So were you surprised?

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On 7 September this year, the BBC's Crime Risk Calculator was published (bbc.in/2xmY6y4). A product of BBC News and the Office of National Statistics, users were invited to "Find your personal risk of being a victim".

The calculator takes a few variables (age, gender, tenure, employment status and postcode) and produces 12-month 'risks' of becoming victim of a few general categories of crime – including violence, robbery, burglary, criminal damage and vehicle-related theft. The risks are presented by area of residence. Local and national figures are compared. BBC journalist Dominic Casciani begins his commentary by asking, "So were you surprised?"

We were. Not by the figures generated, but by how the nation's guardian of statistical probity, the Office for National Statistics, could have been involved in so simplistic and misleading a tool. There is no shortage of analysis which shows that crime risk, as presented, is contingent on many variables not incorporated in the calculations. Ignoring variance always leads to tears. In this case, those tears will be shed by citizens who take the risk calculator seriously. If excluded variables mean that a person's calculated risk is higher than their real risk, lifestyle may be adjusted unnecessarily. If the opposite is the case, there may be a failure to take reasonable precautions.

The variables that are included are also problematic. The focus on aspects of one's life that are difficult or impossible to change – like age, gender or home ownership – carries the implicit message that there is little a person can do to reduce their risk of crime. But there is ample research that simple security upgrades and lifestyle adaptations can make a difference.

One crucial variable omitted from the risk calculator relates to victimisation within the past one to five years. This is arguably the single most important attribute contributing to risk of crime, and is the attribute which is most useful to know about for the practical enterprise of crime prevention and the allocation of policing resources (Pease 1998; Home Office 2010). To give an idea of the consequence of omitting this risk factor, a prior assault on someone in

a household consisting of a couple with adult children flags a 44% increase in the risk of subsequent property crime within a one-year recall period. Single young adults have risk raised by some 38% by such a prior assault.[1] In short, the effects of prior victimisation are large enough to swamp the risks claimed by the calculator.

The risks of re-victimisation are even greater within shorter periods.[2,3] Once victimised by property crime, a single young adult living in a deprived inner-city area would experience, on average, at least another such crime within the same-year recall period.[4] The chances of this household being victimised a second time, given the first such experience, are roughly 50/50.[5]

The above examples help to illustrate the importance of accounting for victimisation history when predicting crime risk. Unlike the BBC/ONS tool, these are point estimates obtained from early statistical models of truncated crime victimisation counts that incorporate all available data on individual, household, lifestyle and area of residence characteristics. But even these research-informed risks are not without caveats. To acquire any practical use, they would require replications via hierarchical modelling of the most recent and weighted data, and to be released as lower and upper bounds (i.e., confidence interval estimation) including area of residence variation.

Repeat victimisation is the elephant in the room when considering crime risk (and perceptions of crime). Yet the most recent compilation of crime statistics issued by ONS reflects a lack of attention to the concentration of crime risk: how a disproportionate number of crimes are experienced by the same victims who, moreover, have specific individual, household and/or area of residence characteristics. The concentration of crime risk has remained substantial and even increased despite two decades of falling crime.[6,7] Extensive measurement of this is to be found in the academic literature, but hides in the shadows when it comes to official publications. Its absence from the Crime Risk Calculator is therefore no surprise, though it is disappointing.

References and footnotes

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