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RESIDENTIAL FIRE SAFETY TIPS IN AMERICA AND AUSTRALIA

**An Interactive Qualifying Project Report
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Preface:

This project is the continuation of the earlier project on residential fires in the U.S. and Australia. In the prior project, the causes for the lower fire death rate in Melbourne, Australia, relative to the fire death rate in the United States, were examined. In this project, more emphasis will be placed on how to prepare and prevent residential fires based on the research done by Australia and the United States. A number of fire safety organizations in the U.S. will be introduced, and the methods of how these organizations concentrate on different aspects of residential fires will be presented. In the meantime, one organization that deals with many different issues of residential fires will be introduced for Australia. Eventually, the comparisons between American and Australian organizations will be considered to find out how the method taken by each country is different.

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1. Introduction

Fire is an extremely important resource in the world, and it can be equally dangerous at the same time. However, the public only has a perception of fire as being essential, and not many people are aware of the dangers of fire. It is important that people recognize the dangers of fire and they respond correctly and safely when a fire occurs. The government has an obligation to prepare their citizens to be more responsive to fires and to create a better system to reduce the occurrence of fire-related accidents and deaths. It is beneficial for both the United States and Australia to compare their existing fire safety systems because they can use each other as benchmarks. That way, it becomes easy for both countries to identify their own weaknesses and strengths.

2. Causes of fires

Smoking is one of the major causes for bedroom fires in both the U.S. and Australia. Smoke-materials, also known as lighted tobacco products, burn flammable objects, such as bedding, mattresses and upholstered furniture. Eight percent of fire accidents in residential buildings occur between 2 a.m. and 3 a.m. Fire accidents also occur during the evening hours between 3 p.m. and 10 p.m. The incautious behaviors of smokers and lack of knowledge in fire safety rules cause the ignition of fires during these hours. Heating equipment is another main cause of fires in homes and apartments in the U.S. and Australia (IQP).

3. U.S.

3.1. Situation of residential fires

In United States, residential fires have been serious problems over the decades. There are three major causes of residential fires: cooking materials, heating equipments, and incendiary or suspicious causes researched by NFPA. However, these three causes of residential fires differ from the causes of fatalities during the residential fires (IQP). According to recent statistics of 1994-1998, 31 percent of residential fires occur in the kitchen, and bedrooms/living rooms/family rooms/den are also known as the places that have relatively high fire occurrence rates.

3.2. Evacuation and Prevention

A number of U.S. fire safety institutions have conducted research to develop fire safety tips on how to prevent fires and how to react in case of fires. These institutions include Federal Emergency Management Agency, National Fire Protection Association, universities, American Red Cross, and several state fire departments. Typically each institution has its own particular area of interest, and the research is focused mainly on the area.

3.2.1. Federal Emergency Management Agency

In order to respond to various fire situations, people should gain more knowledge and recognize the importance of evacuation when fires occur at homes. There are many helpful methods of evacuation. Federal Emergency Management Agency (FEMA) lists what has to be done before and after there is a fire in the house or building. First of all, when a fire occurs in the building, people should stay low to get

out as quickly and as safely as possible by using the stairs. If possible, people should cover their mouth with a cloth to avoid inhaling smoke and gases. When escaping from a room, it is important to close the door to delay the spread of the fire. While escaping, it is important to feel all doors before opening them. If the door is hot, residents should find another way to escape (House and Building 1-2).

The FEMA also simulates different situations. For example, they simulate a situation that a fire breaks out in a room when the door is closed. If smoke is coming under the door or it feels hot, the first thing to do is keep the door closed and open a window to escape or for fresh air to come in while waiting to be rescued. People should always have emergency numbers next to their phones because they tend to panic and become forgetful in such situations. On other hand, people should be aware that when a fire threatens a house, residents should not place phone calls to the emergency services from inside the home. It is better to get out of house first and make phone calls from somewhere else (House and Building 1-2).

3.2.2. University of Florida

Preventing fires and being prepared for fires are also significant issues for fire safety. University of Florida provides numerous ways to prepare for the fires that residents can learn it easily. First of all, it is always better to install smoke detectors, check them once a month and change the batteries at least once a year. It is recommended that each family regularly practice an escape plan and alert other household members. Parents should make sure all family members know how to react in case of fires. University of Florida also recommends people draw a floor plan that has at least two ways to escape from every room. It is a good idea to keep a bell and a

flashlight in each bedroom for this purpose. When practicing how to evacuate from buildings, it is helpful to get blindfolded and stay low because it is almost impossible to see objects in a real fire situation due to the smoke generated by fires. Posting emergency call numbers near telephones is another important preparation for fire situations. Moreover, for those who live in multi-storied houses, it is effective to purchase collapsible ladders and practice how to use them. Finally, each house has to have at least one fire extinguisher and make sure that residents learn how to use them (Chapter 13: Residential Farm Fires 1-3).

3.2.3. American Red Cross

The American Red Cross has dealt with many kinds of residential fires. They provide a list of how to make homes fire-safe and note that it is important to get trainings from fire departments on topics, including how to use the fire extinguisher, replace smoke alarms, and install an automatic fire sprinkler system (Red Cross 1).

3.2.4. National Fire Protection Association

National Fire Protection Association (NFPA) also provides important fire safety tips that can help residents put together an effective home fire escape plan. The information is similar to the information that other organizations have introduced.

However, NFPA research is more in depth in such ways as followings:

1. Pull together everyone in the household and make a plan. (Don't forget to mark the location of each smoke alarm).
2. Test all smoke alarms (Listed by a qualified testing laboratory) monthly to ensure that they work. Replace batteries as needed.
3. Make sure that everyone understands the escape plan and recognizes the sound of the smoke alarm.

4. If windows or doors in your home have security bars, make sure that the bars have quick – release mechanisms on the inside so that they can be opened immediately in an emergency. Quick – release mechanisms won't compromise your security – but they will increase your chances of safely escaping a home fire.
5. Practice the escape plan at least twice a year, making sure that everyone is involved – from kids to grandparents. Allow children there will be a drill before they go to bed can be as effective as a surprise drill. If children or others do not readily waken to the sound of the smoke alarms, or if there are infants or family members with mobility limitations, make sure that someone is assigned to assist them in fire drill and in the event of an emergency.
6. Agree on an outside meeting place where everyone can meet after they've escaped. Remember to get out first, and then call for help. Never go back inside until the fire department gives the OK.
7. Have everyone memorize the emergency phone number of the fire department. That way any member of the household can call from a cellular phone or a neighbor's home.
8. Be fully prepared for a real fire: when a smoke alarm sounds, get out immediately. And once you're out – leave the firefighting to the professionals!
9. If you live in an apartment building, make sure that you're familiar with the building's evacuation plan. In case of a fire, use the stairs, never the elevator.
10. Tell guests or visitors to your home about your family's fire escape plan. When visiting other people's homes, ask about their escape plan. If they don't have a plan in place, offer to help them make one. (NFPA)

According to NFPA, cooking equipments are the leading causes of home fires in the U.S. To prevent cooking fires in the home, the NFPA suggests taking the following steps:

1. Always keeps an eye on food being heated.
2. Keep children away from appliances when cooking.
3. Dress appropriately for cooking.
4. Try not to reach over the stove.
5. Turn handles inward.
6. Keep the stovetop clean and clear.
7. Carefully monitor hot oil, keeping the pan lid close at hand. Guard against splattering grease by lowering food into oil with utensils; don't just drop it in. Know what to do in case a grease fire occurs.
8. If you are cooking with oil and it ignites, don't throw water on the fire. Don't try moving the pan either. Turn the burner off and smother the fire with a pan lid. If this does not work, leave the house and call the fire department.
9. If you have a fire in your microwave over, close the door to the microwave and unplug it. Don't use the microwave again until you have had it serviced.

10. Do not put any metallic materials in the microwave oven, which may cause sparks and eventually damage the microwave.
11. Keep an “ABC” dry chemical fire extinguisher in the kitchen.
12. Use caution with electrical appliances.
13. Keep appliance cords as short as possible.
14. Keep appliances in proper working order.
15. Always have hot pads and lids ready.
16. Keep emergency numbers by the telephone.
17. Prevent boil-overs by not overfilling pots. Use recommended temperatures instead of increasing the heat to reduce cooking time.
18. Use a burner that is the appropriate size for the pan you are using. (NFPA)

3.2.5. Fire Safety beyond the Limits

The article, Fire Safety beyond the Limits, deals with a situation when there is a fire in a rural area while other organizations just concentrate on how to escape from fires at home. Once a fire starts to ignite in a rural home, it is often hard to control it because many homes are located far away from fire stations. Within a short amount of time, an entire home might be destroyed by fire. Therefore it is important to insulate chimneys and place spark arresters on top, extend the chimney at least three feet above the roof, and remove branches hanging above and around the chimney. Residents in rural areas should make sure that they know available local emergency services near their homes and their phone numbers. Fire services might be far away from homes, so the article requires residents have a 100-foot garden hose, shovel, rake, ladder and buckets. They need to be sure to use at least three-inch letters on the mailbox in a contrasting color, use large enough numbers on the house to see from the road, and paint the street address on the curbside at the end of the driveway. That way, firefighters will waste less time looking for the house (Fire Safety Beyond).

When a fire occurs at home in suburban or rural areas, the methods to prevent and evacuate from fires are quite different from the ones used in urban areas. When

people move from urban areas to suburban or rural areas, they should review fire safety tips again. First, people must be aware of special fire hazards near wooded areas. Secondly, geographic locations may create a longer response time for fire rescuing services (Fire Safety Beyond).

3.2.6. Tampa Fire Rescue

The Tampa Fire Rescue also points out the importance of preventing fires at home. Initially, they emphasize educating children about fire safety because children are likely to be the victims of fires due to the lack of education. So they recommend the educators discuss the following topics with children:

1. Draw a complete floor plan of your home.
2. Indicate all doors and windows.
3. Map out two escape routes from every room in your home.
4. Choose a safe meeting place outside the house where everyone knows they will meet in a fire emergency.
5. Check your windows to see if they operate properly.
6. Purchase a chain ladder to exit from upper levels.
7. Get outside and stay outside. (Surviving and Preventing).

The Tampa Fire Rescue also introduces various conditions of preventing fires, such as installation of smoke detectors, kitchen fire safety, safe smoking habits, alternative heaters, wood stoves and fire places, and fire safety for children. In order to save children's lives, the fire safety messages need to draw special emphasis for each family who has children at home (Surviving and Preventing).

3.2.7. United States Fire Administration

The United States Fire Administration is a part of the federal government that prevents fires, and they specialize in maintaining a website for children to learn fire safety tips. They take an approach to make home fire safety tips for children in children's point of view. Here are the fire safety messages for children at home.

1. Don't cook alone or without asking an adult.
2. Remind your parents to turn pot handles toward the center of the stove. They should never hang over the edge where someone could bump into them and knock them off the stove.
3. Never put anything over a lamp, like clothes or a blanket, not even when playing.
4. Don't touch radiators or heaters. Ask an adult to turn a heater on or off for you.
5. Don't stand too close to the fireplace or a woodstove. You could get burned or your clothes could catch fire.
6. Never touch matches, lighters, or candles. If you see matches or lighters in a room, tell an adult right away.
7. Remind grown-ups to change smoke alarm batteries at least once a year.
8. Don't play with electrical cords.
9. Never stick anything into an electrical socket.
10. Turn off lights, stereos, TVs and other electrical equipment when you are finished using them. (Residential Fire)

The USFA also indicates how important it is for children to be aware of a fire escape plan, which is very similar to the ones that NFPA provides. These fire escape rules apply to anyone, regardless of age, sex, and background. The USFA tries to make the program fun to learn because children tend to get tired of learning new materials easily. In that way, children can easily learn important concepts and practice the actual emergency situation.

Moreover, USFA list important residential fire protection concepts, such as using smoke alarms and learning an escape plan and basic home fire safety. They use interesting techniques, such as playing games like Hydro's hazard house and certifying

children as junior fire marshals. This method is very efficient for children to recognize the importance of fire safety at home.

3.2.8 Fire Department in Minnesota

Marshall, a fire department in Minnesota, shares tips for preventing fire in the home, which includes keeping an eye on smokers, and cooking carefully.

1. Install smoke detectors.
2. Keep an eye on smokers
3. Cook carefully
4. Plan your escape from fire
5. Give space-heaters space
6. Remember: Matches and lighters are tools, NOT toys.
7. Cool a burn
8. Use electricity safely
9. Crawl low under smoke
10. Stop, drop, and roll. (City of Marshall)

3.2.9. Texas Volunteer Fire Department

The Texas volunteer fire department also provides tips for preventing fires in the kitchen. Kitchen fires have resulted in the deaths of hundreds of people and injured thousands of people, according to Ahrens. The Texas volunteer fire department says that it is easy to prevent kitchen fires as long as residents simply follow the basic fire safety tips listed below:

1. Don't leave cooking unattended.
2. Stay in the kitchen whenever anything is cooking, and never leave food cooking on your stove or in your oven when you leave home. Turn off stoves and appliances promptly when you're finished using the, and unplug electrical appliances when they are not in use.
3. Keep appliances clean.
4. Built-up grease catches fire easily. Wipe appliance surface after spills and clean stove surfaces and ovens regularly.
5. Be alert.
6. Wear close-fitting sleeves.

7. Keep flammable objects clear of the stove.
8. Don't overload electrical outlets.
9. Use potholders when removing food from microwave ovens. Remove lids from packaged microwave foods carefully to prevent steam burns, and test food temperature before eating.
10. Turn pot handles in because a pot handle sticking out over the edge of your stove can be bumped in passing or grabbed by a child.
11. Heat oil slowly over moderate heat and never leave hot oil unattended.
12. Smother a grease fire if a fire starts.
13. Portable fire extinguishers can be effective in fighting small, contained fires.
(Cooking and Kitchen Safety)

Kitchen fires are the most dangerous type of fires in the home as this department has emphasized.

3.2.10. Fire Department in Lexington, Massachusetts

While most organizations provide the methods of prevention and evacuation for general people, the Fire department in Lexington, Massachusetts, provides fire safety tips, specifically for the older adults and people with disabilities.

3.2.10.1. For the Older Adults

1. Be Kitchen Wise: Never leave cooking unattended. Wear clothes with tight fitting sleeves when you cook. Always set a kitchen timer to remind you to turn off the burners and oven. Keep stove surfaces free of clutter and built-up of grease.
2. Be Smoker Wary: Use large, deep, non tip ashtrays. Empty ashtrays often, wetting the contents before dumping into the trash. Never smoke in bed or while consuming alcohol or taking medication that could make you drowsy or disoriented.
3. Give Space Heaters Space: Keep electric portable space heaters at least 3-feet from everything including you! Just brushing against one could set your clothing on fire.
4. Install smoke detectors: Be sure to have smoke detectors outside all sleeping areas and on every level of your home, including the basement. Test your detectors monthly, and change your batteries once a year. If you sleep in a room with the doors closed, install a smoke detector inside the room as well. If you

are hearing impaired, use a tested and approved smoke detector that triggers a strobe light. (Fire Safety for Seniors)

As people get older, their abilities to respond to situations get weaker. Therefore, it is important to have special types of fire safety tips that apply to this particular group of people.

3.2.10.2. For a Disability

Since disabled people require special attentions, it is important to make particular fire escape plans for them. For example, when disabled people are alone at home, it is likely that they cannot escape from fires for themselves. Therefore the members of households need to come up with plans to assist them. Here are the simple plans that may be helpful in that situation:

1. **This Way Out:** It is important that people with limited mobility stay as close to safety as possible. Consider sleeping on the ground floor, making escape easier. Have a telephone installed where you sleep.
2. **Sound the Alarm:** Smoke alarms listed by a qualified testing laboratory save lives by sounding a warning and allowing people to escape. But what if you or someone in your home can't hear the alarm? Consider installing a smoke alarm that alerts with flashing lights. Some smoke alarms have a louder horn that is easier for people with impaired hearing to hear.
3. **Stay Connected:** The majority of fatal home fires happen at night, and escape might be necessary through an area with smoke or in the dark. If you are unable to leave on your own, call the fire department and tell them where you are. If you have a cordless phone, try to take it with you if you have to escape from a fire (Fire Safety for Seniors).

3.2.11. Maryland State Fire Marshal – E.D.I.T.H.

The Maryland State Fire Marshal offers a checklist for preparing a home fire escape strategy that help design and practice the escaping plans. Exit Drills In The Home (E.D.I.T.H.) is associated with helping residents learn how to escape safely during a fire emergency at home. When a fire occurs, the safety of residents depends on

the calm, rational actions of the residents. E.D.I.T.H. and a carefully designed escape plan can be the keys to safe escapes. It can be beneficial to plan ahead of time.

Advanced planning will ensure that people are ready for any fire emergency and let people and their loved ones have peace in their minds (Exit Drills).

The first step is to sketch the floor plan of the home and other areas from which you could escape. Afterwards, you should draw arrows to indicate the normal exits which would be the primary escape route. It is better to draw arrows with an alternate color to indicate a secondary exit from each room in the home. Residents have to make sure that they choose a location outside the home where family members can meet once they have safely escaped. A neighbor's front yard or sidewalk may be an ideal meeting place (Exit Drills).

3.2.12. Pasadena Fire Department

Pasadena Fire Department also provides a home fire safety checklist. They recommend taking steps to prevent accidental fires in the home and any injuries that may occur.

1. Change your smoke detector batteries.
2. Check your smoke detectors.
3. Count your smoke detectors.
4. Vacuum your smoke detectors.
5. Change your flashlight batteries.
6. Install fire extinguishers.
7. Plan and practice your escape.
8. Change your clock, change your battery. (Home Fire Safety Checklist)

Each day on average, three children die in home fires, and 1,100 children die a year. About 3,600 children are injured in house fires each year. 90 percent of fire-related deaths among children occur due to the absence of working smoke detectors.

Although 92 percent of American homes are equipped with fire alarms, nearly one-third do not operate because of old or missing batteries. A working smoke detector reduces the risk of death in home fires by nearly half (Home Fire Safety Checklist). These eight steps can be taken in order to reduce the number of tragedies.

3.2.13. University of Oklahoma

University of Oklahoma Police Department offers fire prevention articles and safety tips in the home. The police officials ask people whether they are aware of dangers in fires at home. University of Oklahoma emphasizes that people should not assume that a fire is something that happens on a television newscast, to somebody else's home, to another person's business, and in a remote location – away from you and your family (Police Notebook). These commonly mistaken assumptions are absolutely dangerous and threatening.

3.2.14. Rochester Fire Department

Rochester fire department explores fire safety advice that is provided by trained professionals. They recommend people learn about smoke detectors, fire places, and how to respond in the events of fires. Their hard wired smoke detectors are something new and can have a large effect on other states that do not have this new smoke detector.

Here are the new regulation lists for the city of Rochester:

1. All newly installed hard wired smoke detectors shall be battery backed up.
2. All newly installed hard wired smoke detectors shall be interconnected.
3. In new construction, a hard wired smoke detector shall be installed in each bedroom including at least one on each level and outside of bedrooms.
4. Under State Law RSA 153:10-a, every rental property shall have hard wired smoke detectors installed.

5. If you are unsure as to where to place a smoke detector, please contact the Fire Prevention Bureau and they will be glad to assist you in the placing of smoke detectors.
6. Before work can be started and electrical permit shall be obtained at the office of the building department. (Fire Prevention)

These newly installed hard wired smoke detectors are currently not in use everywhere in the U.S (Fire Prevention). People who reside in the city of Rochester may have these new detectors which will help to prevent fires.

3.2.15. University of Nebraska Cooperative Extension in Lancaster County

University of Nebraska (UN) also researches the facts on preventing fires. UN includes tips about smoke detectors, escape plans, and emergency evacuation. They say nearly all home fires can be prevented by following a few rules of fire safety which are listed below.

Here are designated fire prevention tips while dealing with potential ignitable objects at home.

1. Matches and lighters: Keep all matches and lighters out of children's sight and reach.
2. Smoking: Never smoke when you are sleepy or in bed.
3. Wiring: Don't overload outlets or run wires or extension cords under rugs, behind radiators, through door jams or across walkways.
4. Combustible liquids: Combustible liquids should be stored outdoors in a cool place out of reach of children.
5. Heating equipment: Many home fires can be traced to defective or improperly operated or installed heating equipment.
6. Trash: A quick check of the attic, basement and storage areas in and around the home will reveal any excess trash that should be removed.
7. Cooking equipment: Most fire hazards in the kitchen are associated with either cooking or careless use of the kitchen range. (Home Fire)

It costs much less to prevent fires than to recover from fire damages. So it is important to consider every possible fire situation and how residents would escape in corresponding to the situations. We can prevent fires by developing a fire escape plan for residents and giving instructions. If babysitters are taking care of children, they need to be aware of what to do in case of a fire (Home Fire). These tips also provide information about location, installation, and maintenance of smoke detectors and fire extinguishers.

3.2.16. West Covina Fire Department

Fire-prevention specialists in West Covina Fire Department offer instructions to establish a home fire escape plan. They emphasize how important it is to plan the escape route before a fire occurs inside the house. West Covina explains in details how residents should react when they find a fire at home. There rules help residents becoming fully prepared for a home fire. When a smoke alarm goes on, residents need to react immediately and be able to figure out what to do, which is enabled by planning and practice (Plan Your Escape).

3.2.17. City of Carlsbad

Safety begins with individual responsibility. Most accidents can be prevented or significantly minimized by following a few general safety practices. Practices that are as simple as installing a smoke detector can save people's lives. But many people still tend to disregard the possibilities that a home fire accident might happen to them

although they know how a fire accident can devastate a family (We do more than Fight Fires).

The Carlsbad Fire Department responds to preventable accidents everyday, especially home fires. City of Carlsbad lists numerous methods of preventing fires at home, such as installing smoke detectors and heating systems, cleaning filters, wall, portable, and kerosene heaters, and handling charcoal briquettes and barbecues. This information is also significant because these heating systems can have the disastrous effects in home fires (We do more than Fight Fires).

3.2.18. City of New York

The fire department in the city of New York presents important fire safety tips in the home. Unlike the previous institutions, the city of New York has not taken into account the age, and sex of people. This information may be different in contrast to the home prevention tips for a rural area.

1. Smoke alarms save lives – install and maintain them.
2. Smoking and drinking are a lethal combination. Smoking carelessness is a leading cause of fire. Don't empty ashtrays into the trash.
3. Keep matches, lighters, and candles away from children.
4. Be careful with candles. Don't leave them unattended. Never sleep with candles burning.
5. Remove electrical cords from under rugs and behind radiators. Never nail or staple the cord to walls or molding.
6. Don't overload outlets and extension cords.
7. Never put a portable space heater near drapes, furniture, bedding, or other flammable materials.
8. Move flammable liquids stored near the stove or other heat source to a safe, distant location.
9. Remove all materials on or near your stove that could catch fire, including paper, dish cloths, etc.
10. Early notification can make ALL the difference – in case of fire, call 911. (Top Ten Fire Safety Tips)

4. Australia

4.1. Situation of Residential Fires.

The top 2 areas of fire origination in residential buildings are the kitchen (33%), and sleeping room (13.8%). The kitchen and bedroom are statistically proven to be most dangerous places of origination of fires at home in both the U.S. and the Australia. The most common fire incidents occur in the kitchen where fat or grease is ignited on a stationary cooking surface after being left unattended. Smoking in the bedroom causes large percentages of fire incidents in residential properties (Construction and Engineering).

4.2. Metropolitan Fire and Emergency Services Board

The Metropolitan Fire and Emergency Services Board, MFB, researches and analyzes how individuals behave in a real fire situation. The research is conducted to analyze human behavior prior to and during fires and how public safety campaigns affect how people react to fires. The MFB's aim of the research is to analyze and assess the effectiveness of public safety programs on behavior of individuals, who have experienced a fire situation in the home before. The MFB introduces well-organized programs for different categories comparing with programs in the U.S.

4.2.1. Safety Program for people from non-English speaking background

The MFB uses fire messages including “Home escape”, “Dial ‘000’”, and “Smoke alarms.” An audiotape provides other messages, such as lives as firefighters, the insights of firefighters from non-English speaking backgrounds. This program is designated to get non-English speaking members to join the fire brigade. The target audiences are adult immigrants, who are learning English through AMES (Certificate in spoken and written English Levels 1-3) which has 14 offices in Melbourne. School-age migrants attending English language centers or schools prior to entering school systems are also target audiences (Human Behavior 12-13).

The MFB provides English teachers with a handbook of fire safety terms and practices. The objective of this program is to incorporate the fire safety messages within the context of the English learning process. After a 45-minute seminar on fire safety from the fire brigade staff, a practical demonstration on the use of fire blankets is provided (Human Behavior 12-13).

The objective of this safety program is to educate non-English speakers on fire the safety system. This program should definitely be applied in the U.S. since there are more non-English speakers in the U.S. than the Australia.

4.2.2. Great Home Escape Day (Campaign)

The purpose of the campaign is to encourage residents to develop a home escape plan. There are two types of fire: preventative and reactionary and these were introduced in the U.S. researches. Here are the preventative messages to residents:

1. The attitude of ‘it won’t happen to me’ is incorrect; fires can affect anyone
2. The number one cause of fires in the home is cooking equipment – pay attention while cooking
3. Most fires occur at meal times
4. Evening is the most dangerous time for fire

5. The majority of home fire fatalities occur during winter and at night
6. It is the law to have at least one working smoke alarm on each level of the house
7. Install smoke alarms so that they can be heard in bedrooms
8. Keep all your electrical appliances in good working order
9. Ensure that cigarette ash and butts are properly put out. Never smoke in bed
10. Never leave cooking, heaters, open fires and candles unattended
11. Store all matches and lighters out of the reach of children
12. Do not dry clothing near heaters
13. Clean lint filters on clothes dryers regularly and always let dryers go through a 'cool down' cycle
14. Don't overload power boards
15. Regularly check the gas connection on your barbecue. (Human Behavior 14)

Secondarily, reactionary messages are shown below. These are to be observed during fires.

1. A home escape plan, smoke alarm, fire extinguisher and fire blanket helps to decrease the effects of a fire on the family
2. Most people die from inhaling smoke and toxic gases long before the flames get to them
3. Evacuate the home quickly and safely and stay out
4. Ring 000 from a neighbor's house
5. Never go back into a burning house
6. Have a fire extinguisher and fire blanket and know how to use them
7. Do not deadlock yourself inside the house and keep all keys readily available.

(Human Behavior 14).

As mentioned before, residents are targeted the campaign. The campaign runs once a year and they emphasize all residents to develop a home escape plan. There is also a pamphlet that provides fire safety information and a blank page for residents to come up with a floor plan and escape routes.

4.2.3. Operation Homesafe

The operation homesafe is another helpful program to eliminate the fire and safety hazards around the home and eventually to reduce the occurrence of death and injury. This program is targeted at the elderly, parents with young children, and the

general public. The fire messages deal with issues of fire, of slips and falls, and of scalds and burns (Human Behavior 18). Here is the program procedure. Throughout this procedure, residents can learn the importance of fire safety rules even if they do not practice a home escape plan for themselves.

Program Procedure

1. The council distributes information to careers to target groups.
2. Upon the request to the relevant Zone headquarters by residents, Fire officers conduct 20-30 minutes inspection. During the inspection, they highlight important safety advice and may develop a home escape plan.
3. After the inspection, the resident receives a checklist of potential hazards. (Human Behavior 18)

4.2.4. Winter Fire Safety (Campaign)

Although there have been slight differences in the aim each year, the common purpose of each year's winter fire safety campaign to raise public awareness about the increased risk of residential fires during the winter. The campaign also provides preventative strategies to reduce this risk. It depends closely on media, such as pamphlets, newspaper ads, and television ads. The three major components of the campaign are:

1. Change your clock, change your smoke alarm battery (CYCCYSAB) campaign.
2. Great Home Escape Day (this is now threaded throughout all programs)
3. General winter fire safety messages. (Human Behavior 20)

4.2.5. Summer Fire Safety Campaign (Primarily a CFA Campaign)

The summer fire safety campaign is also designed for the general residents in

order to increase the level of community preparedness in case of fires during summer. The campaign emphasizes on the proper maintenance of gas cylinders, hoses, connections, and use of gas barbecues. The target audiences include the general community, people from NESB in conjunction with the Office of Gas Safety, and local streets backing onto river valleys and gorges. These messages were previously mentioned in the U.S. researches. Both the U.S. and the Australia emphasize the importance of maintenance of electrical appliances. There are released media components showing:

1. Check all electrical appliances for frayed cords or visual damage
2. Fit a dry powder extinguisher and a fire blanket in the holiday home
3. Keep all exits and exit paths clear of obstructions
4. Never leave cooking unattended and cook with care
5. Discard cigarettes carefully and never smoke in bed
6. Turn off electrical items at the power point when not in use
7. Store all flammable liquids in approved sealed containers and keep them well clear of holiday home and any ignition sources
8. Ensure all areas around the holiday home are clear of any rubbish and combustible materials
9. If possible ensure some form of water supply or garden hose is available on site for first aid firefighting
10. Not use double adaptors in power points; a power board with a safety switch is preferred (Human Behavior 21).

4.2.6. Change Your Clock, Change Your Smoke Alarm Battery

This program is designed to encourage people to change their smoke alarm batteries once a year. The program is a two-week campaign leading up to the end of day light savings. The program administrators utilize media, such as television ads and newspapers, to motivate people. Also, the firefighters are provided with batteries for installation in residence. The way of delivering this message is really important to educate and motivate since people are not usually aware of a danger of

fire. It is important to make people aware of the fact that the smoke alarm requires a battery (Human Behavior 25).

4.2.7. Youth Fire Safety Program

This program is performed to teach children (scouts, girl guides, St. Johns Ambulance Youth Group, and primarily children aged 11-15 years) the basic concepts about the danger of fires. The basic concepts include the nature and the common causes of fire, the dangers of smoke and fire, the types of fire, the appropriate actions when a fire breaks out, and the identification and use of fire safety equipment for the home.

First, the participating youth groups get initial training from the instructors, and then visit the local fire station for further teachings. A certificate is given to the participants if they are able to finish the entire course of the program (Human Behavior 22).

4.2.8. Fire ED (Grade Prep)

This program is intended to deliver appropriate fire safety education to the Grade Prep children in the Metropolitan Fire District. Children and their families are expected to participate in the program. Since the target audiences are children aged 4-6 years old, fire messages are as simple as “Good fires help us, bad fires hurt us,” “Matches are tools, not fires,” “Stop, drop and roll (clothing fires)”, and “Firefighters are friendly and can help you.” During this program, firefighters teach basic knowledge about fire and talk about the four fire messages. The firefighters use materials that

stimulate children's intellectual curiosity, so that children do not feel that it is difficult to learn the materials (Human Behavior 23).

4.2.9. Retire ED

Here is another significant program to deliver fire safety and preventative knowledge to people over 50 years old. The fire messages are focused primarily on preventing fire at the houses, since this group of people spends most of their time at home. Retired fire officers deliver the program along with talks and videos. The program uses fire messages similar to those used in other programs. The goal of the program is to give retired people safety tips for the bedroom and, kitchen, and where to contact in cases of fire; Dial 000 (Human Behavior 24).

Since retired people spend most of their time at homes, videos and conversations are good methods to deliver the importance of fire safety.

4.2.10. Isolated Elderly Program

This program is aimed at the isolated elderly who are most likely to be 65 years and older. Fire related injuries and deaths are very likely to happen to this age group, and this program is designed to reduce the number of accidents suffered by the isolated elderly. The fire messages once again contain both preventive and reactionary advice (Human Behavior 16). This program began when people realized there are elderly members who live independently and who cannot react in fires.

Program Procedure

1. The fire brigade provides various careers with brochures on the rationale for the program and seminars on the elderly related issues.

2. Workshops are presented by the MFB to career organizations, trying to identify the areas of home that present a fire risk, to highlight the added problems when the elderly face when confronted with a fire, and to discuss strategies for the effective implementation of fire safe behavior and practices.
3. According to the guide, which is offered by the local council and include details of potential hazards that can happen in a typical house, the careers are not allowed to do a house inspection, but can give fire advice in an informal manner.
4. If the careers need further information, they can contact councils' program coordinators and fire brigade (Human Behavior 16-17).

4.2.11. JFAIP (Juvenile Fire Awareness and Intervention Program)

There are many fire accidents caused by Juvenile, and this program is established to reduce the number of deaths, injuries, and property damage by delivering fire education to juvenile. There are three types of fire messages for JPAIP: for juniors (early primary school), for intermediate (middle to late primary), and for seniors (high school). The difficulty of messages varies, depending on the age of juvenile. The program teaches not only basic knowledge about fire but also basic first aid in case of burns. Children who light fires as well as intellectually disabled older people are encouraged to participate in the program (Human Behavior 26).

4.2.12. Fire ED (Grade 6)

Every grade six child in all government, Catholic and private schools in the MFD is a target audience for this program. The reason this specific group of people is chosen is because Grade 6 is an appropriate time period to reinforce fire education before children go onto secondary school. It is also a good time to give them a sense of responsibility in preventing fires and in responding appropriately to an emergency.

Finally, children can understand easier when they get more sophisticated fire education in the future if they have basic knowledge (Human Behavior 28). The program includes the knowledge of fire in terms of everyday life, of science, of causes, and of survival strategies.

4.2.13. Early Fire Safe

The program is aimed at educating children under five years old. Fire is one of the most serious dangers to the children in this age. Children are not aware of the danger or how to protect themselves, and it is important that parents have a good sense of knowledge so that they can control the danger. After this program, parents should have better understandings of fire hazards at home and be able to protect their children better. In this program, firefighters use slides and brochures that are question and answer formats (Human Behavior 30).

5. Comparison

5.1. Introduction

As a result of observing the residential fire safety tips of the United States and Australia, some significant differences between the two countries could be found. First of all, Australia has introduced a centralized fire safety organization in the city of Melbourne, while the United States has several organizations that are specialized in certain aspects of residential fires. Another difference is the different approaches each country takes in order to improve residential fire safety.

5.2. Organizational Structure

As mentioned earlier, Australia has one organization in the city of Melbourne that deals with diverse topics on fire safety tips. In the United States, on the other hand, numerous fire institutions across the country conduct research on fire safety tips, and each institution has a different area of interest.

5.2.1. Australia

Australia has an organization known as the Metropolitan Fire and Emergency Services Board (MFB), which deals with all different aspects of residential fire safety in Melbourne, Australia. The research areas of the MFB include the fire safety education for different age groups and non-English speakers, fire safety tips for summer/winter seasons, home escape plans, and smoke alarms. The MFB is also a main fire authority that has impacts on fire rules and regulations in Australia.

Since Australia has a centralized organization, they have more control on fire regulation. It is easier for them to implement new regulations or modify rules. For

example, when the MFB, a central fire authority in Australia, enforced a campaign called “Change Your Clock, Change Your Smoke Alarm Batteries,” the campaign was successful because the MFB had control of on local fire authorities.

5.2.2. The United States

On the other hand, there are several organizations in the United States that are actively engaged in research on various topics, and each organization is specialized in a certain topic. The organizations include universities, fire departments, and major fire safety association, such as the National Fire Protection Association, the Federal Emergency Management Agency (FEMA), and United States Fire Administration.

Fire departments in each state in the United States have developed their own fire safety tips and regulations. For example, the Rochester Fire Department requires hard wired smoke detectors which are currently not in use everywhere in the U.S. Also, there are different fire safety tips, depending on geographical locations. The U.S. deals with fires in both urban and rural areas while the MFB in Australia just concentrates on a general method of how to escape from fires at home.

5.3. Approach

Each country takes a different approach in its research. The contents of research conducted by Australia tend to be practical, whereas the United States focuses more on theoretical concepts.

5.3.1. Australia

Australian fire safety programs attempt to educate people by giving hands-on experience. For example, when educating children aged 11-15 years, those children first learned basic concepts about fire, and then visited local fire stations to get actual training. There are programs for different aged groups: children under five years old, aged 4-6, 11-15, elementary school students, middle and high school students, and people over fifty years old. These groups consist of people who do not have fire safety knowledge and cannot react to the fire immediately. Children and their parents are expected to participate in the program so that children can actually learn and experience the importance of fire safety at home. The MFB also distributed and applied adjustable methods to different age groups, such as teaching basic first aid in case of burns for juveniles since that age group starts using lighters and other cooking materials. Another example is using videos and talks to deliver the fire safety tips to elderly and retired people, that way, fire safety tips can be delivered efficiently since these groups of people spend most of their time at home. The MFB, representing Australia, establishes these practical programs so that each group of people can essentially learn and experience appropriate programs.

5.3.2. The United States

The U.S. provides significant fire safety tips at home for residents including children, older adults, and people with disabilities. Most organizations inform theoretical fire safety messages like importance of learning and practicing home escape plans, installing smoke alarms, using fire extinguishers, and handling cooking materials. Every organizations list what has to be done before, after, and during a fire in the house. However, all the programs from each organization are not implemented as hand-on

practice even though they are very specific and theoretical. For example, Tampa Fire Rescue recommends discussing the fire safety tips with children but the program is not actually enforced. The fire department in Lexington, Massachusetts, deals with evacuating from fires and method of preventing fires at home for the older adults, and people with a disability. They provide significant information but these are also not implemented. The U.S. research is much more theoretical than the MFB's programs.

5.4. Conclusion

Overall, there are two major differences in the fire safety programs of Australia and the United States. The fire safety programs for the countries are different in that Australia has a centralized fire safety authority that deals with various aspects of fire safety while the United States has several fire safety organizations with different research interests in diverse areas of fire safety. Another significant difference is the approach each country takes in developing fire safety programs. Australian fire safety programs are practical so that the programs are designed to give hands-on experiences. On the other hand, the fire safety programs of the U.S. tend to be more theoretical and detailed than the ones of Australia. Although the U.S. fire safety programs lack practicality, they can be good models for countries with less developed fire safety programs.

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