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Clearance Rates and Police Performance

The ability of police to solve crime is often assessed by measuring the rate of “cleared” or “solved” cases (Alpert & Moore, 1993; Bayley, 1994; Mesch & Talmud, 1998; Paré et al., 2007; Reiner, 1998). Clearance rates are calculated on the basis of crimes rather than offenders. For example, if five offenders are involved in a violent assault toward one victim and are all arrested and charged—this would count as one case cleared. But even if only one of the five is identified and charged while the other four remain unidentified and go free, this would also count as one case cleared. Clearance rates are generally measured by the number of cleared cases divided by the total number of cases opened by the police for a specific time period, and in essence measure the extent to which the police are able to link suspects to the crimes that are investigated by the police.

Clearance rates are generally viewed as providing a more objective and reliable measurement of police performance than alternative indicators, such as crime rates, arrest rates, public attitudes toward the police or fear of crime (Davenport, 1999; Paré et al., 2007; Reiner, 1998). Crime rates summarize all cases opened by the police and are generally seen as a better indicator of “police workload” than “police performance.” Though some recent police innovations such as Compstat have used changes in crime rates as an indicator of police accomplishments (Weisburd, Mastrofski, McNally, Greenspan, & Willis, 2003), it is generally recognized that crime rates are affected by many social and economic factors outside of the control of the police (Maguire & Uchida, 2000; Mastrofski, 1999). Arrest rates provide a more direct measure of police performance and have been used by several scholars to determine police accomplishments (Black, 1971; Sherman & Smith, 1992; Smith & Visher, 1981). Nonetheless, a simple accounting of arrest rates is likely to be strongly influenced by the number of reported crimes. Higher crime areas may have more arrests in this context, irrespective of the “quality” of police performance. In turn, since single police investigations may lead to one or multiple arrests, arrests as a measure of police performance is confounded by the nature of the crimes investigated. Numerous problems have also been identified with utilizing public perception of the police and fear of crime as an indication of police performance. Naturally, public attitudes are subjective and do not always reflect the “real” picture of police accomplishments. They may, for example, be highly influenced by biased media coverage (Leishman & Mason, 2003).

Clearance rates have an advantage of focusing directly on the activities of the police. Because clearance rates take the ratio of the number of crimes solved to the number of crimes reported, it accounts for the differing rates of crime in different jurisdictions. Also, its focus on “crimes” rather than arrests means that it is linked directly to police investigations rather than specific offenders. At the same time, while clearance rates have many advantages over other indicators of police performance, a number of scholars have raised questions about their reliability and validity (e.g., Bayley, 1993; Brodeur, 1998; Hoover, 1996; Loveday, 1999; Maguire, 1997; Reiner, 1992, 1998). One problem relates to the difficulty of comparing clearance
rates across police agencies. There are often significant differences between jurisdictions in how clearance rates are defined, thus making it difficult to make comparative statements about police performance across jurisdictions. For example, a crime may be defined as cleared if a suspect is charged, if a suspect is arrested even if there is no charge, or if a likely suspect is identified but no charge or arrest is made. In this context clearance rates provide a problematic measure of police performance across police agencies.

But problems have also been noted in using clearance rates within single jurisdictions. The fact that clearance rates are often used by police agencies as a measure of police performance places significant pressure on commanders in specific geographic areas to increase their clearance rates. Not surprisingly, a number of scholars have pointed to manipulation of clearance rates in police agencies by recording offenses in a way that flatters police performance (see Cordner, 1989; Gill, 1987; Loveday, 1999; Maguire, 1997; Reiner, 1992, 1998; Walker, 1992). In this regard, some scholars have distinguished between what they define as primary vs. secondary clearance by the police (Bayley, 1994; Black, 1972; Loveday, 2000). Primary clearance refers to a direct police field activity, while secondary clearance refers to an arrested suspect who helps the police to clear old offenses, not necessary those he or she is currently charged for. Skolnick (1966) noted almost half a century ago that the police could easily manipulate clearance rates by offering reductions in present charged offenses in exchange for help in clearing other cases. Despite these limitations, clearance rates remain one of the most commonly used measures for assessing police performance (Paré et al., 2007). It is a particularly reliable measure when comparing a large number of police jurisdictions that follow similar procedures under a single command structure, as is the case in the analyses below.

The Effects of Policing Terrorism on Clearance Rates: A Study of Israeli Communities

Our analyses focus on Israeli communities during the so-called Second Intifada between 2000 and 2004. While Israel has for many years experienced relatively high threats of terrorism, this period was distinguished by the largest number of attacks and civilian casualties since the founding of Israel in 1948. More than 160 terrorist events were recorded during this period, with over 4,000 casualties and almost 600 deaths. Unlike the USA, where one very large terrorist attack has dominated public perceptions of terrorism, during the Second Intifada terrorism was almost a daily occurrence in Israeli communities.

We examine 257 Israeli communities within the “Green Line,” or Israel’s border before the 1967 Israeli-Arab War. The 257 communities represent the universe of Israeli cities and towns with over 1,000 residents. We chose not to examine jurisdictions smaller than this because we thought that the number of crimes found would likely be too low to allow for robust analysis of clearance rates. We examine only communities within the “Green Line” because the Israel National Police (INP) has
sole jurisdiction for matters of crime and homeland security in these areas. Data on
clearance rates in every city/town in Israel for the years 2000–2004 were obtained
from the INP. A case was defined as cleared if, by the end of the investigation, at
least one suspect was identified as responsible for the crime committed.

Offenses included in police reporting of clearance rates in Israel reflect tradi-
tional crime and disorder categories, such as property crimes, sexual offenses, drug
offenses, and violent crimes.\(^1\) However, it is important to note that security-related
offenses within the Green Line are classified according to traditional crime catego-
ries and are not specifically identified. Accordingly, an arrest of suspects involved
in a terrorist attack would likely lead to a charge for a traditional violent crime
offense. While such events are very rare relative to the incidence of more traditional
crimes, and thus unlikely to impact upon the overall number of crime incidents, it
may be that certain types of incidents, such as those generated as a result of arrests
during violent protests, would have a more meaningful effect on the statistics we
examine. In our discussion, we consider in more detail the potential implications of
these security-related offenses for our findings.

Figure 2.1 shows a histogram of clearance rates across the 257 communities that
were studied. As is apparent, clearance rates vary considerably, with a few commu-
nities having clearance rates under 20 %, and some having clearance rates as high
as 71–80 %. Not surprisingly, the communities with unusually low clearance rates
have very high proportions of reported property crime, while communities with
very high clearance rates have few property crimes proportionally and high num-
bbers of violent crimes.\(^2\) In Israel, only 13 % of property crimes are solved, while
the clearance rate is 78 % for violent crimes (see Annual Reports of the INP; for similar
findings in the USA, see Cordner, 1989). The mean clearance rate across the com-
munities is 43 %, which is very close to the median reported.

The key question in our study is how threats of terrorism impact upon clearance
rates in local communities. We began with the assumption that the key factor in this
regard was not the direct impact of terrorist threats on communities but the impact
that such threats would have on police jurisdictions with responsibilities for those
communities. During the study period, the INP was divided into five large police
districts within the Green Line, which were, in turn, divided into local police sta-
tions. Allocation of police resources to specific communities is made at the level of
these 52 local police stations, which can be seen as analogous to local police depart-
ments in the USA or the UK. We thought that the terrorist threats that are faced by
these stations provide the best indicator of how terrorism affects the allocation of
police resources. When terrorist threats impact a particular community within a

\(^1\) For complete list of specific crimes included see the Israel Police Annual Reports, available from

\(^2\) For example, in the two communities with the lowest clearance rates, Michmoret and Kfar-Vitkin,
property crimes make up over 80 % of all reported crimes to the police. In the two highest clear-
ance rate communities, Bsama and Ajar, property crimes make up less than 20 % of the total
opened cases.
station, it is the responsibility of the station commander to make the key decisions about how specific resources, such as police officers, will be allocated to the specific community.

Accordingly, we measured threats of terrorism at the station level rather than the community level. We defined terrorism at the outset by identifying three main measures: (1) the number of terror attacks targeting civilians; (2) the number of individuals wounded by these attacks; and (3) the number of fatalities. We thought that these three variables assessed both the threat of terrorism as indicated by the frequency of terrorist events, and its impacts, at least as indicated by personal injuries within the stations examined. In discussions with Israeli police officials, they recommended that we add a fourth variable to our measure of terrorism, the proximity of the police station to the border with the Palestinian territories. They argued that proximity to the Palestinian territories was a significant factor in the overall threat that a police station faced, not only because attacks generally originated from those areas, but also because a station close to the border would have to allocate greater resources to prevent infiltrations and ensure the safety of local communities.

Data on the number of attacks, deaths, and injuries was obtained from the National Security Studies Center at the University of Haifa, as well as from official

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3We also measured threats at the community level and estimated similar models to those reported here. As we expected the impact of threat at the community level on clearance rates was much less stable and weaker than that found below.

4See http://nssc.haifa.ac.il/.
sources such as the Prime Minister’s Office and the Israeli Ministry of Foreign Affairs. Data on the distance from the border with the Palestinian territories was measured using electronic interactive maps. A station’s proximity to the border was determined according to the distance between the border and the community closest to the border within the specific station.

Each of the four threat indicators was transformed into an ordinal variable ranging from 0 (no attacks/no deaths/no injured/large distance from the Palestinian territories) to 3 (large number of attacks/large number of deaths/large number of injuries/short distance from the Palestinian territories). The values that fall within each category were determined by examining the distribution of the data and utilizing natural braking points (see Appendix 1). Lastly, for each police station the categories were added up so as to create an overall “terrorism threat” level, ranging from 0 (very low threat) to 12 (very high threat). We assessed the internal consistency of the scale by using Cronbach’s Alpha, a coefficient that measures how well items within a scale measure a single latent construct. Alpha levels of .70 and above are generally considered to represent strong scales (Carmines & Zeller, 1979; DeVillis, 1991; Nunnaly, 1978). The Cronbach’s Alpha for our threat scale is 0.86.

The distribution of the terrorist threat variable is presented in Fig. 2.2. As can be seen, there is considerable variability on this measure. As we noted earlier, this provides a unique opportunity to examine how variability in terrorist threats impact upon police performance in case clearance rates in local communities.

Fig. 2.2 Terrorism threat levels faced by police stations

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6 See http://mfa.gov.il/MFA.
7 See http://www.mapa.co.il/general/searchresult_locked.asp.
As noted in Chap. 1, we thought at the outset that there may be important differences in the effects of terrorist threats on majority and minority communities, especially when such communities are linked ethnically, religiously, or nationally to groups that are associated with terrorist threats. Israel includes a large Arab minority of almost 20% of the national population. Though the Israeli-Arab population includes a number of different religious and ethnic groups, including large numbers of Christians and Druze, the dominant ethnic Arab group is Muslims, who make up almost 83% of the Arab population in Israel. Israeli Arabs are Israeli citizens, but have strong ethnic, national, and religious ties to Arabs in the Palestinian territories from which most terrorist attacks originated.

Data on the number of residents in each community as well as their ethnicity (Arab/Jewish) was obtained from the INP. In part because of the nature of the development of Jewish and Arab settlement before the establishment of the State of Israel, Arab and Jewish communities in Israel are often geographically distinct (Mesch & Talmud, 1998). Development of communities after the State’s establishment has followed this pattern, with surveys in Israel showing that both Arabs and Jews have preference for ethnically distinct communities (Smooha, 1989). Only eight cities and towns in our sample included what might be considered mixed populations of Jews and Arabs. All of these communities are predominantly Jewish, with Arab minorities ranging between 4 and 33%. Given the overall distribution of communities, we divided our sample into predominantly Jewish (N=165) and predominantly Arab communities (N=92; for a similar approach, see Mesch & Talmud, 1998).

**Control Variables**

While our main interest is in examining the impacts of terrorism on clearance rates, we recognized at the outset that terrorist threats may be confounded with other measures that have been found to be related to clearance rates. Accordingly, in developing our statistical models we sought to control for factors that have been identified as important in understanding clearance rates in other studies.

Other studies have found that police workload strongly affects clearance rates (Bayley, 1994; Sullivan, 1985; also see review by Paré et al., 2007). The fewer cases the police handle (in relation to the population size), the higher the clearance rate reported. Accordingly, data on the yearly number of criminal cases opened in each community during the years 2000–2004 was obtained from the INP, and the yearly average of criminal cases per 1,000 residents was calculated.

The influence of the number of sworn officers on clearance rates from previous studies is mixed (Cameron, 1987; Eck & Maguire, 2000; Levitt, 1997). Cordner’s (1989) analysis of police performance in Maryland found that in metropolitan areas, higher numbers of sworn officers increased the clearance rate, while in non-metropolitan areas higher numbers of sworn officers decreased the clearance rate. Consulting with Israeli police officials, we were told that the absolute number of
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