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**Article (Accepted version)  
(Refereed)**

**Original citation:**

Jackson, Jonathan (2006) Validating new measures of the fear of crime. *[International journal of social research methodology](#)*, 8 (4). pp. 297-315. ISSN 1364-5579

DOI: [10.1080/13645570500299165](http://dx.doi.org/10.1080/13645570500299165)

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# Validating New Measures of the Fear of Crime

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Word count of main text: 6,420

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## Bionote

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## Abstract

This study assesses the scaling properties of some new measures of the fear of crime. The new conceptualisation – a range of distinct but related constructs that constitute the fear of crime – comprises the interplay between emotion, risk perception and environmental perception. Data from a small-scale survey are analysed using confirmatory factor analysis showing good scaling properties of the multiple indicators. Two implications of the new conceptualisation for the rationality of the fear of crime are discussed. First, perceptions of the risk of crime seem a product of how individuals make sense of their social and physical environment. Second, the fear of crime may constitute such evaluations of community cohesion and moral consensus as well as specific experiences of ‘fear’ of ‘crime’ – a way of seeing as well as way of feeling. The conclusions of the paper consider ramifications for the rationality of the fear of crime, particularly in the context of reassurance policing in England and Wales.

Key words: fear of crime; survey measurement; confirmatory factor analysis

The fear of crime is a great example to use when teaching social research methodology. This is not just because the words 'fear' and 'crime' are sexy enough to wake up those in the backrow. This is an illustrative topic because it displays a number of cautionary tales relevant to the use of the survey in the social sciences. It underlines the importance of question wording: how vague terms can produce misleading data and how qualitative data can serve as an important corrective. It emphasises the value of a strong theoretical basis in developing concepts and measures: how the building blocks of research gain from a solid intellectual foundation. And it is intriguing to learn that theoretical under-specification and rather technical issues of survey question wording may have had an deleterious impact on the knowledge base on what has become a high-profile public policy issue of our time.

For many years doubts have been raised about the validity and reliability of measures of the fear of crime (see, for example: Bernard, 1992; Bowling, 1993; Fattah, 1993; Skogan, 1981; Farrall et al, 1997; and Zauberman, 1985). Looking across the quantitative literature, limitations in theory and method have tended to coalesce to produce a series of rather crude representations of this conceptually rich phenomenon. Some scholars have even argued that the questionnaire is simply too blunt an instrument to effectively tap into public perceptions of crime, community and disorder (e.g. Girling et al 2000).

This paper proposes that through the development of quantitative method we *can* produce more sophisticated analyses of the fear of crime. The study presented here validates measures of the broadest conceptual definition yet, comprising the interplay of worry, risk perception, vulnerability, beliefs about crime and interpretations of one's social and physical environment. Moreover, the new measures represent technical improvements: they are multiple rather than single indicators; they reflect a set of related constructs to broaden out the conceptualisation; and they are designed to avoid a number of problems in the question wording of standard survey questions.

This paper also discusses the advantages of defining (and measuring) social phenomena in a broad and inclusive manner. When an issue calls for a conceptualisation that affords a process explanation, approximating the phenomenon in action and thus accounting for key mechanisms, then careful research strategies are called for. Moreover, the benefits to explanation and interpretation of such an approach may be significant. This paper finishes by discussing the theoretical and policy implications of just such an approach to the topic at hand: the fear of crime.

#### *Outstanding dilemmas in the measurement of the fear of crime*

While few studies have empirically investigated fear of crime measures (a notable exception is Farrall et al, 1997), nearly all of the question variants have been criticised on some level.

Perception of safety questions – such as ‘How safe do you feel walking alone in this area after dark?’ – have received a particularly high volume of concern (for comprehensive reviews of the issues see: Hale, 1996; and, Farrall et al 1997). In part a response to these problems, other measures have become standard, asking respondents to summarise their levels of worry (or fear in the US) about specific crimes or their perceived likelihood of victimisation. These measures show improvements, being specific about emotion or perceived risk and referring to different types of crime, such as mugging, burglary and car crime.

Yet even these measures may mask considerable complexity. Respondents may variously feel concern, anger, indignation, anxiety, fear or worry regarding their sense of risk (Ditton et al 1999; Jackson, 2004b; Carvalho & Lewis, 2003), and these may be persistent but low-level states (see Hough, 2004), or they may be stronger events that come and go (see Farrall, 2004); they may be diffuse and complex, encompassing vague insecurities about a range of social conditions, or they may be sharp responses to a sense of immediate threat. As such, some people may find it difficult to pin down and articulate their emotions. And while others may feel they have a handle on their emotions, able to meaningfully summarise their experiences, closed-ended survey questions on fear may elicit an articulation of complex feelings in a short-hand and inexact manner – maybe even leading respondents by placing words like ‘worry’ or ‘fear’ into their mouths.

One source of potential confusion is that standard fear of crime questions ask for some sort of summary of the intensity of respondents’ feelings. Emotions are most often transitory: asking for an intensity of felt emotion may be asking individuals for a rather difficult summary. Because of this, an alternative measurement is beginning to be developed and tested. Frequency questions ask respondents to think back over a relatively small time period, counting how many times they have felt worried or concerned or fearful about falling victim of crime. The most notable new question set asks respondents first whether they have felt fearful in the past year; then second how often that occurred, and finally how fearful did they feel during the last episode (Farrall and Gadd, 2004).

For Farrall and colleagues (e.g. Farrall et al, 1997; Farrall and Gadd, 2004; Farrall, in press), intensity measures have encouraged the idea that fear is a stable attribute rather than something that varies across time, location and situations. Intensity measures may further paint a rather exaggerated picture of how often people feel worried or afraid – reading that a proportion of the population is ‘very worried’ about crime might suggest that this proportion often feel ‘very worried’. Farrall et al (1997) found using qualitative follow-ups that given the freedom to elaborate in their own words, some interviewees who had earlier reported to be ‘fairly’ or ‘very’ worried, reconsidered that this had occurred only rarely, in certain situations.

Such exaggeration may occur because, as some respondents summarise their overall level of emotion, they recall the most vivid and threatening of the ‘spikes’ or recent

experiences, inferring this intensity to be representative of their experiences, and over-estimated the frequency of these experiences ( analogous to the availability and representative heuristics, see Kahneman, Slovic and Tversky, 1982). When asked to think carefully about their specific instances of worry, such respondents may revise their intensity reports and conclude they worry rather less frequently, and so are less worried overall, than they otherwise would have reported.

Yet consider an alternative perspective. Hough (2004) argues that the fear of crime should be conceived of mental states that are rarely reducible to mental events. He distinguishes between fear – a mental event – and worry or anxiety – a mental state. On the latter: ‘When we talk about mental states such as anxiety or worry, we are concerned with *intensity*, not *frequency*. Leaving aside acute anxiety attacks, anxiety is not comprised of a series of events that can be located in space and time.’ The measurement of the frequency of worry might thus be interesting – but more of a side-show to the main event of intensity: worry is not reducible to discrete mental events.

But while considering the complex nature of emotion, and the difficulties of producing valid and reliable data using questionnaires, let us not lose sight of an under-theorised aspect of the fear of crime: what this is actually an emotional response *to*. A seemingly obvious answer looms: the risk of becoming a victim of crime. Yet this raises more questions. Firstly, what constitutes risk perception? One aspect would certainly be some assessment of the likelihood of victimisation (Ferraro, 1995); judgements about the chances of oneself falling victim may be shaped by of the actual rates of crime. But risk perception might be usefully broadened by incorporating other aspects of vulnerability, such as a sense of control over the possibility and some evaluation of the possible consequences (Jackson, 2004c). So, the target of worry is conceivably an overall appraisal of threat and vulnerability: we worry about a threat that looms, an unpleasant possibility that we feel vulnerable towards.

Secondly, what shapes risk perception and vulnerability? Beliefs about the prevalence of crime presumably play a part. But where do these beliefs come from? It may be that people misunderstand the frequency of serious crime. Lurid and misleading mass media reports may provoke misguided pictures of the crime problem in the general populace. According to this view some people feel needlessly vulnerable. Their quality of life suffers because they see crime where there is little.

Alternatively, risk perception and beliefs about crime may be embedded in a context of day-to-day communication with friends, family and local acquaintances, and in interpretations of the quality of community and the social and physical environment more generally (Smith, 1989; Girling et al 2000; Jackson, 2004a; Innes, 2004). Crime may operate as a symbol of the deterioration of social order, of the social conditions that foster behaviour hostile to the moral and social framework of the community. Incivility and disorder may also

symbolise crime and the conditions conducive to crime (Innes and Fielding, 2002; Ferraro, 1995; Bannister, 1993). Incivilities – or behaviour regarded as disorderly and disreputable – are visible signs of the health of a community; they can serve to communicate to observers that people and authorities have lost control over the community, that commonly accepted standards and values are eroding, that there is an increasing presence of a variety of sub-cultural groups whose public behaviour is seen as different or foreign.

### *The study*

This study incorporates many of the aspects just discussed into a workable definition of the fear of crime and makes some difficult decisions regarding question wording. Fear of crime is asserted to consist of worry events, subjective risk perceptions and assessments and interpretations of the social and physical environment that shape the social meaning of risk and the sense of possibility. Because the vast majority of studies into the fear of crime have dealt with a complex phenomenon in a simplistic manner, there has been a failure to capture the most interesting parts of the construct, as well as develop valid and reliable scales that reflect this richness and show careful methodological work<sup>1</sup>. Here, the fear of crime is defined as a set of empirically distinct but related constructs that combine emotion, risk perception and vulnerability, and environmental perception. Appropriate multiple indicators of each construct are fielded in a mail survey and data analysed using confirmatory factor analysis, formally testing the scaling properties of the new questions.

### *The new measures*

The definition of the fear of crime comprised:

- the frequency of worry about becoming a victim of three personal crimes and two property crimes in the immediate neighbourhood of respondents (five individual questions asked respondents about their worry about each single crime);
- estimates of likelihood of falling victim of each crime locally;
- perceptions of control over the possibility of becoming a victim of each crime locally;
- perceptions of the seriousness of the consequences of each crime;

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<sup>1</sup> Studies rarely use statistical techniques such as confirmatory factor analysis to assess the scaling properties of the tools, and with only one exception (Ferraro 1995), have comprised single indicators, thus assuming that the solitary question entirely reflects the concept and elicits no measurement error; multi-dimensional conceptions of this social phenomenon are also extremely rare in the quantitative research literature.



- beliefs about the incidence of each crime locally;
- perceptions of the extent of social and physical incivilities in the neighbourhood; and,
- perceptions of community cohesion, including informal social control and trust/social capital.

The five crimes were:

- being attacked by a stranger in the street;
- being robbed or mugged in the street;
- being harassed, threatened or verbally abused in the street;
- having someone break into your home whilst the inhabitants were there; and,
- having someone break into your home whilst the inhabitants were away.

Full details of the measures can be found in the appendix.

The emotional component was worry, rather than anxiety or fear. While we cannot assume that respondents interpret the concept of worry or anxiety or fear in similar ways when answering questionnaires, we do need to make a choice. And psychological theory suggests that worry is preferable for the current purposes. Fear is a strong physical reaction to a present stimulus; perhaps it is too strong a word for many of the situations people feel themselves in. In turn, anxiety may be too diffuse, never involving immediate stimuli. Worry, on the other hand, accommodates an emotional evaluation of an immediate situation, interpreting cues in the environment that signify a sense of possibility and threat (a mental event); at the same time it also includes a mental state, a concern about potential danger, of imminent and distal threat or events yet to transpire: a chain of thoughts and images about an unpleasant and uncertain outcome (Borkovec et al, 1983; Macleod et al, 1991). Furthermore, worriers can be preoccupied with negative information and future unpleasant outcomes, hyper-vigilant in scanning for salient material relating to threat (Mathews, 1990), see ambiguous events as threatening (Butler and Mathews, 1983, 1987; Russell and Davey, 1993), and over-estimate risk (Butler and Mathews, 1983, 1987; MacLeod et al, 1991; Vasey and Borkovec, 1993).

The worry questions were frequency measures. They asked respondents how often they had worried about falling victim of a number of different crimes during the previous month. The frequency format was preferred to the intensity format because the latter may tap into a complex and confusing amalgam of: (a) low-level anxiety (mental states); and, (b) a

summary of stronger events of worry (mental events)<sup>2</sup>. Frequency measures presumably elicit less complicated (and perhaps more useful – see Farrall, 2004) data, focusing on specific ‘spikes’ of worry (Jackson, 2004b). Furthermore, limiting behavioural response questions to relatively limited time horizons may elicit more accurate enumerations.

Worry was expected to be shaped by a subjective sense of risk and vulnerability within their neighbourhood. Feelings of control over the possibility of victimisation (self-efficacy) and perceptions of the severity of consequences of victimization combined with estimates of the likelihood of victimization to form an overall appraisal of threat (cf. Tallis and Eysenck, 1994).

The appraisal of threat was hypothesised to be shaped both by beliefs about the beliefs about crime and by a set of subjective perceptions of the social and the physical environment. Perceptions of the social environment comprised attitudes towards community cohesion, which here has two components: the extent to which the neighbourhood had a friendly, supportive, and trusting community; and the level of informal social control, or the degree of sub-legal social control exercised in everyday social interaction, such as active stigmatisation of rule-breakers and reactions from members of the local community that seek to control their behaviour.

Perceptions of the physical environment were measured by asking respondents if a range of incivilities were a local problem. Incivilities are ‘ . . . low-level breaches of community standards that signal an erosion of conventionally accepted norms and values’ (LaGrange et al 1992, p. 311). Biderman et al (1967) suggested that incivilities communicate information to people about local crime incidence and the threat of victimisation. Behavioural improprieties may be viewed as indices of social disorganisation and threat, despite not being criminal themselves (Maxfield, 1984). Incivilities may also signal that the community and local authorities are unable or unwilling to manage such problems, representing a breakdown in norms of behaviour and a loss of control of local people over the environment (e.g. Hunter, 1978; Lewis and Maxfield, 1980; Smith, 1989; Donnelly, 1988).

In order to further increase the specificity, and therefore presumably the accuracy of self-reports, all the questions were explicitly about the respondents’ neighbourhood. This is important. The specificity, and the use of local surveys, allows the researcher to control for

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<sup>2</sup> Although there is a third and speculative possibility, first raised by a number of excellent qualitative studies (e.g. Girling et al, 2000; Smith, 1989). It may be that people say they are ‘very’ or ‘fairly’ worried about crime without having recently been worried. This could be something more akin to an attitude, a way of seeing rather than a way of feeling. Such an individual is expressing perceptions and evaluations of the social cohesion, moral consensus and social order of their neighbourhood and society – crime somehow acts as a symbolic net that they cast over social conditions identified as hostile to social order and deviant and so in need of censure (Jackson, 2004a; Jackson et al, in press).

the environment of the response and thus examine how respondents who live in the same live have different interpretations of, and responses to, their environment.

### *Research design and sample*

Data are from a mail survey conducted in 2001 of a pure random probability sample of 1,800 adult residents of two socio-economically contrasting areas of London, allowing the validation of the measures in two different contexts.. The sampling frame was drawn from the 2001 Electoral Register, covering those adults registered to vote in the forthcoming General Election. The overall response rate was 26.6% with 479 completed questionnaires returned; 33.2% in Area 1 (identified here as 'Victoria Gardens') and 20.0% in Area 2 (identified here as 'Katherine House'). Two personalised contacts were made, with a reminder letter and duplicate questionnaire sent out if no questionnaire was returned within 2 weeks of the first contact. A raffle was also made to encourage response with three prizes given of £50, £25 and £25.

To ensure anonymity, these areas have been given pseudonyms. Victoria Gardens is a wealthy suburb with residents who are predominantly White and middle-class and a well-kept physical environment. According to local police figures, it has low personal crime rates but a relatively high incidence of burglary and car crime. Katherine House is a high-rise, high-density, local authority housing estate. It has relatively large levels of personal crime according to police statistics, and suffers from a significant amount of incivilities such as graffiti and young people causing noise and harassment according to this survey (Jackson, 2004c). In contrast to Victoria Gardens this is an area with a high proportion of residents from low-income brackets and a diverse ethnic mix.

### *Strategy for analysis of data*

The analysis that follows seeks to assess: (a) whether particular survey questions scale to form adequate measures of constructs; (b) whether the constructs themselves are empirically distinct – i.e. whether worry about crime is a 'different beast' to perceptions of the likelihood of victimization or feelings of control over its occurrence; and, (c) a brief indication of how the constructs form a process explanation of the fear of crime.

Confirmatory factor analysis (CFA) is used here. This technique allows the *a priori* theoretical specification of a model of the latent construct(s) and indicators. The researcher examines whether a theoretical model that specifies patterns of relationships between variables specified according to operational procedures are consistent with the data, assessing the multidimensionality of a scale or set of scales. One assumes that the inter-correlations

between measures are caused by one single latent (if one specifies measures to be measuring only one construct) and the remaining 'noise' to be measurement error.

The following section reports the assessment of the reliability of the new measures and the validity of the new multi-dimensional conceptualisation of the fear of crime.

### *Results*

First let us consider the following five constructs, where victimisation denotes the five individual crime categories outlined in the 'new measures' section above.

- Worry about victimisation;
- Estimate of the likelihood of victimisation;
- Perceived control over the victimisation;
- Estimates of the seriousness of the consequences of victimisation; and
- Beliefs about the incidence of crime.

Each construct is combined with each crime category to create 5x5 new survey questions. So, for example, there are five measures of worry about victimisation: three measures of worry about personal crime and two of worry about property crime (see appendix).

To begin with, two models were tested on each individual construct using CFA. The test of the first model considered whether all five indicators – where five questions combined either 'worry', 'likelihood', 'control', 'consequences' or beliefs' with each of the five types of crime – formed one adequate scale for each construct. If this was so, and continuing to take worry as an example, the five measures that combine worry with each crime would together represent a good uni-dimensional scale of the frequency of worrying about property and personal crimes.

The second model divided the crimes into property and personal. If this model fitted the data better than the first model then we could say that worry about crime involved worrying about personal *and* property crime, but that worrying about personal crime was not the same as worrying about property crime. Rather, worry would have two factors or dimensions that should be treated as separate but related. The same reasoning applies to 'likelihood', 'control', 'consequences' and 'beliefs'.

Turning to the results, and beginning with worry, Table 1 shows the fit statistics for the two models. The two-factor solution did not fit the data according to exact fit measures ( $\chi^2 = 14.571$ ;  $df=4$ ;  $p=.006$ ). However, the approximate fit was good: the RMSEA of 0.074

indicated a good fit, and the CFI at 0.998 signified a very good fit<sup>3</sup>. This was not true for the one-factor solution: a RMSEA of .226 showed a poor approximate fit. Table 2 shows that the two-factor solution was a statistically significant improvement on the one-factor model according to the comparison of Chi-square statistics and degrees of freedom of the two models ( $p < .0005$ ).

INSERT TABLE ONE ABOUT HERE

In the two-factor model, all the unstandardised loadings that were allowed to vary were highly significant, in the expected directions, and close to 1. Furthermore, all  $R^2$  values were above 5.0 and all standardised factor loadings were over 7.0 (Figure 1), all above the cut-off points of Fornell and Larcker's (1981). The measures thus had good reliability and validity.

INSERT FIGURE ONE ABOUT HERE

A final step in this section of the analysis was to test whether this measurement model of worry fitted equivalently across gender and across area. For brevity, details are not included here, but to summarise: there were equal factor loadings across gender groups and slight deviations between the areas that were not considered substantively significant.

What does this mean? Well, the measures of worry had good scaling properties. But worry also had two dimensions: worry about personal crime and worry about property crime. These two dimensions – worry about personal crime and worry about property crime – were related but empirically distinct. Worrying about burglary was not the same as worrying about being mugged (for example).

The same analyses were performed for:

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<sup>3</sup> Due to the fact that Chi Square is extremely sensitive to sample size, over-identification and violations of the assumptions of multivariate normality, it has become standard for researchers to be relatively unconcerned about a significant Chi Square statistic (see Bentler and Bonett, 1980; Jöreskog, 1981). One alternative is to use a relative Chi Square statistic that makes the analysis less dependent on sample size (Carmines and McIver, 1981, p. 80). The relative Chi Square statistic is the ratio of the Chi Square and the degrees of freedom, where <2:1 or <3:1 indicate an acceptable model. Kline (1998) argues that 3:1 is an acceptable cut-off point. Another alternative is to use approximate fit indices that have been developed to incorporate factors such as sample size relative to degrees of freedom and model parsimony (i.e. models with fewer parameters to be estimated are, all things equal, preferable) in their assessment of model fit. These non-inferential indices are used in conjunction with the standard Chi Square statistic relative to degrees of freedom to establish the 'global' fit of models. The fit indices that were used were Comparative Fit Index (CFI) (Bentler, 1990) and Root Mean Square Error of Approximation (RMSEA). The CFI has a range of 0 to 1, with 1 indicating perfect fit. Values greater than .90 have traditionally been taken to indicate acceptable model fit, although more recently a cut-off of .95 has been suggested as more appropriate (Carlson and Mulaik, 1993).

- Subjective estimates of the chances of criminal victimisation;
- Perceptions of control over falling victim of crime;
- Estimates of the severity of the consequences of criminal victimisation; and
- Beliefs about the incidence of crime locally.

For each, two-factor solutions fitted the data well according to the approximate fit statistics, and significantly better than one-factor models (the parameter estimates are not included here for reasons of brevity). The two latent constructs had convergent and divergent factorial validity (Byrne, 2001) and the indicators displayed adequate relevant validity and reliability. The assessment of factorial invariance across gender and area sub-samples showed that the factor loadings did not vary across groups in all domains but subjective estimates of likelihood. In this exception, the factor loading relating to the 'burglary, in' indicator varied across gender.

So far, then, data have indicated that the measures of worry, likelihood, control, consequences and beliefs had good scaling properties, and that personal and property crimes were judged differently by respondents in each case.

However, we have not yet established whether worry, likelihood, control, consequences and beliefs are, in fact, empirical distinct constructs. Recall that the measurement strategy delineates the fear of crime into a set of theoretically discrete facets, even if they are somewhat related. The next step in the analysis was therefore to include all of the indicators of all the five constructs in a series of analyses to see if they are empirically discrete.

Three models were estimated for personal and property crime separately that included all the five facets so far encountered: worry, likelihood, control, consequences and beliefs. The first was a five-factor model, defining each of the constructs to be separate. The second was a four-factor model, combining worry and likelihood, testing whether these were not empirically distinct. The third was a three-factor model, combining likelihood, control and consequences, testing whether these collectively reflected threat appraisal. For both personal and property crime the five-factor model fitted the data better than the four-factor or three-factor, and the improvement in model was statistically significant in each case (Table 2).

#### INSERT TABLE TWO ABOUT HERE

In the five-factor models, all factor loadings variables not specified to be 1.00 (for identification purposes) were statistically significant. All standardised loadings were above .70, and all  $R^2$ s were above .50. Again, the measurement model was investigated with respect

to whether the factor loadings were group-invariant. There were no differences among males and females. This was also the case between the two areas apart from 'Worry about Harassment', which had a greater contribution to worry about personal crime in Katharine House.

To take a breath for a second – and summarise the results we have encountered so far: when respondents were asked about worry, risk perceptions and beliefs about crime prevalence, their responses indicated that they thought about crime in two domains: personal crime in public space and burglary. The measures of the five constructs that involved these offence categories had good scaling properties. Furthermore, respondents treated worry, perceived likelihood, perceived control, perceived consequences and beliefs about crime as separate things: worrying was not the same as perceived control, and perceived control was not the same as likelihood (to take a few examples).

We now turn to environmental perceptions. First to incivilities: a two-factor model fitted the data better than a one-factor model ( $\Delta\chi^2 = 133.75$ ;  $\Delta df = 1$ ). The fit was adequate according to the approximate fit statistics (RMSEA = .064; CFI = .996), if not according to the exact fit statistics ( $\chi^2 = 38.244$ ;  $df = 13$ ;  $p < .0005$ ).

All factor loadings not set to unity were statistically significant at the 5% level. In terms of validity and reliability of the individual items, four had standardised loadings and  $R^2$  above the suggested cut-off points of .70 and .50 respectively. However, three were below these cut-off points ('rubbish in the streets', 'not enough things for young people to do' and 'dogs out of control/mess'). Because the overall fit of the model was acceptable, this was not deemed problematic.

The measurement model was investigated with respect to whether the factor loadings were group-invariant. They were not equal across gender groups ( $\Delta\chi^2 = 16.707$ ;  $\Delta df = 5$ ): 'drinking in the street' contributed more to social incivilities for males than for females, and 'rubbish in the street' had a stronger contribution to physical incivilities for females compared to males. The factor loadings were, however, equal in the two areas ( $\Delta\chi^2 = 1.168$ ;  $\Delta df = 5$ ).

Next to community cohesion. A two-factor model fitted the data better than a one-factor model ( $\Delta\chi^2 = 39.976$ ;  $\Delta df = 1$ ). The fit was adequate, with a Chi Square of 30.173 at 13 degrees of freedom, RMSEA of .053 and CFI of .998. Again, all factor loadings not set to unity were statistically significant at the 5% level. In terms of validity and reliability of the measures, all had standardised loadings and  $R^2$  above the suggested cut-off points of .70 and .50 respectively. The factor loadings were equal across the respective gender and area groups. So far we have found that the measures of each of the constructs had good scaling properties and that the constructs involving crime were empirically distinct. This is an important first step in a piece of quantitative research through the rigorous assessment of the basic building

blocks. But as the description of the measures earlier in the paper indicated, the constructs were designed to relate to one another according to a particular theoretical model. While this is not the place for the analysis of the structural elements of the model (see Jackson, 2004c, for this), it is worth providing a summary in order to demonstrate the advantages of the current measurement strategy (Figure 2).

#### INSERT FIGURE TWO ABOUT HERE

As Figure 2 suggests, perceptions of the environment (incivilities and community cohesion) shaped respondents' assessments of the incidence of crime and of one's personal threat and vulnerability (including control and likelihood). Furthermore, control and consequences both predicted perceptions of the likelihood of victim; all aspects of threat predicted worry. Different levels of worry of respondents in the two areas were mediated by environmental perceptions and threat appraisal.

Finally, this is a feedback model, even though it is difficult to test using a cross-sectional design: worry may feed back into public perceptions of the environment, increasing the tendency to see ambiguous stimuli in one's neighbourhood to indicate the lack of civility and cohesion and therefore the potential for crime. See Jackson (*ibid.*) for more details.

#### *Discussion*

This study validated measures of a broader definition of the fear of crime than currently exists in the literature. The new questions have five advantages over the majority of quantitative instruments. First, the fear of crime is conceptualised within a broad theoretical framework. Second, the definition covers a range of perceptions and responses to the environment and to perceived risk and vulnerability, specifying individual crimes that group in the domains of personal crime in public space and burglary; this strategy has an in-built ability to account for the social processes that underpin the data. Third, the questions are multiple measures of latent constructs, allowing the researcher to partition measurement error and explicate constructs in a more complete manner than is possible with single indicators. Fourth, the measures have been scaled using a sophisticated multivariate analysis technique, establishing in the context of this dataset that each construct was empirically distinct and that the single indicators of each construct combined adequately with the relevant other indicators.

Finally, the new measures avoid certain identified wording problems in existing tools. The emotional aspect specifies the emotion and the victimisation categories, asking about the frequency of worry within a small enough time period that respondents may be more likely to make accurate summaries. Moreover, all the measures are specific to one particular



environment, focusing on respondents' neighbourhood. When combined with a local survey that elicits data from a number of people who live in the same environment (and indeed that contrasts two very different communities), this allows the researcher to analyse how people make different subjective interpretations of the same environment, and crucially, how these interpretations shape perceptions of risk and worry (see Jackson, *ibid.*, for the results of the structural modelling, and more details on the social-psychological framework).

Of course, the dataset was not of the highest quality. Further research is needed to assess the validity and reliability of the measures developed here. However, one study already conducted in a rural part of England has attested to these measures and the utility of the current theoretical approach (Jackson, 2004a). The next step is to test these notions with respect to a nationally representative dataset such as the British Crime Survey.

*Conclusions: the rationality of the fear of crime*

This paper began by considering how the fear of crime is conceptualised within survey research. Narrow and theoretically under-specified definitions – and measures that produce data that we do not exactly know what to do with – have led to rather limited analyses. The aim here was to offer a technical advance through the validation of new multiple indicators of a broader conceptualisation than so far exists in the literature.

The new definition has a number of implications for how we study and debate the fear of crime. Defining the fear of crime as a set of related constructs, not just as 'worry' or 'safety', emphasises the complex and subjective nature of this phenomenon. Feeling vulnerable – feeling unable to control falling victim and feeling that consequences would be severe – is here formulated as one reason why people worry. We should think hard about whether we really feel able to judge whether such individuals are worrying needlessly, when one of the reasons they worry is that they feel unable to manage the risk and its effects.

But more than this, risk perception and vulnerability are inherently subjective; they are embedded in the context of the social and physical environment, where crime gathers its meaning. People use crime and anti-social behaviour as a kind of 'gauge' of the health of a community (Bannister, 1993). When an individual commits a crime or engages in anti-social behaviour, that individual communicates hostility to the values and sense of order of the community and damages its social fabric. Incidents of crime and disorder can suggest to an observer that the community is suffering from deteriorating standards of behaviour, diminishing power of informal social control, increasing diversification of norms and values, and decreasing levels of trust, reciprocity and respect. Because of such shared meaning, people's evaluations of the state of the social environment, its sense of order and stability, shape their inferences about crime. These findings echo the work of Bannister (*ibid.*) that

argues that certain environmental conditions create fear because they represent a perceived threat to an individual's sense of well-being and identity.

The fear of crime is thus shaped by a range of subjective interpretations of the social meaning of crime and incivility embedded in the local context, the health of the community, and the sense of living in an ordered and trusting environment. Importantly, different people make different interpretations of the same community: in a development of this model carried out in a rural part of the UK, interpretations of the social and physical environment were found to be shaped by social values regarding long-term social change, authoritarianism and Law and Order; those people who were concerned about changes in discipline, values and norms were more likely to interpret young people hanging around as a threat to the social order of the community and thus potentially a threat to oneself (Jackson, 2004a).

So what about debates about the rationality or proportionality of the fear of crime? Don't some people worry too much about crime? Isn't the fear of crime based on inaccurate beliefs about crime? Why do people make inferences from incivilities and things seen to be hostile to social order to crime? Is this justified? Study after study have suggested that people, in general, do not have a particularly realistic sense of the incidence of crime, and particularly the incidence of more serious and dramatic crimes.

The current research suggests that many people see crime, anti-social behaviour and the conditions conducive to crime to be strongly associated. Moreover, crime seems to be a label that people use to articulate the health of the social order – the extent to which people adhere to norms, values and morals, express commitment to the community and to civic standards. Thus people use the language of crime and worry to articulate broader concerns about cherished social conditions that are seen to be in flux: a way of seeing as much as a way of feeling.

But one can accept this yet also plausibly retain the option of assessing the proportionality of the fear of crime. How? Well, let us take an example. Some people may see the young people who hang around their street as threatening and potentially criminal. The young people may be seen as hostile to the community, somehow not bound by particular norms and constraints, of a culture that lacks respect for others, capable of acts of a criminal nature (Jackson, 2004c). Yet at the same time these young people may not have any criminal intention – when pressed, they might say they simply have nothing better to do. It could be that worries about crime have meant that the observers are rather quick to interpret these young people as a source of crime and harassment. It may be that heightened emotion and sensational media reportage have resulted in members of the public making rapid interpretive leaps from the presence of certain people, or the occurrence of incivilities, to the possibility of criminal activity. In a sense, 'crime' may have become a lens through which people understand and express their understanding of social order and diversity. This leads people to

become less trusting, quick to stereotype and stigmatise, and more willing to see any kind of deviance or expression of different values and norms as threatening.

So, how should the police respond? The notion of reassurance policing has much political currency at the moment, motivated by indications that, while crime rates are generally falling, fear of crime remains unchanged. Mirroring the 'signal crimes' perspective currently being applied in the National Reassurance Policing Programme (Innes and Fielding, 2002; Innes et al 2004; Innes, 2004), this research suggests that tackling anti-social behaviour and other aspects that signal that social order and cohesion is deteriorating, may indeed remove some of the stimuli to public inferences about the crime problem – and therefore to fear. Visible policing such as foot patrols may also signal that the authorities are regaining control over the environment – that the police are actively reinforcing and reasserting community values and morals. This may reduce, among some members of the public, the sense that the community is disrupted, thus dampening down their inferences about the prevalence of crime. And a feedback mechanism may plausibly emerge: a reduction in anxiety about crime might result in some people become slightly more trusting, and less quick to infer threat and hostility in certain individuals or groups.

Yet at the same time, just as research and mass media reports might promote the use of the lens of crime to make sense of social conditions, so it might be that, as the police engage more and more with issues of anti-social behaviour and incivility, so this encourages the public to see certain people and certain behaviour using the frames of crime and legal censure – as more dangerous than they might reasonably be thought to be. This might augment a trend of criminalisation and lack of tolerance, and contribute to processes of social exclusion<sup>4</sup>.

If the police phrase their reassurance strategies with respect to 'order maintenance', aiming to preserve the day-to-day social order, and responding to a public desire for more visible signs of authority and social control, then perhaps the problem of criminalisation is less important. But important civic liberty issues remain at stake when state coercion is used to respond to individuals and behaviours merely because they cause nuisance, annoyance and insecurity.

The fear of crime is an abstract idea, an evocative and polysemic notion, frequently used yet rather difficult to precisely define. It is a concept of everyday language, used in

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<sup>4</sup> Indeed, if criminologists accept this perspective – and perhaps do some soul-searching – it is reasonable to accept that fear of crime research has proven to be a crucial cog in the wheel of the 'fear of crime business', which includes sensational mass media coverage and high-profile 'popular punitive' political rhetoric from successive Governments and Oppositions (see Lee, 1999 and 2001). This business encourages the sense among the public that crime is a bigger problem than it is really is (particularly serious and dramatic types of crimes) and that many people are worried about crime, thus increasing the tendency for people to use the dramatic metaphor of crime to make sense of diversity, disorder and community conditions.

conversation and public debate to condense a number of inter-related social and political concerns. And perhaps it is inevitable that the questionnaire fails to fully capture the detail. Yet research is beginning to unpick one or two fascinating aspects of this phenomenon; improved measures are beginning to emerge that reveal some of the richness that previously only qualitative methods showed. The results have significant implications for debate and public policy. But just as there remains scope to develop our conceptual and methodological tools, producing more nuanced and sensitive insights into this fascinating and politically charged topic, there is equally a need to think carefully about the implications of the research we are doing and how Governments and the police should respond in liberal and increasingly diverse societies.

*Appendix*

The first sub-set asked respondents about the frequency with which they have worried about becoming a victim of 5 classes of victimisation in their neighbourhood during the previous month. The response alternatives were: 'not once in the last month'; 'once or twice in the past month'; 'once or twice in the past week'; and 'every day'.

Subjective estimates of probabilities were measured by asking respondents how likely they thought it was that they would fall victim during the next twelve months. A seven-point scale was used with only the endpoints labelled: 1 = *definitely not going to happen* and 7 = *certain to happen*. Perceptions of the seriousness of consequences were measured by asking respondents the extent to which an experience of a typical instance of each category of criminal victimisation would affect respondents' lives. The questions used seven-point response alternatives which were labelled at the endpoints: 1 = *not at all*; and 7 = *to a very great extent*. Perceived control was measured by asking respondents the extent to which they felt able to control whether or not they became a victim of various crimes. Again, a seven-point scale was used with only the endpoints labelled: 1 = *not at all*; and 7 = *to a very great extent*.

On incivilities, the items replicated a number of questions from the 2000 sweep of the British Crime Survey: (a) Vandalism/graffiti; (b) Rubbish in the streets; (c) Dogs out of control / creating a mess; (d) Drug-taking in the open; (e) Drinking in the street; (f) Teenagers hanging around; and, (g) Not enough things for young people to do.

The second aspect of the physical and social environment was 'community cohesion', comprising two related constructs: the extent to which respondents thought they lived in a friendly, supportive and trusting community; and the levels of informal social control. These were measured by four and three questions respectively, using a Likert scale ranging from 1 (being 'very strongly agree') to 5 (being 'very strongly disagree'). The statements were: (a) The people who live here can be relied upon to call the police if someone is acting suspiciously; (b) If any of the children or young people around here are causing trouble, local people will tell them off; (c) If I sensed trouble whilst in this area, I could raise attention from people who live here for help; (d) This area has a close, tight-knit community; (e) This area is a friendly place to live; (f) This area is a place where local people look after each other; and, (g) Most people who live in this area trust one another.

Table 1. Fit statistics for one- and two-factor confirmatory factor analysis solutions: worry

Model	$\chi^2$	df	p	CFI	RMSEA	$\Delta\chi^2$	$\Delta df$	p
<b>One-factor</b>	127.199	5	<.0005	.972	.226	-	-	-
<b>Two-factors</b>	14.571	4	.006	.998	.074	113.419	1	<.0005

Table 2. Fit statistics for 3, 4 and 5 factor solutions: worry, risk perception/vulnerability and beliefs about crime

Model	$\chi^2$	df	p	CFI	RMSEA	$\Delta\chi^2$	$\Delta df$	p
Personal crime								
<b>Five factors</b>	109.056	62	<.0005	.997	.040	-	-	-
<b>Four factors</b>	184.671	67	<.0005	.993	.061	75.615	5	<.0005
<b>Three factors</b>	967.112	69	<.0005	.948	.165	858.056	7	<.0005
Property crime								
<b>Five factors</b>	15.688	15	.403	1.000	.010	-	-	-
<b>Four factors</b>	52.907	19	<.0005	.997	.061	37.219	4	<.0005
<b>Three factors</b>	309.247	22	<.0005	.971	.165	293.559	7	<.0005

Figure 1. Measurement model of worry about crime: two-factor solution

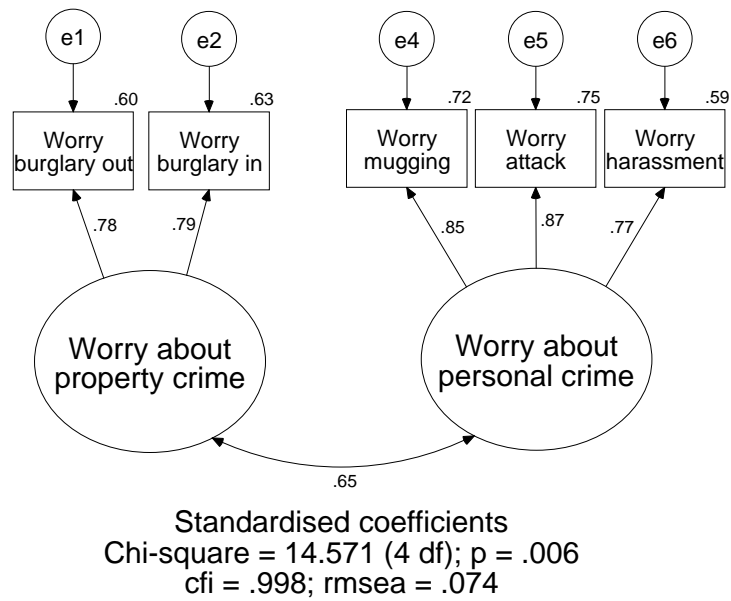
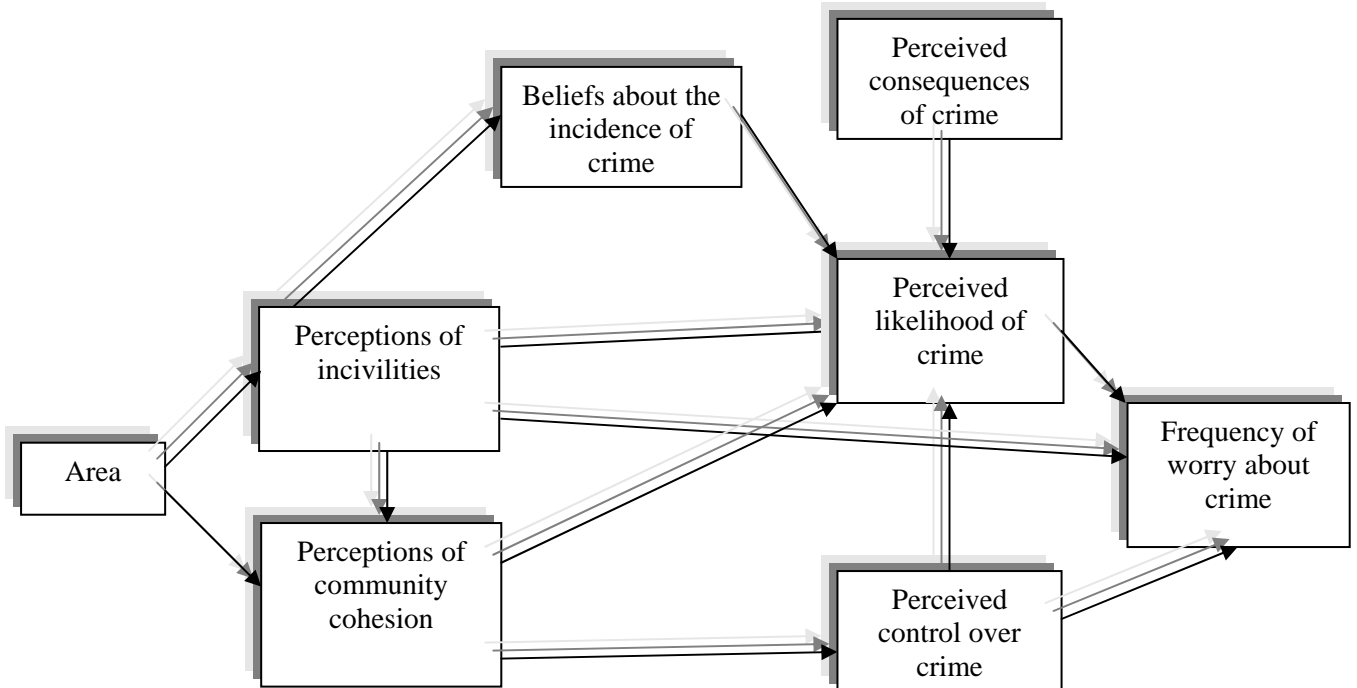


Figure 2. Summary of the structural model of the dimensions of the fear of crime



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## Acknowledgements

This research was kindly supported by the Economic and Social Research Council (ESRC) grant numbers RES T026271167 and R00429834481, and the Hounslow Community Safety Partnership. I would like to express my gratitude to all those concerned.