FEAR OF CRIME IN URBAN RESIDENTIAL NEIGHBORHOODS: Implications of Between- and Within-Neighborhood Sources for Current Models

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Current work on fear of crime centers largely around three dominant theoretical models: indirect victimization, community concern, and incivilities. Previous work (Taylor and Hale 1986) confirms the importance of the central construct in each model and shows that no one model has more explanatory power than another. But work to date has not examined ecological impacts of some key constructs, even though the models clearly imply processes operative at the neighborhood level. This study extends earlier work, combining central predictors from each model and distinguishing between- and within-neighborhood sources of impact, with data from surveys of 1622 residents of 66 Baltimore neighborhoods and from on-site assessments. Findings indicate ways in which these theories, particularly indirect victimization and incivilities, need further theoretical articulation of central constructs. The results also confirm the generalizability of Merry's diversity thesis—developed from field work in a multi-ethnic subsidized housing context—to urban neighborhoods in a major metropolitan area.

INTRODUCTION

Research on fear of crime—the emotional response to possible violent crime and physical harm—began some 20 years ago with the idea that fear reflects the possibility of victimization. This notion foundered on two repeated findings: (1) fear levels do not closely reflect local crime rates when social class is removed from the relationship (DuBow, McCabe, and Kaplan 1979; Taylor, Shumaker, and Gottfredson 1985; Maxfield 1987b, Table 10) and (2) fear levels of age-sex groupings are inversely related to their victimization rates (DuBow, McCabe, and Kaplan 1979). Those most fearful—elderly women—have the lowest victimization rates whereas those least fearful—young men—have the

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highest victimization rates. Although people recently victimized are more fearful than non-victims (Skogan and Maxfield 1981), these two null findings have led to a wider search for the causes of fear. Over the past decade this expanded examination has created and confirmed a small number of theoretical models of fear.

The **indirect victimization** model contains three major ideas (Tyler 1980; Skogan and Maxfield 1981). (1) Fear is more widespread than victimization because those not directly victimized are indirectly victimized when they hear of such experiences from others, resulting in elevated fear levels. (2) Local social ties mainly amplify the impact of victimization experience on local fear levels. (3) Sociodemographic correlates of fear reflect the risk of victimization. Women and older persons are more physically vulnerable to a serious victimization incident, and their higher fear levels reflect this higher level of physical vulnerability. Members of minorities and of lower socioeconomic status groups are more ecologically vulnerable to possible victimization due to their location in the urban mosaic (Liska, Lawrence, and Sanchirico 1982). This heightened ecological vulnerability is reflected in higher fear.

The **incivilities** model has several variations (Hunter 1978; Lewis and Salem 1986). (See Greene and Taylor 1988 for a discussion of the different forms of the model.) The main argument is that residents perceiving more "clues" to the underlying level of disorder in their immediate environment feel more vulnerable and thus more fearful. The "clues"—termed incivilities—may be either social, such as public drinking, drug use, fighting and arguing; or physical, such as litter, graffiti, abandoned lots, and vacant housing. These incivilities "warn" the resident that he or she is at risk of victimization.

The **community concern** model (Conklin 1975) suggests that fear of crime reflects an atomization of community and a concern with community disintegration. According to this view a lack of local social ties and an awareness that the neighborhood is deteriorating or declining will result in elevated fear. Physical and social incivilities may heighten these concerns about community disintegration.

A fourth model of fear more recently garnering attention is the **subcultural diversity** model (Merry 1981). Fear of crime, according to this view, results from living in proximity to others whose cultural background is different from one’s own. The manners and behaviors of persons belonging to these different groups is difficult to interpret and thus fear-inspiring.

The indirect victimization, incivilities, and community concern models have received extended empirical attention. Further, Taylor and Hale’s (1986) comparison of them, using a common data set for path analyses of fear and worry outcomes, supports their key constructs and shows that each model explains about the same amount of outcome variance.

Taylor and Hale’s test, however, suffers several limits. First, only within-neighborhood covariation between outcomes and predictors is assessed. Since the data set includes only 6 neighborhoods, between-neighborhood effects could not be reliably estimated and were thus removed. In several ways, current fear models clearly point toward between-neighborhood or ecological processes. The ecological vulnerability construct, part of the indirect victimization model, is a clear case in point. If links between race and fear, and class and fear, reflect positioning of population subgroups in disorderly areas, then such links should be most evident at the neighborhood level. Testing this idea requires sampling a large number of neighborhoods, preferably in one urban area, so as to hold regional differences constant. Fear studies to date have not done this.
Second, although Taylor and Hale’s Atlanta data set includes measures of land use, it lacks objective measures of physical and social incivilities. Numerous studies link fear with perceived incivilities at the individual level (e.g., Maxfield 1984, 1987a; Taylor and Hale 1986), but an objective index of a neighborhood’s incivilities would permit discriminating impacts of actual signs of disorder from impacts of residents’ reactions to cues of disorder, and thus be preferable.

Work examining links between objective measures of incivilities and fear has yielded varying results. Taylor, Shumaker, and Gottfredson (1985) find that objectively measured incivilities contribute to neighborhood fear levels, but only in locales with uncertain futures. Maxfield (1987b) finds they reliably link with individual fear levels, but his measure of incivilities is not neighborhood based. In short, the incivilities thesis traces differences in fear levels to varying incidences of incivilities across neighborhoods, and this linkage has not yet been examined.

Third, Taylor and Hale (1986) fail to test Merry’s ideas linking diversity and fear. Her ethnographic work in a multi-ethnic, subsidized housing context indicates that local subcultural diversity along racial and ethnic lines inspires fear. She argues that the more one is surrounded by subcultural groups whose public deportment is foreign, or the more distant one feels from these local subcultural groups, the greater one’s concern about safety. This view does not link ethnicity per se to fear. Rather, the difference between one’s own and surrounding neighbors’ ethnicity creates fear.

The current study addresses these three points of interest. Using a set of observations spanning a large number of neighborhoods (N = 66) in one urban area (Baltimore), we estimate ecologic effects of class and race on fear to test the idea of ecological vulnerability. We also examine the effects of neighborhood incidence of incivilities on fear, controlling for within-neighborhood variations in perceptions of incivilities, and thus separating the effects of actual from perceived incivilities. And third, we test Merry’s idea that subcultural differences from neighbors inspire fear. As her thesis was developed in a subsidized housing context, our use of a broad array of neighborhood settings tests the generalizability of her argument. We operationalize race at the individual level to correspond precisely to her notion of subcultural difference.

We combine predictors from the four fear models to test the above three points of interest, not fully examined in prior work. A potential inconsistency in the predicted direction of social climate’s effects on fear—community concern models predict local ties dampen fear while indirect victimization models suggest that they inspire fear—is avoided by focusing on a dimension of community integration directly relevant to personal safety concerns.

HYPOTHESES FOR SPECIFIC VARIABLES

Age

Neighborhood means on age will be linked positively to fear, indicating that older populations feel more vulnerable as a group and that age is an index of physical vulnerability.

Also, being older than co-residents will increase fear through heightened feelings of vulnerability or of diversity and confusion since age discrepancies may indicate changing neighborhoods (see Taylor and Covington 1988).
Social Class

Education levels are our proxy for social class. (Nonresponse to the income question by about a quarter of our sample prohibits its use as a measure of class.) Fear levels will be lower in higher class neighborhoods due to less disorder, more city services such as policing, and more stability, blocking the emergence of some concerns about neighborhood safety. Such a linkage supports the ecological vulnerability interpretation of the lower-class/higher-fear link. But that view suggests no class/fear ecological link after controlling for disorder, as assessed by victimizations and signs of disorder.

Indirect Victimization

Neighborhoods where more respondents have heard about recent victimization incidents will have higher fear levels. Such direct information heightens awareness concerning the dangerousness of the surround.

At the individual level, the same relationship should obtain. A person with a relatively high score has heard of a recent victimization, while few co-residents have. S/he may be more socially involved in the immediate neighborhood, thus hearing of more events. This individual-level linkage is at the heart of the indirect victimization model.

Incivilities

Objective, neighborhood-level incivility measures will be associated with higher fear levels, as more disorderly environments inspire more fear. But if, at the individual level, respondents perceiving more incivilities than co-residents are also more fearful, perceived incivilities may not promote fear simply because they reflect objective incivilities, since the latter are controlled; rather, certain respondents may be more distraught by local conditions than their neighbors, suggesting operative psychological rather than social psychological or ecological processes.

Community Integration

Neighborhoods where residents perceive one another as more likely to summon aid to deal with disorderly behavior will have lower fear levels. Perceived neighbors' responsiveness is a "social fact" that dampens concerns about safety.

But, individuals who perceive more responsiveness to problems than neighbors will not show less fear. Such perceptions mean, when the variable is deviation-scored, that neighbors do not share the respondent's optimism about willingness to intervene.

METHOD

Sampling Procedure

Data for this study were originally collected in summer 1982 to model neighborhood-level responses to crime (Taylor, Shumaker, and Gottfredson 1985). Using a multi-stage, stratified cluster sample, 66 neighborhoods were randomly sampled from the population of 236 Baltimore city neighborhoods. (For details on neighborhood definition and data allocation see Taylor, Brower, and Drain 1979; Goodman and Taylor 1983.)

Within each neighborhood 8 census blocks were randomly selected and a side of each
Fear of Crime in Urban Residential Neighborhoods

was then randomly selected if it included residential telephone listings and not exclusively apartments (6 or more phones at one address) or apartment complexes. If a side of a census block did not meet the criteria, another side was randomly chosen. If all 4 sides of a census block failed to meet the criteria, another census block was randomly sampled and the block face selection procedure repeated. In neighborhoods where blocks were depleted before completing the desired number of interviews, additional blocks were added using the same procedure. Sampling of both sides of a street block was not allowed. The final sample comprised 562 blocks.

All blocks in a neighborhood were merged into a sampling list. A probability-proportional-to-block size PPS procedure selected addresses. We treated each sample neighborhood as a stratum and sought to obtain 25 interviews per neighborhood.

Complete interviews were obtained from 1622 heads of households or their spouses randomly selected within dwelling units; 88% were completed by phone, 12% in the field. Seventy-three percent of the initial cases assigned resulted in complete interviews. The interview averaged half an hour and included items on household history, attitudes toward the neighborhood, local social involvements, and neighborhood expectations.

Sample Characteristics

The sample was 33% men and 67% women and had a median 1982 income of $20,000–25,000 and a median 12th grade education. Twenty-seven percent was black, 46% white, and the racial identity of 27% undetermined. The correlation between our measure of each sample neighborhood’s racial composition and that determined by the 1980 census is .95.

The 66 neighborhoods themselves were extremely diverse. 1980 Census information indicates neighborhood ranges in race from 100% black to 100% white (ave. = 44%, med. = 33% black); in poverty, 1–59% (ave. = 16%, med. = 12% poor); in owner-occupied housing units, 6–89% (ave. and med. = 55% owner-occupied); in unemployment, 0–32% (ave. = 10%, med. = 9% unemployed); and in high school completion, 13–41% (ave. = 27%, med. = 26% high school completion).

Physical Assessments

In addition to the surveys, physical assessments of 20% of the street blocks in the 66 neighborhoods (N = 1182 blocks) were independently conducted by pairs of trained raters. For full details on procedure, items assessed, and scale properties, see Taylor, Shumaker, and Gottfredson (1985). Features assessed included items traditionally associated with physical and social incivilities. Inter-rater reliability for individual items was excellent (all $r_{intraclass} > .85$).

An incivilities scale was constructed from the assessment data (Cronbach’s alpha = .87). Litter, graffiti, vacant houses, and small groups on the street were some of the items loading highest on the scale, used as our objective measure of incivilities.

Data Measurement

Dependent Variable

Fear of Crime (FEAR) was measured using the standard National Crime Survey (NCS) “day fear” and “night fear” items: “How safe would you feel being out alone in your
neighborhood during the day?” and “... at night?”, with responses ranging from “very safe” to “very unsafe.” These two items were standardized and combined and the mean score across them was computed to produce a fear of crime scale (Cronbach’s alpha = .70).

Independent Variables

Except as noted, all independent variables were decomposed, following Cronbach (1976), into neighborhood means and individual deviations from neighborhood means. All neighborhood mean variables end in AGG, all deviation scored variables end in DEV. Thus AGEAGG refers to the neighborhood mean on age, while AGEDEV refers to the individual respondent’s deviation score on age. EDUCAGG and EDUCDEV respectively represent the neighborhood mean and individual deviation score on education.

A dummy variable reflecting predominantly black neighborhoods, RACEAGG (90% or more black = 1; else = 0), is the aggregate measure of race. We used this dummy in accord with the social vulnerability interpretation of higher fear levels among blacks than whites. Skogan and Maxfield (1981) suggest that urban blacks are more fearful from living in higher crime, less well-policed surrounds with larger pools of potential offenders. Thus RACEAGG measures differences between predominantly black neighborhoods and all others.

The individual-level race measure (RACEDEV) is the absolute value of the difference between a person’s race (black or white) and the neighborhood’s racial mix (proportion black). The absolute value captures racial dissimilarity, regardless whether of a white person in a predominantly black neighborhood or the reverse. Finally, individuals with race values missing were assigned the aggregate mean as a deviation score.

Therefore, although the aggregate measure of race captures social vulnerability, the individual-level, deviation-scored item captures subcultural dissimilarity from nearby others (Merry 1981).

The final demographic variable to be considered was gender, a dummy variable with males = 1 and females = 0. (Decomposition of this variable was unnecessary as no theoretical arguments suggest a neighborhood’s sex composition should be relevant to fear, and sex ratios vary little by neighborhood.)

In addition to sociodemographics, we considered the effects of victimization experiences, measured by responses to the following: “In the last year, has there been a burglary in your home or the home of someone you know in the neighborhood?” Respondents who stated that their households were burglarized were coded 1 on the measure of direct victimization, and all others coded 0. Aggregate proportions were computed (DIRECTAGG), and individual deviations from the aggregate mean then calculated (DIRECTDEV).

Respondents who stated that the households of others in their neighborhood had been burglarized were coded 1 on the measure of indirect victimization and all others coded 0. Again, aggregate proportions and individual deviation scores were computed (INDIRECTAGG, INDIRECTDEV).

To tap community integration dimensions relevant to fear we asked, “Suppose some kids were spray painting a building on your street. Do you think any of your neighbors would call the police?” “Yes” was coded 1 and all else 0. Again, neighborhood proportions (SPRAYAGG) and individual deviations (SPRAYDEV) from respective proportions were assessed.

Finally, following tradition, perceived incivilities were gauged via respondent percep-
tions of physical and social cues such as vandalism, vacant housing, litter, vacant lots, loiterers harassing passersby, groups of teenagers hanging out, noise levels, and people fighting and arguing. Respondents were asked if these conditions were a big problem, somewhat of a problem, or not a problem in their neighborhoods. Answers for each condition were standardized and then combined and the mean across scale items calculated (Cronbach’s alpha = .87). A mean for each of the 66 neighborhoods and individual deviation scores from the aggregate mean were then calculated. Only the individual deviation scores were used as a subjective measure of incivilities (INCIVILDEV); the neighborhood-level measure of incivilities was based on the objective scale described above (INCIVILAGG).6

RESULTS

Interviews from 1557 respondents (95.9%) were sufficiently complete to be included. The listwise correlation matrix appears in Table 1. Cases were reweighted, after controlling for the differing number of completed interviews in various neighborhoods, to reflect the occupied housing units in the neighborhood, based on the 1980 Census, as a proportion of all the occupied housing units in all 66 neighborhoods. (Regressions carried out with the unweighted sample yielded no substantive differences. In general, the same patterns of significance and of B weights obtained. Specific discrepancies are discussed in the text. For a discussion of differences using the standard contextual analysis, see Appendix A.)

Two regression analyses were performed. First, all variables were entered into the equation by subset to test the effects of each subset: aggregate demographics, aggregate conditions, individual demographics, and individual attitudes and experiences. The four subsets were entered hierarchically and in the above order based on two assumptions: that contextual factors condition individual-level factors, and demographic attributes of neighborhood populations and individuals set the conditions for the development of attitudes and experiences. In a second regression equation all variables were entered simultaneously. Then a reduced model was estimated deleting predictors with nonsignificant partial slopes. (Forcing those predictors to remain in the equation made no substantive difference in the results.)

Neighborhood Versus Individual Influences on Fear

Results from the regression of the four separate subsets appear in Table 2. Predictors in toto explain 29.3% of the outcome variance, the bulk accounted for by individual-level demographic characteristics (10.6%) and individual-level attitudes and experiences (11.1%). By contrast, aggregate-level demographic characteristics explain 4.0% and other aggregate-level conditions account for 3.5%. This suggests that although the environmental context affects fear levels—the variance explained by between-neighborhood sources is significant—fear is more strongly influenced by within-neighborhood factors. The reduced model, with only significant predictors, appears in Table 3.

Sociodemographic Characteristics

Neighborhoods with less educated residents (EDUCAGG) show more fear (B = −.03; beta = −.08). Past interpretations of the link between class and fear focus on social vulnerability (e.g., Skogan and Maxfield 1981), assuming that lower class (here, less
**Table 1**

Zero Order Correlation Matrix of Regression Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Y1</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
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<th>X13</th>
<th>X14</th>
<th>X15</th>
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<td>X1 AGEAGG</td>
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<td>X6 DIRECTAGG</td>
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<td>-.006</td>
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Notes: Based on weighted sample (N = 1561).
Listwise deletion used.
Table 2
Contribution of Each Subset of Predictors to Fear of Crime

<table>
<thead>
<tr>
<th>Subset</th>
<th># of Measures in the Set</th>
<th>Contribution to Fear of Crime</th>
<th>Significance of $R^2$ Change ($p &lt;$)</th>
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<td>Neighborhood-Level Demographic-</td>
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<td>ic Characteristics</td>
<td>3</td>
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<td>Neighborhood-Level Attitudes</td>
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<td>and Experiences</td>
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<tr>
<td>Experiences</td>
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<td>TOTAL EQUATION</td>
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<td>.293</td>
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Notes: Based on weighted sample (N = 1561).
Subsets were entered in the order shown; $R^2$ change is specific to the order shown.

Educated) persons live in more threatening surrounds, with a higher density of nearby offenders. Our finding suggests a slightly different interpretation. The final equation controls for victimizations, perceived signs of disorder, and actual signs of disorder (INCIVILAGG, INCIVILDEV, DIRECTAGG, INDIRECTAGG, INDIRECTDEV). And if we “force” a crime variable (1978–1980 average total crime rate) into the equation, education is still significant at the neighborhood level, with the same B and beta. In short, even when crime, victimization, and signs of disorder are controlled, lower status neigh-

Table 3
Regression of Fear of Crime on Context and Individual Predictors

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE of $B$</th>
<th>Beta</th>
<th>$T$</th>
<th>$p &lt;$</th>
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</thead>
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<td>.128</td>
<td>4.997</td>
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<td>.011</td>
<td>-.079</td>
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<td>.01</td>
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<tr>
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<td>.020</td>
<td>.105</td>
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<td>.140</td>
<td>.146</td>
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<tr>
<td>DIRECTAGG</td>
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<td>.077</td>
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<td>.01</td>
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<td>.136</td>
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</tr>
<tr>
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<tr>
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<td>INCIVILDEV</td>
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<td>14.482</td>
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</tr>
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<td></td>
<td></td>
<td></td>
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<td>.715215</td>
</tr>
</tbody>
</table>

$R^2 = .290$ ($F(12,1548) = 52.79; p <$ .001); Adj. $R^2 = .285$

Notes: Based on weighted sample (N = 1561).
Reduced model, non-significant predictors removed.
borhoods have higher fear levels. The low education link to fear, therefore, cannot stem solely from higher associated crime and disorder levels in these locales.

Two characteristics of lower status neighborhoods may account for this relationship. First, as Rainwater (1966) demonstrates, the psychogeography of control is more circumscribed in lower versus middle class neighborhoods; people are more concerned about the immediate area than about events farther away. Suttles (1972) extends this point, suggesting that lower class residents "collapse" the neighborhood onto the block. Away from the area right around their home, they have less of an idea about what to expect and thus may feel more vulnerable. Second, lower class neighborhoods have more diverse populations and housing stock than middle class areas. Lower class residents are more likely surrounded by unfamiliar others, whose daily patterns diverge from their own. And, due to high transience levels, they may know little about these dissimilar others. These unfamiliar others arouse concern (Merry 1981; Taylor 1988, ch. 8) and perhaps a sense of vulnerability. Future research needs to more clearly articulate this ecological vulnerability construct, clarifying both the source of the threat and the relevant mediating processes.

At the individual level, education (EDUCDEV) is significantly negatively-linked to fear ($B = -.02; \beta = -.08$). Again, these feelings of vulnerability do not arise from perceptions of disorder, or actual disorder, as these are controlled. They may arise, however, from less educated residents' stronger perceptions of unfamiliarity in a neighborhood (Merry 1981; Taylor 1988; Rainwater 1966; Suttles 1972) or their greater chances of living on blocks more proximate to pools of offenders.

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fear. Hence, ecological variations and within-neighborhood subcultural dissimilarities both contribute to fear; earlier work with clustered samples has not separated these two impacts.

Finally, as in previous studies females are significantly more fearful than males.

**Indirect Victimization**

Indirect victimization processes operate at both the neighborhood and individual levels. Neighborhoods where residents hear of more local burglaries are more fearful (INDIRECTAGG $B = .84$; beta $= .15$); individuals who hear of more local burglaries than their co-residents are as well (INDIRECTDEV $B = .15$; beta $= .08$). These individuals may live in a more dangerous portion of their neighborhood, or merely be more involved than neighbors in local social networks. Slope differences suggest indirect victimization has more impact on fear at the neighborhood than individual level.

In contrast, direct victimization influences fear (DIRECTAGG $B = .65$; beta $= .08$) only on the neighborhood level. Neighborhoods where higher proportions of residents have recently been burglarized have higher fear levels. The individual-level measure is not significant.8,9

These findings suggest that victimization experiences, *aside* from actual neighborhood disorder in a neighborhood, create fear differences between neighborhoods.

**Community Responsiveness to Disorder**

Neighborhoods where more respondents feel that neighbors would call the police were kids spray painting a building on their street show significantly lower fear levels (SPRAYAGG $B = -.68$; beta $= -.06$).10 But, within-neighborhood differences on this factor are not linked to fear levels. Thus, at the neighborhood level, perceived responsiveness of neighbors to disorder may operate as a "social fact"; to the extent neighbors share this perception they feel less vulnerable. The process operates ecologically, not at the individual-level.11

**Incivilities**

As expected, neighborhoods with more objectively observed physical and social incivilities (INCIVILAGG) have higher fear levels ($B = .09$; beta $= .11$). As the predictor and outcome come from two different methods, this slope is probably conservative, representing a "lower bound" of the impact of incivilities on fear at the neighborhood-level.

Within-neighborhood differences in perceived incivilities are strongly linked to differences in fear (INCIVILDE V $B = .42$; beta $= .32$). This variable has the strongest unique link to fear—its beta weight is noticeably larger than any other. This robust linkage confirms Garofalo and Laub’s suggestion that “urban unease” gives rise to or is linked to fear. But our results further clarify their suggestion, indicating a *psychological* rather than ecological or sociological connection. It operates at the individual level, controlling for the type of neighborhood in which the individual resides and the amount of disorder there. Those seeing more local disarray than their neighbors, or interpreting local disarray as more troublesome, are more fearful.
DISCUSSION

We consider our results in the context of the major theoretical perspectives on fear of crime discussed earlier: indirect victimization, community concern, incivilities, and cultural diversity.

The Indirect Victimization Model

Our analysis supports but also extends the indirect victimization model in two ways. First, with regard to indirect victimization, both the between- and within-neighborhood measures significantly elevate fear. This is the first clear indication that these indirect impacts can operate at the ecological level. The model needs elaborating to describe these two distinct pathways of influence and determine whether or not homologous processes are involved.

Second, assumptions regarding ecological vulnerability find support, but the pattern of results points toward further needed clarification of the construct. As predicted, between-neighborhood differences in race and class link to higher fear levels. But it is not clear that these linkages reflect vulnerability to disorder due to ecological positioning, because disorder is partialled-out—actual incivilities and victimizations are controlled. Adding a more general crime measure does not alter the slope of either the neighborhood education or the neighborhood race variable. Class and race, therefore, could relate to fear due to aspects of community disorder not measured here such as low police responsiveness (Hagan and Albonetti 1982), offender-based dynamics (Gottfredson and Taylor 1988), or other elements of community variation. The logic linking class- and race-based indices of ecological or social vulnerability to fear needs further articulation.

Incivilities Model

As with the preceding model, our results confirm but elaborate the incivilities model. At the ecological level, controlling for class and disorder, neighborhoods with more extensive incivilities have more fear. This suggests that prior research linking objective incivilities to fear (e.g., Maxfield 1987a, 1987b) refers to ecological-level, between-neighborhood connections, not individual-level connections. We also confirm Maxfield (1987b) in that subjective incivilities, with objective incivilities controlled, relate to fear.

But of strong interest is the relative size of these two slopes; the individual-level, standardized slope for perceived incivilities is about three times the neighborhood-level slope for objective incivilities. Stated differently, with neighborhood characteristics controlled, the individual-level incivilities/fear relationship is much stronger. This supports a markedly different interpretation of the fear/perceived incivilities link than suggested by earlier studies (Lewis and Maxfield 1980; Lewis and Salem 1986; Skogan 1986). These prior works argue that perceived incivilities reflect ecological variations in the incidence of observable incivilities.

Consequently, fear reduction programs, mounted on the basis of such earlier studies, need some redirection. To date, many programs, as in Newark and Houston, have focused on high incivility, high fear neighborhoods (Greene and Taylor 1988). Our results suggest that community-level intervention may be less effective at overall fear reduction than identifying individuals who perceive more incivilities than neighbors and targeting them
for intervention. The exact framework for such an effort is not yet clear. Nonetheless, conditions and processes affecting individual-level interpretations of disorder clearly require illumination.

**Community Concern Model**

As the community concern model implies, neighborhoods where residents perceive others as less likely to respond to a spray painting incident have higher fear levels. But within-neighborhood differences in such perceptions show no influence. Such a pattern intimates that the operative processes in this model are ecological and not psychological or social psychological.

**Diversity Model**

Our findings underscore the generalizability and utility of Merry's thesis that sub-cultural differences between a resident and his/her neighbors inspire fear. Regardless of the respondent's race, we find that those more different racially from their neighbors have more fear. Thus, although it was originally developed in a multi-cultural subsidized housing project, the diversity model also applies to a large city composed largely of white and black residents.

This finding should not be construed as supporting, in any way, segregated or separatist residential settlement patterns. The beginning of the 1980s evinced some two dozen well-integrated neighborhoods in Baltimore city, many stably integrated for the preceding decade, but some shifting from predominantly white to predominantly black (Taylor and Talalay 1981). Unfortunately, our sample does not permit reliable inspection of fear differences in stably integrated versus racially changing neighborhoods. Nonetheless, given other information about these neighborhoods and contacts with residents and leaders in them, we suspect that the link between diversity and fear is driven largely by processes at work in the racially changing neighborhoods, not the stably integrated ones. Of course, until empirically confirmed, our suspicions will remain just that.

In sum, our analyses, combining central predictors from each of the dominant theoretical models explaining fear of crime, and distinguishing within- from between-neighborhood influences, reconfirm that each model has a "grain of truth." Our findings indicate ways these theories, particularly indirect victimization and incivilities, need further theoretical articulation of central constructs. They also prove the generalizability of Merry's diversity thesis to urban neighborhoods in major metropolitan areas.

**APPENDIX A**

**Comments on Separating Between- vs. Within-Neighborhood Effects; and Regression Equations with Raw-Scored Individual-Level Measures in a More Traditional Contextual Analysis**

If people living in one neighborhood are more like one another than are people living in different neighborhoods, and neighborhoods are used as primary or secondary sampling units in a cluster sampling procedure, then the resulting variances will contain two
sources: individual-level and group-level (Cronbach 1976; Taylor 1982, pp. 317–325). More specifically,

\[
\text{Item variance} = \text{Between-neighborhood variance} + (\text{within-neighborhood}) + \text{Error variance}
\]

Inter-item covariances have a comparable structure, assuming independent measurement errors, where

\[
\text{Cov}(XY) = \text{Cov}(X.Y.) + \text{Cov}(xy)
\]

\(X\) and \(Y\) are unadjusted variables from a clustered sample, \(X\) and \(Y\) are neighborhood-level means, and \(x\) and \(y\) are deviation-scored variables, that is, each respondent’s deviation from his/her respective neighborhood mean. Inter-item covariances have not been decomposed in most fear studies due to the small number of neighborhoods, ranging from 3 (Maxfield 1984) to 8 (Ortega and Myles, 1987; Taylor, Taub, and Dunham 1986) to 10 (Lewis and Salem 1986). Such samples restrict the variance that contextual or neighborhood-level items can contribute to an outcome, effectively placing a ceiling on the size of the ecological-level effects. The present study overcomes this difficulty by using a large number (66) of randomly sampled neighborhoods from a large city of more than 700,000 residents.

The analytic strategy adopted here generally follows Cronbach’s (1976) suggestion. We first enter ecologic means, and then pooled, within-neighborhood residuals. In the second group of predictors we are centering the observations in each neighborhood on each predictor by the neighborhood mean. This approach contrasts with the more traditional regression approach to contextual analysis (Alwin 1976) where neighborhood means are entered first and raw scores second. We report the more standard contextual analysis below but key the main analysis to the Cronbach approach, for theoretical and analytical reasons.

First, Merry’s thesis that subcultural differences are fear inspiring is most straightforwardly translated into a regression model using the Cronbach approach. Individual deviation-scored measures of race, class, and age explicitly contrast the individual with his/her neighbors, thus best operationalizing the notion of local dissimilarity. Of course, the extent to which, for example, age per se (a raw, individual-level predictor) can be distinguished from a deviation-scored measure of age after removing neighborhood means depends in part on sample properties. Nonetheless, all else equal, deviation-scored measures more closely approximate the theoretical constructs we wish to test.

As one reviewer stresses, our approach does not easily permit the examination of (context \(X\) individual) interaction effects. But this examination is not one of our purposes. Such an examination is premature at this time for two reasons. First, the theoretical ground to undergrid such predictions is not yet established. Second, context effects on fear for the ecologic predictors of interest are not yet established. Our research addresses this second issue and leaves for future endeavors the theoretical articulation and testing of (context \(X\) individual) interaction effects.

But, on a crucial matter our deviation-scored approach does duplicate results of the standard contextual approach: the \(R^2\) explained by contextual predictors is absolutely identical in both cases if contextual predictors are entered first, and they are.
A second rationale for our analytical approach is more technical in nature. Depending on the sample characteristics and variables used, traditional contextual analysis (raw scores entered after ecologic means) may yield a predictor matrix more ill-conditioned and tending toward multi-collinearity than the analysis with means and deviation-scored variables. Such conditions can cause problems in the regression analysis: inflation of coefficients' standard errors and “beta bounce” with reversed coefficient signs. Our assessment of the two predictor matrices using widely-accepted and well-respected regression diagnostics indicates that, with our sample and variables, the traditional contextual analysis does indeed yield a more ill-conditioned matrix.

Recent work on regression diagnostics (Belsley, Kuh, and Welsch 1980) has confirmed that ill-conditioned matrices of predictors are not easy to spot; simple inspection of the correlation matrix is not sufficient (p. 92). One suggested diagnostic procedure is to decompose the matrix of predictors into a sum of components each linked to a single eigenvalue, and then to determine (1) if near dependency exists and (2) if it is influencing the regression coefficients. Analyses of the full matrix of predictors using neighborhood means and individual raw scores—the traditional contextual analysis—suggests that there is some near dependency and that it is causing problems. The matrix of predictors using deviation-scored individual predictors is not as ill-conditioned. In the regression using the matrix of raw-scored individual predictors the $B$ estimates for aggregate and individual

<table>
<thead>
<tr>
<th>Table A-1</th>
<th>Reduced Form Equation with Raw-Scored Variables: Contextual Race Variable Included</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
<td><strong>B</strong></td>
</tr>
<tr>
<td>Contextual</td>
<td></td>
</tr>
<tr>
<td>RACEAGG</td>
<td>.304</td>
</tr>
<tr>
<td>EDUCAGG</td>
<td>—</td>
</tr>
<tr>
<td>INCIVILAGG</td>
<td>—</td>
</tr>
<tr>
<td>SPRAYAGG</td>
<td>—</td>
</tr>
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<td>.685</td>
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<td>EDUC</td>
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<td>AGE</td>
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Notes: RACE, the deviation score for race, is used in both equations because of missing data problems with individual measures of race. Inclusion of individual raw scores on race would reduce the sample size by 1/5 and result in a subsample that differs from the sample used in Tables 1 and 2 by race, education, age, and other key variables. * = $p < .01$; ** = $p < .001$.  

Table A-2
Reduced Form Equation with Raw-Scored Variables: Contextual Incivilities Variable Included

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE of B</th>
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<tr>
<td>Contextual</td>
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</tr>
<tr>
<td>RACEAGG</td>
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<tr>
<td>EDUCAGG</td>
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<td>.075</td>
<td>.019</td>
<td>.091**</td>
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<tr>
<td>INDIRECTAGG</td>
<td>.574</td>
<td>.133</td>
<td>.100**</td>
</tr>
<tr>
<td>DIRECTAGG</td>
<td>.687</td>
<td>.189</td>
<td>.081**</td>
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<tr>
<td>Raw (Individual) Scores</td>
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</tr>
<tr>
<td>RACE</td>
<td>.412</td>
<td>.078</td>
<td>.118**</td>
</tr>
<tr>
<td>EDUC</td>
<td>-.015</td>
<td>.006</td>
<td>-.069*</td>
</tr>
<tr>
<td>AGE</td>
<td>.011</td>
<td>.001</td>
<td>.253**</td>
</tr>
<tr>
<td>GENDER</td>
<td>-.369</td>
<td>.036</td>
<td>-.224**</td>
</tr>
<tr>
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<td>INDIRECT</td>
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<tr>
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<tr>
<td>( N )</td>
<td>1561</td>
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</tr>
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</table>

Notes: See Notes Table A-1.

Reduction both receive a high proportion of their variance (83% and 51%, respectively) from one small component in the matrix of predictors (see Belsley, Kuh, and Welsch 1980, pp. 105 ff.). In short, it is impossible to estimate both aggregate and individual education effects. It is not surprising then that the context effect for education demonstrates “beta bounce” with a sign opposite to the one observed in Table 3 when a full model is estimated using the traditional contextual approach.

In sum, regression diagnostics indicate that, given our sample and variables, the predictor matrix using raw scores and neighborhood means is tending noticeably toward multi-collinearity, and thus creating misleading results. The problems are not evident using neighborhood means and deviation-scored predictors.

Therefore, given our theoretical purposes and the nature of the predictor matrix with our sample and variables, Cronbach’s disaggregation approach is preferable to the more standard contextual analysis. Of course this does not mean Cronbach’s approach will be preferable over standard contextual analyses in other studies with different samples and/or different variables. But our analysis clearly suggests researchers should compare the technical merits of both approaches.

The most sensible reduced-form regressions with only significant predictors and using raw-scored individual variables—the traditional contextual analysis (Alwin 1976)—appear in Tables A-1 and A-2. In these equations not only is aggregate education excluded, but it is also necessary to exclude either the contextual race variable or contextual incivilities.

The differences between these reduced-form equations and Table 3 are the following: aggregate race and aggregate incivilities are not simultaneously significant; the aggregate
education effect cannot be reliably estimated; and aggregate community integration is not significant.

ACKNOWLEDGMENTS

Research was supported by NSF Grant SES-8520460 from the Law and Social Sciences Program (Jeanette Covington, principal investigator, Ralph Taylor, co-principal). Ralph Taylor was also supported by NIMH Grant 1-R01-MH40842-01A1 during this research. Data were originally collected under Grant 80-IJ-CX-0077 from the National Institute of Justice (Ralph Taylor, principal investigator, Stephen Gottfredson, co-principal). Survey Research Associates (Baltimore) competently completed the surveys. Authors are listed in alphabetical order to reflect co-equal contributions.

NOTES

1. We also experimented with other cutpoints (85/15; 80/20). The results were not markedly different.
2. The effects of a dummy with 90% or more white neighborhoods, examined for its impact on fear, are the same.
3. We also used a race dummy variable instead of percent black as the latter variable was strongly bimodal.
4. Clearly, RACEDEV captures racial heterogeneity as would a dummy variable at the aggregate level, coding mixed neighborhoods = 1 and all other types = 0. Such aggregate measures were developed using 3 cutpoints to define mixed neighborhoods (10–80%, 10–85%, and 10–90% white). Those 10–85% white showed the most impact on fear. The findings on racial heterogeneity using these aggregate measures of mixed neighborhoods essentially duplicated those based on absolutized race deviation scores. As the correlation between aggregate measures of mixed neighborhoods and individual race deviation scores was very high (.72), we entered only individual race deviation scores in the regression equation shown here.
5. Burglary victimization, compared to, for example, robbery or assault, is less fear-inspiring. Nonetheless since our sample is small, vis-à-vis national samples such as the NCS and the BCS, we opted for burglary to avoid too low a base rate on the victimization item. Burglary also assures that the offense site (house burgled) is within the arena of interest (the neighborhood). Further, frequent local burglaries may be somewhat fear-inspiring if respondents conclude that other crime—including violent personal crime—is widespread in their neighborhood as well (Garofalo 1981).
6. The regression equation using respondents’ mean perception of incivilities rather than the objectively-based index yields a much larger $B$ weight for the neighborhood-level measure of incivilities ($B = .54$). Due to a very sizable link between perception of incivilities and education levels in this equation, education at the aggregate level is nonsignificant.
7. One reviewer suggests that our failure to find a neighborhood-level age effect may be due to low ecological variability on this parameter. Although the average age within neighborhoods ranges 34–58 years, age in the second quartile of the ecological variable ranges only 44–48, and in the third only 48–51. The ecological variance of age accounts for only 9.5% of the total variance in age. Thus the similar mean ages among many of the neighborhoods may account in part for our failure to find a significant neighborhood coefficient associated with age.
8. DIRECTDEV’s failure to influence fear is probably not due to our usage of burglary instead of street crimes as our victimization measure, as the indirect measures based on burglary did have an influence.
9. Results for DIRECTAGG are influenced by weighting; unweighted, it is nonsignificant. INDIRECTAGG is nonsignificant in both the weighted and unweighted regressions. However results are not influenced by “forcing” in a crime rate variable.
10. This partial slope is nonsignificant if we “force” the crime variable into the regression (SPRAYAGG $B = -.50$; beta $= -.05$; $p > .05$). The zero order correlation between the responsiveness measure and the crime variable is $-.48$.

11. This null finding at the individual level confirms an earlier study using respondents from 63 street blocks (Taylor, Gottfredson, and Brower 1984). In that study, individual deviations from street block level fear are not linked to social ties.

12. See Appendix A. A subjective measure of neighborhood-level incivilities results in a much larger $B$ weight, but also wipes out the influence of EDUCAGG. This suggests that at the ecological level, subjective measures of incivilities are very strongly confounded with class.

REFERENCES


