The library is a relatively safe work place, but no place is completely free from hazards. This paper examines the major health and safety concerns of staff and patrons of academic and public libraries, based on a literature review of approximately 60 articles. According to this literature, general safety hazards are not considered a major problem in libraries, as evidenced by the fact that they are mentioned infrequently, and each hazard is referred to an average of only two times. Fire can be a major hazard, and insufficient emergency procedures training for staff is the largest concern, at 16.7% frequency (9 times) in the literature, followed closely by arson (8 times), locked or blocked exits (8 times) and defective exit signs (8 times). Harassment was found to be the largest crime threat, referred to 14 times in the literature, followed by assault (8 times) and arson (7 times). Having a clearly written safety policy and training staff on emergency procedures are important safeguards in minimizing safety concerns. The major health concerns reported in the literature were repetitive strain injuries (referred to 6 times), carpal tunnel syndrome (5 times), tendonitis (5 times), eye strain (4 times) and general stress (4 times). The following precautions were recommended to avoid these health problems: have "ergonomically" designed work areas, alternate tasks to prevent excessive repetitive motion and take frequent breaks. Two appendices include a supplemental bibliography and listings of all health and safety issues examined in the paper. (Contains 24 references.) (MAS)
SAFETY AND HEALTH CONCERNS
IN ACADEMIC
AND PUBLIC LIBRARIES

A Master's Research Paper submitted to the Kent State University School of Library Science in partial fulfillment of the requirements for the degree Master of Library Science

by
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October, 1994
ABSTRACT

Libraries have long been thought of as safe havens for both employees and patrons. For the most part this is true, yet at times libraries can be quite dangerous places to work in or to visit. There have been some violent assaults, accidents, fires and other problems. The purpose of this study was to determine, by examination of the available library literature on the subject, what the major health and safety concerns are for users and staff of academic and public libraries. The purpose of this study was also to determine what safeguards are recommended in minimizing these major health and safety concerns. The major health concern found in this study was that "unergonomically" designed workstations cause stress for employees and patrons. The number one health problem reported in the literature was repetitive strain injuries (RSIs) including carpal tunnel syndrome and tendonitis. Fire was a major safety hazard and surprisingly the lack of staff who were trained in emergency procedures was mentioned most often as a concern.
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</tbody>
</table>
CHAPTER I.
INTRODUCTION

Libraries have long been thought of as safe havens for both employees and patrons. This image is what we would like to believe, and what we should strive for in libraries. While it is true that libraries are far from being the most dangerous places to be, at times they can be quite dangerous to visit or to work in. Extreme examples of what can happen are: the rape and murder of head librarian, Kay Blanton, of Buckeye Public Library in Arizona (Gaughan, 1993), or the recent hostage ordeal that took place at the Salt Lake City Public Library, in which children's librarian Gwen Page, among others, was taken hostage for nearly five hours (Children's librarian commended, 1994).

Security problems and arrests in public libraries increased dramatically over the last five years, according to police reports. Unless problem patrons are arrested for an offense, taken to court, and barred from building use, they are free to return to harass, insult, abuse, wander and ogle. (Carparelli, 1984, 212)

Problem patrons appear in libraries and pose a threat to the safety of staff and other patrons.

The 'problem patron' who in the mid-70s was a mere annoyance is now often perceived as a real threat. Many of the people who walk through the doors of 1.
public libraries today are frightening in aspect and behavior and appear to be deranged. They are victims of homelessness, hopelessness, unemployment, or a mental health system that abondoned them. (Milnor Smith 1994, 316)

Accidents are not something that happen frequently in public and academic libraries, yet they need to be addressed. Common accidents are caused by AV/TV carts tipping. The United States Consumer Product Safety Commission began producing warning labels for these carts in 1988 (ICIA Issues cart safety alert, 1988). There have been a few injuries and one reported fatality involving the improper use of compact shelving (Goldberg, 1991, and Fatal injury, 1969).

Some hazards exist for people in libraries that can be minimized or even eliminated if brought to the attention of management. Some of these safety concerns can be prevented if they are discussed with architects prior to new library building construction or improvements. Three examples follow:

A library staff person descending a stairway fell and suffered severe injuries: there was no handrail on the wall side, only on the open side of the staircase. A guard railing on a stair landing had uprights (balusters) spaced only slightly further apart than the recommended standard six-inch spacing. A child fell through the railing and landed on an employee, who was injured. The child was unhurt. Numerous injuries and a few fatalities have occurred from the unwise use of plate glass in large partition and wall panels. Architects have frequently overlooked the potential for disaster in this handsome but deceptive construction. (Morris 1988, 22)

Libraries are generally safe, yet they are susceptible to disaster, like fire, flood, tornado and earthquake (Nelson, 1993).
Fire poses a sizeable threat for libraries and the people in them. Harvey (1975a) says that it is a misconception that fires in libraries are rare. The library literature over the years has shown that they do occur quite often. Some common insurance rating sources have shown that the fire risk for libraries is average (Harvey, 1975a).

Ray Holt, a private library consultant, made these remarks at an American Library Association conference program:

Unfortunately, the incidence of fires in library buildings appears to be on the increase. Some of those reported are the results of arson, which represents a special kind of threat to library security and life safety. Perhaps the most frequent source of library fires is those kindled in refuse, especially in restrooms, offices/workrooms, and delivery areas. Other prime sources include those of electrical origin encouraged by overloading and faulty wiring, followed by malfunctions of heating, ventilating and airconditioning systems. Afterhour book return containers are a special threat. (Vasi 1982, 11)

Video display terminals (VDTs) are quickly becoming one of the major health concerns in libraries. VDTs are becoming more widely used in libraries (Byerly and Lindell, 1982). A spokesperson for OSHA (Occupational Safety and Health Administration) reported that, "30-40 percent of all worker's compensation claims now concern musculoskeletal or soft-tissue disorders - ones often associated with the use of VDTs" (LaRue, 85). Many repetitive motion injuries, such as carpal tunnel syndrome and tendonitis have been reported (Ricks, 1992). "Carpal tunnel syndrome and related repetitive strain injuries (RSIs) are taking employees off their jobs and sending them to
hours of rehabilitation therapy and, in some cases, to surgery" (Kusack 1990, 56).

Another potential health risk addressed in the library literature is the continuous use of photocopiers in unventilated areas, because they are an indoor source of ozone (Chun, 1986). He (Chun) says that many libraries, especially academic libraries, have small photocopying rooms available for users. The photocopiers make a lot of noise and so the doors are usually closed. He believes that it is unwise to locate many photocopiers in a small, closed room for a long period of time. It could be hazardous to those staff or users who need to spend a large amount of time at the photocopier.

Before library managers and administrators can assure their patrons and staff that the library environment is a safe and healthy one, they need to become aware of potential hazards and to try everything in their power to eliminate these hazards.

**Purpose of the Study**

The purpose of this study is to determine, by examination of the available library literature on the subject, what the major health and safety concerns are for users and staff of academic and public libraries. The purpose of this study is also to determine what, if any, safeguards are recommended in minimizing these major health and safety concerns.
5.

Definitions

Safety is the prevention and avoidance of accidents and situations that can cause physical damage to a person. Health hazards are normally long-term in nature and can include toxic chemicals, disease, exposure to radiation, and situations which cause physical or emotional problems in individuals.

The carpal tunnel is the passageway in the wrist that the nerves and tendons pass through to extend into the hand and fingers. The "tunnel" is made up of ligament and bones. Since the tunnel is narrow, swelling and inflammation can result from overuse and continuous flexing. This swelling causes pressure on the median nerve. The median nerve gives sensation to the hand and fingers. The symptoms of carpal tunnel syndrome are numb or tingling hands or fingers, pain in the wrists that may run up or down to the hand or fingers, and pain or numbness that is intensified at night (Ricks, 1992).
CHAPTER II.
LITERATURE REVIEW

There were several studies conducted on different aspects of safety and health issues.

Alan Jay Lincoln (1984) reported on the "Library Crime Research Project." It was a three year study using a survey method of the crime and disruption patterns in public libraries in the United States. The study assessed the problems of crime and disruption, and identified some conditions that facilitate or help to control these problems. Problem patron behavior, assault and arson were addressed.

Will Manley (1993a) did a nonscientific survey on sexual harassment by library patrons. He found that seventy-eight percent of the females responding said they had been sexually harassed. Manley also conducted a follow up survey to see if this high percentage was warranted. He found that eighty-three percent of the respondents had been harassed and forty percent had been "physically harassed" (Manley, 1993b).

There was a survey conducted in public and academic libraries in Illinois. In this study, the researchers wanted to discover how widespread the problem patron activity was and who was responsible for handling the behavior. The researchers also wanted...
to find information on the type of aids that were available to guide librarians in dealing with problem patrons and what is needed to be done about the problem.

Problem patrons were reported by seventy-two percent of the respondents. Problem patrons were reported by ninety percent of the larger public libraries surveyed. The professional staff were most often those who bore the greatest responsibility in handling problem patrons (Brashear, Maloney and Thorton-Jaringe, 1981).

A telephone survey was conducted on the subject of security and safety of people in urban academic libraries. The researchers wanted to know what safety and security problems urban academic libraries had, and with what frequency they occurred. They also wanted to find out what these libraries did to assure the safety of their employees and patrons about disaster planning. The researchers hypothesized that the security and safety of people in urban academic libraries would have high crime statistics if the community that the library was in had a high crime rate. They found that eighteen out of twenty-one responding institutions felt that patrons and staff were safe while in their libraries (Ader and Pinell 1992).

The researcher has found several articles on the topic of fire, yet none of these are studies. There is a chart that lists fires that have happened in North American schools, colleges and universities since 1950. From 1950 to 1970,
fifty percent of the fires were from arson. From 1970 to 1975, seventy-one percent were from arson, and from 1975-1980, seventy-five percent were caused by arson (Morris, 1980).

An article by Robert Seal about insurance for libraries lays out a list of measures to reduce the library's risk of fire. Seal lists architectural design, safety education programs for staff, regular inspections by fire officials, an emergency procedures manual, sealing off book slots, among other measures to reduce the risk of fire.

Seal notes that a common misconception is that water will do more damage than fire. He states that water from localized sprinkler nozzles will put out fire quickly and will cause much less damage than a fire hose squirting hundreds of gallons of water a minute into the stacks (Seal, 1984).

Bruce Harvey says that sprinklers do not cause as much damage as was previously thought. There have been recent advances in sprinkler technology to make sprinklers more attractive for use in libraries (Harvey, 1975b).

One study in the literature reviewed addressed the carpal tunnel syndrome and other muscular-skeletal injuries associated with the use of computer keyboards in libraries. A survey was conducted of management response to incidence of these types of injuries. It was found that forty-nine injuries were reported in seventeen libraries. Thirty-nine of forty-nine injuries involved clerks, technicians, assistants or aides.
There were several studies found that relate to topics in health and safety in libraries, yet these studies did not cover the entire range of what the researcher would like to cover. The researcher wants to look at the issues of safety and health as a whole, and to discover what are considered to be the major problems in academic and public libraries.
CHAPTER III.

METHODOLOGY

The researcher has performed a content analysis of library literature to determine what major health and safety concerns exist for academic and public libraries, and what preventative measures are suggested to minimize these concerns.

Since a bibliography on the subject did not exist, the first step was to compile a list of sources from the library literature that addressed health and safety concerns in libraries (see Appendix A). A coding sheet was developed for analysis of the articles (see Appendix B).

Approximately sixty articles relating to health and/or safety issues in libraries were analyzed.

The researcher used the coding sheet in Appendix B to tabulate (frequency and percentage) and rank the safety hazards and health hazards in order to discover the major sources of concern according to the library literature. The researcher tabulated and ranked the preventative measures as well.

Limitations

The library literature examined in this study was limited to approximately sixty articles, published during the last 10.
twenty-five years, relating to health and/or safety issues in academic and public libraries.
CHAPTER IV.
DATA ANALYSIS

In total, fifty-four articles of library literature were analyzed by the researcher. The frequency percentages obtained were based on one hundred and four items on the coding sheet (see Appendix B). From these fifty-four articles the following data were obtained.

"Grounds poorly lit" ranked highest in the general safety hazards category with 9.3 percent. Five other items each ranked second with a frequency of three or 5.6 percent. Among these items were "unstable or no hand-rails," "blocked corridors" and "wet floors." The next five items were ranked third each at 3.7 percent. Among these items were "balusters improperly spaced," "holes, protruding nails or loose boards in the floor" and "stairway lighting is not adequate." The five remaining items were mentioned only once in the articles examined accounting each for 1.9 percent (see Table 1).

The highest frequency percentage of fire hazards mentioned was 16.7 percent. This item was "staff not trained in emergency procedures." "Arson," "locked or blocked exits" and "defective exit signs" each ranked second, mentioned in 14.8 percent of the articles analyzed. "Accidental fires set in rubbish/waste baskets" had a frequency of seven or 13 percent. Next with a frequency of...
TABLE 1.
Distribution of General Safety Hazards Mentioned in the Literature

<table>
<thead>
<tr>
<th>Safety Hazard</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grounds poorly lit</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Unstable or no handrails</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Aisles not clearly marked</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Blocked corridors</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Wet floors</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Faulty shelving/equipment</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Stair risers wrong height</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Balusters improperly spaced</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Holes, protruding nails or loose boards in the floor</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Stairway lighting is not adequate</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Glass partitions not clearly visible</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Poor stair tread</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Cracks in ceiling</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>No guardrails around open-pit areas</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Broken glass</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Loose lighting fixtures</td>
<td>1</td>
<td>1.9</td>
</tr>
</tbody>
</table>
### TABLE 2.

**Distribution of Fire Hazards Mentioned in the Literature**

<table>
<thead>
<tr>
<th>Fire Hazard</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff not trained in emergency procedures</td>
<td>9</td>
<td>16.7</td>
</tr>
<tr>
<td>Arson</td>
<td>8</td>
<td>14.8</td>
</tr>
<tr>
<td>Locked or blocked exits</td>
<td>8</td>
<td>14.8</td>
</tr>
<tr>
<td>Defective exit signs</td>
<td>8</td>
<td>14.8</td>
</tr>
<tr>
<td>Accidental fires set in rubbish/waste baskets</td>
<td>7</td>
<td>13.0</td>
</tr>
<tr>
<td>Overloaded circuits/faulty wiring</td>
<td>6</td>
<td>11.1</td>
</tr>
<tr>
<td>Flammable liquids improperly stored and ventilated</td>
<td>6</td>
<td>11.1</td>
</tr>
<tr>
<td>Flammable finishes and materials</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Fire extinguishers not regularly checked</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>No sprinkler system</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Ungrounded electrical equipment</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Smoke detectors not regularly checked</td>
<td>2</td>
<td>3.7</td>
</tr>
</tbody>
</table>
percentage of 22.2 percent collectively, are "overloaded circuits/faulty wiring" and "flammable liquids improperly stored and ventilated." Of the articles analyzed, 9.3 percent mentioned "flammable finishes and materials" as being a problem. "Fire extinguishers not regularly checked," "no sprinkler system" and "ungrounded electrical equipment" each had a frequency percentage of 5.6. "Smoke detectors not regularly checked" accounted for 3.7 percent of the articles examined (see Table 2).

The threat of crime mentioned most often in the literature analyzed was "harassment" with a frequency of 14 or 25.9 percent (see Table 3). "Assault" (without a weapon) ranked second with 14.8 percent. "Arson" was third with 13 percent and "rape" and "indecent exposure" were mentioned six times each, or in 11.1 percent of the articles examined. Five items had a frequency of five, or were mentioned in 9.3 percent of the articles. Among these were "harassment will lead to violence," "patron or employee with gun" and "murder." Two items had a frequency percentage of 7.4; "patron or employee with explosives" and "drug use or distribution." The remaining items accounted for 11.3 percent of the articles surveyed.

The number one health hazard mentioned in the literature was "'unergonomically' designed workstations cause stress for employee or patron" with a frequency percentage of 13. "General stress" and VDTs emit radiation" ranked second, each at 5.6 percent. Three items ranked third each at 3.7 percent (see Table 4).
**TABLE 3.**
Distribution of Crime Threat Mentioned in the Literature

<table>
<thead>
<tr>
<th>Crime Threat</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harassment</td>
<td>14</td>
<td>25.9</td>
</tr>
<tr>
<td>Assault</td>
<td>8</td>
<td>14.8</td>
</tr>
<tr>
<td>Arson</td>
<td>7</td>
<td>13.0</td>
</tr>
<tr>
<td>Rape</td>
<td>6</td>
<td>11.1</td>
</tr>
<tr>
<td>Indecent exposure</td>
<td>6</td>
<td>11.1</td>
</tr>
<tr>
<td>Harassment will lead to violence</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Patron or employee with gun</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Secluded area in library</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Theft of personal property</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Murder</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Patron or employee with explosives</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>Drug use or distribution</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>Rape attempt</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Patron or employee with knife</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Patron or employee with other weapon</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Hostage taking</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Employee alone in building</td>
<td>1</td>
<td>1.9</td>
</tr>
</tbody>
</table>
Table 5 was included in this study because it lists actual health problems reported by employees to their employers.

The most frequently reported health problems in the literature reviewed were "carpal tunnel syndrome," "other repetitive strain injuries" and "tendonitis." These problems had a frequency percentage of 29.7 (see Table 5). "Eye strain" and "general stress" each had a frequency of four or 7.4 percent. "Illness from radiation" was reported in two articles analyzed but in each article it was noted that there was no substantial proof that radiation caused these illnesses.

The safety precaution mentioned most often in the literature was having "alarm systems." It had a frequency of 16 or 29.6 percent. The two items ranking second were "have written safety policy" and "staff trained on emergency procedures" each at 27.8 percent. Having "operable smoke detectors" was the next most frequently mentioned item at 22.2 percent. "Keep grounds well lit at night" and "have operable fire extinguishers" both had a frequency of eleven or 20.4 percent. The next six items each had a frequency percentage of 18.5. Among these were "have library regularly inspected for hazards," "invite fire and safety officials on regular inspections" and "have sprinkler system." "Have heat/fire sensors was mentioned in 16.7 percent of the articles. The next three items had a frequency percentage of 9.3. Among these items were "report harassment to supervisor" and "have phone numbers of health and safety officials." The remaining safety precautions were mentioned four or less times.
### TABLE 4.
Distribution of Health Hazards Mentioned in the Literature

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Unergonomically&quot; designed workstations cause stress for employee or patron</td>
<td>7</td>
<td>13.0</td>
</tr>
<tr>
<td>General stress</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>VDT's emit radiation</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Photocopiers in unventilated areas</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Dust</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Disease</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Uncleanliness</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### TABLE 5.
Distribution of Health Problems Reported in the Literature

<table>
<thead>
<tr>
<th>Health Problem</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Repetitive Strain Injuries</td>
<td>6</td>
<td>11.1</td>
</tr>
<tr>
<td>Carpal Tunnel Syndrome</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Tendonitis</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Eye Strain</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>General Stress</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>Illness from radiation</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Lack of coordination</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Communicable disease</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### TABLE 6.
Distribution of Safety Precautions Mentioned in the Literature

<table>
<thead>
<tr>
<th>Safety Precaution</th>
<th>f</th>
<th>%</th>
<th>Safety Precaution</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm Systems</td>
<td>16</td>
<td>29.6</td>
<td>Report harassment to supervisor</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Have written safety policy</td>
<td>15</td>
<td>27.8</td>
<td>Have clear, unblocked aisles</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Staff trained on emergency procedures</td>
<td>15</td>
<td>27.8</td>
<td>Store and ventilate flammable liquids properly</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Have operable smoke detectors</td>
<td>12</td>
<td>22.2</td>
<td>Have phone numbers of health and safety officials</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Keep grounds well lit at night</td>
<td>11</td>
<td>20.4</td>
<td>Have emergency lighting</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Have operable fire extinguishers</td>
<td>11</td>
<td>20.4</td>
<td>Have written floor plan</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>Have library regularly inspected for hazards</td>
<td>10</td>
<td>18.5</td>
<td>Install metal detectors to prevent weaponry from entering premises</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>Invite fire and safety officials on regular inspections</td>
<td>10</td>
<td>18.5</td>
<td>Block attached book return containers, and place detached ones outside</td>
<td>4</td>
<td>7.4</td>
</tr>
<tr>
<td>Keep corridors, stacks well lit at night</td>
<td>10</td>
<td>18.5</td>
<td>Place guardrails around open-pit areas</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Train employees how to deal with “problem patrons”</td>
<td>10</td>
<td>18.5</td>
<td>Do not overload circuits</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Have sprinkler system</td>
<td>10</td>
<td>18.5</td>
<td>Eliminate or mark large glass partitions</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Have automatic communication link with police and fire departments</td>
<td>10</td>
<td>18.5</td>
<td>Employees should not work in building alone</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Have heat/fire sensors</td>
<td>9</td>
<td>16.7</td>
<td>Do not use flammable materials</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Have security guard</td>
<td>8</td>
<td>14.8</td>
<td>Restrict access</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Do not lock or block exits</td>
<td>8</td>
<td>14.8</td>
<td>Have written sexual harassment policy</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Have operable exit signs</td>
<td>7</td>
<td>13.0</td>
<td>Have written sexual harassment policy</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Use halogen gas</td>
<td>7</td>
<td>13.0</td>
<td>Have public address system</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Use surveillance cameras</td>
<td>7</td>
<td>13.0</td>
<td>Have written rules of conduct</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Clearly mark aisles</td>
<td>6</td>
<td>11.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harassment issue should be discussed by administration</td>
<td>6</td>
<td>11.1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The health precautions mentioned most often in the articles analyzed were "have 'ergonomically' designed work stations" and "alternate tasks to prevent excessive repetitive motion" at 13 percent. "Take frequent break" was next at 9.3 percent. The remaining precautions were mentioned two or less times (see Table 7).
### TABLE 7.
Distribution of Health Precautions Mentioned in the Literature

<table>
<thead>
<tr>
<th>Health Precaution</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have &quot;ergonomically&quot; designed work stations</td>
<td>7</td>
<td>13.0</td>
</tr>
<tr>
<td>Alternate tasks to prevent excessive repetitive motion</td>
<td>7</td>
<td>13.0</td>
</tr>
<tr>
<td>Take frequent breaks</td>
<td>5</td>
<td>9.3</td>
</tr>
<tr>
<td>Reduce glare on VDTs</td>
<td>2</td>
<td>3.7</td>
</tr>
<tr>
<td>Place photocopiers in well ventilated areas</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Have separate toilet facilities for each sex</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Have adequate ventilation</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Turn off VDT when not in use</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Have photocopier regularly serviced and cleaned</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Wash hands frequently</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
CHAPTER V.
SUMMARY AND CONCLUSIONS

Public and academic libraries are still quite safe for staff and for patrons. To make libraries even safer, administrators should do all they can to become aware of potential health and safety hazards in their buildings and to minimize or eliminate these hazards if possible. This research was conducted to pinpoint such hazards and to discover what preventative measures are offered in the library literature on the subject.

General safety hazards were not a major problem according to the literature analyzed. They were not numerous and were on the average only mentioned two times (see Table 2).

Fire is one of the most frightening and expensive events that could occur in a library. Managers and administrators should know what and where the potential fire hazards are in their libraries. "Staff not trained in emergency procedures" ranked first among potential fire hazards mentioned in the literature. It had a frequency percentage of 16.7 (see Table 2). According to the data collected, making sure the staff is trained in emergency procedures should be a priority for employers. This goes hand in hand with the idea that libraries should have a clearly written safety policy (see Table 6).

Having locked or blocked exits was mentioned quite frequently.
in the literature: 14.8 percent (see Table 2). Some exit doors are locked to prevent theft, yet, in effect they could prevent people from escaping in an emergency. It was surprising for the researcher to discover the potential danger of a simple item, a defective exit sign. If people don't know where the exit is in a smoke filled room, it could mean the difference between life and death for them.

Harassment, with a frequency percentage of 25.9, was definitely the most frequently mentioned crime threat in the literature analyzed (see Table 3). Sexual harassment, and other types of harassment have found their place in public and academic libraries, and must be as easily stopped. While harassment was determined to be considered a major problem in the literature examined, the preventative measure table (see Table 6) shows that preventing harassment is not always considered an option.

Perhaps a study could be conducted to determine if library employees are being harassed and what, if anything, their employers have done to remedy the problem. The employees could also be researched to see at what rate they report these incidents and if they report them at all.

Assault had a frequency percentage of 14.8 and appears to be a fear to some employees and patrons. The idea of training employees on how to deal with "problem patrons" had a frequency of 18.5 percent, which means that this is a known potential hazard and that something is being done about it (see Table 3).
One of the major findings in this study is that along with having alarm systems, having a clearly written safety policy and training staff on dealing with emergency situations can be very beneficial in any emergency. These precautions can cut down on the stress that accompanies emergency situations, and may even result in saving lives (see Table 6).

The major health concerns in the literature are repetitive strain injuries (RSI's), especially carpal tunnel syndrome and tendonitis (see Table 5). The main cause given for these injuries in the analysis are "unergonomically" designed work stations for employees who work at video display terminals or keyboards for a long period of time (see Table 4). The main solutions for preventing RSI's are to have "ergonomically" designed furniture and work stations and for employees to alternate tasks. Allowing frequent breaks was also mentioned as a solution (see Table 7).
APPENDIX A.
SUPPLEMENTAL BIBLIOGRAPHY


Burgess, Dean. 1989. The library has blown up! Library Journal 114 (October): 59-61.


### General Safety Hazards Mentioned

- Unstable or no handrails
- Poor stair tread
- Stair risers wrong height
- Balusters improperly spaced
- Holes, protruding nails or loose boards in floor
- Stairway lighting is not adequate
- Cracks in ceiling
- Stairs not clearly marked
- No guardrails around open-pit areas
- Glass partitions not clearly visible
- Grounds poorly lit
- Blocked corridors
- Broken glass
- Loose lighting fixtures
- Wet floors
- Faulty shelving/equipment

### Fire Hazards Mentioned

- Accidental fires set in rubbish/waste baskets
- Arson
- Locked or blocked exits
- Defective exit signs
- Smoke detectors not regularly checked
- Fire extinguishers not regularly checked
- Staff not trained in emergency procedures
- No sprinkler system
- Ungrounded electrical equipment
- Overloaded circuits
- Flammable liquids improperly stored and ventilated
- Flammable finishes and materials

### Crime Threat Mentioned

- Harassment
- Harassment will lead to physical violence
- Patron or employee with gun
- Patron or employee with knife
- Patron or employee with explosives
- Patron or employee with other weapon
- Hostage taking
- Secluded area in library
- Rape attempt
- Rape
- Employee alone in building
- Theft of personal property
- Assault
- Murder
- Drugs
- Indecent exposure

### Health Hazards Mentioned

- "Unergonomically" designed workstations cause stress for employee or patron who spends many hours at VDT
- VDTs emit radiation
- Photocopyers in unventilated areas
- Uncleanliness
- Dust
- Disease
- General stress

### Health Problems Reported

- Carpal tunnel syndrome
- Tendonitis
- Other RSIs
- Eye strain
- Illness from radiation
- Lack of coordination
- General stress
Safety Precautions Mentioned

-- Have written safety policy
-- Have library regularly inspected for hazards
-- Invite fire and safety officials on regular inspections
-- Eliminate or mark large glass partitions
-- Clearly mark aisles
-- Keep grounds well lit at night
-- Keep corridors, stacks well lit at night
-- Employees should not work in building alone
-- Report harassment to supervisor
-- Have security guard
-- Train employees how to deal with "problem patrons"
-- Install metal detectors to prevent weaponry from entering premises
-- Have clear, unblocked aisles
-- Place guardrails around open-pit areas
-- Do not lock or block exits
-- Have operable exit signs
-- Have operable smoke detectors
-- Have operable fire extinguishers
-- Store and ventilate flammable liquids properly
-- Have sprinkler system
-- Have fire/heat sensors
-- Do not overload circuits
-- Block attached book return and place detached ones outside
-- Staff trained on emergency procedures
-- Have phone numbers of health and safety officials
-- Restrict access

Health Precautions Mentioned

-- Have "ergonomically" designed work stations
-- Alternate tasks to prevent excessive repetitive motion
-- Place photocopiers in well ventilated areas
-- Wash hands frequently
-- Have separate toilet facilities for each sex
-- Have adequate ventilation
-- Turn off VDT when not in use
-- Reduce glare on VDTs
-- Take frequent breaks
-- Have photocopier regularly serviced and cleaned
REFERENCE LIST


