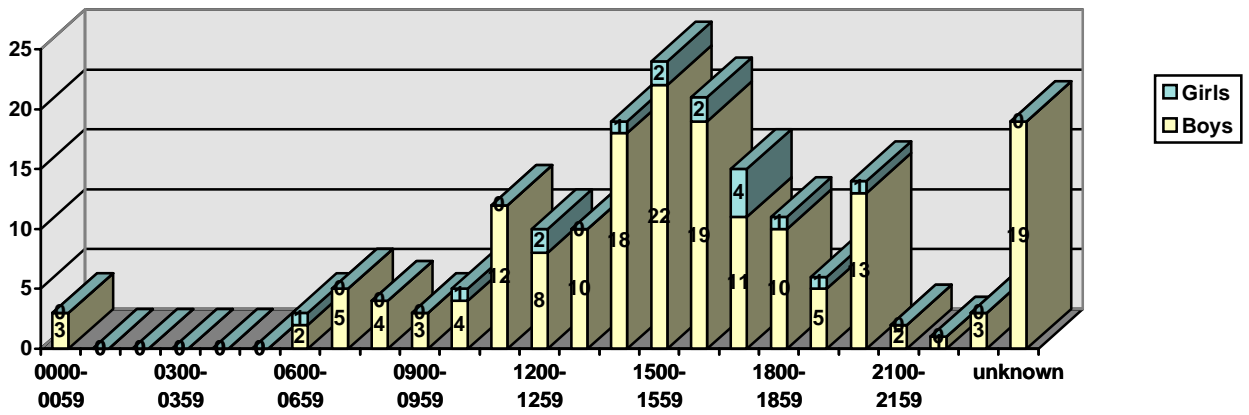


Figure 20 DEFINITE CONCERN (103) Age 6-11 Time of Day

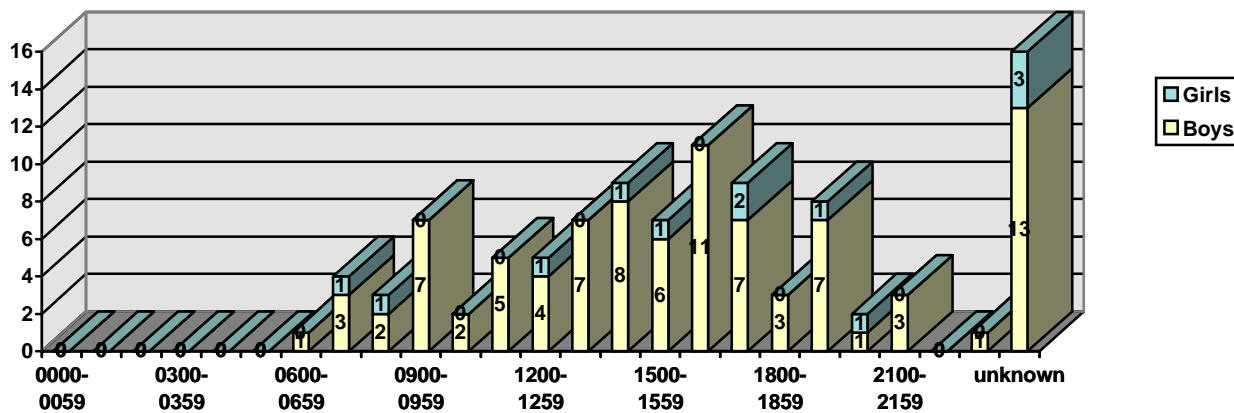


Figure 21 EXTREME CONCERN (9) Age 6-11 Time of Day

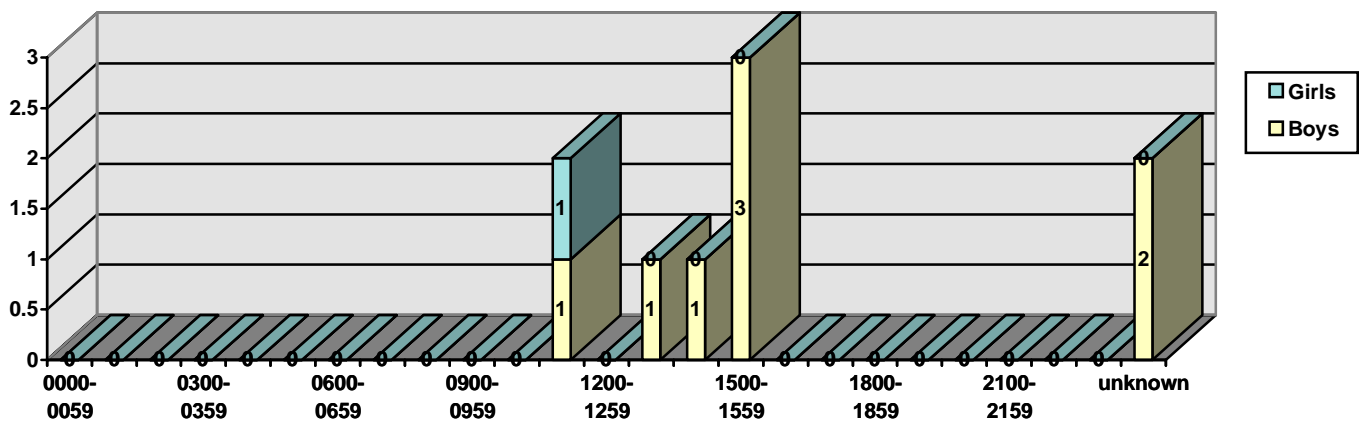


Figure 22 LITTLE CONCERN (106) Age 12-14 Time of Day

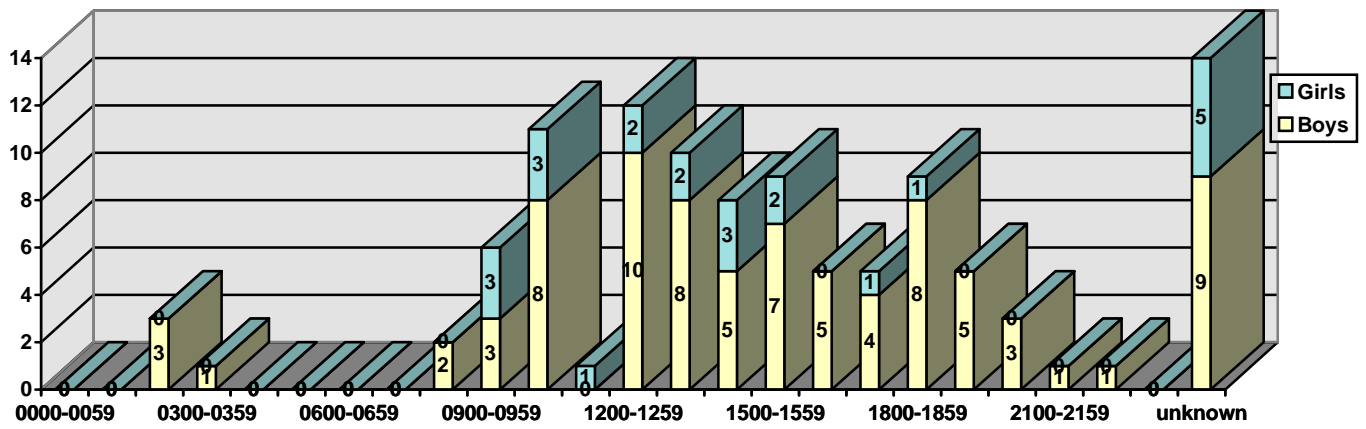


Figure 23 DEFINITE CONCERN (45) Age 12-14 Time of Day

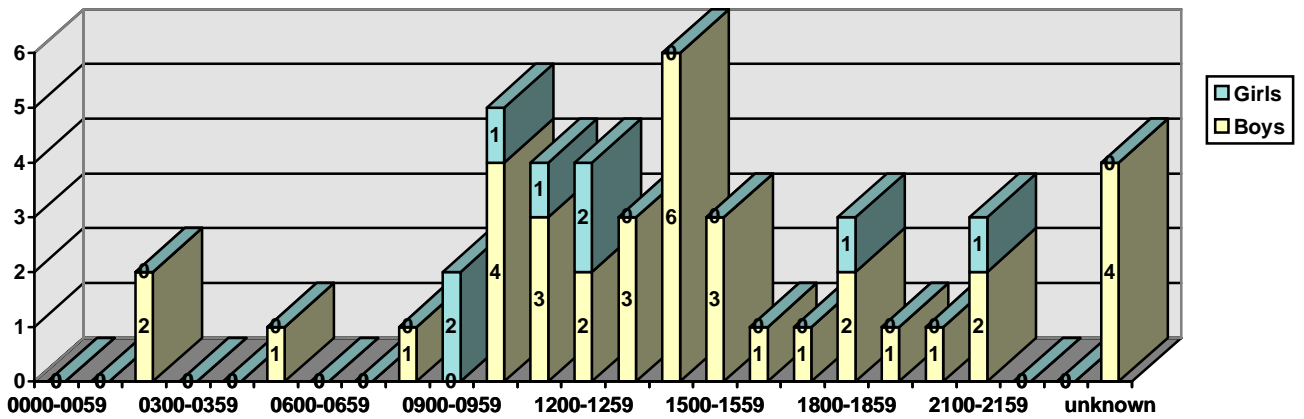
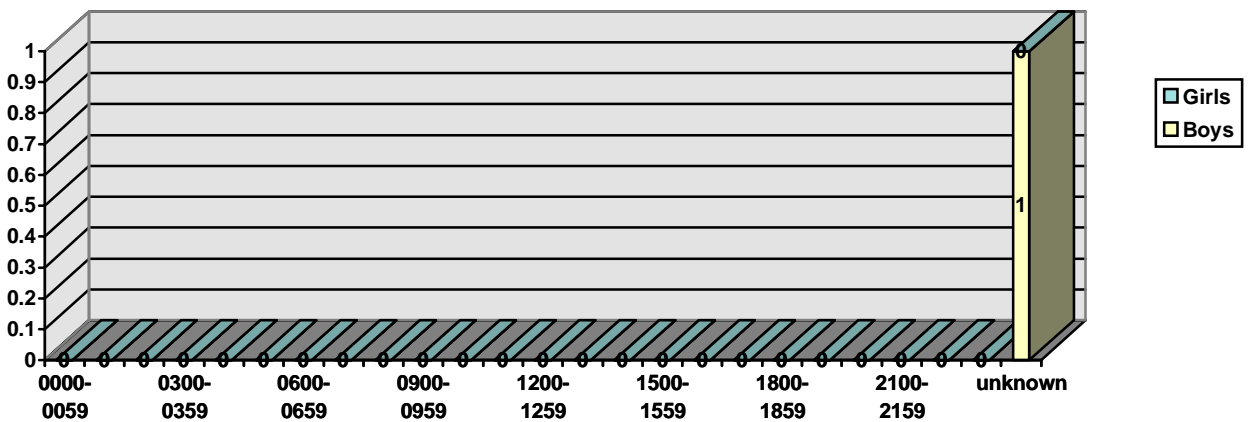


Figure 24 EXTREME CONCERN (1) Age 12-14 Time of Day



APPENDIX C “IGNITION SOURCE”

Figure 28 LITTLE CONCERN (35) Age 1-5 Ignition Source

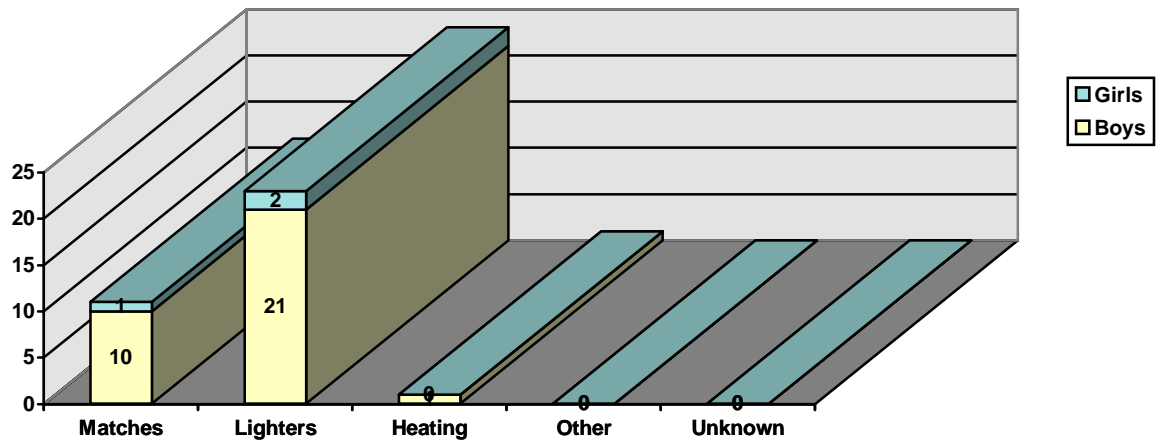


Figure 29 DEFINITE CONCERN (30) Age 1-5 Ignition Source

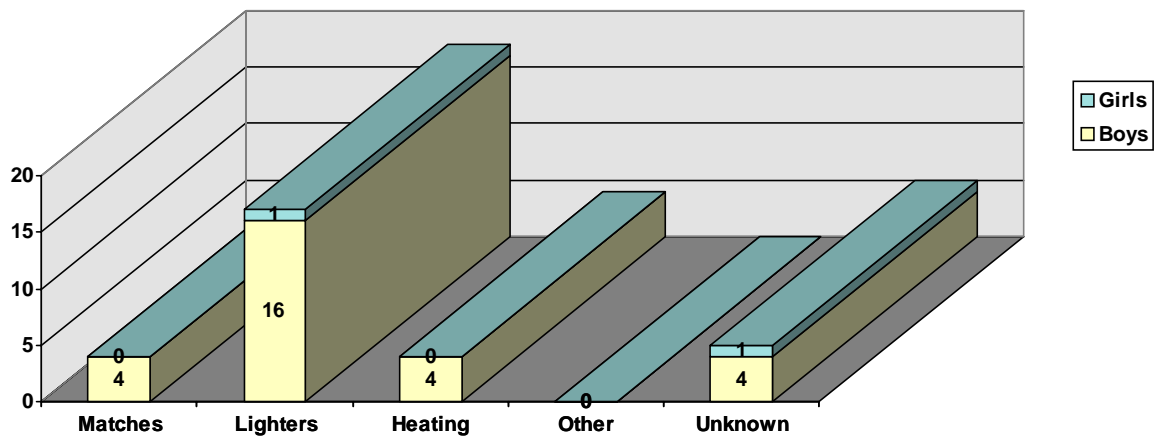


Figure 30 EXTREME CONCERN (6) Age 1-5 Ignition Source

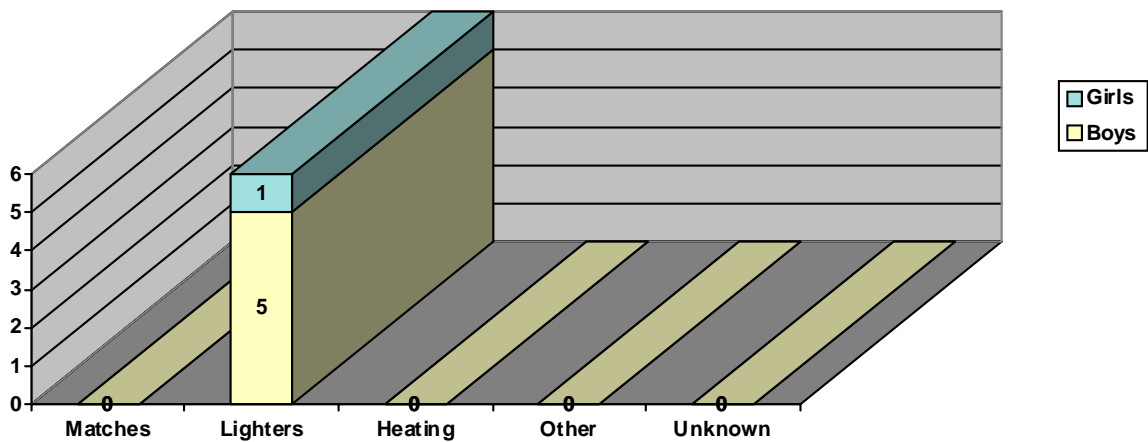


Figure 31 LITTLE CONCERN (191) Age 6-11 Ignition Source

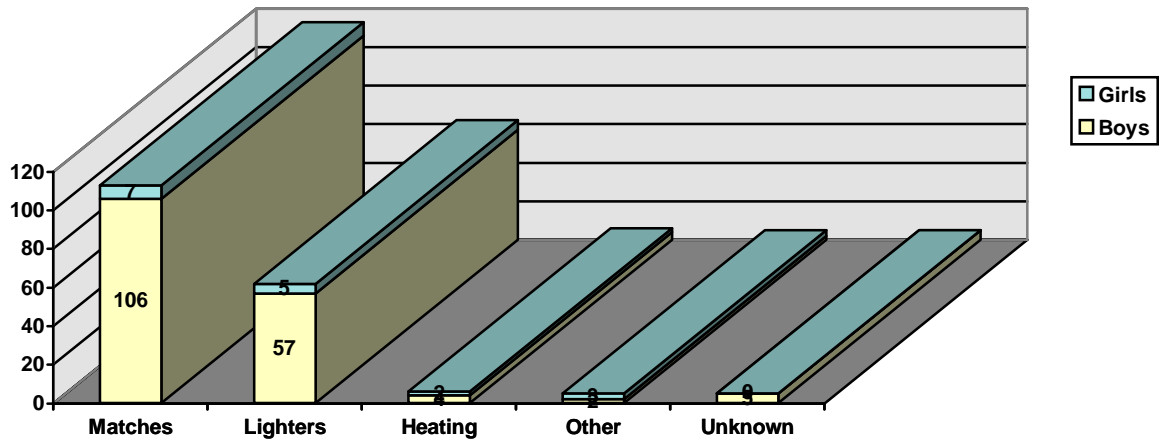


Figure 32 DEFINITE CONCERN (103) Age 6-11 Ignition Source

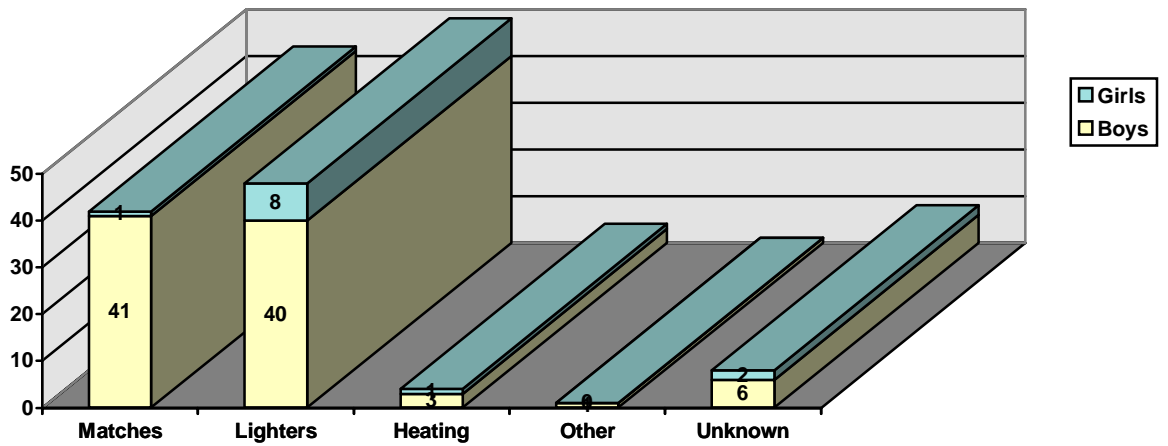


Figure 33 EXTREME CONCERN (9) Age 6-11 Ignition Source

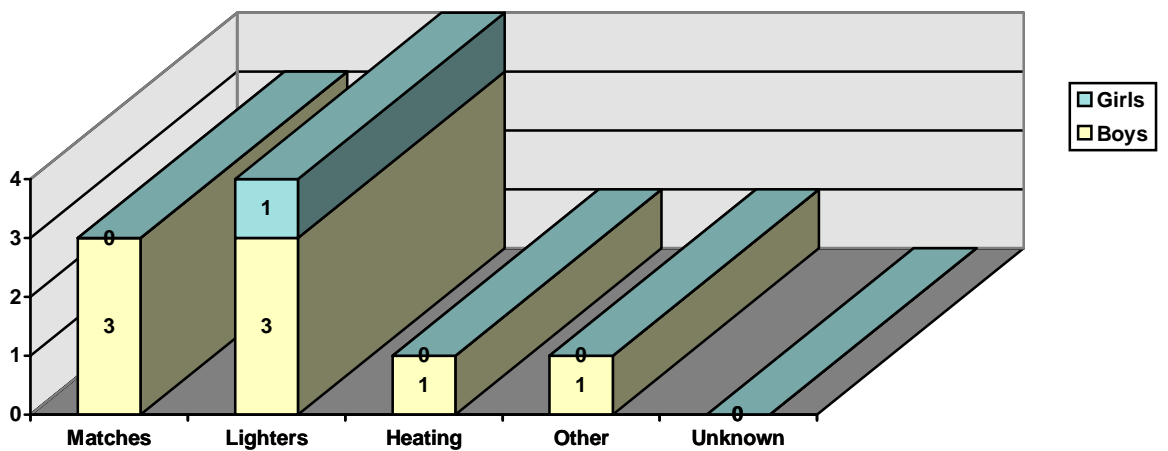


Figure 34 LITTLE CONCERN (106) Age 12-14 Ignition Source

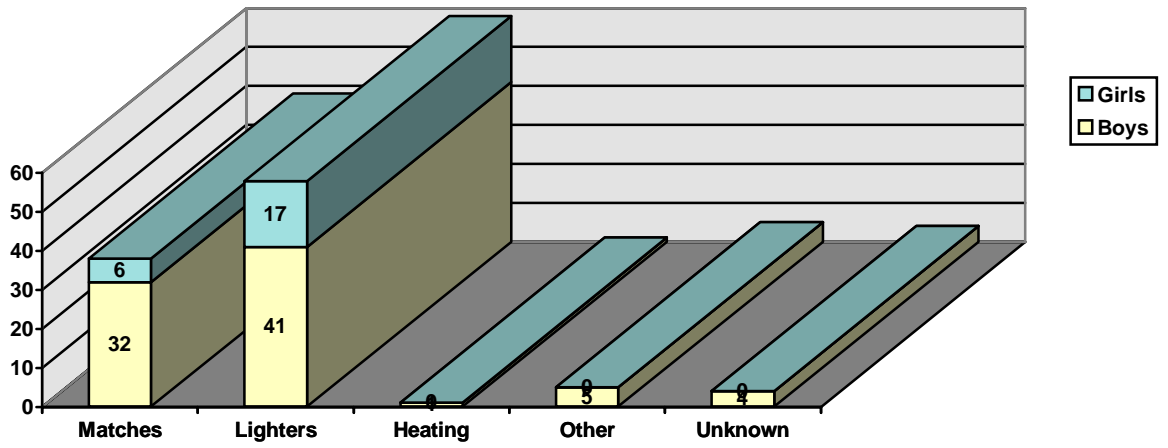


Figure 35 DEFINITE CONCERN (45) Age 12-14 Ignition Source

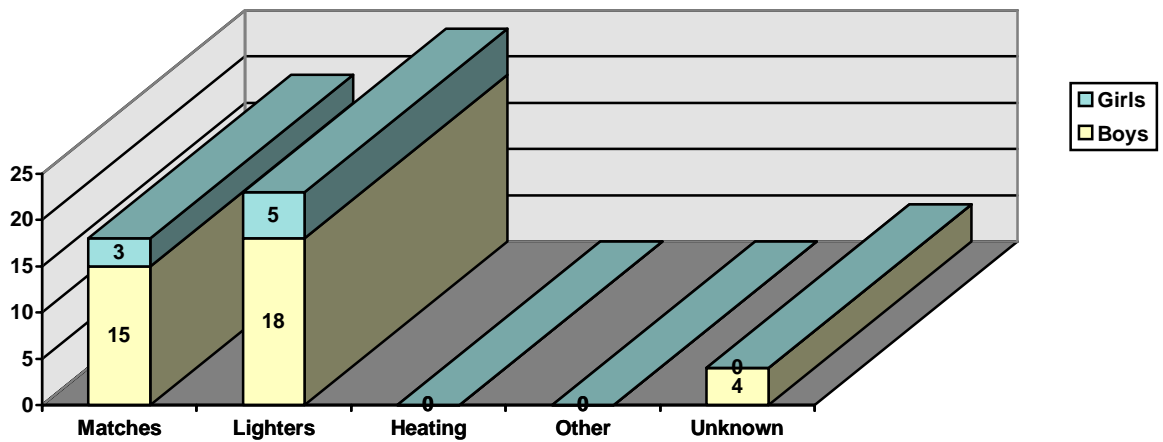


Figure 36 EXTREME CONCERN (1) Age 12-14 Ignition Source

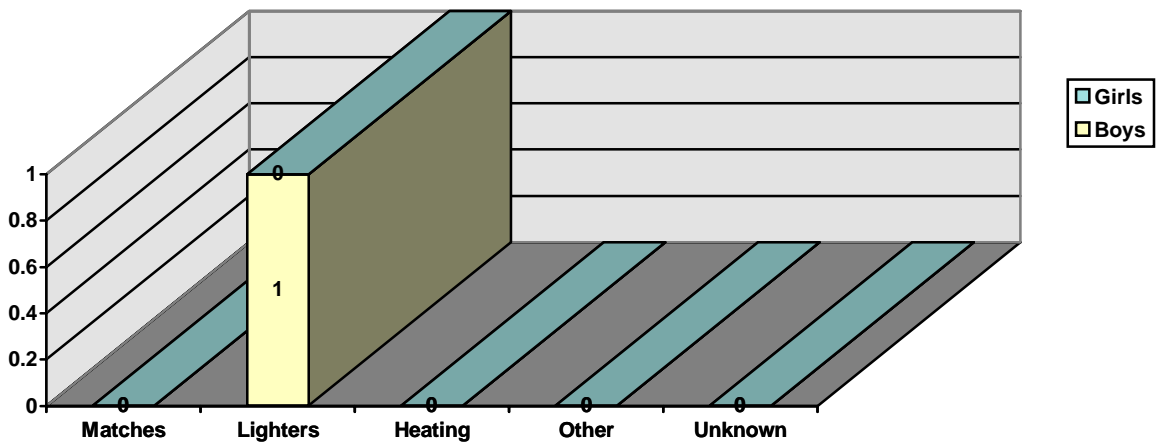


Figure 37 LITTLE CONCERN (15) Age 15-17 Ignition Source

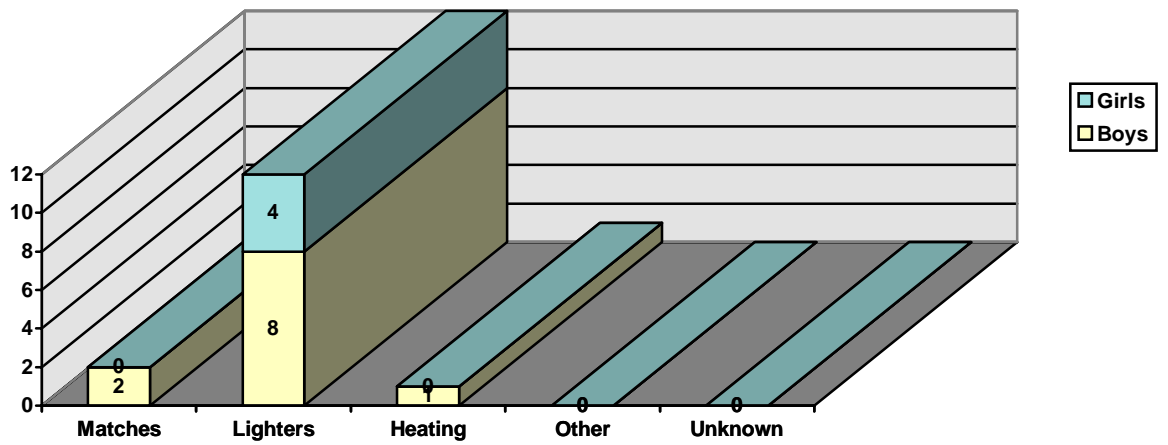


Figure 38 DEFINITE CONCERN (10) Age 15-17 Ignition Source

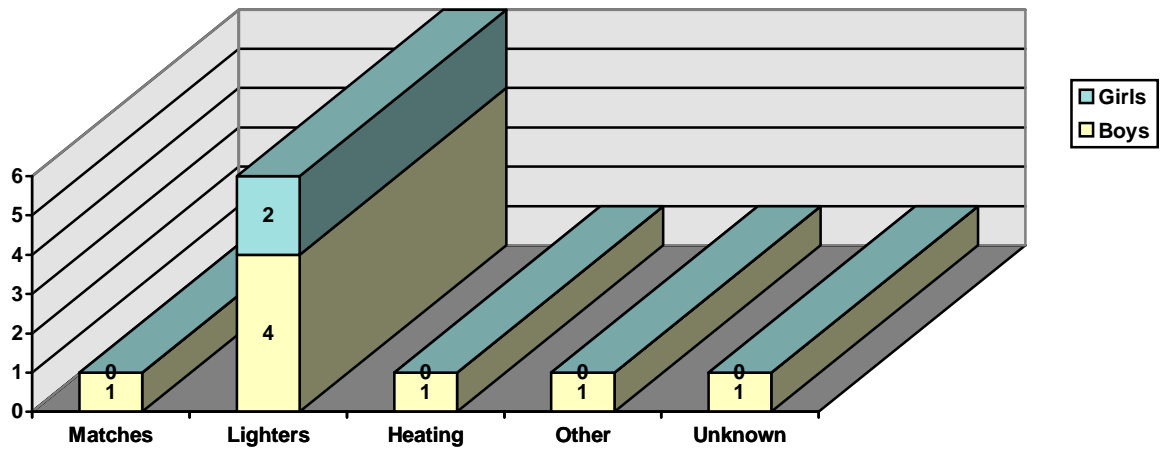
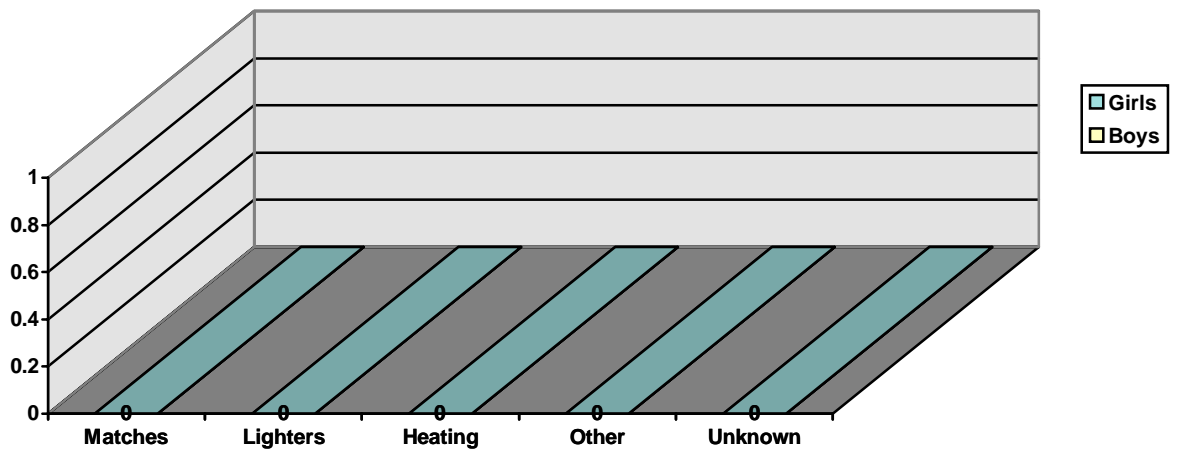


Figure 39 EXTREME CONCERN (0) Age 15-17 Ignition Source



APPENDIX D “ITEM IGNITED”

Figure 40 LITTLE CONCERN (35) Age 1-5 Item Ignited

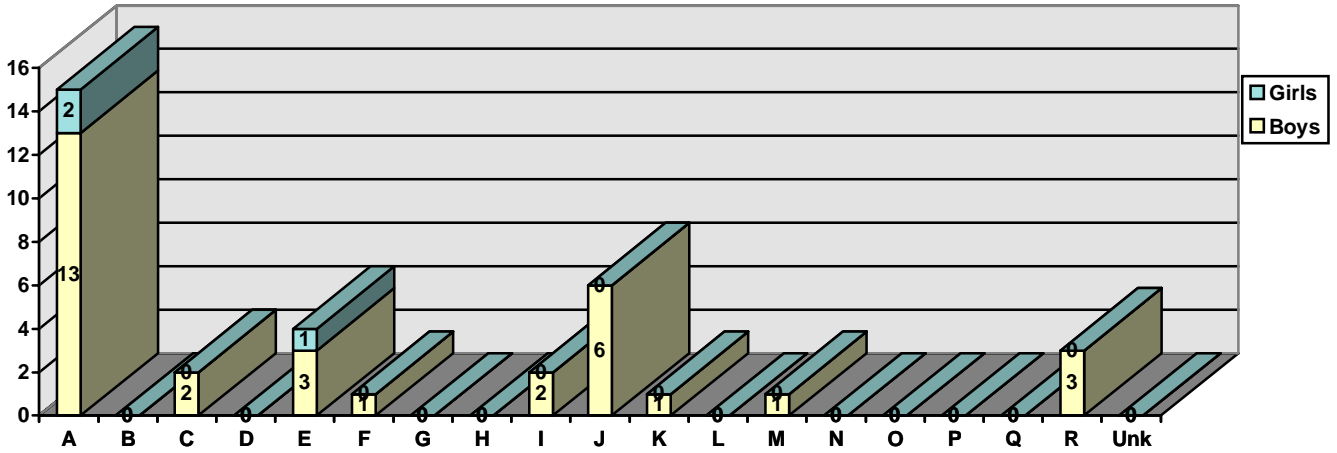


Figure 41 DEFINITE CONCERN (30) Age 1-5 Item Ignited

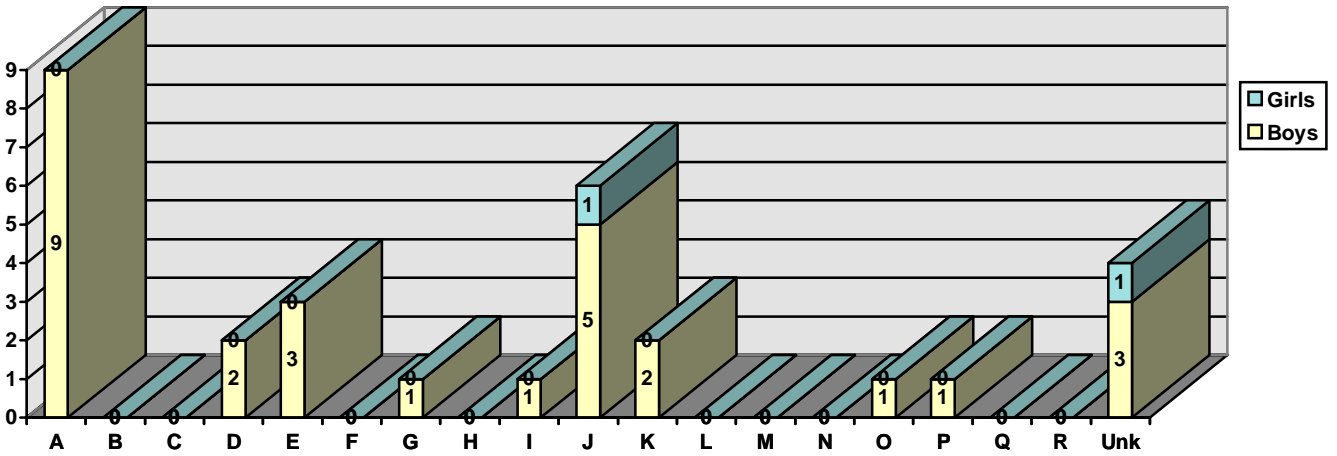


Figure 42 EXTREME CONCERN (6) Age 1-5 Item Ignited

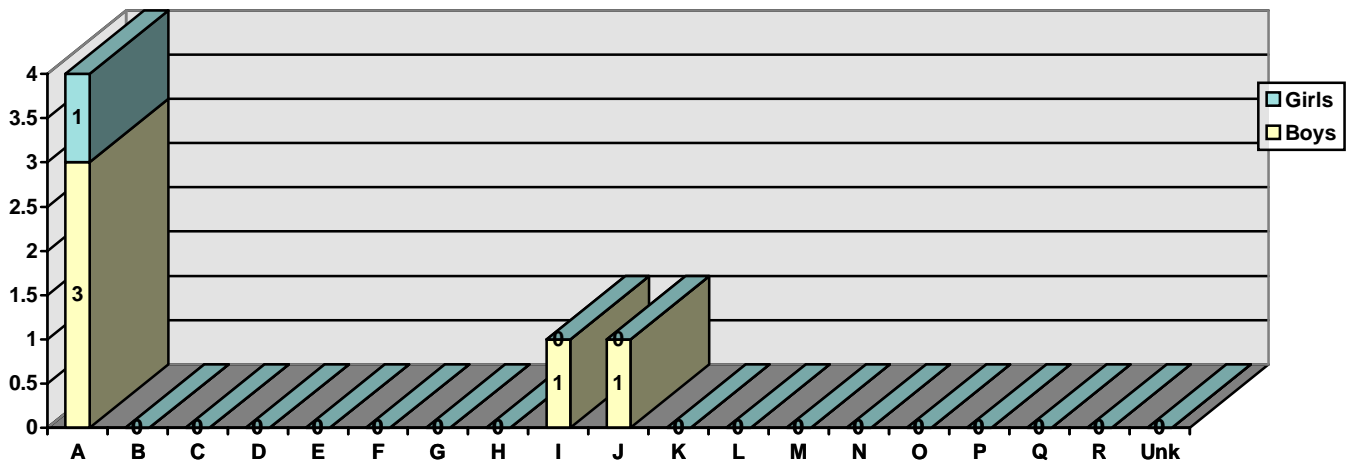


Figure 43 LITTLE CONCERN (191) Age 6-11 Item Ignited

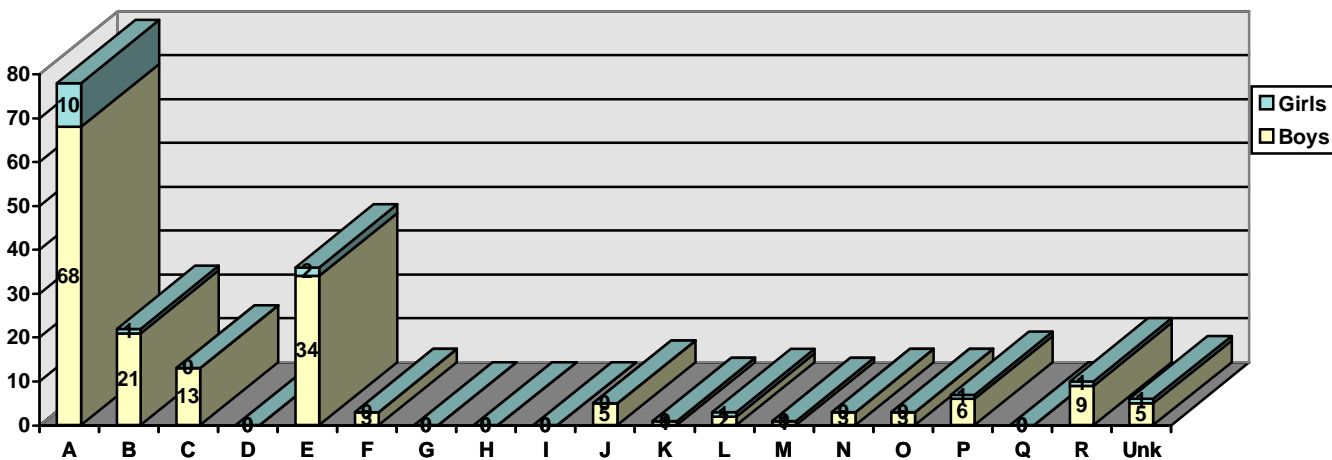


Figure 44 DEFINITE CONCERN (103) Age 6-11 Item Ignited

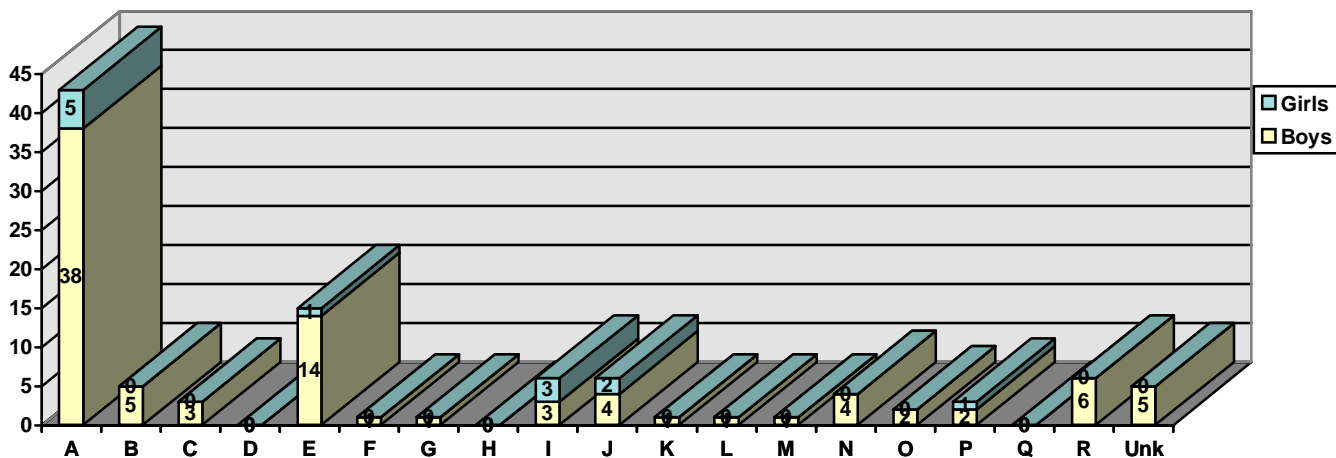


Figure 45 EXTREME CONCERN (9) Age 6-11 Item Ignited

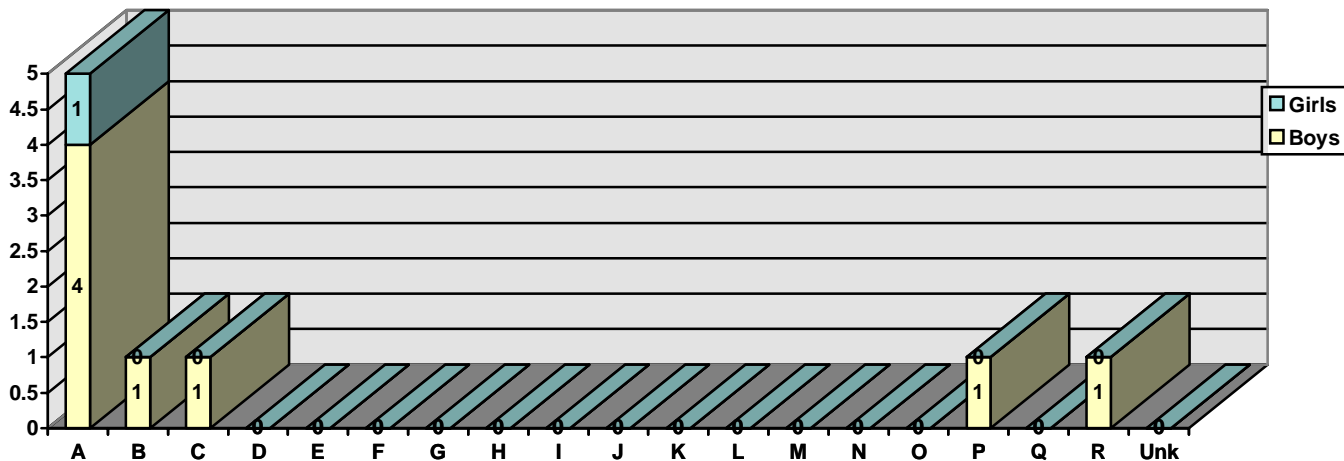


Figure 46 LITTLE CONCERN (106) Age 12-14 Item Ignited

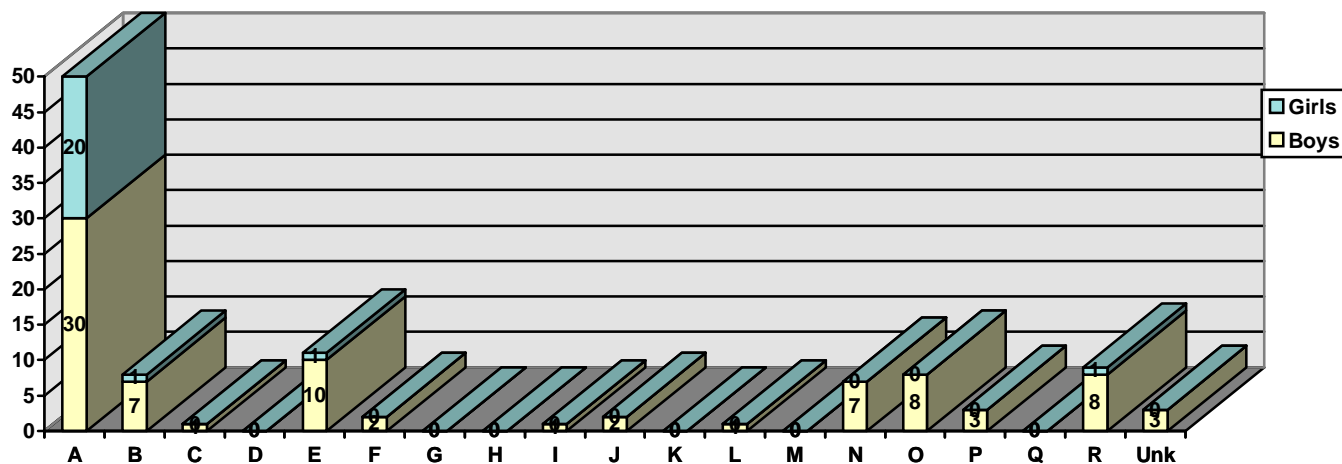


Figure 47 DEFINITE CONCERN (45) Age 12-14 Item Ignited

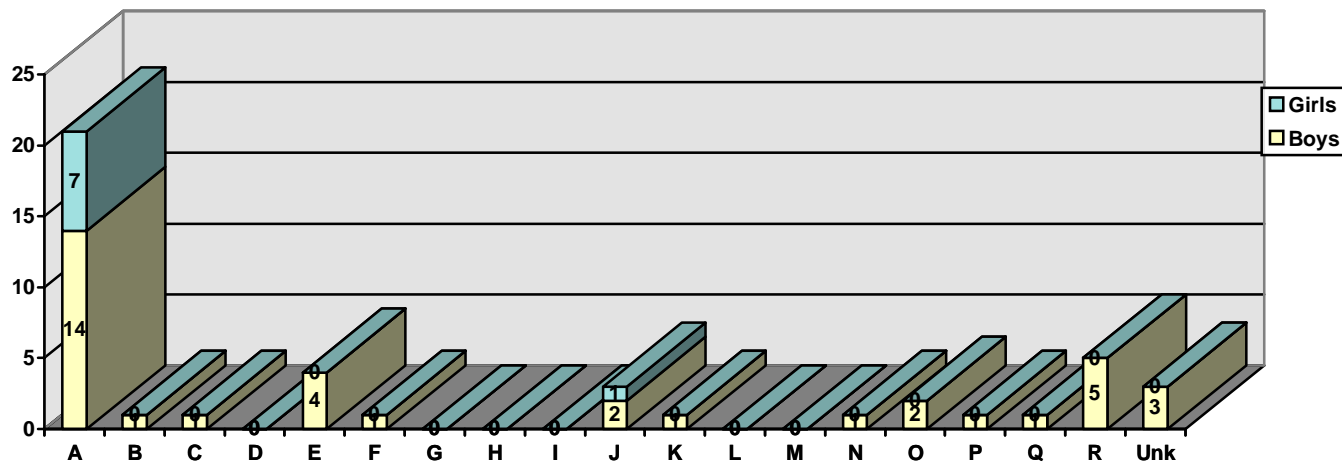


Figure 48 EXTREME CONCERN (1) Age 12-14 Item Ignited

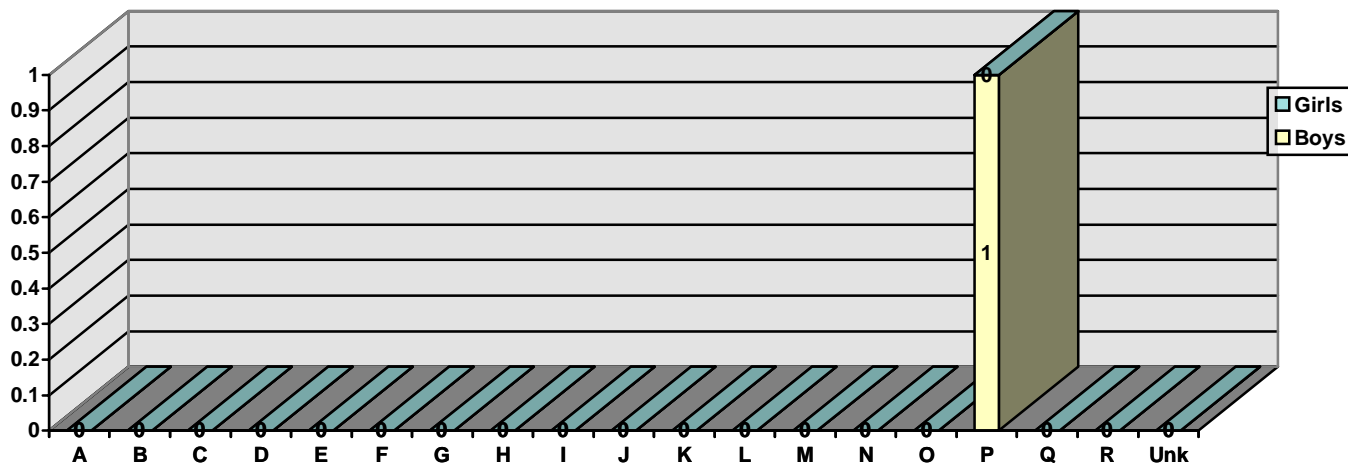


Figure 49 LITTLE CONCERN (15) Age 15-17 Item Ignited

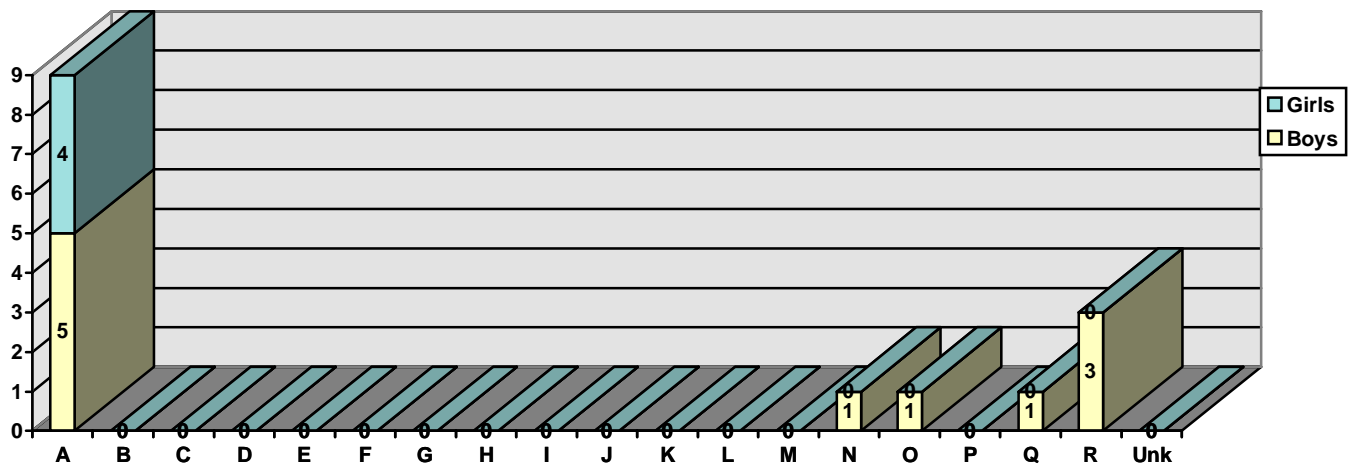


Figure 50 DEFINITE CONCERN (10) Age 15-17 Item Ignited

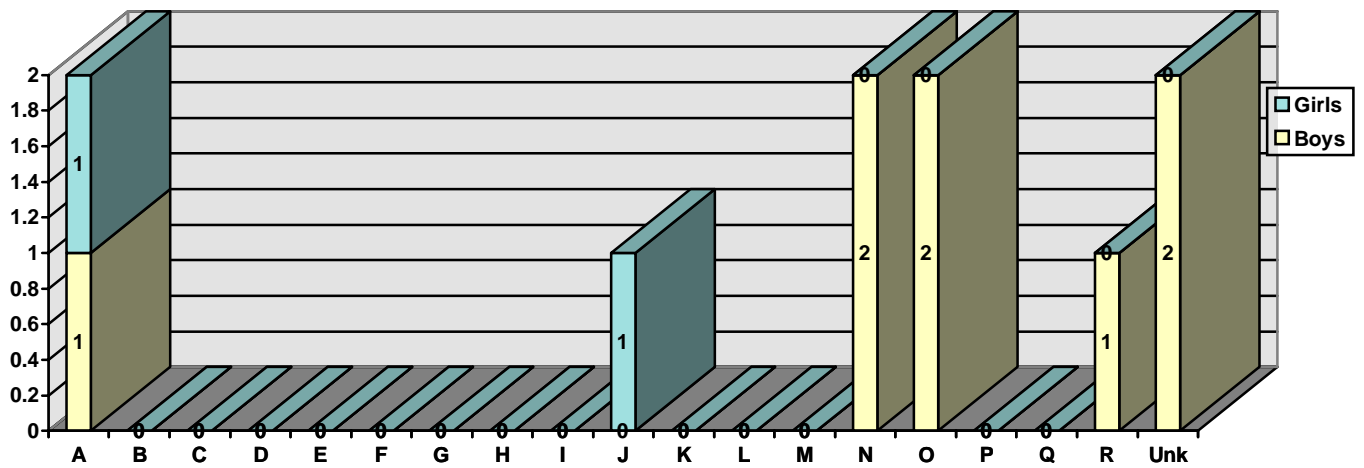
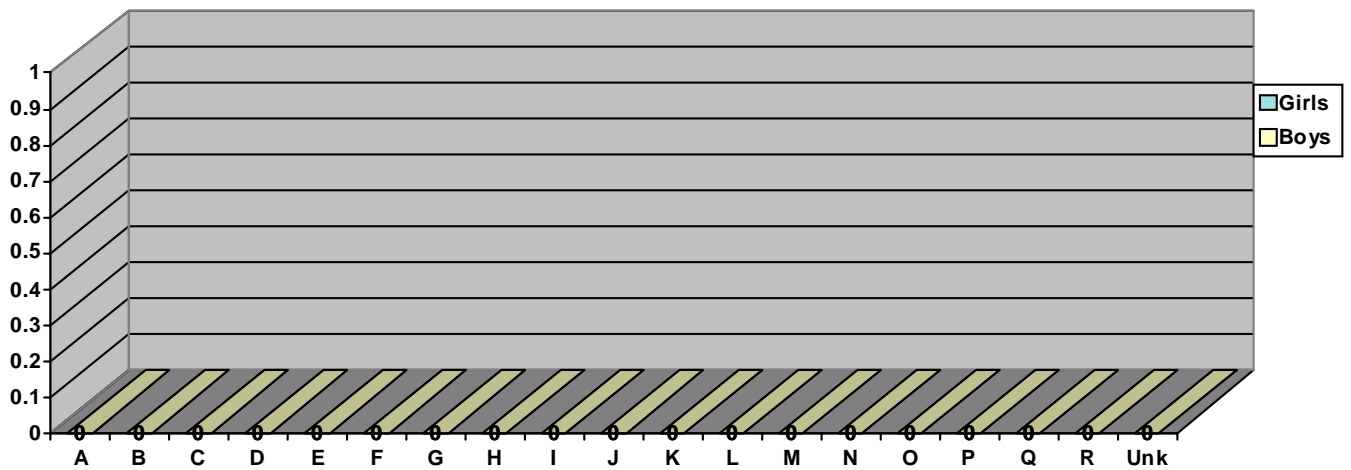


Figure 51 EXTREME CONCERN (0) Age 15-17 Item Ignited



APPENDIX E “LOCATION OF INCIDENT”

Figure 52 LITTLE CONCERN (35) Age 1-5 Location of Incident

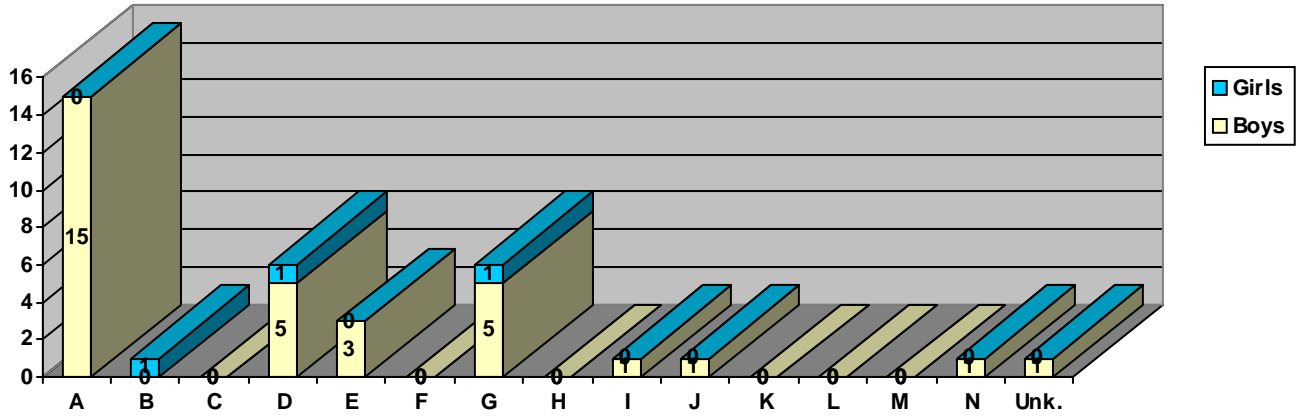


Figure 53 DEFINITE CONCERN (30) Age 1-5 Location of Incident

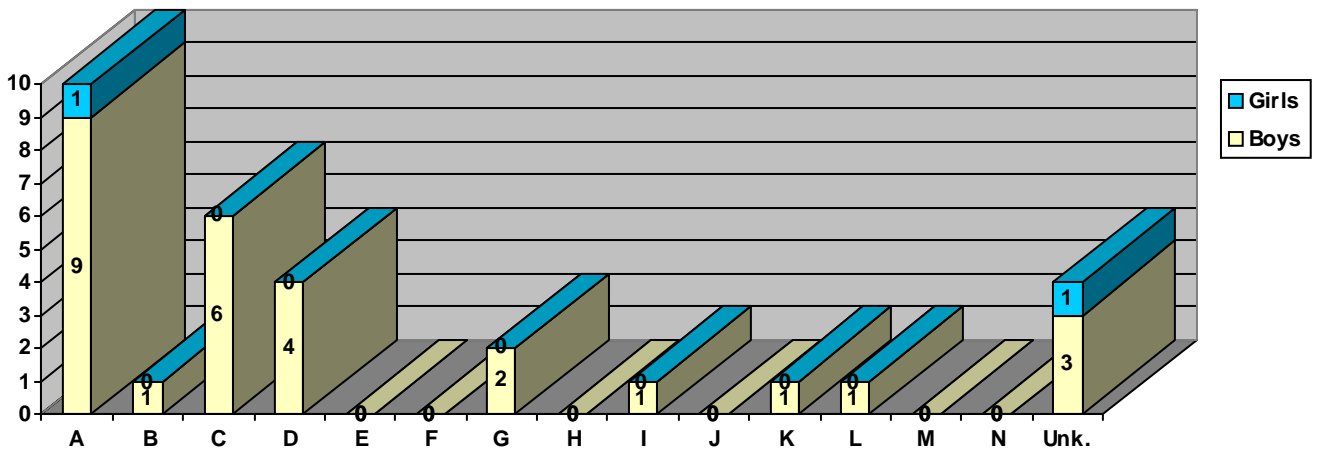


Figure 54 EXTREME CONCERN (6) Age 1-5 Location of Incident

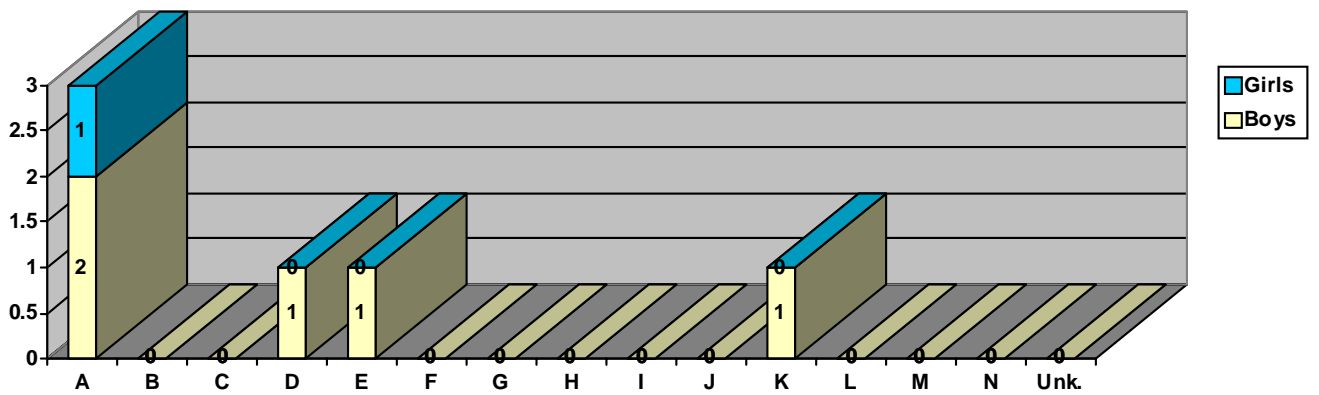


Figure 55 LITTLE CONCERN (191) Age 6-11 Location of Incident

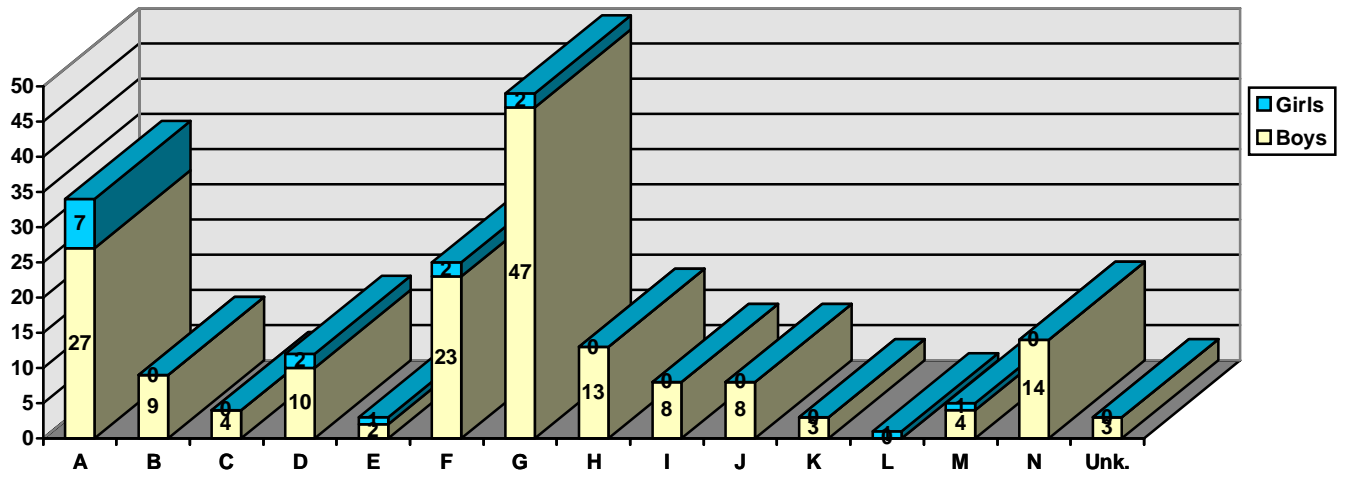


Figure 56 DEFINITE CONCERN (103) Age 6-11 Location of Incident

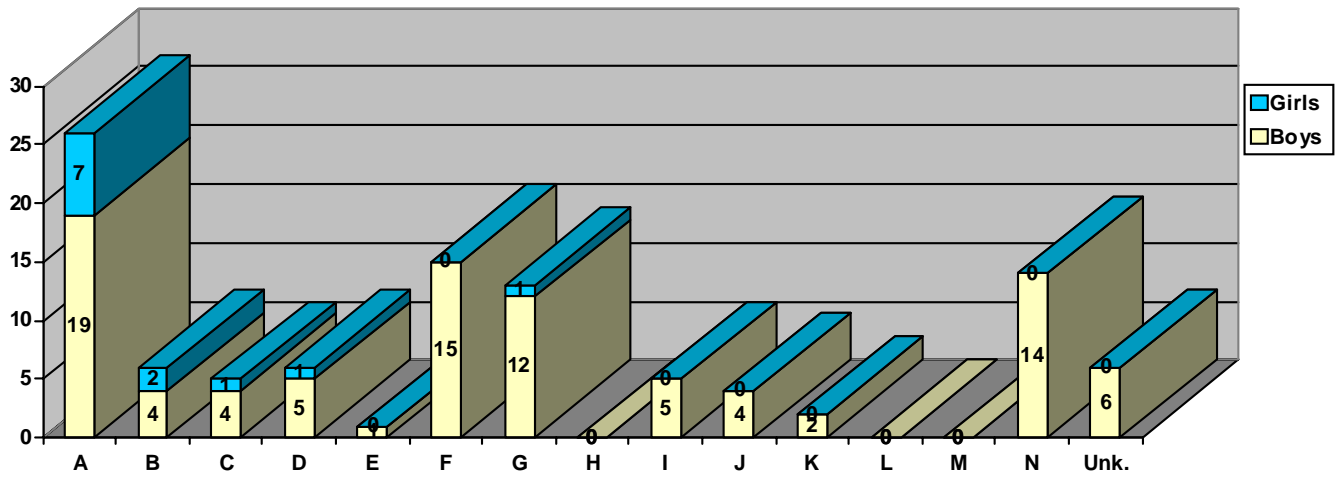


Figure 57 EXTREME CONCERN (9) Age 6-11 Location of Incident

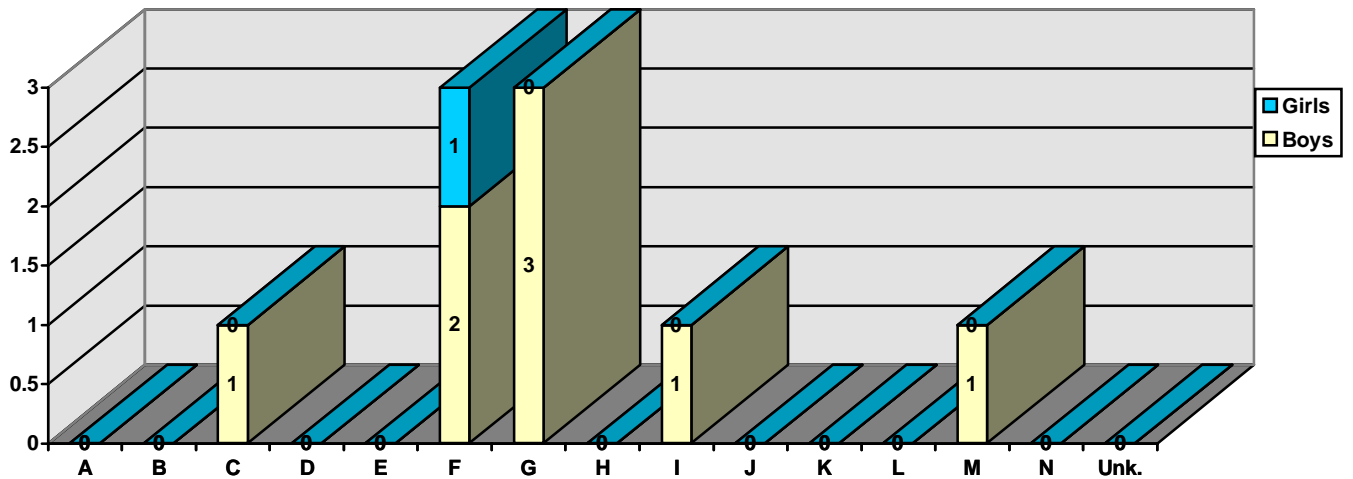


Figure 58 LITTLE CONCERN (106) Age 12-14 Location of Incident

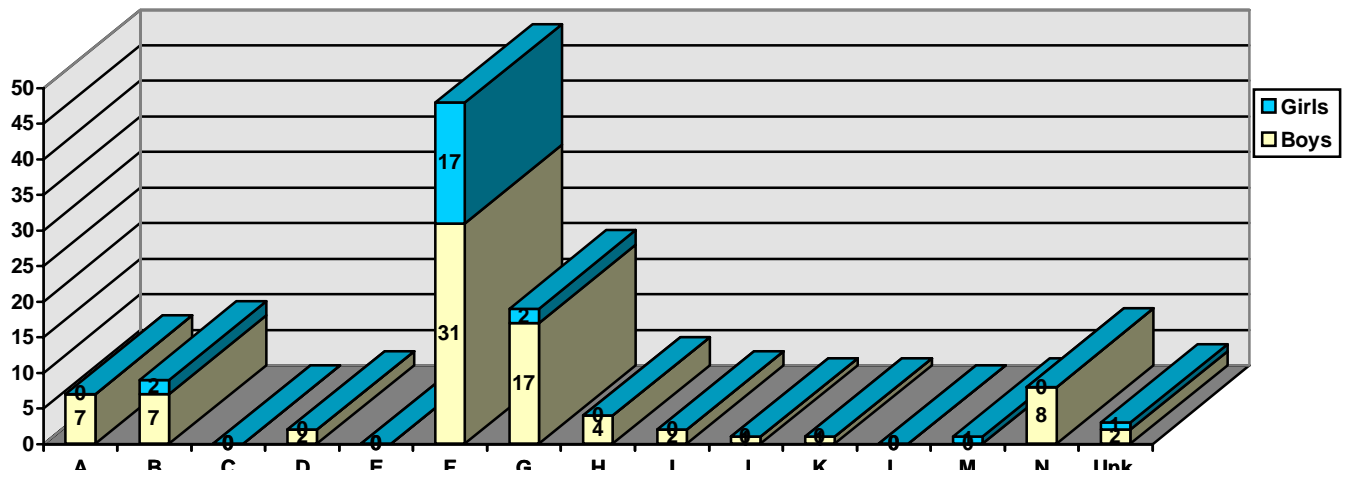


Figure 59 DEFINITE CONCERN (45) Age 12-14 Location of Incident

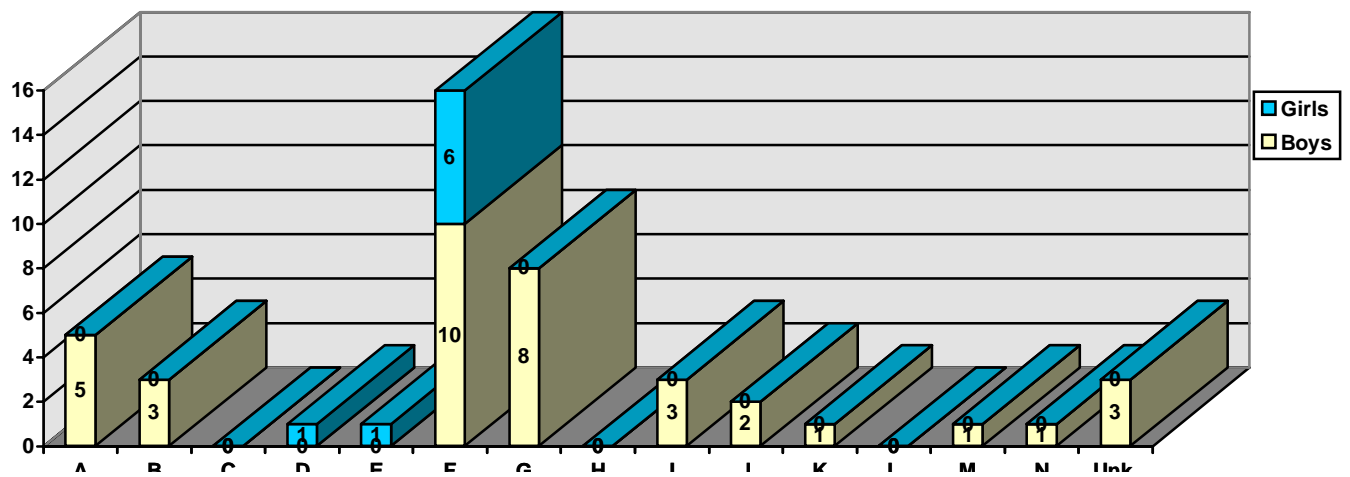


Figure 60 EXTREME CONCERN (1) Age 12-14 Location of Incident

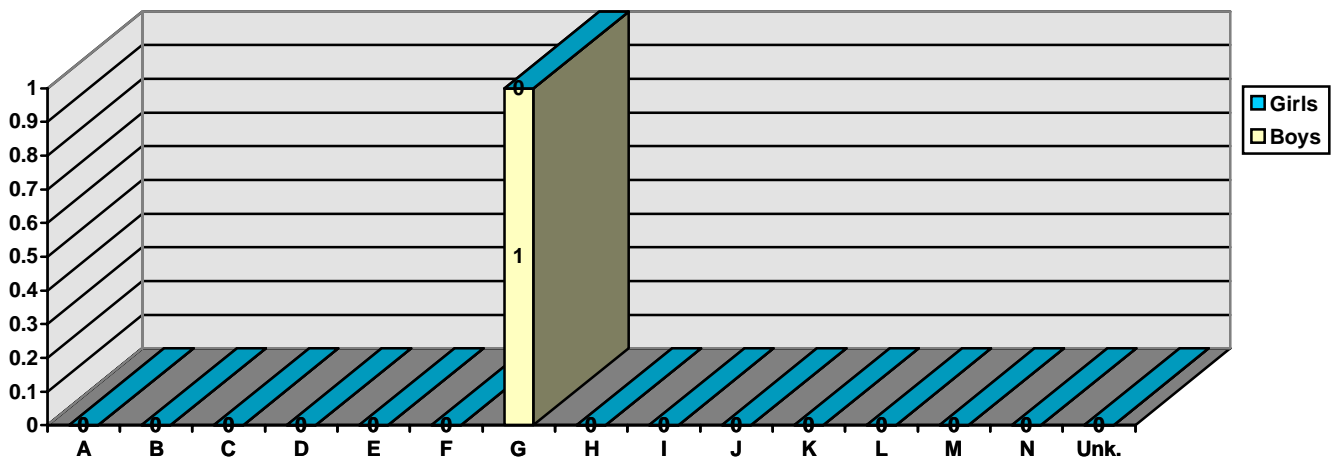


Figure 61 LITTLE CONCERN (15) Age 15-17 Location of Incident

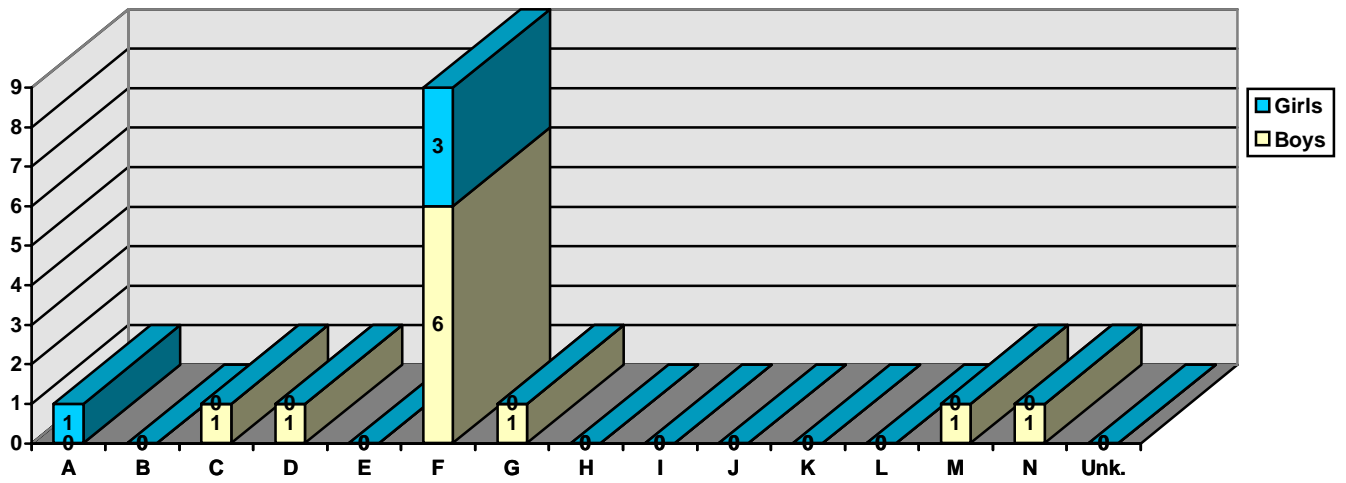


Figure 62 DEFINITE CONCERN (10) Age 15-17 Location of Incident

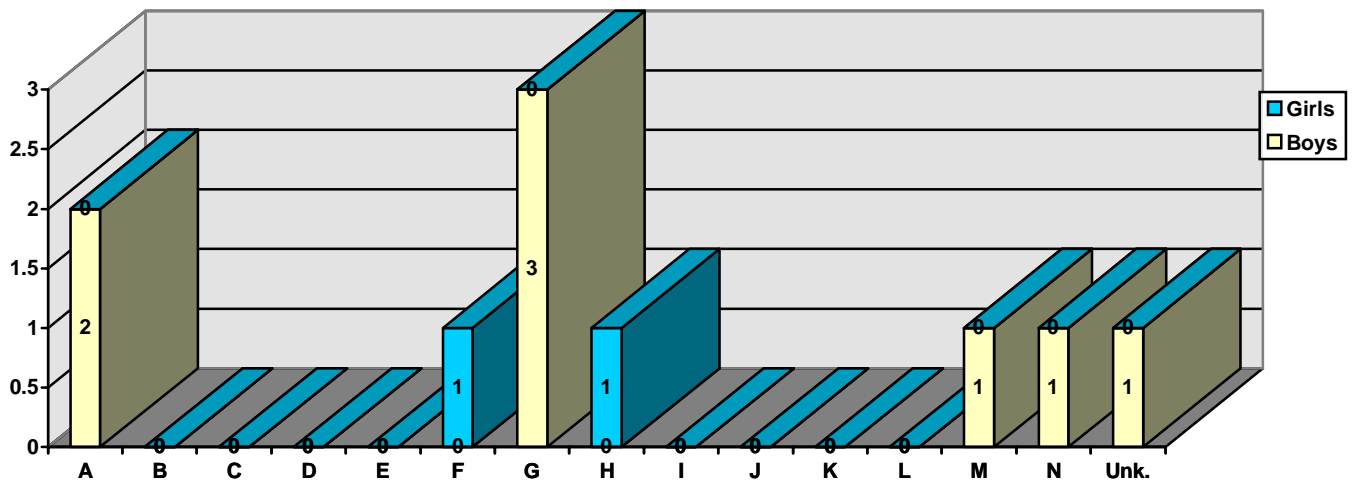
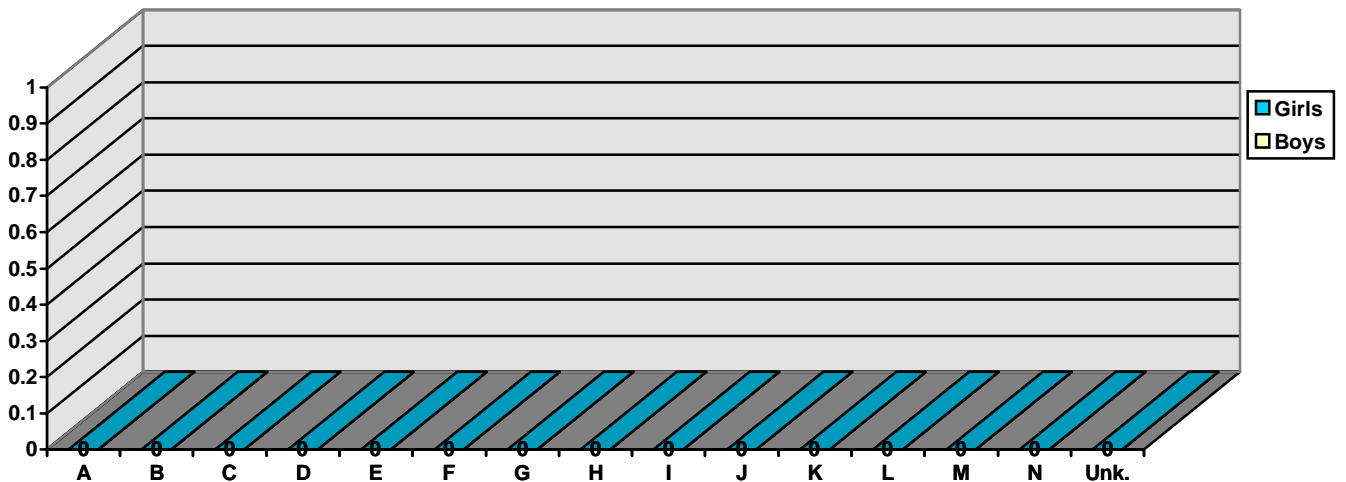


Figure 63 EXTREME CONCERN (0) Age 15-17 Location of Incident



APPENDIX F “ACCESS TO MATCHES/LIGHTERS”

Figure 64 LITTLE CONCERN (35) Age 1-5 Access To Matches/Lighters

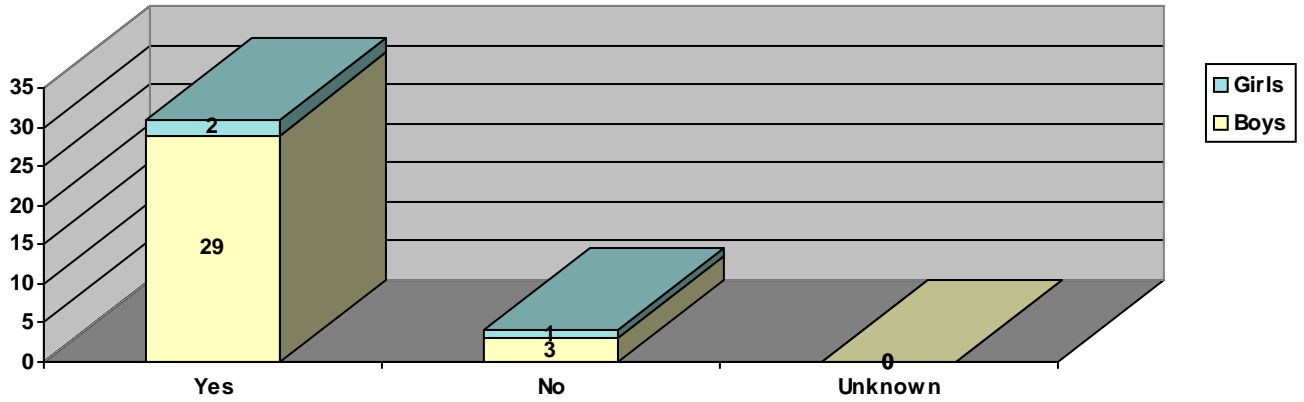


Figure 65 DEFINITE CONCERN (30) Age 1-5 Access To Matches/Lighters

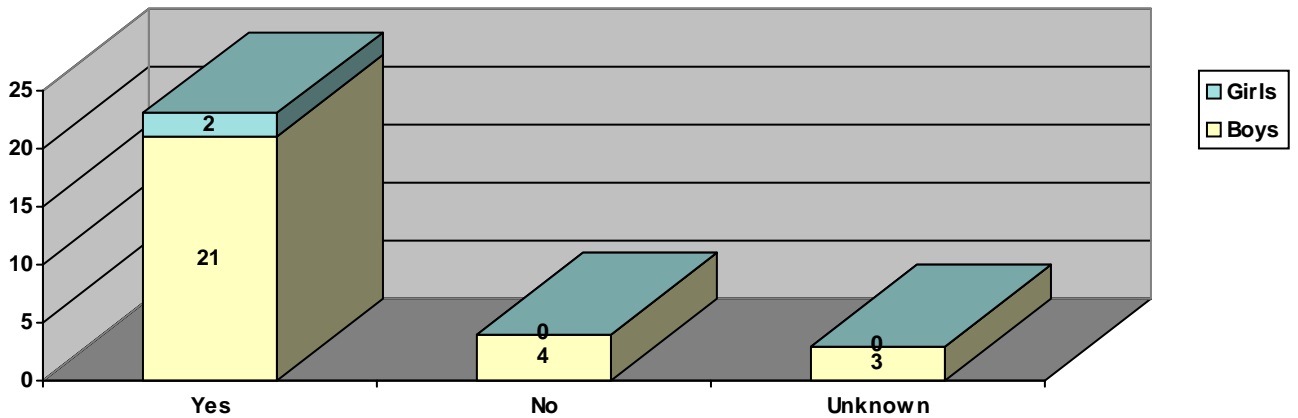


Figure 66 EXTREME CONCERN (6) Age 1-5 Access To Matches/Lighters

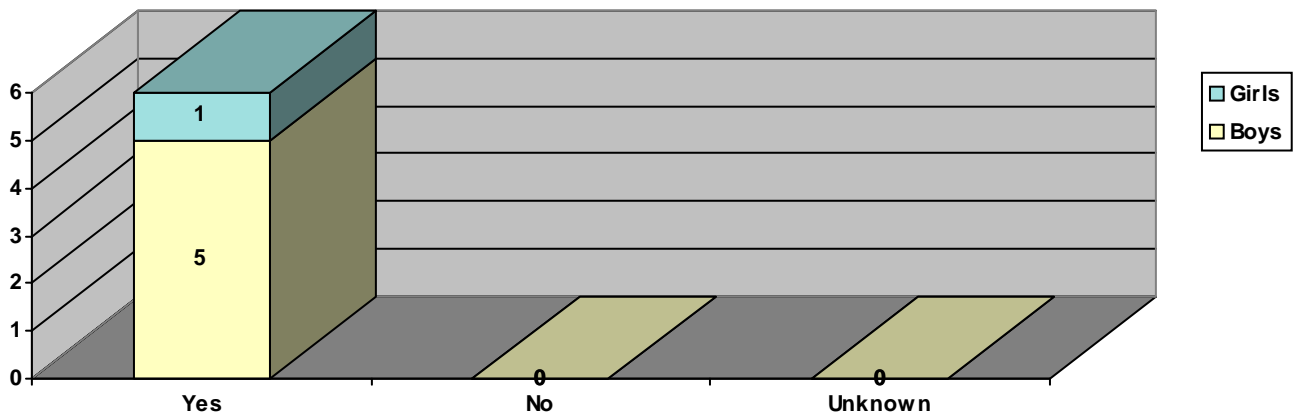


Figure 67 LITTLE CONCERN (191) Age 6-11 Access To Matches/Lighters

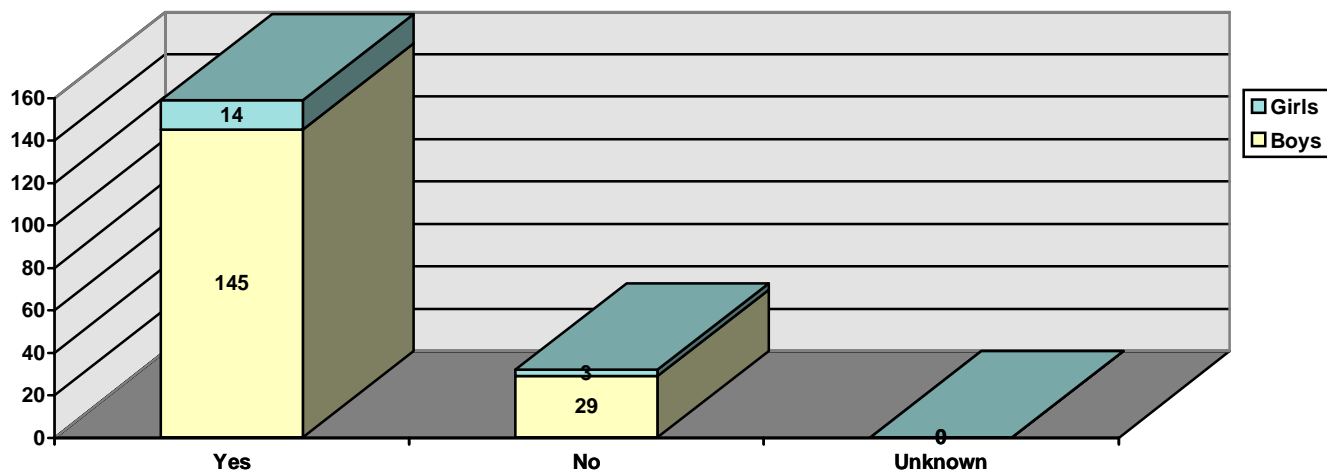


Figure 68 DEFINITE CONCERN (103) Age 6-11 Access To Matches/Lighters

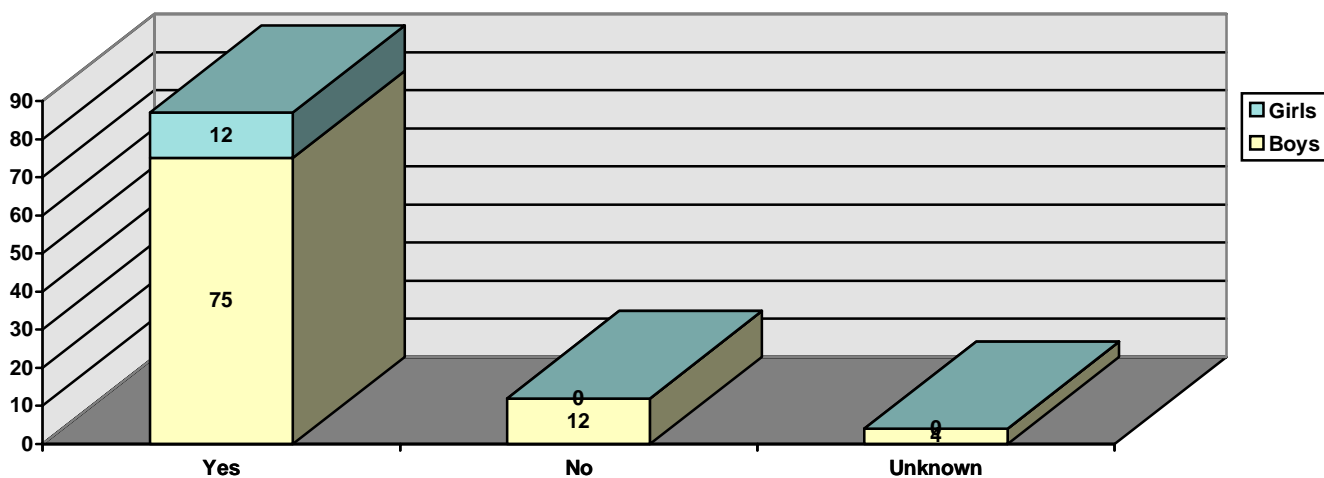


Figure 69 EXTREME CONCERN (9) Age 6-11 Access To Matches/Lighters

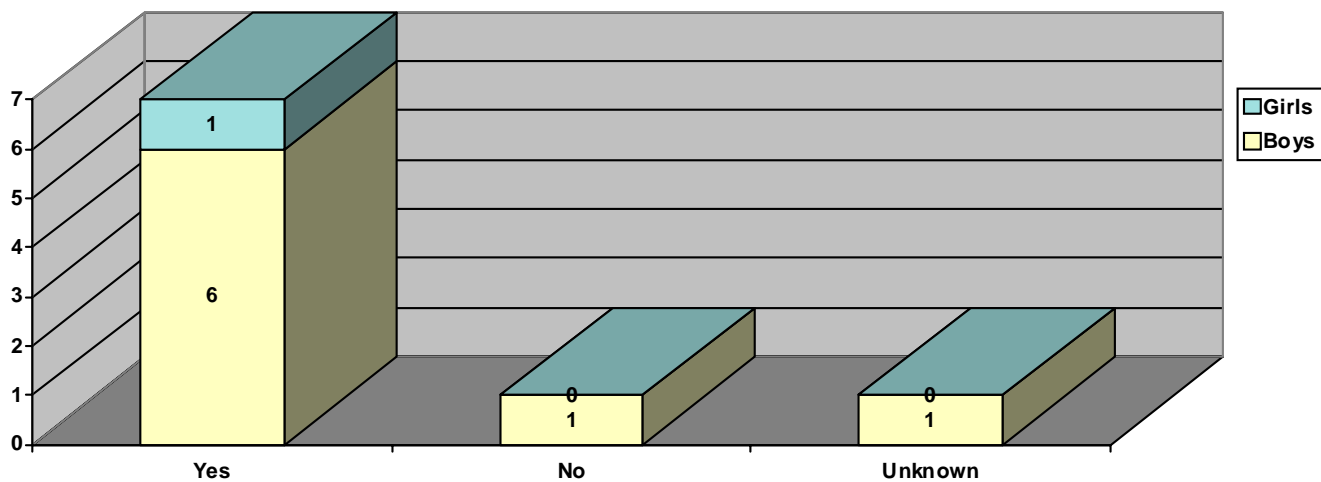


Figure 70 LITTLE CONCERN (106) Age 12-14 Access To Matches/Lighters

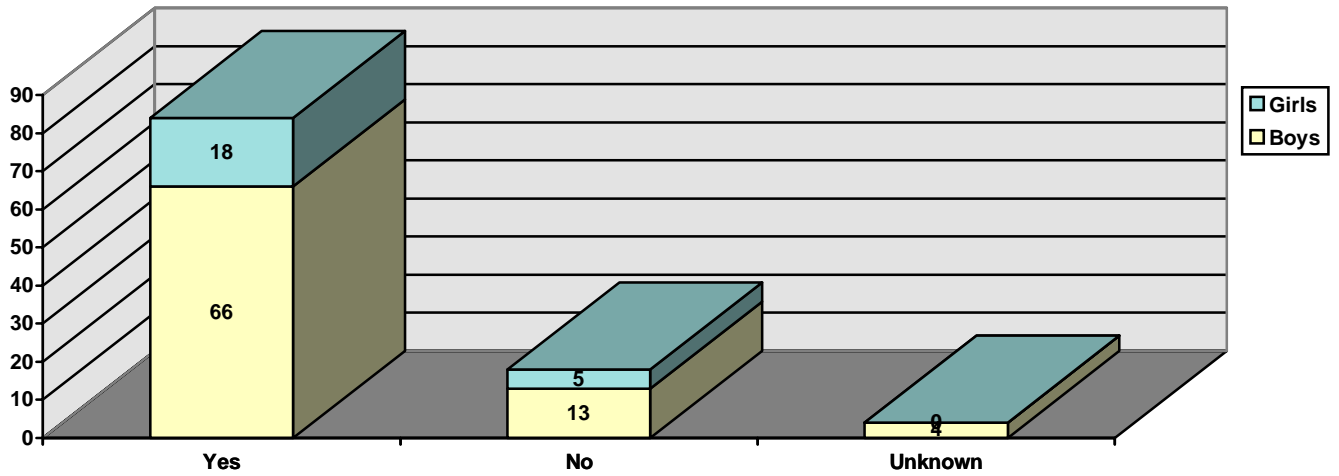


Figure 71 DEFINITE CONCERN (45) Age 12-14 Access To Matches/Lighters

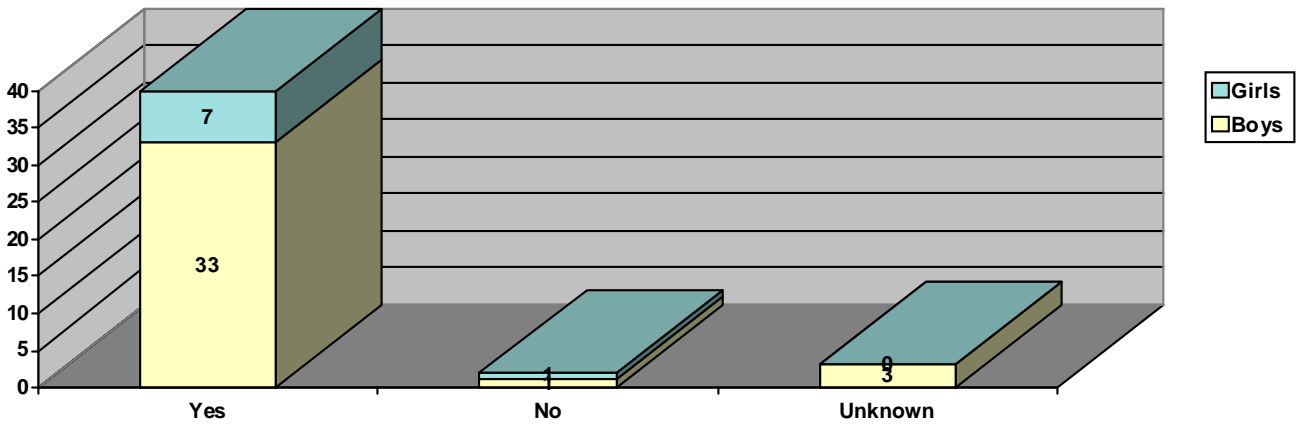


Figure 72 EXTREME CONCERN (1) Age 12-14 Access To Matches/Lighters

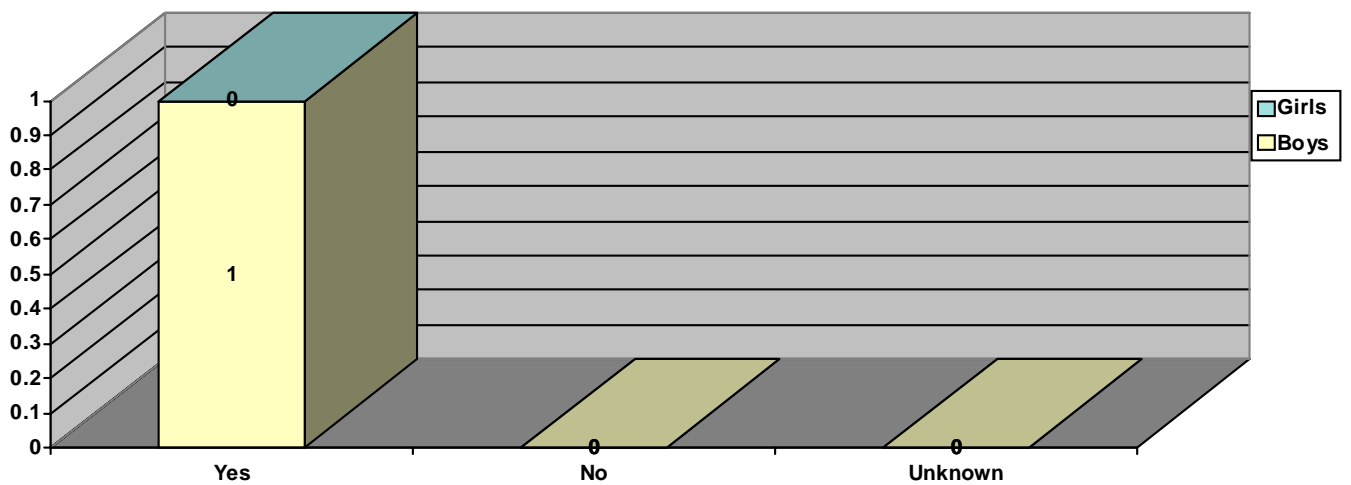


Figure 73 LITTLE CONCERN (15) Age 15-17 Access To Matches/Lighters

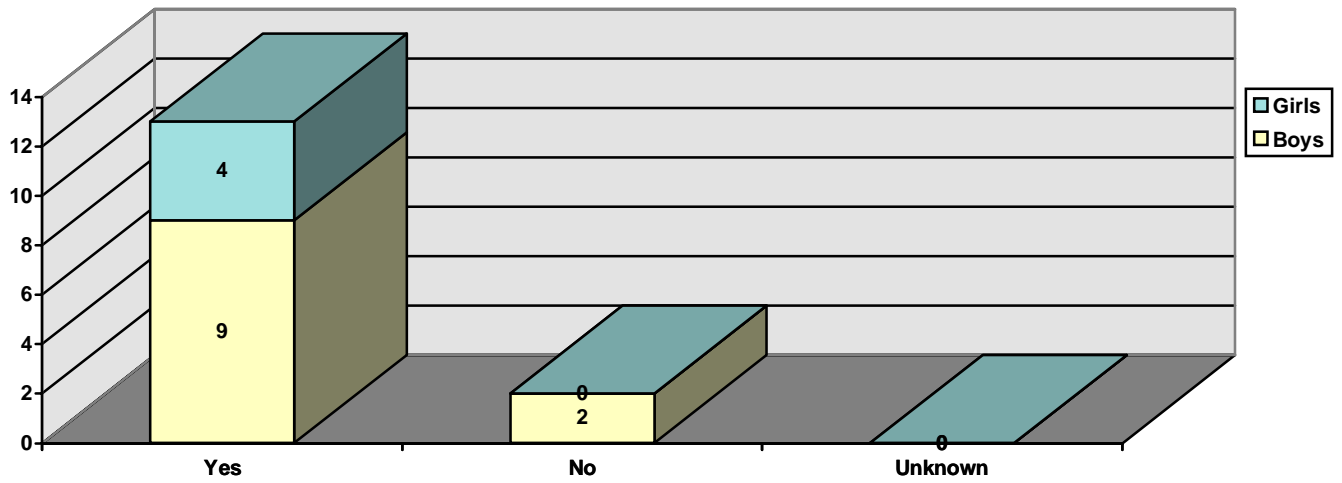


Figure 74 DEFINITE CONCERN (10) Age 15-17 Access To Matches/Lighters

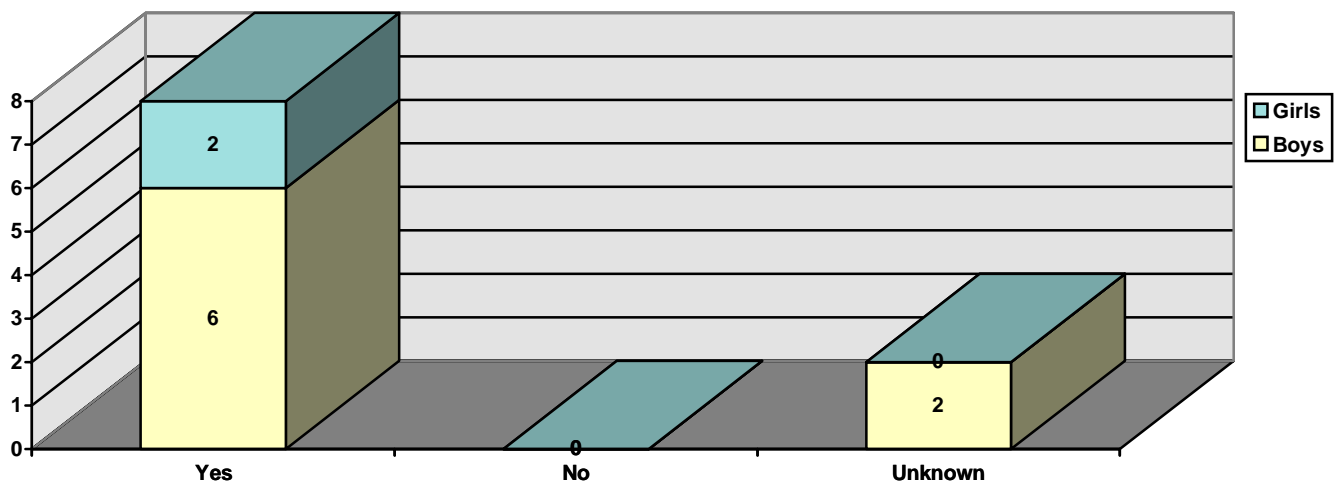
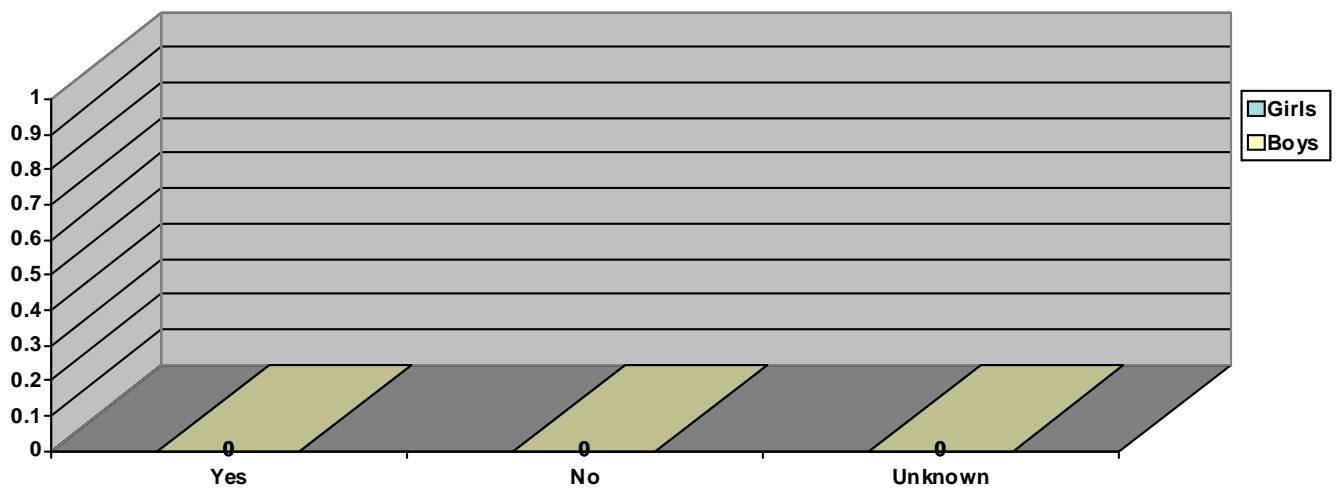


Figure 75 EXTREME CONCERN (0) Age 15-17 Access To Matches/Lighters



APPENDIX G

“ASSOCIATES IN INCIDENT”

Figure 76 LITTLE CONCERN (35) Age 1-5 Associates in Incident

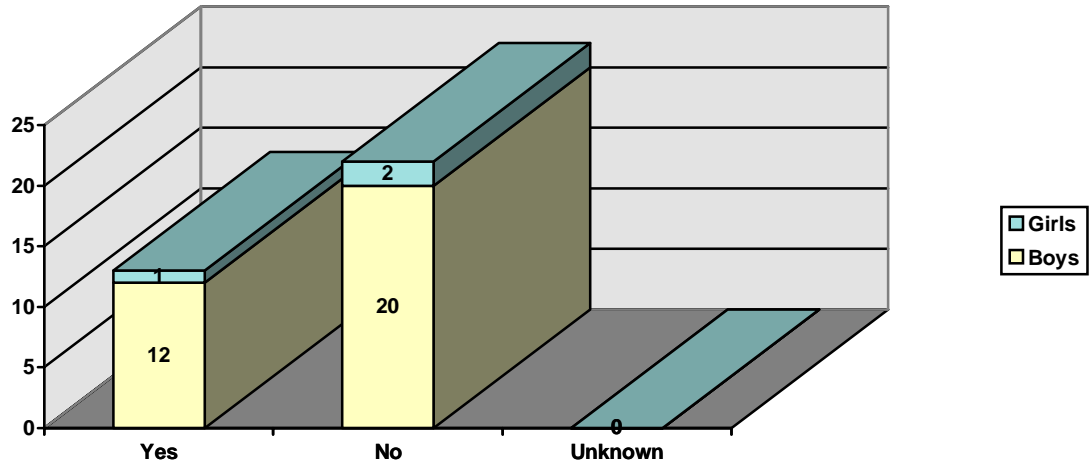


Figure 77 DEFINITE CONCERN (30) Age 1-5 Associates in Incident

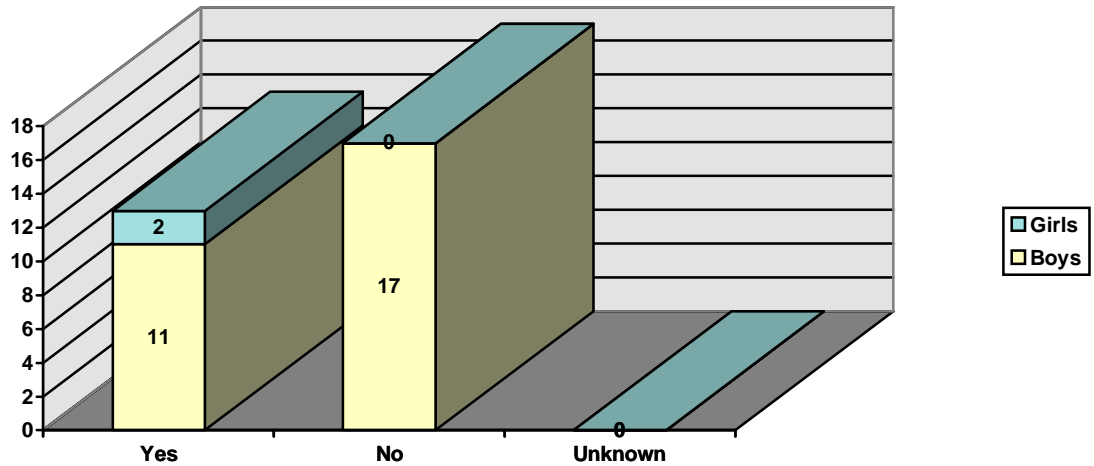


Figure 78 EXTREME CONCERN (6) Age 1-5 Associates in Incident

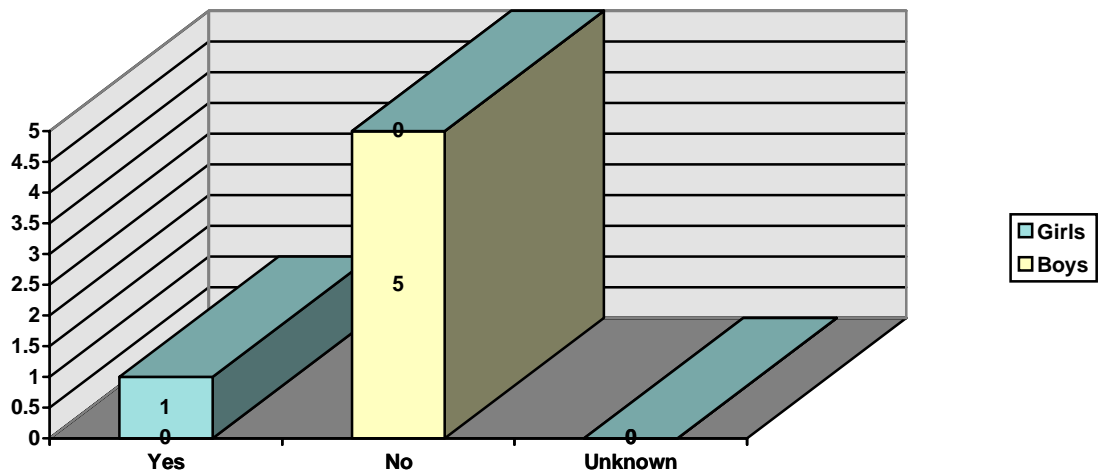


Figure 79 LITTLE CONCERN (191) Age 6-11 Associates in Incident

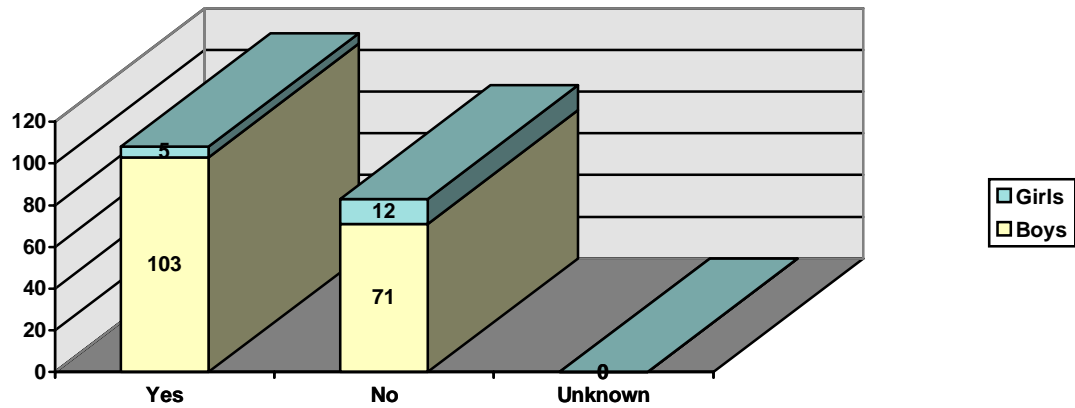


Figure 80 DEFINITE CONCERN (103) Age 6-11 Associates in Incident

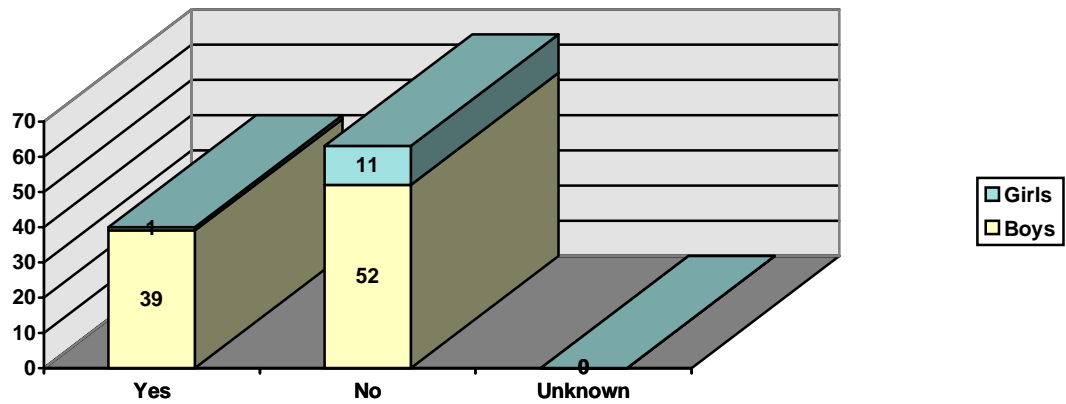


Figure 81 EXTREME CONCERN (9) Age 6-11 Associates in Incident

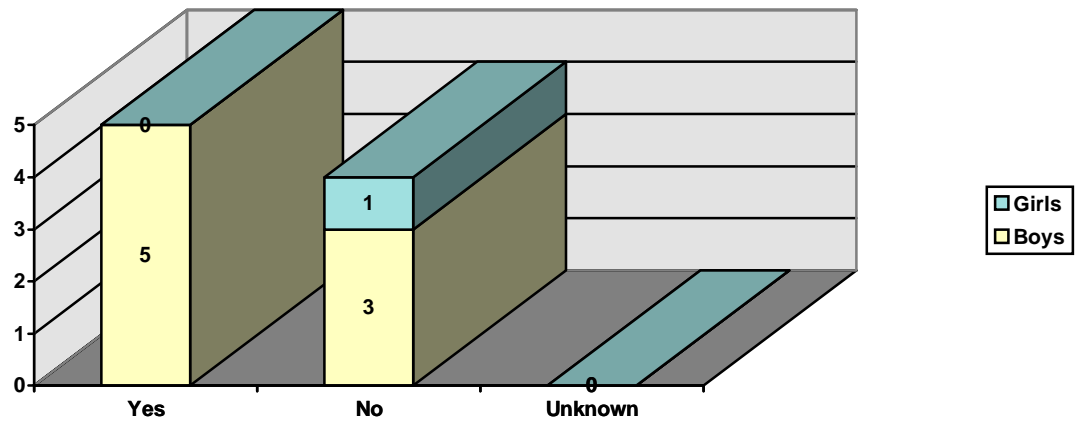


Figure 82 LITTLE CONCERN (106) Age 12-14 Associates in Incident

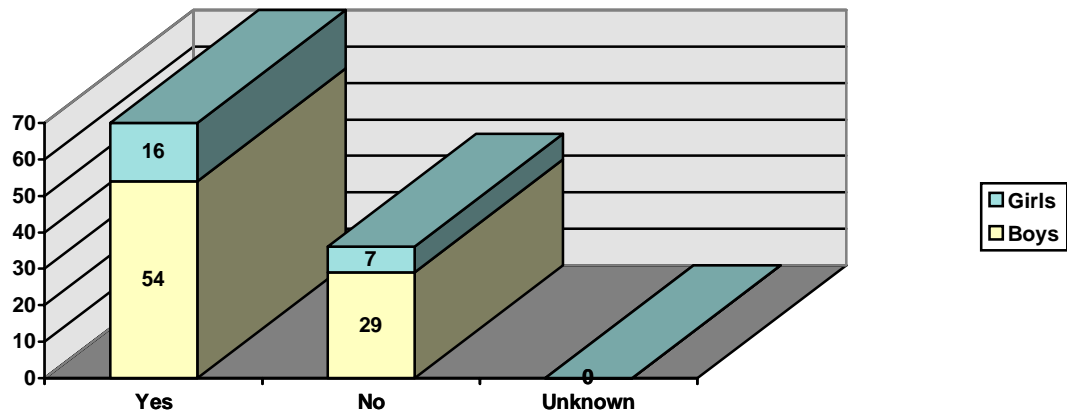


Figure 83 DEFINITE CONCERN (45) Age 12-14 Associates in Incident

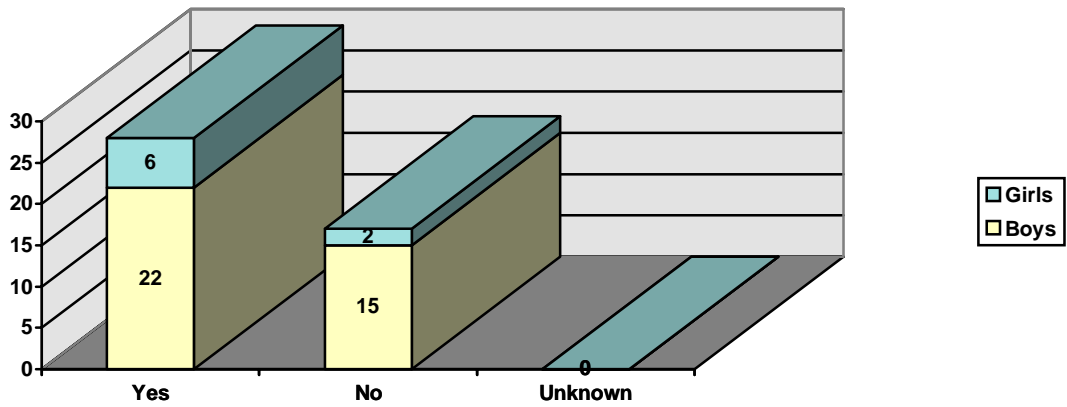


Figure 84 EXTREME CONCERN (1) Age 12-14 Associates in Incident

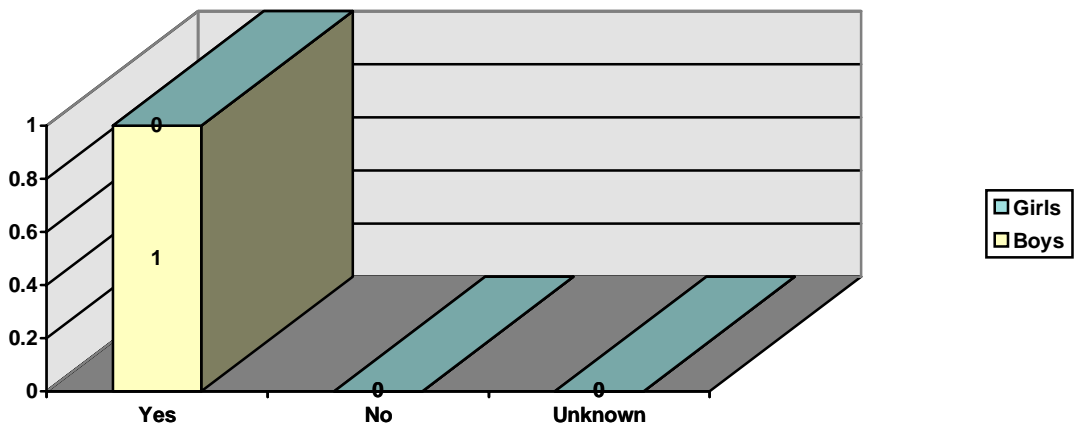


Figure 85 LITTLE CONCERN (15) Age 15-17 Associates in Incident

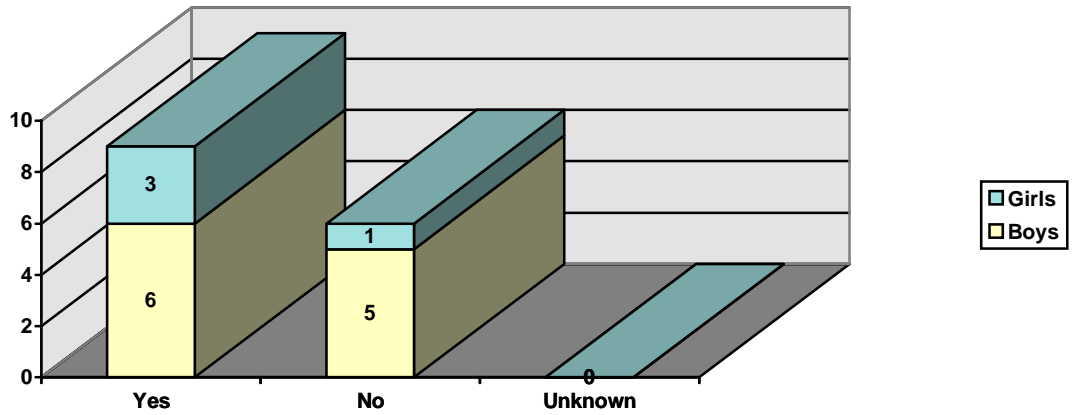


Figure 86 DEFINITE CONCERN (10) Age 15-17 Associates in Incident

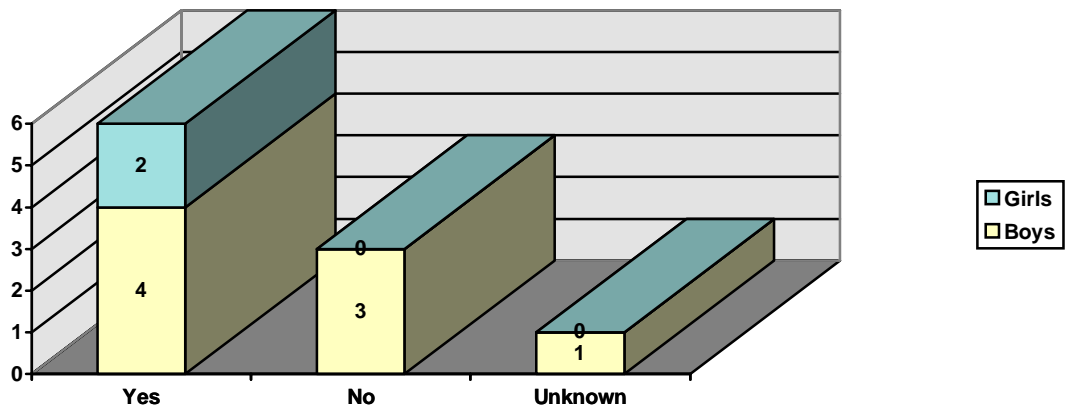
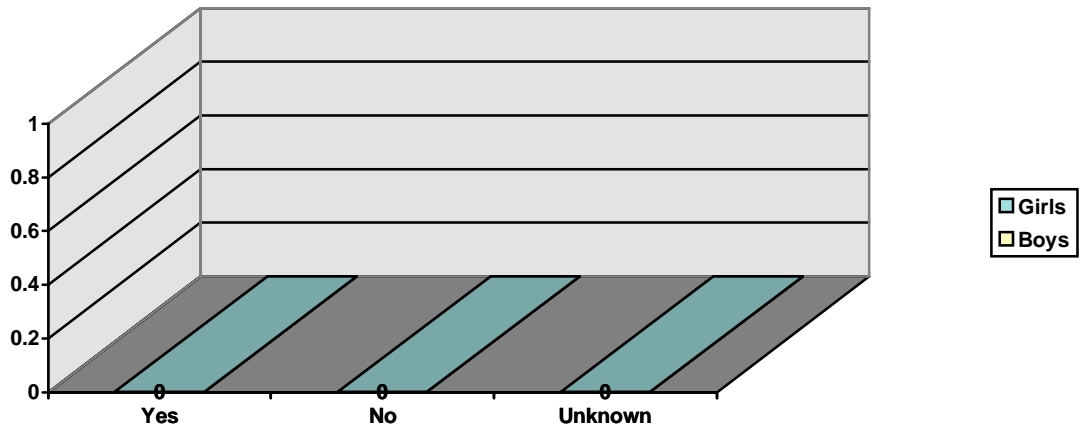


Figure 87 EXTREME CONCERN (0) Age 15-17 Associates in Incident



APPENDIX H “SMOKERS IN HOME”

Figure 88 LITTLE CONCERN (35) Age 1-5 Smokers in Home

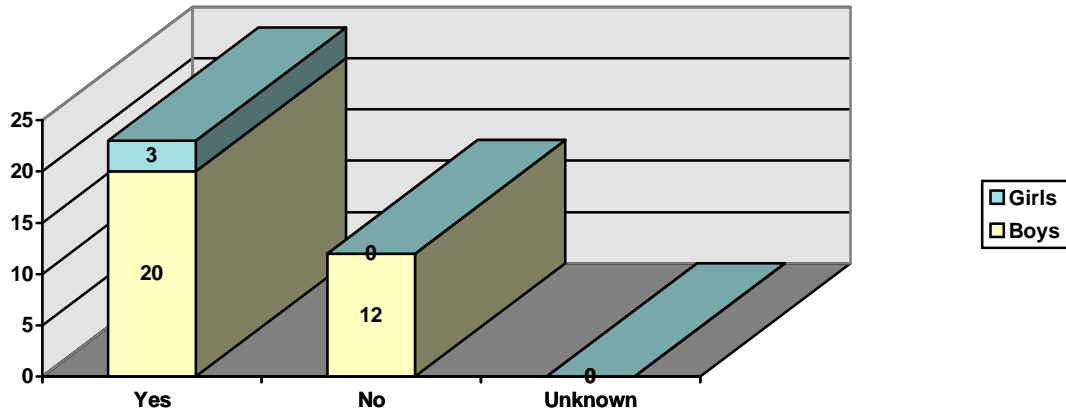


Figure 89 DEFINITE CONCERN (30) Age 1-5 Smokers in Home

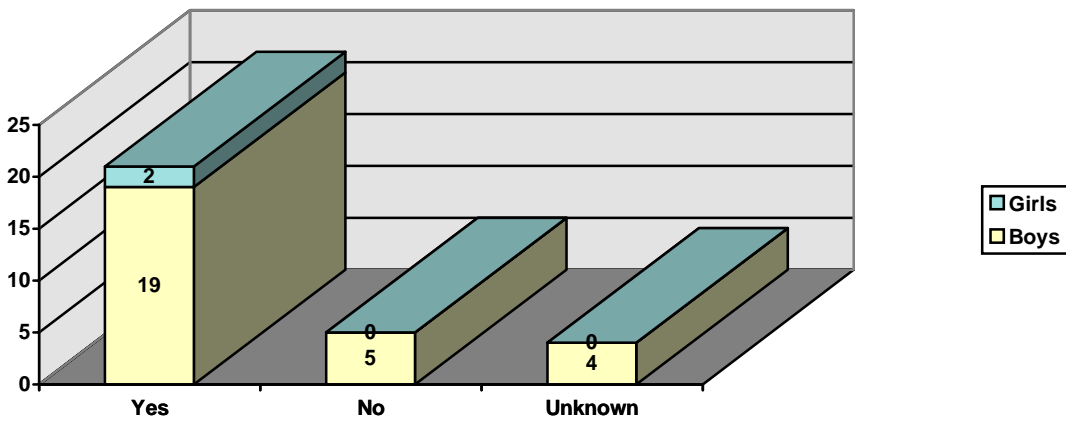


Figure 90 EXTREME CONCERN (6) Age 1-5 Smokers in Home

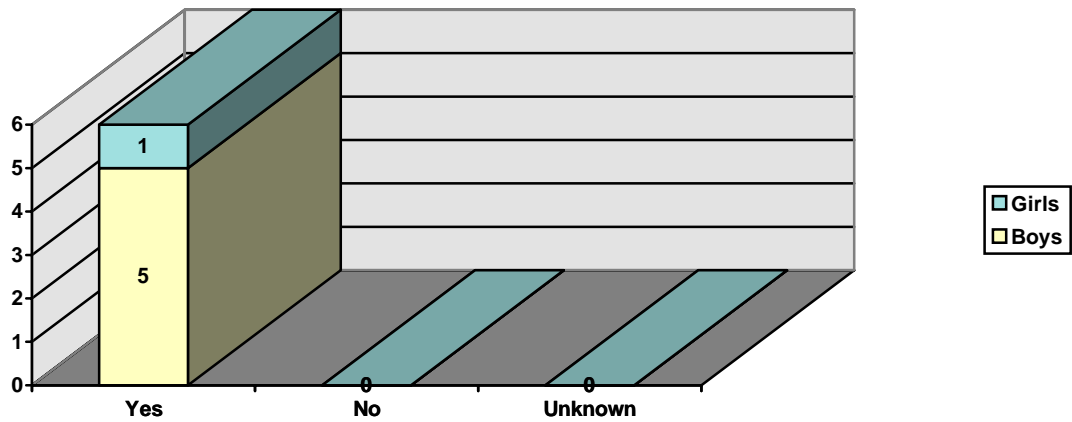


Figure 91 LITTLE CONCERN (191) Age 6-11 Smokers in Home

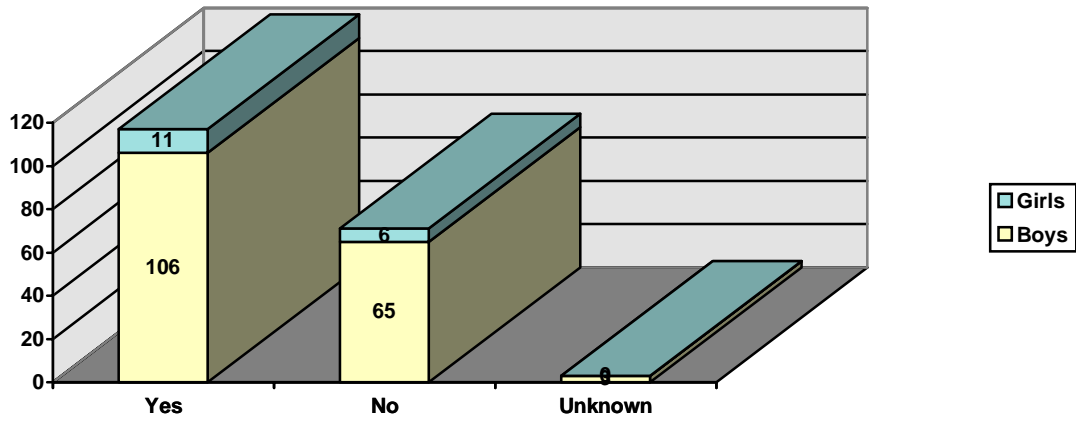


Figure 92 DEFINITE CONCERN (103) Age 6-11 Smokers in Home

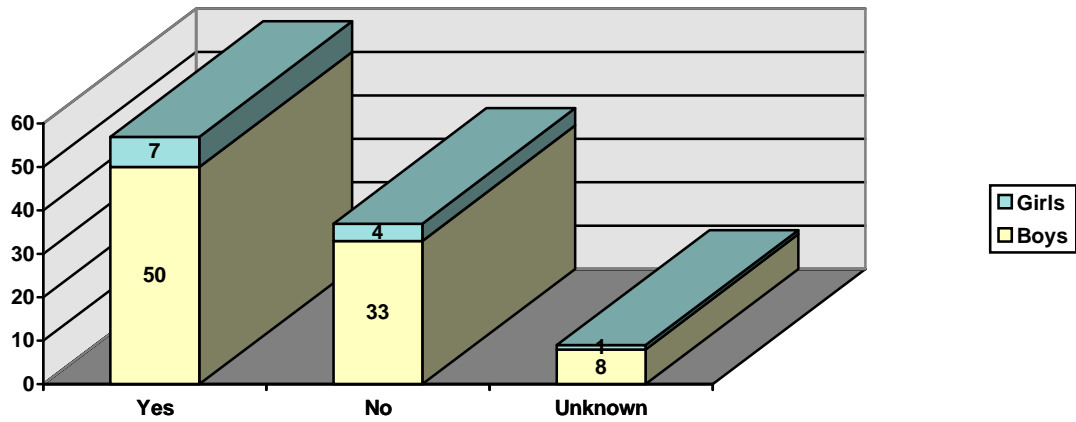


Figure 93 EXTREME CONCERN (9) Age 6-11 Smokers in Home

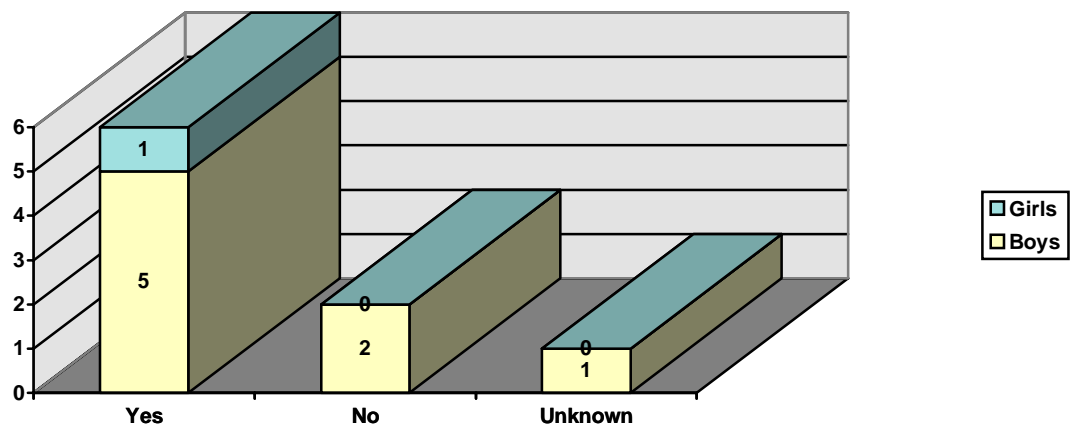


Figure 94 LITTLE CONCERN (106) Age 12-14 Smokers in Home

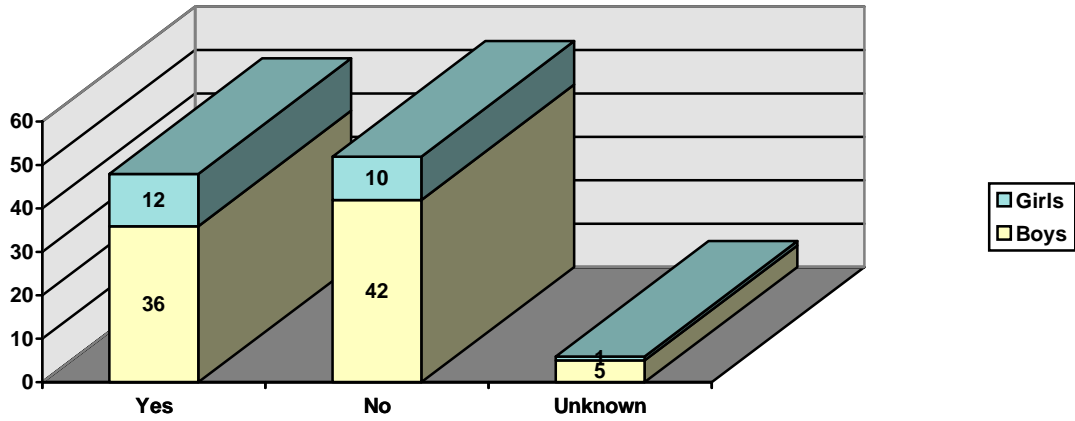


Figure 95 DEFINITE CONCERN (45) Age 12-14 Smokers in Home

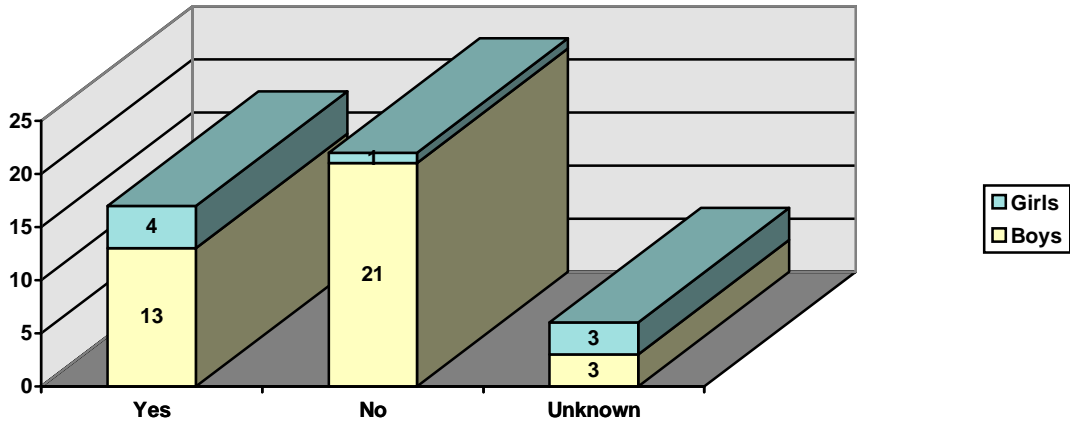


Figure 96 EXTREME CONCERN (1) Age 12-14 Smokers in Home

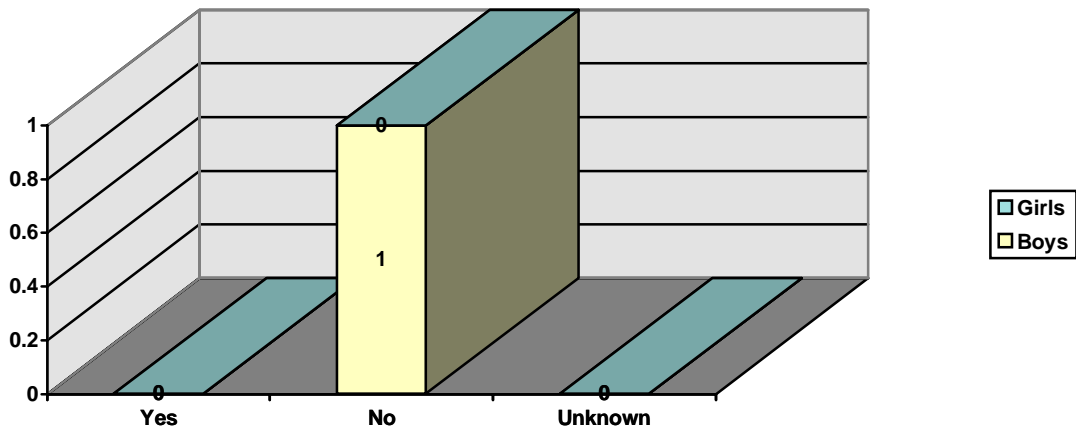


Figure 97 LITTLE CONCERN (15) Age 15-17 Smokers in Home

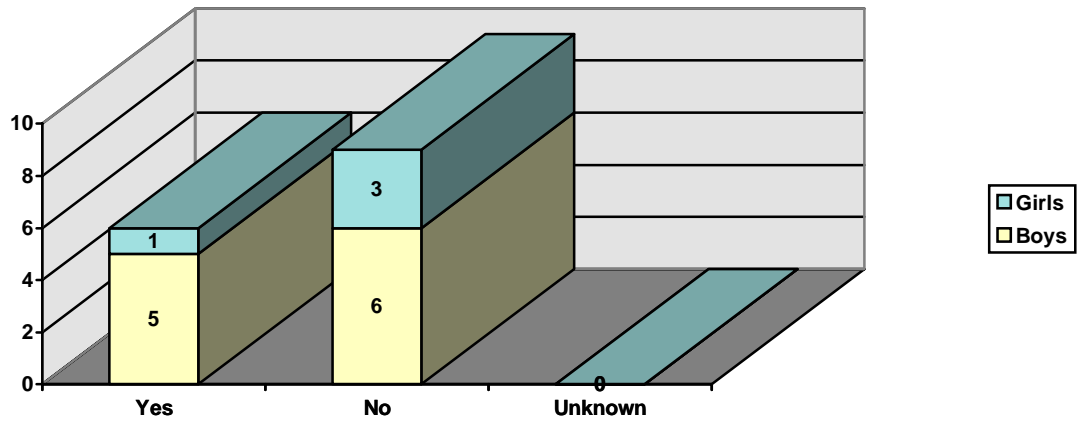


Figure 98 DEFINITE CONCERN (10) Age 15-17 Smokers in Home

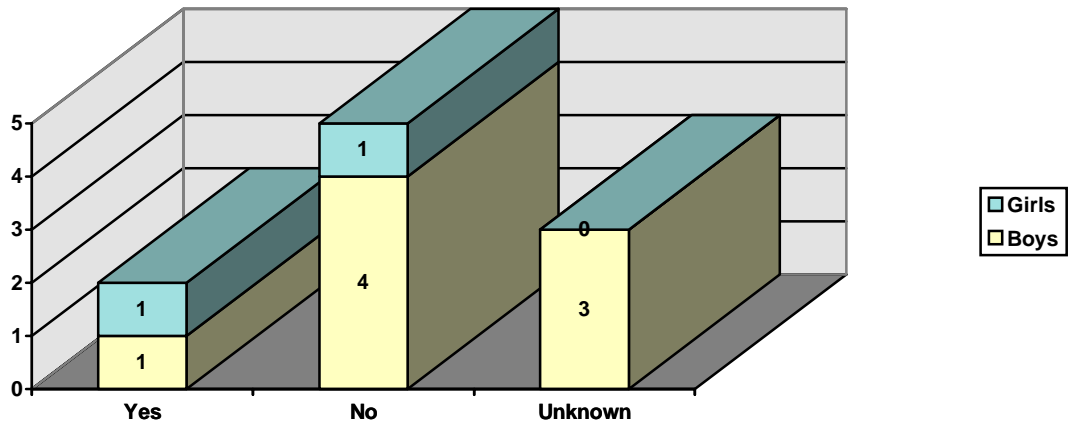
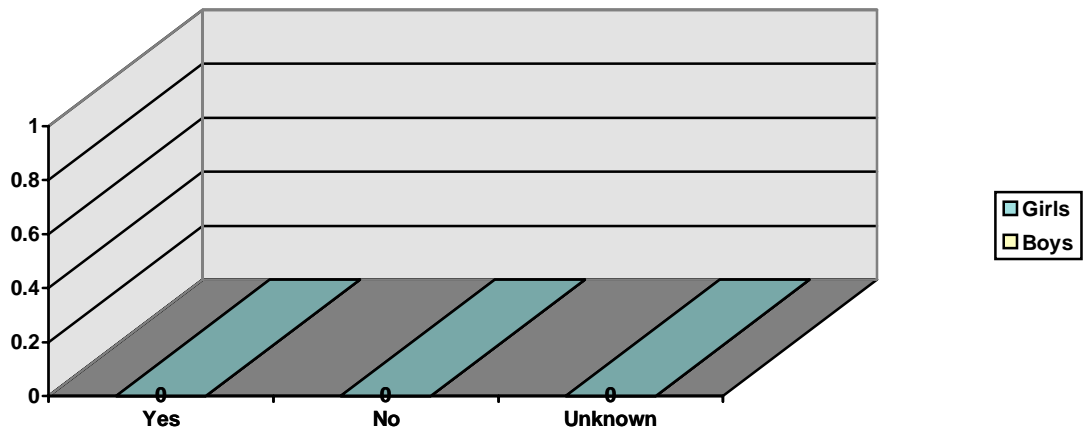


Figure 99 EXTREME CONCERN (0) Age 15-17 Smokers in Home



APPENDIX I

“REPEAT REFERRALS TO PROGRAM”

Figure 100 LITTLE CONCERN (35) Age 1-5 Repeat Referral to Program

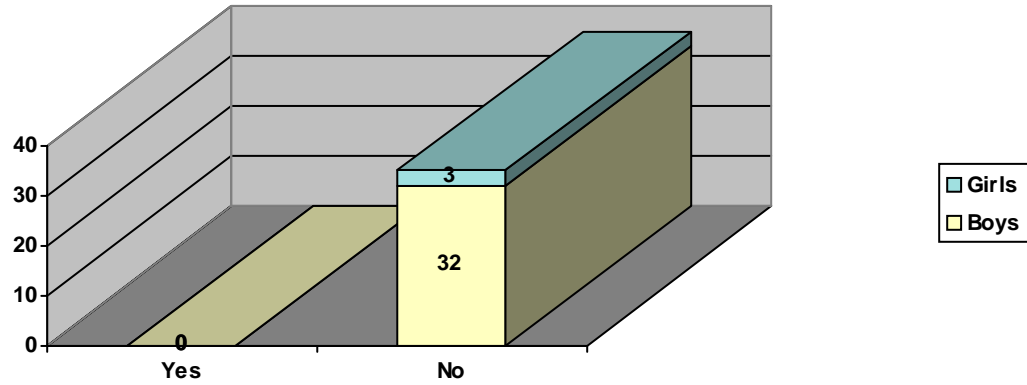


Figure 101 DEFINITE CONCERN (30) Age 1-5 Repeat Referral to Program

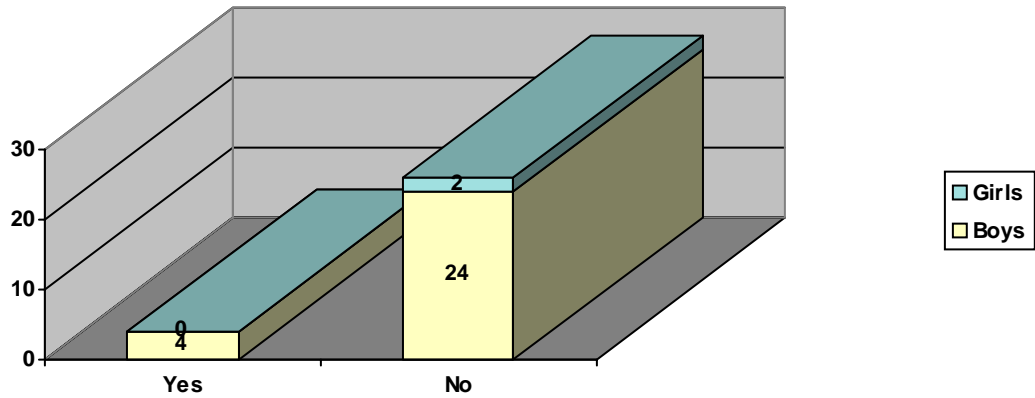


Figure 102 EXTREME CONCERN (6) Age 1-5 Repeat Referral to Program

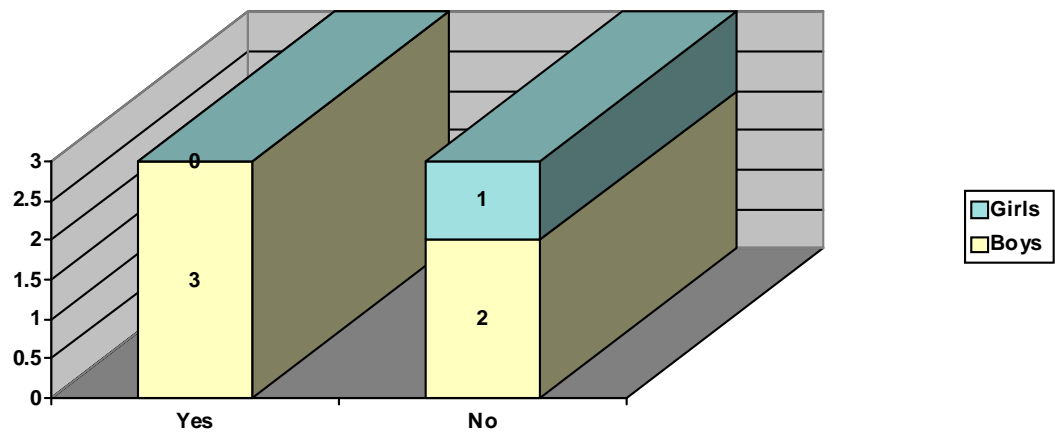


Figure 103 LITTLE CONCERN (191) Age 6-11 Repeat Referral to Program

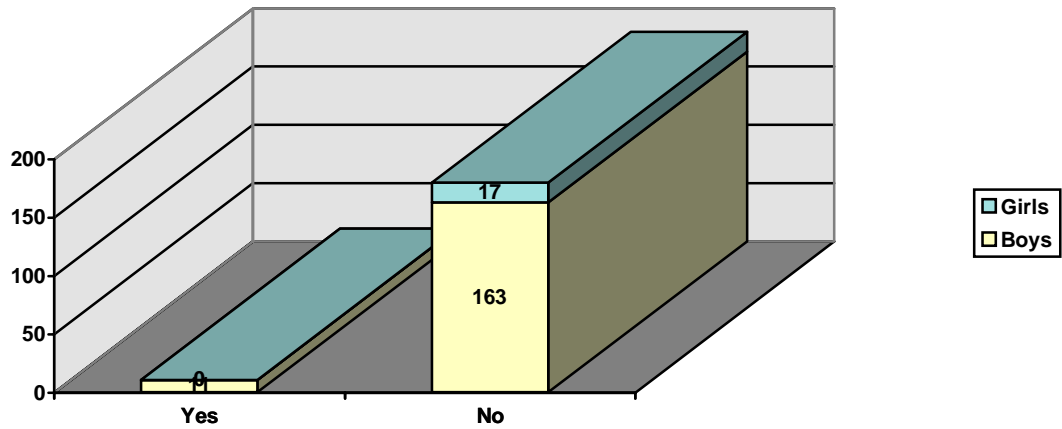


Figure 104 DEFINITE CONCERN (103) Age 6-11 Repeat Referral to Program

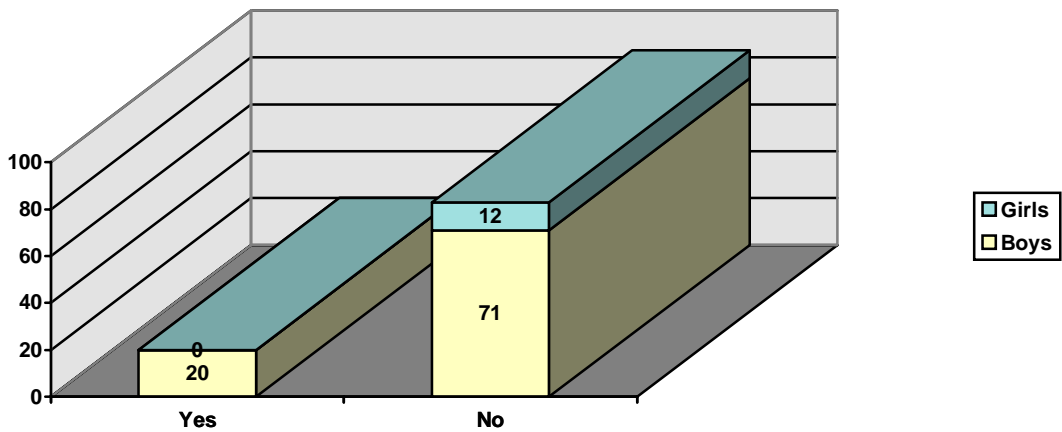


Figure 105 EXTREME CONCERN (9) Age 6-11 Repeat Referral to Program

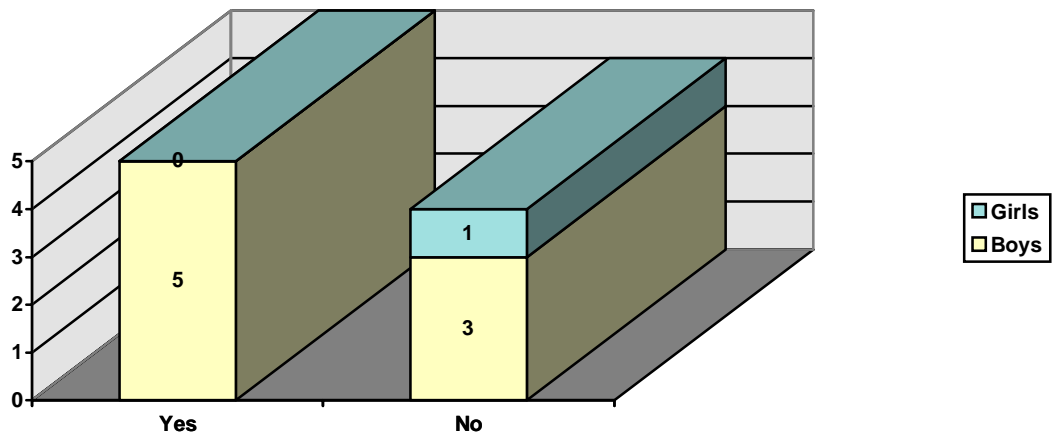


Figure 106 LITTLE CONCERN (106) Age 12-14 Repeat Referral to Program

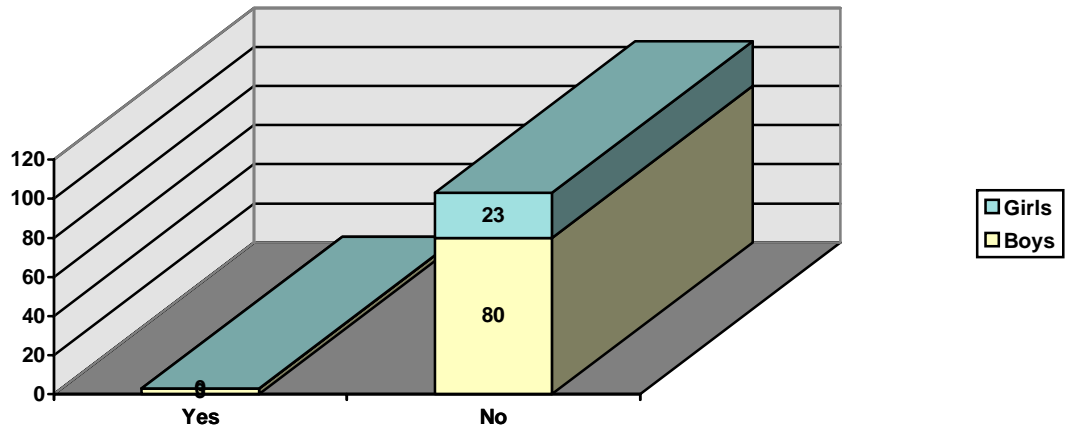


Figure 107 DEFINITE CONCERN (45) Age 12-14 Repeat Referral to Program

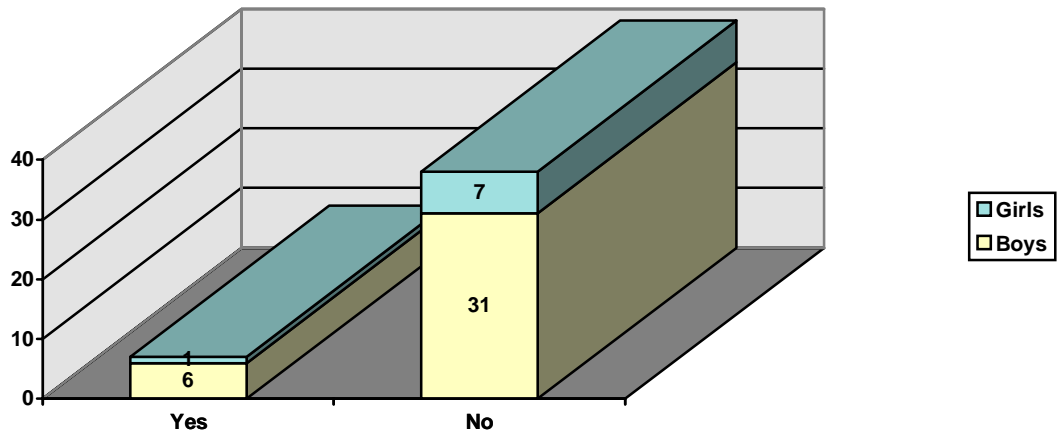


Figure 108 EXTREME CONCERN (1) Age 12-14 Repeat Referral to Program

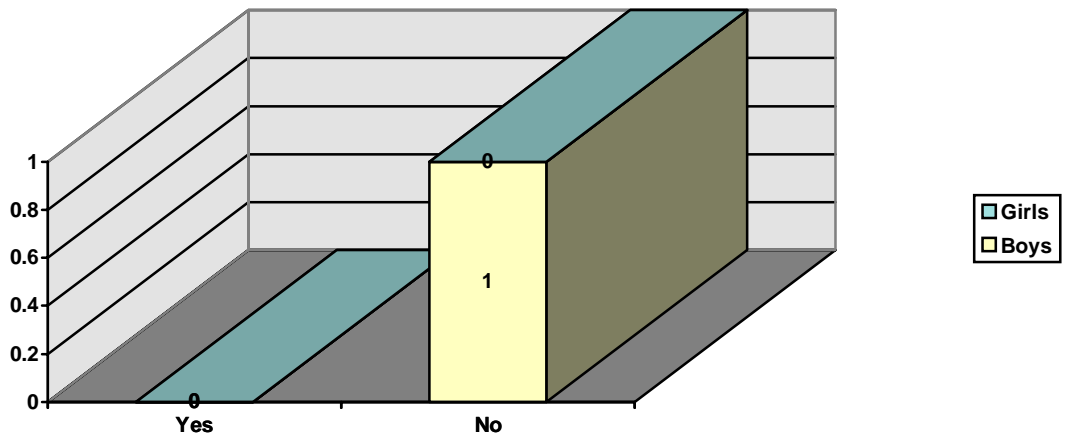


Figure 109 LITTLE CONCERN (15) Age 15-17 Repeat Referral to Program

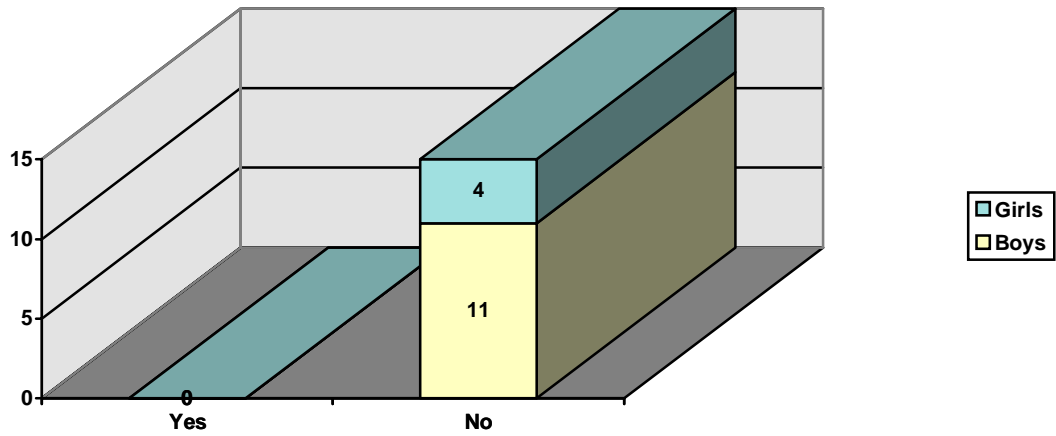


Figure 110 DEFINITE CONCERN (10) Age 15-17 Repeat Referral to Program

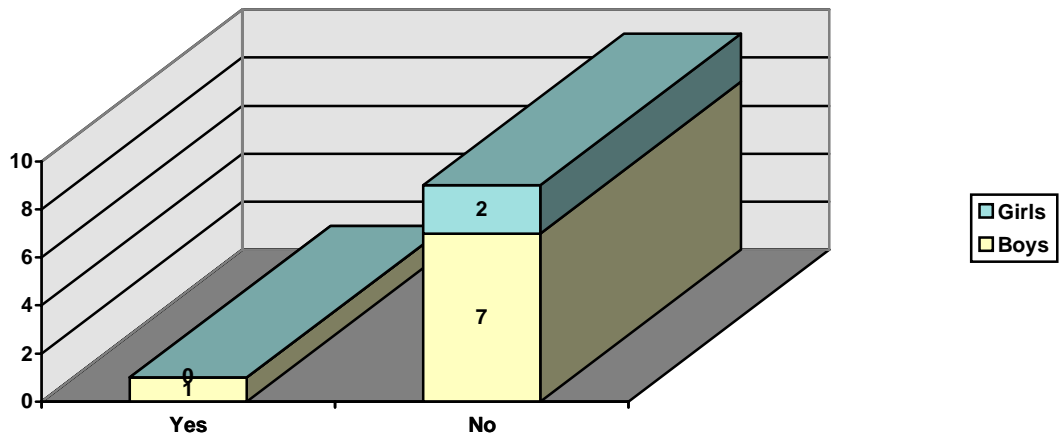


Figure 111 EXTREME CONCERN (0) Age 15-17 Repeat Referral to Program

