

THE INFLUENCE OF SERIAL-COMPLAINERS ON COMPLAINT PROFILES AT AIRPORTS

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ABSTRACT

Detailed investigation of complaint data at Manchester Airport for both 1998 and 2000 showed a distinct sub-group of serial-complainers. The vast majority of residents who complain do so only once, but the most extreme serial-complainer complained about 624 flights in 2000. Serial-complainers have the potential to bias the complaint data, therefore the data was reanalysed with two groups: 'serial' and 'normal' complainers. The results showed that the serial-complainers did not influence the results substantially. However, there was a difference in the circadian pattern where serial-complainers complained more in the late evening and early night, while complaints from 'normal' complainers were more even across the night.

INTRODUCTION

Aviation and its impact on the environment is a growing concern, due to a continued increase in air travel. Within the regions they serve, airports bring enormous economic and social benefit with increased employment etc. However, there are significant adverse impacts associated with airport operations, which are primarily borne by the local environment (Tunstall-Pedoe et.al, 1996). The single most important environmental disturbance is aircraft noise, which has the potential to constrain airport growth. Annoyance caused to residents by noise from aircraft is evident due to complaints being received by airports. At Manchester Airport annoyance caused by increased air traffic due to a second runway was evident in the increased complaints: 2,804 complaints in 2000 rising to 9,958 complaints in 2001 when the second runway opened.

Complaining is one of a spectrum of responses open to residents concerned about the effects of airport operations. Complaining is probably the most frequent and immediate form of opposition to airport operations as it is the easiest way to express concern. More sophisticated opposition occurs less frequently (e.g. organising an opposition group) as the cost in time to the complainant is much greater (Gillen and Levesque, 1994). However, it is evident from data at Manchester Airport that there are also different levels of complaining. Most people complain just once or a few times, while in extreme cases individuals lodge hundreds of complaints. These 'serial-complainers' are worthy of more detailed investigations to find possible reasons for their repeated complaining and to investigate their social and psychological attributes. Also it is important to determine how much bias they introduce into the data.

METHOD

Data used for this study were collected from Manchester Airport, the third busiest airport in the UK. Data were collected for 1998 and 2000.

Data Collected

A database was constructed using complaint data from Manchester Airport's extensive databank. Data logged were:

Complainant details: Including postcode, region of residence, gender, date of disturbance, time of disturbance, personal identification number, geographical co-ordinates of address, complaint description (e.g. noise, track, odour etc.).

Flight details: Including call sign, aircraft type, airline, operation (arrival or departure), runway (24 or 06 – relating to orientation of aircraft on arrival and departure), departure route, altitude of flight nearest to complainants home, L_{Amax} and PNdB (taken from noise monitor nearest to complainants home), track violation.

Air Traffic Movements: Including movement numbers per hour of the day, day of the week and month for both 1998 and 2000.

Data Manipulation

The data were used to compare trends in complaints per 1000 Air Traffic Movements (ATM). Complaint, noise and Air Traffic data were compared to give trends for hour of the day, day of the week and month. This was divided into total complaints (complaints due to noise, track, noise & track, odour, engine testing, low, general and other) and noise complaints (noise and noise & track).

Complainants lodging more than 50 complaints in a year were arbitrarily designated as 'serial-complainers' and compared with complainants complaining less than 50 times in a year ('normal-complainers') in terms of temporal patterns i.e. for time of day, day of the week and month. Serial-complainers postcodes were used to assign socio-economic status using the ACORN (A Classification Of Residential Neighbourhoods) system. This system uses the postcode (which is usually shared by about 14-15 houses) to fit them into one of 54 'typical ACORN neighbourhood categories'. The classification uses more than 250 pieces of information gathered from the Census and various market research and lifestyle databases. Additionally, information on serial-complainers method of complaint was gathered from Manchester Airport.

MANTIS

The MANTIS computerised system records the movements of all aircraft up to a 30km radius and a height of 12,000ft. MANTIS receives aircraft noise level information from 13 remote sensors. Five sensors are situated at an internationally agreed distance of 3.5 nautical miles from the end of the original runway, two are situated 3.5 nautical miles from the end of the new runway and the remaining six are either on the airport site itself or at further points along the take-off and landing routes. Noise readings on MANTIS are given as a maximum long-term average noise level LA_{eq} (LA_{max}), the maximum value of continuous steady sound during an aircraft flyover.

Complaint Recording

Complaints are received within the Community Relations department at Manchester Airport. Methods of collection include via telephone, answerphone, letter and email, the most frequent method being via the telephone. Complaints about specific aircraft are logged and then linked to a specific flight causing annoyance. MANTIS then establishes a protocol linking corresponding flight data and noise level produced to specific complaints generated, within the database.

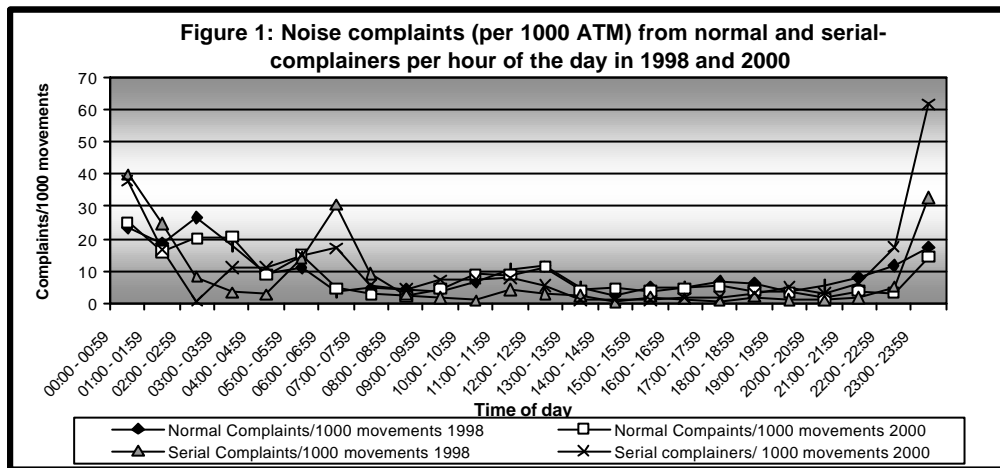
RESULTS

2,804 complaints were recorded from 618 complainants in 2000. Three complainants made 45% of complaints. A similar pattern was found in 1998 when 2,072 complaints were recorded from 594 individuals, three of which accounting for 41% of complaints in 1998. Negligible differences were found between temporal patterns in total complaint and noise complaint data.

Time of Day

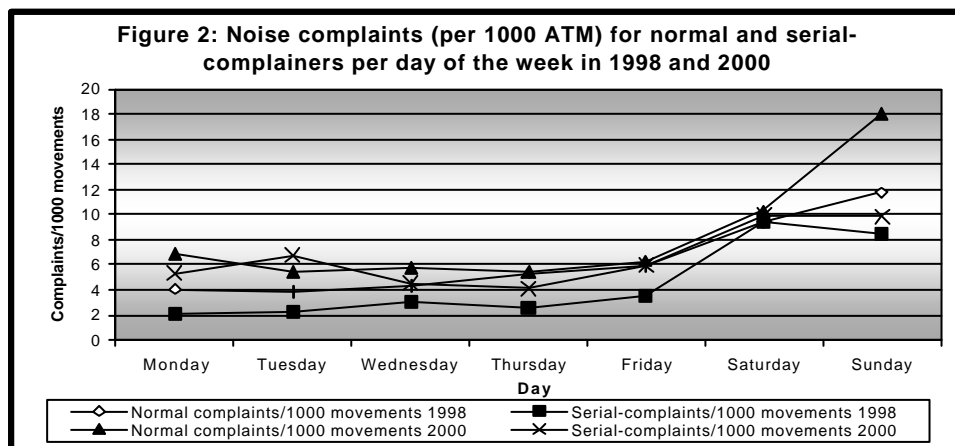
1998 and 2000

Both normal-complainers and serial-complainers in 1998 and 2000 show similar patterns with hour of the day. Figure 1 shows that in 1998 and 2000 noise complaints from normal-complainers and serial-complainers followed a similar pattern between 0700hrs and 2159hrs. However, between 2200hrs and 0659hrs complaint patterns diverged for normal and serial-complainers. The serial-complainers appeared to be more sensitive to aircraft noise in the early part of the night period (2200hrs-0159hrs) and later in the night period (0600hrs-0659hrs), whereas normal-complainers were sensitive throughout the night (2300hrs-0559hrs). Serial-complainers showed greater sensitivity from 2200hrs to 0059hrs than normal-complainers with a large peak at 2300hrs-2359hrs. Normal complaints rose to a smaller peak at 0000hrs-0059hrs, remaining high until 0700hrs-0759hrs where they dropped once more. Conversely serial-complaints diminished at 0200hrs-0259hrs and rose again at 0600hrs-0659hrs.



Individual Complainants (2000)

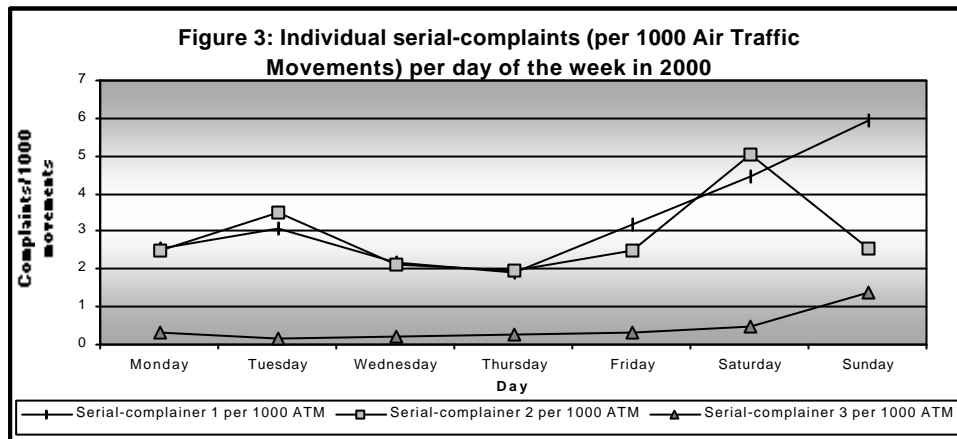
Each serial-complainant displayed a different pattern of sensitivity over the 24hr period. Serial-complainer 1, who lodged 624 complaints in 2000, exhibited the dominant pattern throughout the day, controlling the overall trend of the serial-complainant noise-sensitivity pattern. This pattern showed main sensitivity times of 2300hrs-0159hrs and 0400hrs-0659hrs, with virtually no annoyance during the rest of the 24hr period (0700hrs-2259hrs). Serial-complainer 2 complained 543 times in 2000. Their pattern of annoyance was relatively constant throughout the day with two peaks. A rise to about 7 complaints/1000 ATM was observed between 0900hrs and 1259hrs, dropping to about 1 complaint/1000ATM until 2159hrs, where complaints rose again to 7 per 1000 ATM until 0059hrs. The complaint pattern for serial-complainant 3 remained constant and low throughout the 24hr period at 1-2 complaints/1000 ATM.



Day of the Week

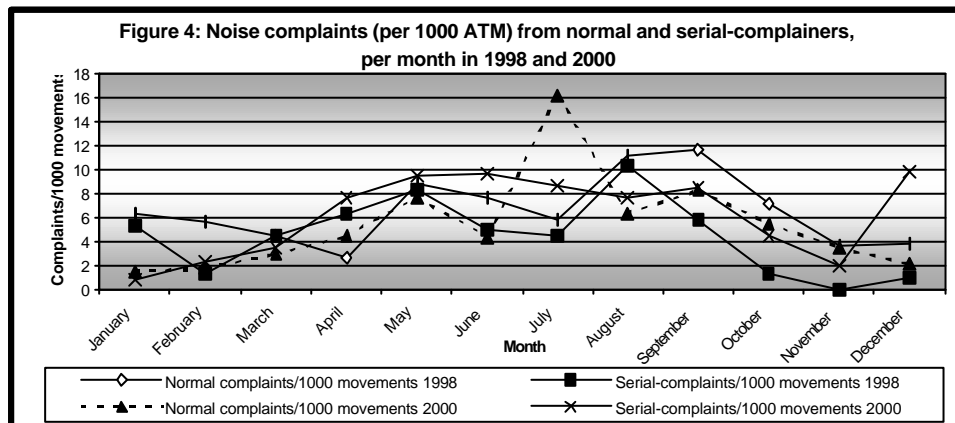
1998 and 2000

Figure 2 illustrates that in 2000 normal and serial-complainants displayed similar noise sensitivity from Monday to Saturday. Complaints from Monday to Friday remained constant for both normal and serial-complainants, rising on Saturday. A difference in sensitivity of normal and serial-complainants was evident on Sundays where serial-complainants remained constant, while for normal-complainants annoyance increased. A similar pattern was seen in 1998, with constant annoyance levels from Monday to Friday for both normal and serial-complainants, whereas on Saturday both complainant types exhibited an increased annoyance. Normal-complainants were more sensitive on Sunday, while serial-complainants were less annoyed.



Individual Complainants

Figure 3 shows that serial-complainants 1 and 2 exhibited a similar pattern of complaints with day of the week. From Monday to Friday complaint levels were almost identical, rising on Saturday for both serial-complainants 1 and 2. However, on Sunday serial-complainer 1 increased in sensitivity, whilst serial-complainer 2 decreased. As shown serial-complainer 3 was equally as sensitive from Mondays to Saturdays, but became more annoyed on Sunday.



Month

1998 and 2000

Figure 4 shows that in 2000 patterns of complaint with month revealed some differences between normal and serial-complainants. Normal-complainants displayed increased noise sensitivity for 3 months of the year: May, July and September (with July the main peak, May and September smaller in magnitude). Serial-complainants, however, showed increased annoyance throughout the months April to September, with another distinct peak of annoyance in December. Patterns of noise complaints with month followed a slightly different trend in 1998. It is evident that both normal and serial-complainants had 3 periods of aggravated noise annoyance throughout the year, which were increasing in magnitude. The first occurred in January, the second in May and the third in August. Serial-complaints then decreased linearly to

nothing in November, whereas normal-complaints rose slightly before decreasing in November and December.

Individual Complainants

Serial-complainer 1 exhibited 2 peaks of annoyance in June and September. Annoyance appeared to gradually increase from below 0.5 complaints/1000 ATM in January to about 6 complaints/1000 ATM in June, decreasing by more than half again in July. Annoyance increased again to above 5.5 complaints/1000 ATM in September and decreased to about 1.5 complaints/1000 ATM in November and December. Serial-complainer 2 was most noise-sensitive in December 2000 at a peak of more than 8 complaints/1000 ATM, and showed increased annoyance over the summer period with smaller peaks in April and July. Serial-complainer 3 did not complain in January, February, March, September, October, November or December. Evidently this person was most annoyed with aircraft noise throughout the spring and summer, from April to August.

Serial-Complainers

Table 1: Serial-complainer profiles for 1998 and 2000

Serial-Complainer	ACORN type	No. complaints	Avg. house price	% of England and Wales avg.	Gender	Method of complaint	Complaint period
1 (1998)	5	461	£110,697	94	M	LETTER	*
2 (1998)	1	239	£155,143	131	M	LETTER	*
3 (1998) & 1 (2000)	1	140 & 624	£604,678	511	M	LETTER	1995-present
2 (2000)	37	543	£102,926	87	M	LETTER	1992-2000
3 (2000)	1	82	£177,996	150	M	LETTER	1991-2000

Key: ACORN Type 1: Wealthy Suburbs, Large Detached Houses
ACORN Type 5: Mature Well-Off Suburbs
ACORN Type 37: Multi-Occupied Town Centres, Mixed Occupations

Serial-complainer 1 (2000) is generally perceived to be a middle-aged man who is well educated. He has registered complaints with Manchester Airport since 1995 and continues to do so every six months. A list of complaints with a covering letter for each six-month period are sent via his local environmental health officer. It is interesting to note that this complainant was in fact serial-complainer 3 in 1998.

Serial-complainer 2 (2000) also sent lengthy lists of complaints periodically along with a lengthy cover letter to Manchester Airport community relations department. In-depth examination of letters sent revealed that the complainant is male and used articulate language, indicating that the complainant is well educated. He was mainly annoyed by aircraft taking off and causing him to miss something on television, not hear conversations or have to shout, to awaken or be prevented from sleeping altogether.

Serial-complainer 3 (2000) lodged noise complaints mainly via letter, again using articulate language indicating that he is well educated. Most letters were sent with small lists of aircraft causing annoyance (either off-track or noise) and a few were sent with reference to the second runway, also mentioning contact with his local MP.

CONCLUSION/DISCUSSION

Temporal Patterns

In both 1998 and 2000 serial-complainers data produced a similar picture: noise annoyance was greater in the early and later parts of the night period, falling away in the mid-night period. Normal-complainers, however, are annoyed consistently throughout the night. This fact would indicate that serial-complainers are annoyed with aircraft noise before they go to sleep, but then sleep throughout the night. Once awake, the serial-complainers continue to complain. Conversely, normal-complainers are annoyed by flights throughout the night and are woken, or prevented from sleeping more often. This could be described as an acute annoyance, whereas the serial-complainer could be described as being chronically annoyed by airport operations, regardless of time of day.

Serial-complainers complaint patterns in general in 1998 did not introduce a biasing effect on normal-complainers results, as patterns are very similar. In 2000, however, the main biasing effect is in December, where normal-complainers are not irritated but combined results show the peak from serial-complainers results. On closer examination it is evident that this peak is caused by one individual: serial-complainer 2. Each of the serial-complainers have different times of increased noise sensitivity. Serial-complainers 1 and 2 are sensitive at times that do not relate to increased Air Traffic Movements, indicating their chronic irritation with airport operations, regardless of time of year. Serial-complainer 3, however, complains more vigorously when Air Traffic Movements are higher during the summer months, which may indicate that he complains only when disturbed by noisier events.

Serial-complainers

Investigation of the socio-economic status of the serial-complainers reveals that three out of the five separate complainers are from the wealthiest classification of area, with the fourth almost as wealthy and the fifth in an area that is considered to have fairly expensive housing. All of the complainants are male and seem to be well educated. These findings agree with profiles of complainants in other studies: 'better educated, higher income, higher social status persons are more prone to express their feelings in the form of complaints' (Borsky PN, 1979). Examination of letters received from the 2000 complainants revealed that they are articulate, a fact that when coupled with their evident wealth indicates that they are not representative of the community as a whole, but whether their attitudes reflect that of the rest of the community is a matter which requires further investigation. Differing responses to aircraft noise have been reported. Fiedler and Fiedler (1975), state that certain people complain of noise-induced headaches, irritability, sleeplessness etc. while others say that they do not let the noise bother them. This may indicate that serial-complainers are simply more susceptible to noise and/or have poor coping mechanisms for such stressors.

The 2000 serial-complainers all mentioned the opening of a second runway at Manchester Airport in letters or phone calls to the community relations department. Serial-complainer 1 actually gave evidence at the public enquiry for the second runway, indicating a long-term compulsion to complain about airport operations. This study has found that serial-complainers do not substantially change the complaint picture with regards to temporal patterns, except at night-time when interesting differences exist. Also there are clear indications that serial-complainers are male, live in wealthy areas in relatively expensive housing, are well educated and articulate. It is important to note also that data from the two separate years, 1998 and 2000, show similar results indicating a consistency of findings. It would be interesting to see if other airports report similar complaint patterns.

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