TEMPERATURE AND AGGRESSION: THREE DIFFERENT WAYS OF STUDYING THE RELATIONSHIP USING SECONDARY DATA

It is believed that as the temperature increases, so does the amount of aggression. In other words, people fight more on hot summer days than cold winter ones.

Finding the nature of the relationship between temperature and aggression depends upon the design of the study. Three different studies using secondary data are considered here.

1. Baron and Ransberger (1978) Newspaper reports

Seen as a classic study in this area, the researchers hunted through the US newspapers for reports of civil disorder between 1967-71, and then checked the temperature on that day where the event occurred. They found a curvilinear relationship (inverted U shape) between temperature and civil disorder. As the temperature increased so did the amount of civil disorder until it peaked at 80-85°F (28-30°C), and then the civil disorder declined at the higher temperatures.

There are some problems with this study (table 1).

- Relies on newspaper reports of civil disorder.
- Civil disorder can be caused by a number of factors other than just the temperature.
- Civil disorder (and group aggression) is different to individual aggression.

Table 1 - Some problems with the Baron and Ransberger study.

2. Rotton and Cohn (2000) Police records

This study confirmed the inverted U shape relationship between temperature and aggression by using telephone calls to Dallas police in 1994-5 as their measure of aggression.

Table 2 lists some problems with this study.

- Does not include aggression not reported. Some types of aggression (eg: domestic) are often under-reported to the police.
- Reports to police depend upon a number of factors - eg: individuals involved in criminal activities themselves tend not to report to the police when they are victims of aggression. It is fair to assume that such individuals are more likely to be involved in aggression than the general population.
- Reporting to the police depends upon the ability to do that; eg: availability of telephone, mobile phones.

Table 2 - Some problems with the Rotton and Crohn study.

3. Sivarajasingam and Shepherd (2001) Hospital records

This study found a peak in violence in the community in late summer (July-September) and troughs for February to April based on a random sample of Accident and Emergency (A&E) departments in hospitals in England and Wales between May 1995 and April 1998.

Of 121 475 assaults presented, young males were the most common. These figures showed ten times more violence than reported to the police.

The use of A&E department figures are better than police figures because individuals (especially young men) may be more likely to go to hospital for treatment than to go to the police. But the study still has some weaknesses (table 3).

- Does not include aggression where the individual did not seek medical help because only minor injury sustained.
- In some cases, like domestic violence, the victim may not be allowed to seek medical help. This type of aggression is not included.

Table 3 - Some problems with the Sivarajasingam and Shepherd study.

Overall these studies have some common weaknesses from using secondary data (table 4).

- Studies only find a correlation not causation.
- A third variable may explain the relationship; eg: in hot weather more alcohol is consumed and it is this that causes the aggression.
- Use of secondary data is dependent on somebody else collecting it and not making errors.

Table 4 - Some common problems of using secondary data.

Secondary data are used because, despite the

problems mentioned above, there are advantages to their use (table 5).

- Unobtrusive method.
- Collect data that would be hard to obtain in other ways.
- Possible to examine trends over long periods of time.
- Allows a large amount of data to be analysed statistically.
- Saves time and effort as data collected by others, particularly with official statistics collected by whole government departments.
- Works well where data normally collected in detail; eg: police records.

Table 5 - Advantages of using secondary data.

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