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GENERAL KNOWLEDGE OF FIRE PROTECTION
AMONG HOUSEHOLDERS IN LONDON

by

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MINISTRY OF TECHNOLOGY AND FIRE OFFICES' COMMITTEE
JOINT FIRE RESEARCH ORGANIZATION

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INTRODUCTION

In October, 1965, as part of a national effort, the Greater London Fire Brigade held a "Fire Prevention Week". One of the activities involved visits by firemen to many houses in the area, and the opportunity was taken to ask a number of questions intended to throw some light on the general knowledge of the public on fire matters that might affect them. The decision to undertake this study was taken only a short while before the Fire Prevention Week commenced and it would have been preferable if more time had been available for the preparation of the questionnaire, but the study has nevertheless produced some interesting information which is summarized below.

The questionnaire, which is reproduced as Appendix I, was completed by the visiting fireman, who was under instruction to obtain answers to the questions without any unnecessary prompting. A detailed breakdown of the response is given in Appendix II.

SUMMARY OF RESULTS

(1) Occupation of property

A total of 2,717 questionnaires was completed, and because it was thought that there might be some differences in replies related to the type of household, a breakdown was obtained of the ownership of the property visited (Table 1). Twenty-two per cent of the dwellings visited were rented council property, 25 per cent rented private property, 52 per cent owner occupied, and one per cent of the returns gave no information on this point.

(2) Heating appliances

Many fires in domestic premises are caused by faults or misuse of heating appliances, and the first section of the questionnaire was intended to reveal the extent of knowledge of the precautions that can be taken against fire.

There has been a considerable amount of propaganda encouraging the use of fireguards, and householders were asked whether they knew the difference between a spark-guard and a fireguard (Table 2). Although 1,561 said that they knew the difference only 1,398 were in fact able to describe the difference correctly, so that there appears to be some confusion.

Over half (1,533) of the householders had open fire-places (Table 3A) and 46 per cent of those possessing them said that they used a guard at all times (Table 3B); 20 per cent used them occasionally and the remainder mainly as an every-day precaution when going out or going to bed.

While it cannot be ascertained how far these replies represent what actually happens in a household, they give a good indication that the ordinary householder at least knows what actions should be taken.

There were electric heaters in 80 per cent of the households visited (Table 4A). About 85 per cent of the users of electric heaters said that they switched off at the plug, so that again there is evidence that this simple precaution is well known (Table 4B).

Oil heaters were used in 36 per cent of the households (Table 5A). Of those with oil heaters 62 per cent used them during the day only, but not when the house was empty, and 14 per cent during the night only. About nine per cent of the oil heater owners kept them on when they were not in the house. When asked about the quantity of paraffin kept in the house (Table 5C), about 30 per cent of the owners of paraffin heaters said that they kept none, but another 30 per cent kept two gallons or more. It is possible that those keeping large quantities of paraffin in the house had nowhere else to store it and would consider that they were forced by circumstances to do so. Nevertheless, the presence of such quantities of flammable liquids is potentially dangerous and the dangers may not be fully appreciated.

(3) Doors and windows

It has been well demonstrated that the chance of a fire spreading is considerably reduced if internal doors and windows of unoccupied rooms are kept closed.

About 80 per cent of the householders said that they closed some windows on retiring for the night, (Table 6A), though this was not necessarily as a precaution against fire. Some 30 per cent said that they closed the windows of unoccupied rooms at night (Table 6B). The proportion of people who said that they closed internal doors at night or when the house was empty, (Table 7A), was rather lower, at about 75 per cent, but again the proportion closing the doors of unoccupied rooms was about 30 per cent, (Table 7B).

No reasons for closing doors or windows were asked for, and it is therefore not clear from the replies whether the value of this as a fire precaution was appreciated even by those who said that they closed them when rooms were unoccupied. It does appear likely that this would be a valuable point to stress in propaganda.

(4) Action in case of fire

It appears that the majority (89 per cent) of people in London wishing to summon the fire brigade would do so by telephone, (Table 8), and some 90 per cent of these said that they would dial 999, (Table 9).

Three-quarters of the householders were able to state correctly the sequence of events following a 999 call, (Table 10), and over 90 per cent were aware of the location of the nearest telephone, (Table 11). On the other hand, there were those who did not know what immediate response to expect from a 999 call, and others who did not know the location of the nearest telephone. There were also some, (one per cent), who did not realize that the street fire alarm had been abandoned in the London area.

Most of those questioned appeared to have some idea of the sort of action necessary to discover a suspected fire, (Table 12). There are several possible courses of action, and these were generally understood. There were, however, some people, (about one per cent), who said that they would open the front or back door of the house, (Table 12).

Having located the fire the immediate course of action to follow was somewhat confused, (Table 13). In the question it was stated that smoke and flames emerged from a door which had been opened carefully, and 76 per cent of those answering the question realized that the immediate action required was to close the door. The remainder said that they would adopt a variety of other actions, and three per cent recorded that they would run out of the house to obtain assistance. The type of action to take on discovering the fire can be covered by certain general rules, and it appears that here also the importance of closing doors may not be fully appreciated.

(5) Fire extinguishers

No questions were asked about the use of fire extinguishers in the home, but an attempt was made to obtain information on the general appreciation of the use of fire extinguishers in department stores, theatres, cinemas, etc. When asked what colour extinguishers were expected to be, the great majority, (92 per cent), said that they expected them to be red, (Table 14). There is, therefore, a strong argument for adopting this as a standard colour for general purpose extinguishers.

There was considerable uncertainty about the general method of operating fire extinguishers, (Table 15), although some 33 per cent thought that striking a plunger was the method generally adopted. About 29 per cent stated definitely that they did not know. The answers provide some evidence that instruction on the use of extinguishers could be more widespread, and that there would be some advantage in adopting a standard practice for the operation of general purpose extinguishers.

DISCUSSION AND CONCLUSIONS

It was not the intention in carrying out this study to obtain detailed information about the manner in which the householders behave in respect of fire precautions, but it was hoped that there would be some indication of the general standard of knowledge on elementary precautions. The majority of those questioned appeared to be reasonably well informed on methods of reducing the hazards of heating appliances, although this cannot be taken as an indication that they always adopt these precautions.

The importance of cutting down draughts and the supply of air in the event of a fire may not be fully appreciated and could be one of the most valuable lessons to be stressed.

There was a clear indication that the majority of people expect fire extinguishers to be coloured red and this constitutes a strong argument for adopting red as the standard colour. There are, however, many special purpose extinguishers which it is unlikely that the general public will be called upon to use; there might be some advantage in adopting a colour or colours other than red for these. Although there was no very strong preference for a particular mode of operation of extinguishers, it is clear that many of those questioned could have wasted a considerable amount of time if they were faced with the necessity of using an extinguisher. It might, therefore, be advantageous if all general purpose extinguishers (generally those containing water, or soda-acid), were operated by the same method. This could then be stressed as the correct way to use an extinguisher. Again, special purpose extinguishers are most likely to be operated by personnel who have received instruction in their use, so that standardization of the method of operation is of less importance.

Acknowledgement

The co-operation of the Greater London Fire Brigade in this study is gratefully acknowledged. The work could not have been undertaken without their active participation.

APPENDIX I

Greater London F.B. and J.F.R.O. Questionnaire for
Householders in the Greater London Area
October 1965

Note on questionnaire. The questionnaire is intended to provide information on the general knowledge of the public on fire matters that may affect them. The householders should be assured that they will remain anonymous. Answers should be indicated by ticks in the appropriate boxes and should be obtained with a minimum of prompting by the questioner.

OCCUPATION OF PROPERTY

- (1) (a) Owner occupied;
(b) Rented Council property;
(c) Rented private property.
- (2) (a) Single occupancy;
(b) Multiple occupancy.

HEATING APPLIANCES

(1) Solid fuel

(a) Do you know the difference between a spark guard and a fire guard? Yes
No

(i) Answer correct (ii) Answer incorrect

(b) Have you open fire-places? Yes No If yes to you have a guard in place?

(i) at all times during the day; (iii) when you go out;
(ii) occasionally; (iv) when you go to bed.

(2) Electric

Have you any electric heaters? Yes No

If yes, where do you switch off the heater when retiring for the night or going out?

(i) At appliance; (ii) At plug.

(3) Oil

Have you any oil heaters? Yes No If yes, when do you use them?

(i) during the day; (ii) during the night; (iii) when house is empty.

If you have an oil heater how much paraffin do you keep in the house?

(i) two gallons or more (ii) less than 2 gallons (iii) None

DOORS AND WINDOWS

(1) When retiring for the night do you close any windows? Yes No
If yes which ones?

(i) ground floor; (ii) upper floors; (iii) unoccupied rooms.

(2) When retiring for the night or leaving the house empty do you close any doors?

Yes No If yes, which ones?

(i) ground floor (ii) upper floor (iii) doors of all unoccupied rooms

ACTION IN CASE OF FIRE

(1) You realize that your neighbour's house is on fire and wish to call the Fire Brigade as quickly as possible. How would you do this?

(i) street fire alarm (ii) telephone (iii) run to fire station

(iv) open window and shout "Fire" (v) ask neighbour to call brigade

(vi) other method

(2) You wish to call the fire brigade by telephone. How would you do this?

(i) dial 999 (ii) ask operator for Fire Service

(iii) look up fire brigade number in telephone directory

(3) If you dial 999 what happens next?

(i) answer correct (ii) answer incorrect

(4) Where is your nearest telephone?

(i) answer correct (ii) answer incorrect

(5) You are awakened in the middle of the night by the sound of fire or the smell of burning. What action would you take to discover the fire?

(i) look for source of smoke (ii) feel doors to see if they are warm

(iii) open doors of rooms (iv) open front or back door (v) other action

(6) Having been awakened in the night you suspect that there is a fire in the kitchen. You open the door carefully and smoke and flames emerge. What action do you take?

(i) close door immediately (ii) run to wake other occupants

(iii) call fire brigade (iv) run out of house for help (v) other action

FIRE EXTINGUISHERS

(1) In department stores, theatres, cinemas, etc., there are usually fire extinguishers for use in emergency. What colour do you expect these to be?

State colour

(2) How do you think fire extinguishers are generally operated?

(i) pressing button on handle (ii) striking plunger

(iii) striking plunger and inverting (iv) inverting

(v) other method (vi) don't know

APPENDIX II

Greater London F.B. and J.F.R.O. Questionnaire - October 1965

Table 1

Occupation of property (all percentages of total 2717)

Type of property	Total	Single occupancy	Multiple occupancy	Not stated
Rented council property	600 (22.1%)	339 (12.5%)	146 (5.4%)	115 (4.2%)
Rented private property	673 (24.8%)	255 (9.4%)	317 (11.7%)	101 (3.7%)
Owner occupied	1413 (52.0%)	856 (31.5%)	173 (6.4%)	384 (14.1%)
Not stated	31 (1.1%)	12 (0.4%)	18 (0.7%)	1 (0.04%)
Total	2717 (100%)	1462 (53.8%)	654 (24.1%)	601 (22.1%)

Table 2

Spark- and fire-guards

Numbers saying they knew the difference	1561 (57.5%)
Numbers giving correct answer	1398 (51.5%)

Table 3(a)

Number of households with open fires

Number of households with open fireplaces	1533 (56.4%)
Number of households without open fireplaces	1112 (40.9%)
Not stated	72 (2.6%)

Table 3(b)
Use of fire-guard

Times when guard used	Number and Percentage of households with open fires
Always	704 (45.9%)
Occasionally	313 (20.4%)
On going out (only)	106 (6.9%)
On going to bed (only)	43 (2.8%)
On going out and on going to bed	109 (7.1%)
Occasionally and on going to bed	22 (1.4%)
Occasionally and on going out	24 (1.6%)
Occasionally, on going out and on going to bed	67 (4.4%)
Not applicable, not stated or unknown	135 (8.4%)

Table 4(a)
Number of households with electric heaters

No. of households with electric heaters	2178 (80.2%)
No. of households without electric heaters	524 (19.3%)
Not stated	15 (0.6%)

Table 4(b)
Method of switching off electric heater

Method	No. and percentage of households with electric heaters
Heater switched off at plug	1843 (84.6%)
Heater switched off at appliance only	363 (16.7%)
Not stated	511 (23.5%)

Table 5(a)

Number of households with oil heaters

No. of households with oil heaters	978 (36.0%)
No. of households without oil heaters	1706 (62.8%)
Not stated	33 (1.2%)

Table 5(b)

Use of oil heaters

Times when oil heater in use	Number and percentage of households with oil heaters
During day only (house not empty)	610 (62.4%)
During night only (house not empty)	137 (14.0%)
When the house empty only	18 (1.8%)
During day and night (house not empty)	116 (11.9%)
During day and when house empty	21 (2.1%)
During night and when house empty	9 (0.9%)
During day and night, and when house empty	37 (3.8%)
Not stated	30 (3.1%)

Table 5(c)

Amount of paraffin kept in house

Amount of paraffin kept	Number and percentage of households with oil heaters
2 gallons or more	300 (30.7%)
Less than 2 gallons	358 (36.6%)
None	304 (31.1%)
Not stated	16 (1.6%)

Table 6(a)

Windows closed at night

No. of households which closed some windows on retiring	2190 (80.6%)
No. of households which closed no windows on retiring	509 (18.7%)
Not stated	18 (0.7%)

Table 6(b)

Windows which were closed at night

Windows which were closed at night	No. and percentage of all households questioned
Ground floor	1041 (38.8%)
Upper floors	115 (4.3%)
Unoccupied rooms	162 (6.0%)
Ground and upper floors	180 (6.7%)
Ground floor and unoccupied rooms	405 (15.1%)
Upper floors and unoccupied rooms	12 (0.4%)
Ground and upper floors and unoccupied rooms	262 (9.8%)
Not stated	540 (20.1%)

Table 7(a)

Doors closed at night or when house empty

No. of households which closed doors at night or when house empty	2046 (75.3%)
No. of households which did not close doors at night or when house empty	650 (23.9%)
Not stated	21 (0.8%)

Table 7(b)

Doors which were closed at night or when house empty

Doors which were closed at night or when house empty	No. and percentage of all households questioned
Ground floor	677 (24.9%)
Upper floors	103 (3.8%)
Unoccupied rooms	244 (9.0%)
Ground and upper floors	309 (11.4%)
Ground floor and unoccupied rooms	159 (5.9%)
Upper floors and unoccupied rooms	22 (0.8%)
Ground and upper floors and unoccupied rooms	442 (16.3%)
Not stated	761 (28.0%)

Table 8

Means used to call Fire Brigade

Means which would be used to call Fire Brigade	No. and percentage of all households questioned
Street fire alarm	33 (1.2%)
Telephone	2404 (88.5%)
Running to fire station	46 (1.7%)
Shouting "Fire"	26 (1.0%)
Asking neighbour to call Fire Brigade	126 (4.6%)
Other method	12 (0.4%)
Combination of some of above	63 (2.3%)
Not stated or unknown	7 (0.3%)

Table 9

Means used to call Fire Brigade by telephone

Means	No. and percentage of all households questioned
Dialling '999'	2447 (90.1%)
Asking operator for fire service	209 (7.7%)
Looking up number in telephone directory	26 (1.0%)
Not stated	35 (1.3%)

Table 10

Sequel to dialling '999'

Answer to "What happens after dialling '999'?"	No. and percentage of all households questioned
Correct	2037 (75.0%)
Incorrect	581 (21.4%)
Not stated	99 (3.6%)

Table 11

Nearest telephone

Answer to "Where is nearest telephone?"	No. and percentage of all households questioned
Correct	2478 (91.2%)
Incorrect	143 (5.3%)
Not stated	96 (3.5%)

Table 12

Action taken to discover suspected fire

First action which would be taken	No. and percentage of all households questioned
To look for source of smoke	1594 (58.7%)
To feel doors to see if they are warm	145 (5.3%)
To open doors of rooms	232 (8.5%)
To open front or back door	26 (1.0%)
Other action	206 (7.6%)
Combination of some of above	489 (18.0%)
Not stated	25 (0.9%)

Table 13

Action taken after discovering fire

First action to be taken after discovery of fire	No. and percentage of all households questioned
Immediate closing of door	2070 (76.2%)
Running to wake other occupants	298 (11.0%)
Calling of Fire Brigade	163 (6.0%)
Running out of house for help	88 (3.2%)
Other action	78 (2.9%)
Not stated	20 (0.7%)

Table 14

Fire extinguishers in stores, theatres, cinemas, etc.

Colour that extinguishers were thought to be	No. and percentage of all households questioned
Red	2493 (91.8%)
Blue	6 (0.2%)
Yellow	20 (0.7%)
Black	3 (0.1%)
Some other colour	39 (1.4%)
Combination	65 (2.4%)
Unknown	94 (3.3%)

Table 15

Operation of fire extinguishers

Extinguishers were thought to be operated by	No. and percentage of all households questioned
Pressing button on handle	277 (10.2%)
Striking plunger	889 (32.7%)
Striking plunger and inverting	267 (9.8%)
Inverting	74 (2.7%)
Other method	64 (2.4%)
Don't know	799 (29.4%)
Combination of some of above	308 (11.3%)
Other	39 (1.4%)

