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Race, Class or Neighborhood Context: Which Matters More in Measuring Satisfaction with Police?

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Race, Class or Neighborhood Context: Which Matters More in Measuring Satisfaction with Police?

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The primary purpose of this study is to assess the relative effects of race and class, at both individual and neighborhood levels, on public satisfaction with police. Using hierarchical linear modeling on 1,963 individuals nested within 66 neighborhoods, this study analyzes how individual-level variables, including race, class, age, gender, victimization and contact with police, and neighborhood-level factors, including racial composition, concentrated disadvantage, residential mobility and violent crime rate, influence residents' satisfaction with police. The results from the individual-level analysis indicate that both race and class are equally important predictors. African Americans and lower-class people tend to be less satisfied with police. The significant effects of race and class, however, disappear when neighborhood-level characteristics are considered simultaneously. Neighborhood racial composition affects satisfaction with police, with residents in predominately White and racially mixed neighborhoods having more favorable attitudes than those in predominately African American communities. Further analyses reveal that African Americans in economically advantaged neighborhoods are less likely than Whites in the same kind of neighborhoods to be satisfied with police, whereas African Americans and Whites in disadvantaged communities hold similar levels of satisfaction with police. Implications for future research and policy are discussed.

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Introduction

The past four decades have witnessed a substantial amount of empirical research examining citizens' satisfaction with police. Most studies focus on the effects of individual background characteristics such as race, age, sex, income and education (e.g., Brandl, Frank, Worden, & Bynum, 1994; Carter, 1985; Huang & Vaughn, 1996; Hurst & Frank, 2000; Jefferson & Walker, 1993; Skogan, 1978; Sullivan, Dunham, & Alpert, 1987; Weitzer & Tuch, 1999, 2002). Some research went further to incorporate individuals' personal or vicarious experiences, such as victimization and contact with police, into the analysis (e.g., Cao, Frank, & Cullen, 1996; Correia, Reisig, & Lovrich, 1996; Dean, 1980; Homant, Kennedy, & Fleming, 1984; Koenig, 1980; Priest & Carter, 1999; Tewksbury & West, 2001; Weitzer & Tuch, 2002). Recently interest in studying the impact of neighborhood contexts on residents' perceptions of police has emerged (e.g., Cao et al., 1996; Dunham & Alpert, 1988; Reisig & Parks, 2000, 2003; Sampson & Jeglum-Bartusch, 1998; Weitzer, 1999, 2000; Weitzer & Tuch, 2004a, 2005a, 2005b).

The primary purpose of this study is to examine the relative importance of race and class in measuring citizen satisfaction with police. From Bayley and Mendelsohn's (1969) early study of police–minority relations to Weitzer and Tuch's (2005b) recent analyses of racially biased policing, race has been one of the most important and consistent predictors of citizens' perceptions of police. A growing number of studies, however, question the primacy of race and stress the importance of neighborhood contextual characteristics in shaping citizens' evaluations of police. Some researchers find that the effect of race or ethnicity is not significant when neighborhood contextual variables are simultaneously considered (e.g., Cao et al., 1996; Jesilow, Meyer, & Namazzi, 1995; Sampson & Jeglum-Bartusch, 1998; Schuman & Gruenberg, 1972). Others specifically suggest that neighborhood class status plays an equally important, if not greater, role in determining satisfaction with police (Dunham & Alpert, 1988; Weitzer, 1999, 2000). Although studies continue to report a significant racial effect even after introducing contextual variables (e.g., Garcia & Cao, 2005; Reisig & Parks, 2000; Webb & Marshall, 1995), more research clearly is needed to clarify the influences of race and class on citizens' attitudes toward police.

Several other reasons, chiefly methodological considerations, justify this research. First, this study employs a multilevel modeling strategy to assess the explanatory power of both the individual- and neighborhood-level predictors of perceptions of police. With the exception of two studies (i.e., Reisig & Parks, 2000; Sampson & Jeglum-Bartusch, 1998), previous research either assessed the influences of individual-level variables exclusively or used neighborhood contextual variables in individual-level analyses. This microlevel approach could be problematic for two reasons. One is that these studies could have violated the

assumption of independence for regression analysis because respondents who are naturally nested in a same neighborhood are often correlated with each other in certain ways. The other is that these studies could not assess cross-level effects since the estimates are not adjusted for the covariates, regardless of whether they are measured at the individual or the contextual level. They also fail to measure the independent effects of neighborhood characteristics adjusting all individual predictors. To address these concerns, the current study includes both individual- and neighborhood-level variables and examines their influences on citizen satisfaction with police simultaneously.

A second and related issue is that this research constructs the measures of race and class at both the individual and neighborhood levels. While individual race and class are commonly considered in past research on satisfaction with police, the inclusion of both at the neighborhood-level analysis is rare. A pivotal measure employed by recent macrolevel studies is concentrated disadvantage, which is constructed by combining neighborhood racial composition (i.e., percent Black) and class status (i.e., percent poverty, unemployed, and female-headed family) into a single scale (Reisig & Parks, 2000; Sampson & Jeglum-Bartusch, 1998). Although this scale correctly signals the socially and economically disadvantaged status of neighborhoods, it may not allow researchers to examine the relative explanatory power of neighborhood racial makeup and neighborhood class level and possible inter-racial distinctions along class lines.

Finally, multiple scales are employed to measure neighborhood contextual characteristics. The two studies that performed a multilevel analysis on attitudes toward police considered four neighborhood contextual variables, including concentrated disadvantage, immigrant concentration and residential mobility in Sampson and Jeglum-Bartusch (1998) and concentrated disadvantage and homicide rate in Reisig and Parks (2000). This study uses concentrated disadvantage and residential mobility and two more measures, racial composition and violent crime rate. This group of variables arguably represents a more comprehensive collection of theoretically relevant neighborhood-level predictors of satisfaction with police.[1]

In brief, the aim of this research is threefold: (1) to assess the effects of individual race and class on determining resident satisfaction with police, controlling for other background characteristics and personal experience; (2) to examine the effects and relative importance of neighborhood racial and class variables on citizens' satisfaction with police, controlling for other contextual variables, individual characteristics and personal experience; and (3) to analyze inter-racial differences in attitudes toward police across distinctive neighborhood socioeconomic status.

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1. Several other neighborhood contextual characteristics, including neighborhood social and physical disorder, collective efficacy, and perceived crime conditions, were also constructed and examined in the preliminary analysis. All these scales, however, are highly ($r > .7$) correlated with the measure of concentrated disadvantage and are thus dropped from the study.

Predicting Satisfaction with the Police

Starting from the late 1960s, there has been a rich tradition in criminological research studying public perceptions of the police. Overall, evidence from previous research indicates a widespread positive and supportive attitude toward police (Huang & Vaughn, 1996). Empirical findings suggest, however, that the level of satisfaction can vary across a variety of individual characteristics, individual experiences and neighborhood characteristics. We thus propose that a comprehensive theoretical framework of public satisfaction with the police should incorporate three different perspectives—individual background characteristics, personal and vicarious experiences, and neighborhood contexts.

Individual background characteristics

Theoretical explanations that focus on the influence of individual characteristics and personal/vicarious experiences are the two most popular perspectives in explaining citizen satisfaction with the police. The individual-characteristic explanation posits that citizens' individual background characteristics, such as race, class, age and gender, influence their attitudes toward the police.

Race

Race has been the focal concern of a considerable number of past studies on attitudes toward police. Racial minorities, African Americans in the case of much of the research, are found to be less likely than Whites to display favorable attitudes toward police (see Brown & Benedict, 2002 and Decker, 1981 for a summary of past findings). Two theoretical models derived from conflict theory, the sense-of-injustice model and the group-position model, can be used to explain this finding.

The sense-of-injustice model posits that public attitudes toward criminal justice agencies are heavily influenced by the feeling of being treated unjustly by the gatekeepers of the criminal justice system—police officers. Applying this argument to race, minorities, especially African Americans, tend to display less favorable attitudes toward police because they are more likely than White Americans to have a sense of unequal treatment by the criminal justice system, in general, and the police, in particular. Two sources may contribute to a higher level of sense-of-injustice among Blacks. First, African Americans are consistently overrepresented in the criminal justice system, making up less than 12 percent of the total US population in 2004 but constituting 37 percent of the total arrests for violent crime and nearly 40 percent of all inmates in state and federal correctional facilities (Maguire & Pastore, 2007). This overrepresentation has generated serious concerns about the fairness of law enforcement in America. Accordingly, many African Americans tend to view

police as "occupying armies" in Black neighborhoods whose job is mainly to protect the status quo and to serve the interests of people in power (Cashmore, 1991). Recent, highly publicized problems in law enforcement, such as racial profiling or driving while Black, produce more concerns about possible racism.

Second, African Americans are also more likely to be victims of both violent and property crimes. In 2005, the victimization rate (per 1,000 persons age 12 and older) for violent crimes was 27 for Blacks and 20 for Whites and personal theft is 1.7 for Blacks and .9 for Whites (Maguire & Pastore, 2007). Many African Americans believe that they are victims of both overpolicing and underpolicing (Barlow & Barlow, 2000). That is, while residents in largely African American neighborhoods perceive that they are often subject to overly aggressive police tactics and practices, they also perceive that they are denied equal protection by police who are not willing to deal with disorder and crime problems in minority neighborhoods (Anderson, 1999; Dillingham, 1974).

The core arguments of the sense-of-injustice model are in line with the findings from studies on procedural justice which suggest that citizens' perceptions of local legal authorities, including the police, are heavily influenced by whether they perceive criminal justice agencies as fair and equitable in both the procedures for making decisions and the outcomes of the decisions (Tyler, 1990; Tyler & Degoey, 1995). Indeed, low perceptions of police legitimacy may lead to low citizen cooperation and satisfaction with police, poor police-community relations, and high crime rates (Anderson, 1999; LaFree, 1998; Tyler, 1990, 2003).

A second model that has been used to explain the Black–White differences in attitudes toward police is the group-position perspective. Originating from Blumer's (1958) group-position theory of racial prejudice and extended by Weitzer and Tuch's (2004b, 2005a) research on attitudes toward police, this model asserts that group orientations toward social institutions spring mainly from a sense of group position that involves "group identity, out-group stereotyping, preferred group status, and perceived threat" (Bobo & Hutchings, 1996, p. 955). Specifically, members of the dominant group (i.e., the in-group) tend to share a sense of superiority, view members of the subordinate group (i.e., the out-group) as intrinsically different and alien, display a belief about proper claim over certain rights, statuses, privileges and resources, and perceive out-group members as significant competitors for a greater portion of dominant group prerogatives (Bobo & Tuan, 2006).

Extending these arguments to racial attitudes toward police, Whites are more likely to hold favorable opinions of the police because they perceive this social institution as critical and scarce resources to which they are entitled and, more importantly, with which their interests and superiority are ensured. The stereotyping images of African Americans (e.g., more violent and prone to crime) commonly held by many Whites also lead to strong support among Whites for aggressive law enforcement against Black Americans and neighborhoods (Weitzer & Tuch, 2004b). Racial prejudice associated with a sense of group

position thus is one of the key factors differentiating Blacks' and Whites' views of the police.

The majority of previous studies on race and attitudes towards the police have found a significant link between them supporting the predictions of both the sense-of-injustice and the group-position models. Early studies conducted at the request of *President's Commission on Law Enforcement and Administration of Justice* in the 1960s found that although there was widespread satisfaction with the police, minorities were notably less favorable than Whites in their judgments of different aspects of police practice (President's Commission on Law Enforcement and Administration of Justice, 1967). More recent studies have reached similar conclusions (e.g., Brandl et al., 1994; Carter, 1985; Huang & Vaughn, 1996; Jefferson & Walker, 1993; Murty, Roebuck, & Smith, 1990). Researchers suggest that this difference exists because of the differential treatment of Whites and Blacks by police, in reality or by respondents' perceptions. For example, Weitzer (2000) examined citizens' perceptions of racialized policing and found that there was a shared belief across White and Black communities that police treated Whites and Blacks differently.

A small number of studies, however, have found that race has a weak or nil effect on citizens' evaluations of police. Jesilow, Meyer and Namazzi (1995), for instance, found that ethnicity is not a good predictor of attitudes toward police. Frank and colleagues (1996) actually found that African Americans in Detroit held more favorable views of the police than did White residents. They explained this "Detroit exception" by suggesting that a number of American cities were going through an ethno-racial political transition, which has dramatically enhanced African Americans' political influence, including the election of Black mayors and the appointment of Black police chiefs. A recent replication of this study in Washington, DC, however, reached a contradictory conclusion, with African American respondents reporting lower levels of satisfaction with police (Smith, 2005).

Class

Class or socioeconomic status (SES), measured in a variety of ways, is another factor commonly used in research on citizen satisfaction with police. As with race, both the sense-of-injustice and the group-position perspectives are appropriate for the explanation of class differences in attitudes toward police. The sense-of-injustice model suggests that working-class people will hold less favorable attitudes toward police than wealthy people because they are more likely to be the subjects of police control actions (Black, 1971; Black & Reiss, 1970; Friedrich, 1980; Reiss, 1971). Black (1976) specifically proposes that police responses to incidents vary, depending upon the location of the citizens in social space as measured by the race, sex, age, and social class of the parties. For example, he argues that citizens of the lower ranks (e.g., Blacks, women, children and lower and working classes) are more likely than the higher ranks to

be handled in a penal style (e.g., arrest), and less likely to be handled in a conciliatory or therapeutic style (e.g., mediation, separation, and counseling). Similarly, the group-position model would suggest that members of a high socio-economic tier are more inclined to have a close relationship with police since they rely on the police to serve their interests.

A number of empirical studies have found a significant connection between social class and evaluations of police, with people in the lower socioeconomic stratus more likely to have less favorable attitudes toward police than the wealthy (e.g., Cao et al., 1996; Huang & Vaughn, 1996; Percy, 1980; Sampson & Jeglum-Bartusch, 1998). Other studies show that class conditions the effect of race on satisfaction with police, but the findings are less than conclusive. While some found that Whites' perceptions of the police become more positive as they move up the social structure (Hagan & Albonetti, 1982), others showed that wealthy Blacks are more likely than poor Blacks to be less supportive of the police (Boggs & Galliher, 1975; Gamson & McEvoy, 1970; Hagan & Albonetti, 1982). Still others found that economically and educationally advan-taged Blacks have more favorable evaluations of police (Priest & Carter, 1999).

Age and gender

Two additional individual characteristics, age and gender, have been noted in the research on public perceptions of police. It has been widely observed that younger citizens tend to have less favorable attitudes toward police than older citizens (Hurst & Frank, 2000; Weitzer & Tuch, 2002), although this relationship has received less than consistent support (Decker, 1981). Some researchers argue that age is a stronger predictor of attitudes than race, gender, or social-ization (Peek, Lowe, & Alston, 1981; Wilson, 1985). Others, however, observe that the relationship between age and attitudes is unstable (Smith & Hawkins, 1973). Still others found that the types of contact between youth and police are the determinants of attitudes toward these authority figures (Rusinko, Johnson, & Hornung, 1978).

To explain the less positive attitudes toward police held by youth, Gaines, Kappeler, and Vaughn (1994) suggested that younger people are more freedom-oriented, while older people were more safety-oriented. In addition, they suggested that younger people have less positive attitudes toward police because they are more likely to engage in risky behaviors than elderly people. Taylor and colleagues (2001) found that rather than holding negative percep-tions, juveniles are generally indifferent in their attitudes toward police. Sullivan, Dunham, and Alpert (1987, p. 192) argued that different age groups may have different conceptualizations. For example, violence means more in conceptualizing police demeanor towards Black teens than towards Black adults. Therefore, they concluded that "attitudes are not unidimensional and are structured differently for different groups".

Compared to race, class, and age, findings on the impact of gender on public satisfaction with police are less equivocal. Some studies have shown that males tend to hold less favorable attitudes toward police than females (Apple & O'Brien, 1983; Taylor et al., 2001; Weitzer & Tuch, 2002), while a few others found that males hold more favorable attitudes (e.g., Correia, Reisig, & Lovrich, 1996; Hurst & Frank, 2000). An interactive effect may exist between age and gender. For example, younger men tend to hold the most negative attitudes toward police (Wilson, 1985).

Personal and vicarious experiences

The personal- and vicarious-experience explanation argues that individuals' personal and/or vicarious experiences with crime and criminal justice, in general, and the police, in particular, shape their evaluations of the police. Two types of individual and vicarious experiences related to crime/criminal justice and police, victimization and contact with police, have often been employed in research on public attitudes toward police.

Researchers have not reached a consensus on the relationship between victimization and satisfaction with police. Some early studies found that recent experience as a victim did not influence attitudes toward police (Biderman, Louise, Jennie, & Adrianne, 1967; Block, 1970; Smith & Hawkins, 1973); neither did threat of criminal victimization, either property or personal (Smith & Hawkins, 1973). By and large, more recent studies, however, have indicated that victimization experiences tended to increase unfavorable attitudes toward police (Homant et al., 1984; Koenig, 1980). In fact, Cao, Frank, and Cullen (1996) found that recent victimization experiences and fear of crime had a larger impact on citizens' confidence on police than any of their demographic variables (but see Jackson & Sunshine, 2006). Others discovered that the effect of victimization on perceptions of police is conditional on race. For example, Apple and O'Brien (1983) found that victimization was negatively associated with perceptions of police for Whites but not for Blacks (but see Priest & Carter, 1999).

One explanation for the negative association between victimization and satisfaction with police is that victimization has a negative effect on citizens' satisfaction through the mediating factor of "contact with the police." Contact with police has been found to influence public attitudes toward police.

Research done in New Zealand showed that younger victims, victims of burglary, and victims who were beneficiaries were more likely than other types of victims to express higher levels of dissatisfaction with police response (Morris, Reilly, Berry, & Ransom, 2003). They reported two reasons for victims' dissatisfaction: "the police were seen as not having done enough" and "the police appeared uninterested" (p. 24). In addition, Tewksbury and West (2001) assessed crime victims' perceptions of police in one urban American community and found that the most satisfied citizens were those who perceived officers as helpful, concerned, and courteous.

The effect of contact with the police has been revealed to differ based on two main factors: the type of police contact and the performance of police on the scene. Previous research has consistently shown that type of police contact makes a difference. Citizens who come into contact with police can be, among others, offenders, victims, or service requesters. The first two groups can be seen as people who experience involuntary contacts, while the third group includes people who experience voluntary contacts. Bordua and Tifft (1971) found that individuals who were stopped and searched (i.e., experience involuntary contact) were more likely to report that police did not deserve more respect than those without such experience. Similarly, Dean (1980) found that individuals who come into contact as a result of criminal victimization or traffic stops tended to express significantly lower levels of satisfaction with police, while individuals who initiate police contact through calls for service did not show such a trend. This, however, contradicts with an earlier study done by Boggs and Galliher (1975) who found that individuals who had called the police for service had more negative evaluations, while police-initiated contacts seemed to have little impact on citizens' assessments.

A recent study by Jesilow, Meyer, and Namazzi (1995) found that requests for police service are associated with both positive and negative comments. This might be because the researchers combined reporting crime and requests for service as one predictor, thus may include the perception of crime victims. As aforementioned research reveals, victimization experience tends to be negatively related to citizens' satisfaction with police. Another recent study created four dichotomous variables: call dissatisfaction and call satisfaction for those who had requested police service within the past six months, and stop dissatisfaction and stop satisfaction for those who had been pulled over by police within the past six months (Reisig & Parks, 2000). They found that individuals who were satisfied with either a call for service or a traffic stop were more satisfied with police than persons who had no contact with police. Research also showed that as the number of contacts with police increased, the level of public satisfaction decreased regardless of the nature of contacts (Carter, 1985).

Despite these fairly consistent findings, there is some research showing that positive interactions between residents and police do not influence residents' perceptions of officer effectiveness. For example, Hawdon and Ryan (2003) did an empirical test of community policing and found that it is the visible presence of officers in the neighborhoods, rather than the positive interactions between residents and police, that improved respondents' opinions of police.

Officers' actions on the crime scene are also important predictors. Research has shown that evaluations of response time affect public satisfaction with police both in the cases of handling victimization (Carter, 1985; Percy, 1980) and evaluations of overall police performance (Priest & Carter, 1999). In addition, an early study found that citizens are more likely to be satisfied with police when officers take their time to explain their course of action (Furstenberg & Wellford, 1973).

More recent studies confirm that citizens' perceptions of injustice under circumstances like a traffic stop by police are based more on normative factors than instrumental factors (e.g., Engel, 2005). That is, citizens' perceptions of procedural fairness and justice are as important as, if not more important than, the perceptions of fair outcome in determining citizens' satisfaction level with the criminal justice system. Therefore, there is an important association between the way in which citizens are treated and the positive perceptions of police (Correia et al., 1996). Skogan (2005) argued that it was how police treated those they stopped or served that accounted most for the link between social cleavage and perception of police. He contrasted the effects of experiential, on-scene factors with those of race, age, gender, and language on satisfaction with encounters between police and residents, and argued that the personal characteristics of city residents affected satisfaction primarily through the mediating variables of on-scene actions by police. Recent studies confirm the importance of attributes of officers (e.g., demeanor and fairness) and the encounter (e.g., response time) in shaping citizens' attitudes toward police (Frank, Smith, & Novak, 2005; Tyler, 2005).

Neighborhood characteristics

The neighborhood-context explanation suggests that public satisfaction with the police can be explained in terms of demographic and institutional characteristics of communities. This explanation can be linked to an ecological explanation of criminal behavior, the social disorganization theory, which argues that neighborhood structural characteristics, such as poverty, racial heterogeneity and residential mobility, have both a direct and an indirect impact on the crime/ delinquency rates through the mediating factors of social disorganization (Sampson & Groves, 1989). Applying these ideas to the study of public perception of criminal justice agencies, an argument can be made that low satisfaction with police, in part, results from neighborhood structural characteristics and levels of social organization. Neighborhoods characterized by high levels of poverty, racial heterogeneity and residential mobility would breed aggregated dissatisfaction with police because in these areas, there is an imbalance between formal control and informal control. Informal control decreases as neighbors are unable to agree upon and work toward common goals, as predicted by the theory of social disorganization. When informal social control is weak, formal social control increases, producing an increased likelihood of conflicts between neighborhood residents and police officers. Socially disadvantaged neighborhoods also have the weakest ability to "… influence political and economic decision-making and to acquire externally based goods and services that may increase its ability to control crime in the area" (Bursik & Grasmick, 1993, p. 52) including the exercise of police power.

Though not often clearly specifying social disorganization theory as a foundation, recent research has begun to note the varied assessments of the

performance of same police force by residents in different neighborhoods. This line of studies focuses on differences in community culture and contexts, and explores how macrolevel predictors of the neighborhoods can be related to individuals' satisfaction or dissatisfaction with police. Neighborhood characteristics that affect citizens' perceptions of police include racial composition, socioeconomic status, residential mobility, and local crime and victimization rates.

Racial composition and class

Compared to the research on individual racial and class background, the effects of neighborhood racial composition and socioeconomic status are relatively underresearched. A small number of studies reported a link between neighborhood racial makeup and attitudes toward police (e.g., Apple & O'Brien, 1983; Schuman & Gruenberg, 1972; Smith, Graham, & Adams, 1991; also see Frank et al., 1996). Schuman and Gruenberg (1972), for instance, found that African Americans' dissatisfaction with police decreases from all-Black, to most-Black, to mixed and to most-White neighborhoods, whereas Whites' dissatisfaction increases each step of the way from all-White to most-Black neighborhoods. They claimed that "It is not color of skin, but color of area that is associated with dissatisfaction" with police (p. 380). Similarly, Apple and O'Brien (1983) found that African Americans' perceptions of the quality of police services decline when percent African American in the neighborhood rises, but Whites' perceptions are not significantly related to neighborhood rate of percent African American (when perception of neighborhood safety is controlled), suggesting a possible interaction between individual racial background and neighborhood racial composition.

The interactive effects between neighborhood racial composition and class have also been noted. For instance, Dunham and Alpert (1988) found that residents of one middle-class and one lower-class predominantly Black neighborhood generally held more negative attitudes toward police than those who lived in the White neighborhood, but there were attitudinal variations between Blacks in the two Black neighborhoods. They thus concluded that neighborhood differences in attitudes toward police went beyond traditional racial distinctions and that the main factors defining neighborhoods included both racial make-up and socioeconomic status.

Based on data collected from three neighborhoods in Washington, DC, Weitzer (1999) found that residents of the Black lower-class neighborhood are more likely than those who lived in the Black middle-class and the White middle-class neighborhoods to perceive or experience police abuse. Weitzer concluded that the crucial factor in shaping public perception of police misconduct is neighborhood class position, rather than individuals' class or neighborhood racial composition. Similarly, neighborhood class status influences residents' perceptions of police relations with their own versus other-race

neighborhoods, with residents in the Black middle-class neighborhood more likely to perceive fair police treatment than those in the Black lower-class and White middle-class neighborhoods (Weitzer, 2000).

   The connection between neighborhood racial composition and class status is most evident in recent research that has incorporated percent Black into the scale of neighborhood class status. A common way to measure neighborhood class is through the concept of concentrated disadvantage. Sampson and Jeglum-Bartusch (1998) define concentrated disadvantage as representing an economic disadvantage factor in racially segregated urban neighborhoods that was characterized by percentages of Black, poverty, public assistance, unemployment, female-headed families with children, and people under age 18. Reisig & Parks (2000) operationalize concentrated disadvantage using percent Black, percent poor, percent labor force unemployed, and percent female-headed households. Both studies found that concentrated disadvantage is inversely related to satisfaction with police.

Residential mobility

Residential mobility is another important yet understudied factor. Research has not established whether residential stability or mobility is associated with residents' perceptions of the police for only a handful of studies have assessed their connection. Sampson and Jeglum-Bartusch (1998) found that residential mobility is not significantly related to satisfaction with police. Among individual-level analyses, Jesilow et al. (1995) showed no association between length of residence and attitudes toward the police, while Zevitz and Rettammei (1990) reported a positive link between length of residence and satisfaction with police service among elderly. More research clearly is needed to test the relationship between residential mobility and attitudes toward police.

Violent crime rates

Since most residents do not have direct contact with the police, public perceptions of the police could also be a function of the real or perceived crime problems within neighborhoods (Jacob, 1971). It has been found that people who reside in high crime rate neighborhoods and people who are fearful of crime in their neighborhoods tend to hold less positive views of police (Parker, Onyekwuluje, & Komanduri, 1995; Percy, 1980; Reisig & Giacomazzi, 1998; Reisig & Parks, 2000; Smith et al., 1991). Reisig and Parks (2000) found that homicide rate was inversely associated with satisfaction, but such a relationship was not statistically significant when concentrated disadvantage was added into the model. This suggests that the effects of neighborhood crime rates have been attenuated by concentrated disadvantage. In fact, crime rates and concentrated disadvantage can be correlated with one another: Sampson

and Jeglum-Bartusch (1998) found that violent crime rate is a significant factor in explaining why residents of concentrated disadvantaged neighborhoods are most dissatisfied with police.

The effects of crime rate on residents' satisfaction level with local police can be explained in various ways. First, high crime rates heighten people's fear of crime, and cast doubt on their confidence on the police's capability of effectively performing crime control function. Second, more police officers are assigned to areas with high crime rates. There might be more negative or involuntary encounters between local residents and police occurring in these areas, which lead to lower public satisfaction with police. Finally, higher crime rates might lead to negative perceptions of police through the intervening mechanism of dissatisfaction and disappointment with the quality of life. This is especially true when the crime or disorder problem is seen as falling under the purview of police (Jesilow et al., 1995).

Methods

Data source and sample

Data used in this study were collected as part of the project *Informal Social Control of Crime in High Drug Use Neighborhoods in Louisville and Lexington, Kentucky, 2000*. The project was originally designed to examine the effects of cultural disorganization on informal social control, and the extent to which these effects may be conditioned by the level of drug use in the neighborhood (Warner, Leukefeld, & Kraman, 2002).

The data include two parts. Part 1 data were collected from face-to-face (25 percent) and telephone interviews (75 percent) with households in 66 block groups out of two urban communities, Louisville and Lexington, in Kentucky in 2000.[2] A non-proportional stratified sampling of block groups was used to assure a sufficient number of high drug use neighborhoods and an adequate distribution of predominantly White, predominantly racially mixed, and predominantly minority neighborhoods. Within each block group, a systematic random sampling method was used to select approximately 60 households from the block group. The person interviewed in the household was the one who had most recently had a birthday and who was at least 18 years old. Part 2 data used in this study include aggregated variables from Part 1, as well as data from the United States Census 1990, and the United States Census 2000 Population counts (see Warner, 2003, 2007 for more information on the methodology used by the original project). Cases with missing data were dropped from the analysis, resulting in a final sample of 1,963 individuals nested within 66 neighborhoods.

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2. The possible attitudinal differences across the two cities were examined. Residents in the two cities do not differ significantly in their attitudes toward police. The variable city thus is not included as an explanatory variable in the analysis.

Dependent variable

The dependent variable, *satisfaction with police*, is recoded as a dummy variable with 1 representing satisfaction with police and 0 representing dissatisfaction with police. The variable is constructed from an additive scale consisting of three items: "The police play an important role in preventing crime in this neighborhood"; "The police do a good job in responding to people in this neighborhood after they have been victims of crime"; and "Police are generally helpful when dealing with people in this neighborhood." Response categories include: 1 = strongly agree, 2 = somewhat agree, 3 = somewhat disagree, and 4 = strongly disagree.[3] The magnitude of internal consistency indicates a high level of reliability (Cronbach's alpha = . 84). As is commonly found respondents report a high degree of satisfaction with the police. In this study, the scale was dichotomized because of the highly skewed nature even after trying data transformation techniques.[4] Those whose ratings in the scale equal 6 or lower are coded as 1 meaning overall satisfaction, and those whose ratings equal 7 or higher are coded as 0 meaning overall dissatisfaction. In this manner only those who answered strongly agree on at least one of the variables or somewhat agree on all three variables were coded as being satisfied overall.

Independent variables

The explanatory variables consist of both individual-level and neighborhood-level predictors. The individual-level predictors include demographic characteristics and individual crime and criminal justice experience. Demographic predictors include race (0 = White, 1 = Black), class (0 = lower class, 1 = middle class), age (measured in years) and gender[5] (0 = male, 1 = female). The class variable was constructed by combining three variables: education (0 = higher school degree or lower, 1 = higher than high school degree), employment (0 = currently not

3. All three items thus have a range between 1 and 4 (1 = strongly agree and 4 = strongly disagree). The first item (i.e., The police play an important role in preventing crime in this neighborhood) has a mean of 1.70 and standard deviation .93, the second item (The police do a good job in responding to people in the neighborhood after they have been victims of crime) has an average of 1.69 and standard deviation .91, and the third item (police are generally helpful when dealing with people in this neighborhood) has a mean of 1.58 and standard deviation .84.
4. A legitimate concern is that the collapse of the coding categories may cause a loss of information content. To address this concern, we ran additional analysis using multinomial HLM models. The results are largely similar to those from the Bernoulli HLM models, which justifies the use of a dichotomous variable.
5. It should be noted that about two-thirds of the sample respondents are females. Several possible explanations may account for a high percentage of female respondents in the sample. One is that the sample block groups included a high number of high drug use neighborhoods with a high percentage of female-headed households. In these neighborhoods, women are more likely than men to be surveyed. Another possible explanation is that females are more likely than males to be home makers, which increases their possibility of being included. It is also possible that women are more inclined than men to accept research requests.

employed, 1 = currently employed), and home owner (0 = no, 1 = yes). Respondents who have a higher than high school degree, who are currently employed, and who are also home owners are coded as 1, representing middle class.[6] The rest are coded as 0, representing lower class. Crime and criminal justice experience includes victimization (0 = no victimization experience over the past three months, 1 = respondents or anyone in their household being a victim of a crime over the past three months) and harassment experience with the police (0 = no harassment experience in the past three months, 1 = respondents or anyone in their household being harassed by the police over the past three months).

The neighborhood-level predictors cover four neighborhood structural characteristics—neighborhood racial composition, concentrated disadvantage, residential mobility, and violent crime rate. Based on the classification used by past research (e.g., Sun & Payne, 2004), neighborhoods are divided into three types: predominantly White (over 80 percent of residents are Whites), predominantly African American (over 80 percent of residents are African Americans), and racially mixed (neither White residents nor African American residents exceed 80 percent of the neighborhood population). Among the 66 sample neighborhoods, 19 (29 percent) are predominantly White, 18 (27 percent) are predominantly African American, and the remaining 29 (44 percent) are racially mixed. For the purpose of this analysis, predominantly White neighborhoods are used as the comparison group, thus only predominantly African American and racially mixed are entered into the neighborhood-level analysis.

The measure of concentrated disadvantage is obtained from a factor analysis of the following three 1990 census items[7]: the percentage of residents that were living under the poverty line, the percentage of labor force that was unemployed, and the percentage of families with children that were headed by single women. The factor has an eigenvalue of 2.37 and explains nearly 80 percent of the variance across the three items. Factor loadings range from .85 to .91. The factor of concentrated disadvantage is affected most by the poverty rate, followed by unemployment rate and female-headed household rate.

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6. The percentage distributions for all three items are: 51.3 percent of the respondents have a higher than high school degree, 20.3 percent are currently employed, and 49.2 percent own a home. It should be noted that the construction of the individual-level class variable is slightly different from that of the neighborhood-level class variable (i.e., concentrated disadvantage) since the dataset does not contain information on individual family's income. One may also argue that requiring a "yes" response on all three items may underestimate the percentage of middle class. An alternative explanation for the high percent of lower class individuals found in this study is that the sampling plan for this study was developed to assure a sufficient number of high drug use neighborhoods. In such a sample, it would be expected that the socioeconomic status of the respondents would be lower than that expected in a representative sample.

7. The 2000 census data were not used to construct structural characteristics because the dataset, which was obtained directly from ICPSR, did not include the 2000 Census data. The failure of the original researchers to include data from the 2000 Census is probably because when the original data were collected in 2000, the 2000 Census data were not available. Since there is no identifier for each specific sample block group in the data set, adding data from the 2000 Census into the dataset is impossible.

Originally, factor analysis was conducted to build up the scale of concentrated disadvantage with four factors—poverty rate, female-headed household rate, unemployment rate, and percent Black. Percent African American was found to have the lowest factor loading (.73). Together with our theoretical consideration, it was decided to take percent African American out and use it as an independent level-2 predictor.

Residential mobility is measured as is traditional in social disorganization research by the percentage of residents who have lived in the neighborhood for less than five years. Neighborhood violence crime rate is measured by the average violent crime counts per thousand people per year in the neighborhood. We used police reports on violent crime counts in each neighborhood during 1997, 1998, and 1999, which cover homicide, assault, rape and robbery. Descriptive statistics for variables used in this analysis are shown in Table 1.

Possible multicollinearity problems were examined for among the six level-1 predictors and the four level-2 predictors. The highest correlation is between concentrated disadvantage and residential mobility (r = .56), which is tolerable. The correlation matrices for the variables are presented in Table 2.

Analysis

The analysis included two main parts. Hierarchical linear modeling (HLM) was the primary modeling procedure used in the first part. It enabled us to exam-

Table 1   Descriptive statistics for variables

Variable	Range	M	SD	N
Dependent variable				
Satisfaction with police	0—1	.82	.39	1963
Explanatory variables				
Individual-level predictors				
Black	0—1	.52	.50	1963
Middle class	0—1	.27	.44	1963
Age	18—90	45.51	16.79	1963
Female	0—1	.67	.47	1963
Crime victimization	0—1	.08	.28	1963
Police harassment	0—1	.04	.20	1963
Neighborhood-level predictors				
Predominantly black	0—1	.27	.45	66
Racially mixed	0—1	.44	.50	66
Predominantly white	0—1	.29	.46	66
Concentrated disadvantage	−1.12 to 3.51	.00	1.00	66
Residential mobility	.11—1.00	.46	.19	66
Violent crime rate	.78—169.96	33.74	36.32	66

Table 2   Correlation matrices for explanatory variables

Individual-level		1	2	3	4	5	6
Black	1	—					
Middle class	2	−.16*	—				
Age	3	.03	.12*	—			
Female	4	.16*	−.06*	.04*	—		
Crime victimization	5	−.01	−.02	−.15*	−.05*	—	
Police harassment	6	.07*	−.06*	−.18*	−.05*	.11*	—
Neighborhood-level		1	2	3	4	5	
Predominantly black	1	—					
Racially mixed	2	−.54*	—				
Concen. disadvantage	3	.42*	.05	—			
Residential mobility	4	.07	−.01	.56*	—		
Violent crime rate	5	.11	.18	.24	.11	—	

*$p < .05$.

ine the relative effects of individual race and class and neighborhood racial composition and class level in determining citizens' satisfaction with police. The program used was HLM 6.02. Due to the binary nature of the outcome variable, we used a Bernoulli sampling model with logit link instead of the standard level-1 linear regression model. The dependent variable is the probability that a resident will report of being satisfied with police work. The analysis began with estimating an unconditional model with no predictors at either level, followed by the conditional models. In the first step, individual-level predictors were added into the level-1 model to see if there is still substantial variation among the neighborhoods. Next, neighborhood-level variables were added into the level-2 model, one by one. In these models, the level-1 unit of analysis is the individual, while the level-2 unit of analysis is the neighborhood.

   In the second part of the analysis, the neighborhoods were divided according to their social-economic status (i.e., the level of concentrated disadvantage). Then, logistic regressions were run in both "low disadvantaged neighborhoods" and "high disadvantaged neighborhoods," using all individual-level independent variables. After that, comparisons were made between the corresponding coefficients in the two regressions. The main purpose of this part is to examine the inter-racial gap in satisfaction with police across low disadvantaged neighborhoods and high disadvantaged neighborhoods. This part of analysis is complementary to the first part because in the HLM analysis, only the intercept function is used as the outcome variable to reduce the complexity of the model, thus there is no test of the interactive effects of individual-level and neighborhood-level predictors. By doing this second part analysis, how the slopes (i.e., the effects of race and class on satisfaction) vary across neighborhoods with distinctive social-economic status could be assessed.

Results

Hierarchical linear models

Unconditional model

The purpose of estimating an unconditional model was to gauge the magnitude of variation between neighborhoods in the probability of their residents to be satisfied with police. Given a Bernoulli sampling model and a logit link function, the level-1 model is simply

$$\eta_{ij} = \beta_{0j}\left(\eta_{ij} \text{ means log}\left[\rho_{ij} / \left(1 - \rho_{ij}\right)\right]\right),$$

and the level-2 model is

$$\beta_{0,j} = \gamma_{0,0} + u_{0,j}, u_{0,j} \sim N\left(0, \tau_{00}\right),$$

where i indexes individuals and j indexes neighborhoods. ρ_{ij} is the probability that respondent i from neighborhood j is satisfied with police. $\gamma_{0,0}$ is the average log-odds of satisfaction with police across the 66 neighborhoods, while τ_{00} is the variance between neighborhoods in their average log-odds of satisfaction. The disturbance $u_{0,j}$ is assumed to be random normal with a mean of 0 and variance of τ_{00}. The estimated results are $\gamma_{0,0} = 1.578$ ($SE = .095$), $\tau_{00} = .348$. Thus, for a neighborhood with a "typical" satisfaction level, that is, for a neighborhood with a random effect $u_{0,j} = 0$, the expected log-odds of satisfaction is 1.578, corresponding to an odds of exp{1.578} = 4.843. This corresponds to a probability of 4.843 / (1 + 4.843) = .829. Therefore, the "typical" satisfaction level in these neighborhoods is very high—about 83 out of 100 chances that respondents would rate police performance as satisfactory.

Meanwhile, we would expect that about 95 percent of the neighborhoods should have the values of $\beta_{0,j}$ between $1.578 \pm 1.96 \times .348^{1/2}$ = (.422, 2.734). Converting these log-odds to probabilities, it turns out that 95 percent of the neighborhoods lie between (.604, .939) with respect to its residents' probability of satisfaction with police. As a result, there exists adequate variation between different neighborhoods in their residents' average level of satisfaction with police[8]—in certain neighborhoods, the average possibility that the residents rate police work as satisfactory is only about 60 percent, while in others, it is as high as 94 percent.[9]

8. We ran additional analysis using the uncollapsed scale as the dependent variable and the results do support our statement on adequate variation among neighborhoods. For example, the average possibility that the residents rate police work as satisfactory is about 55 percent in certain neighborhoods, while it is as high as 95 percent in others. These results are in line with those from the estimation using the dichotomous dependent variable.

9. Because of the nature of nonlinear link functions, we do not report the intraclass correlation (i.e., the ratio of level-2 variance to the total variation). Though it is a useful index in a standard two-level HLM, this measure is less informative in the case of Bernoulli sampling, because the level-1 variance now is heteroscedastic (Raudenbush & Bryk, 2002).

Conditional models with level-1 predictors

Model 1 included all the level-1 predictors. We estimated the log of public satisfaction with police as a function of race, class, age, gender, victimization, and harassment experience. Among them, race, class, gender, victimization, and previous harassment experience are uncentered, while age is group-centered.[10] Specifically, the level-1 model becomes:

$$\eta_{ij} = \beta_{0j} + \beta_{1j} \text{ (Black)} + \beta_{2j} \text{ (middle class)} + \beta_{3j} \text{ (age)} + \beta_{4j} \text{ (female)} + \beta_{5j}$$
$$\text{(victimization)} + \beta_{6j} \text{ (harassment)}.$$

At level 2, only the intercept term is treated as randomly varied across the neighborhoods.[11]

The results are presented in Table 3, model 1. For White, middle class, middle-aged males whose family members did not have any victimization or harassment experience in the past 3 months, the average log-odds of satisfaction with police is $\gamma_{00} = 1.928$. The log-odds is lower for African Americans, $\gamma_{10} = -.427$, and such racial difference is statistically significant. This means that being an African American reduces the odds of satisfaction with police by about 35 percent. Being middle class has a positive impact on the log-odds of satisfaction ($\gamma_{20} = .402$, p = .019). The odds for a middle class resident to be satisfied with police are almost 50 percent higher than those for a lower class resident. Age is positively associated with a higher log-odds of satisfaction, $\gamma_{30} = .031$, holding constant other predictors in the model. When age increases by one year, the estimated odds of satisfaction with police multiply by 1.032; that is, they increase by 3.2 percent, which is quite significant. Females are slightly less likely to be satisfied with police than males, but the difference is not significant.

Both previous victimization and police harassment experience turn out to be significant predictors of residents' ratings of police performance. Being a crime victim or having a family member as a crime victim reduces the odds of being satisfied with police by approximately 34 percent. Even more significant, being harassed or having a family member being harassed by police substantially decreases the odds of satisfaction with police by 67 percent, controlling for all other individual indicators. Previous harassment experience appears to have the strongest predictive power among level-1 predictors.

The variance component drops from .349 in the unconditional model to .176 ($\chi^2 = 115.538$, *df* = 65, *p* < .001) in the conditional model 1, suggesting that

10. Group-mean centering means that we centered age by substracting its corresponding level-2 unit mean from each individual's actual age, so that the intercept β_{0j} becomes the expected outcome for a subject whose age is in the average level of their neighborhood. This facilitates interpretation of the variable when it becomes the outcome variable in the level-2 model. This approach also tends to reduce multicollinearity.

11. Because of the large number of level-one predictors, we turn off the disturbance terms for slopes (from β_{1j} to β_{6j}), to reduce the complexity of the model and to make it easier for the computer program to calculate the variance and covariance.

Table 3 Hierarchical linear models for satisfaction with police[a]

Fixed effects	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff.	Odds	Coeff.	Odds	Coeff.	Odds	Coeff.	Odds	Coeff.	Odds
Intercept	1.93*** (.16)	6.87	2.28*** (.22)	9.79	2.11*** (.22)	8.23	2.22*** (.24)	9.18	2.21*** (.25)	9.07
Individual-level										
Black	−.43** (.16)	.65	−.05 (.19)	.95	−.05 (.19)	.95	−.08 (.19)	.93	−.09 (.20)	.91
Middle class	.40* (.17)	1.49	.38* (.17)	1.46	.25 (.18)	1.28	.21 (.18)	1.23	.21 (.18)	1.23
Age	.03*** (.00)	1.03	.03*** (.00)	1.03	.03*** (.00)	1.03	.03*** (.00)	1.03	.03*** (.00)	1.03
Female	−.08 (.14)	.92	−.03 (.14)	.97	−.00 (.14)	1.00	−.02 (.14)	.98	−.04 (.14)	.96
Crime victimization	−.42* (.19)	.66	−.43* (.19)	.65	−.42* (.18)	.66	−.43* (.19)	.65	−.44* (.18)	.64
Police harassment	−1.10*** (.26)	.33	−1.08*** (.25)	.34	−1.05*** (.25)	.35	−1.04*** (.26)	.35	−1.06*** (.26)	.35
Neighborhood-level										
Predominantly black			−1.14*** (.26)	.32	−.76** (.28)	.47	−.87** (.29)	.42	−.82* (.32)	.44
Racially mixed			−.53* (.21)	.59	−.32 (.21)	.72	−.41 (.22)	.66	−.34 (.23)	.71
Concentrated disadvantage					−.28** (.09)	.76	−.15 (.11)	.86	−.12 (.11)	.88
Residential mobility							−.98* (.48)	.37	−1.04* (.47)	.35

Table 3 (*Continued*)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff.	Odds	Coeff.	Odds	Coeff.	Odds	Coeff.	Odds	Coeff.	Odds
Fixed effects										
Violent crime rate									$-.01^*$ (.00)	.00
Random effects	Variance Component	χ^2 (p-value)	Variance Component	χ^2 (p-value)	Variance Component	χ^2 (p-value)	Variance Component	χ^2 (p-value)	Variance Component	χ^2 (p-value)
Intercept	.176	115.538 (.000)	.104	94.331 (.000)	.049	79.343 (.068)	.022	75.182 (.105)	.014	72.822 (.124)

[a]Only the unit-specific results with robust standard errors (in parentheses) are reported.
$^*p < .05$; $^{**}p < .01$; $^{***}p < .001$.

there is still substantial variation among neighborhoods after introducing all these individual characteristics and experiences. Therefore, the next step is to add neighborhood-level variables into the model to explain this variation.

Conditional models with level-1 and level-2 predictors

The between-neighborhood models analyze four factors measured at the macrolevel: neighborhood racial composition, concentrated disadvantage, residential mobility, and violent crime rate. Except for racial composition, all variables are entered into the model after grand-mean centering. The level-1 model remains the same, and the level-2 model is written as:

$$\beta_{0j} = \gamma_{0,0} + \gamma_{0,1}(\text{predominantly Black}) + \gamma_{0,2}(\text{racially mixed}) + \gamma_{0,3}(\text{concentrated disadvantage}) + \gamma_{0,4}(\text{residential mobility}) + \gamma_{0,5}(\text{violent crime rate}) + u_{0,j}.$$

Since the factors are entered one by one (except for the two racial composition measures which are entered simultaneously), four hierarchical linear models were estimated. They are all intercepts-as-outcomes models because our interest at this stage is in modeling satisfaction averages with police removing the effects of all individual-level characteristics, rather than in the slopes.[12]

The results were presented in Table 3, models 2 to 5. Model 2 indicates that residents in predominantly African American neighborhoods and racially mixed neighborhoods are significantly less likely to rate police work as satisfactory compared to those who live in predominantly White neighborhoods. Note that when racial composition is added into the model, race at the individual level is no longer significant. The effects of other individual-level predictors remain largely the same. By adding racial composition of the neighborhood, the variance component has decreased to .104 (χ^2 = 94.331, *df* = 63, *p* = .007). This means that neighborhood racial composition can explain approximately 41 percent [(.176 – .104) / .176] of the variation across the neighborhoods in terms of the outcome variable.

Model 3 shows that concentrated disadvantage is inversely associated with residents' levels of satisfaction with police. Specifically, with one unit increase in the measure of concentrated disadvantage, the average odds of satisfaction with police drops by about 24 percent (1 − .76). Thus the effect of concentrated disadvantage is both statistically and substantially significant. Note that when concentrated disadvantage is entered into the model, at the individual level, class is no longer a significant predictor. At the neighborhood level, the significant difference between predominantly White neighborhoods and mixed

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12. Before adding in neighborhood-level characteristics, we did run a model that enables slopes of all individual-level predictors to vary randomly. The results show that the impact of the individual-level predictors on the outcome variable did not vary significantly at the .05 level across neighborhoods. We thus model β_{0j} as a function of the level-2 predictors, and view other level-1 coefficients, β_{pj}, *p* > 0, as fixed.

neighborhoods no longer exists, while the gap between predominantly White neighborhoods and predominantly African American neighborhoods is still quite significant. The variance component decreases from .104 to .049 (χ^2 = 79.343, df = 62, p = .068), indicating that concentrated disadvantage can explain approximately 53 percent of the remaining variation among different neighborhoods in their average levels of satisfaction with police.

Model 4 adds residential mobility as another neighborhood-level predictor. The findings indicate that the higher residential mobility, the lower probability that residents would rate local police performance as satisfactory ($\beta_{mobility}$ = −.98, SE = .48, p = .044). Meanwhile, by adding residential mobility, the effects of concentrated disadvantage on the outcome variable has been attenuated significantly ($\beta_{concentrated\ disadvantage}$= −.15, SE = .11, p =.184). Results from the final estimation of variance components show that adding residential mobility reduces the variance component to .022 (χ^2 = 75.182, df = 61, p = .105), suggesting a moderate degree of model improvement. Together, racial composition, concentrated disadvantage and residential mobility can explain as much as 87.5 percent of the interneighborhood difference in terms of the outcome variable. The remaining variation between neighborhoods only approaches significant at the .1 level. Nonetheless, the decision was made to add one more level-2 predictor, the neighborhood violent crime rate, into the model, because it is a theoretically important variable and might cause significant changes in other variables' explanatory power.

Holding all other predictors constant, neighborhood violent crime rate is negatively associated with the log-odds of satisfaction with police ($\beta_{violence}$= −.01, SE = .00, p = .040). Neighborhoods with high levels of violence crime rates tend to have low satisfaction with police. The influences of all other predictors remain more or less the same as those from previous models. A slight decrease occurs in the effects of predominantly African American neighborhoods on residents' satisfaction with police, although people who live in predominantly African American neighborhoods are still significantly less likely to have favorable attitudes toward police. Neighborhood violence level, together with other neighborhood-level predictors, contributes approximately 92 percent of the variation across neighborhoods in terms of the outcome variable. The variance component decreases further to .014 (χ^2 = 72.822, df = 60, p = .124), indicating a slight model improvement. This is the final model.

From this final model, we can see that overall satisfaction level with police is high. The grand mean (i.e., the intercept) is 2.21 ($\gamma_{0,0}$ = 2.21, SE = .25, p < .001), suggesting that the log-odds of satisfaction with police for a White, lower class, middle-aged male with no previous victimization or harassment experience who lives in a neighborhood with predominantly White residents, average concentrated disadvantage level, average residential mobility level, and average violent crime rate is 2.21. The odds ratio equals 9.07, meaning that the odds of satisfaction with police are about nine times greater than the odds of dissatisfaction, controlling for all predictors. Therefore, the respondents are much more likely to express satisfaction with police.

Logistic regression models

In the second part of the analysis, the data were portioned by neighborhood social-economic status and tested for potential different patterns of results for residents in low disadvantaged neighborhoods versus in high disadvantaged neighborhoods. Results from the previous HLM analysis indicated that concentrated disadvantage was not a significant predictor of satisfaction after controlling for neighborhood racial composition, residential mobility and violent crime rate. In this study concentrated disadvantage and residential mobility are moderately ($r = .56$) correlated with each other. This means that the explanatory power of the former could be somewhat attenuated by adding the latter. For this reason, the 66 neighborhoods were evenly divided into half according to their levels of disadvantage and examined specifically for whether or not residents in neighborhoods of different social-economic status vary in terms of the relationship between individual-level predictors and satisfaction with police that exist within them.

The results, presented in Table 4, show that neighborhood social-economic status does influence individual residents satisfaction with the police. The effect of a resident's race on satisfaction with police is conditional on neighborhood socioeconomic status. In low disadvantaged neighborhoods, African Americans and Whites differ significantly in their attitudes toward police, with Blacks holding less favorable attitudes. In high disadvantaged neighborhoods, African Americans and Whites display similar views toward police. Meanwhile, in low

Table 4. Logistic regression models predicting satisfaction with police by neighborhood level of disadvantage

Variables	Low-disadvantaged neighborhoods			High-disadvantaged neighborhoods			t-value for difference between coefficients[a]
	b	SE	Exp(*b*)	*b*	SE	Exp(*b*)	
Black	−.716**	.209	.489	−.273	.171	.761	1.64
Middle class	.410†	.222	1.507	.063	.252	1.065	1.10
Age	.027***	.007	1.027	.041***	.006	1.041	1.52
Female	−.185	.222	.831	−.013	.177	.987	.69
Crime victimization	−.282	.346	.755	−.453†	.238	.636	.59
Police harassment	−1.575***	.438	.207	−.823**	.302	.439	1.45
Number of neighborhoods	33			33			
Number of residents	948			1,015			
R^2	.109			.135			

[a]Calculated based on the following equation: $t = b_1 - b_2 / \sqrt{SEb_1^2 + SEb_2^2}$.
†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$.

disadvantaged neighborhoods, a middle class resident is 1.5 times more likely to be satisfied with police than a lower class resident, which is toward significant at the .05 level. Social class, however, has no such impact at all in high disadvantaged neighborhoods. Another difference exists in the effects of previous victimization experience. It is interesting to observe that previous victimization experience has a much stronger negative impact on citizens' satisfaction with police in highly disadvantaged neighborhoods than in less disadvantaged ones.

In brief, the results of the logistic regressions reveal inter-racial differences in public satisfaction with police. Though overall African American residents are less likely than White residents to view police work as satisfactory, such inter-racial gap only exists significantly in less disadvantaged neighborhoods. In highly disadvantaged neighborhoods, residents, regardless of their race, hold similar, less favorable attitudes toward police.

Discussion

This study represents an attempt to empirically test the effects of individual characteristics, especially race and class, personal and vicarious experiences, and neighborhood contexts on residents' satisfaction with police. The results support a comprehensive framework that takes into account both individual and neighborhood explanations of satisfaction with the police. A general finding is that individual background characteristics and experiences appear to be significant predictors of attitudes toward the police at the single-level analysis, whereas neighborhood contexts, along with personal experiences, show better explanatory power at the multilevel analysis.

Specifically, perhaps the most important conclusion is that neighborhood characteristics are important in predicting satisfaction with the police and that research that ignores the neighborhood-level influence is incomplete. Three major findings from the study lead to this conclusion. First, while the connection between race and evaluation of local police is well established, residents' satisfaction with police is not accounted for only by their race but is significantly affected by neighborhood racial composition. It was found that African Americans are significantly more likely than Whites to rate police work as unsatisfactory only when neighborhood contextual factors are not controlled. Once neighborhood characteristics, such as racial composition, are held constant, the effect of race becomes non-significant. This finding is similar to those of Reisig and Parks (2000) and Sampson and Jeglum-Bartusch (1998).

Second, in terms of class, the findings support past research that shows a positive connection between individuals' social class and their perceptions of police. However, the impact of individual class does not persist when neighborhood class level is included in the analysis, suggesting that it is neighborhood class status, rather than individual class status, that matters more in measuring satisfaction with police. This finding echoes the results from a handful of previous studies (i.e., Dunham & Alpert, 1988; Weitzer, 1999, 2000). Moreover,

neighborhood class level is also pivotal in conditioning the effect of individual racial background on satisfaction with police. In socially disadvantaged neighborhoods African Americans and Whites display similar attitudes toward police, whereas in socially advantaged neighborhoods African Americans are more likely than Whites to have negative attitudes toward police. This implies that research clearly needs to take neighborhood class status into consideration when assessing inter-racial differences in attitudes toward police.

Third, racial composition, concentrated disadvantage, residential mobility, and violence crime rate are all good neighborhood-level predictors in determining public perception of police. Comparatively, the impact of racial composition is stronger than that of class level, indicating the primacy of aggregate-level measures of race in explaining satisfaction with police. Overall, the findings reveal the importance of considering neighborhood explanations and continuing to use interneighborhood predictors in future studies because they provide theoretical foundations and account for a substantial amount of variation across neighborhoods in residents' satisfaction with police.

Extending these findings to a broader level, while some researchers argue that the importance of racial status is diminishing in the lives of Americans in general (Wilson, 1987) and in predicting citizen satisfaction with the police in particular (Jesilow et al., 1995), the results of this research show that Americans are largely divided by race and class in their attitudes toward the police. This finding, which signals the social distance between White and Black and between the rich and poor, supports Hacker's (1992) argument that the nation is moving toward two societies—one Black, one White, separate and unequal. Even after the civil rights movement and three decades of affirmative action and police reform, it seems that the legacy of social inequality still has an enduring effect on public perceptions of the police (Browning & Cao, 1992).

Beyond the importance of neighborhood are other key findings. First, individual crime and criminal justice experiences are highly predictive of satisfaction with police. The findings indicate that personal or family members' experiences of victimization or harassment by police have a negative influence on residents' evaluations of local police performance. This fining is consistent with the results from research on procedural justice. As mentioned earlier, this vein of studies posits that citizens' evaluations of police are heavily shaped by whether they perceive criminal justice agencies as fair and equitable in both the procedures for making decisions and the outcomes of the decisions (Tyler, 1990; Tyler & Degoey, 1995). Indeed, citizens are more likely to have higher levels of satisfaction with police when they feel that the decision of the police results from just procedures.

Second, although age was used as a control variable, it is found to be a consistently significant predictor and better than any other demographic characteristic in predicting variation in citizens' satisfaction with police. This result is congruent with the findings from several previous studies that stress the importance of age in shaping citizens' satisfaction with police (Hurst & Frank, 2000; Peek et al., 1981; Weitzer & Tuch, 2002; Wilson, 1985).

The findings of this study have several implications for future research. First, future studies should incorporate other individual-level variables, such as citizens' perceptions of the quality of their lives, into the within-neighborhood model. Reisig and Parks (2000) found that variables measuring "quality of life" are significant predictors of satisfaction with police at the individual level. They argued that it was not just objective neighborhood structural characteristics that influence public perception of police—the "cognitive and emotionally based responses to neighborhood conditions" might matter more (Reisig & Parks, 2000, p. 625). We agree. Originally, the researchers attempted to include disorder, indicated by both social disorder and physical disorder, into the level-2 model to test whether or not the aggregated quality of life would impact individual perception. It turned out that the disorder measures were almost perfectly correlated with violence measures, so they were dropped. Future research should include measures of perception of neighborhood disorder or the quality of life into the analysis of satisfaction with police.

Second, more studies should be conducted to examine exactly how previous victimization experiences influence satisfaction with police. The findings indicate consistent significant effects of victimization and harassment on satisfaction with police. While the latter is quite easy to understand, the former needs more elaboration. Does gender, race or class have any impact on the relationship between victimization and satisfaction with police? Or, do factors other than victims' demographic characteristics, such as the types of crime and the ways victims are handled, have greater influences? More theorizing work needs to be done on victimization, and mere quantitative analysis is not enough.

Third, future studies should also pay attention to the construction of neighborhood-level factors. Two questions are important to ask. One, what are the best indicators for "concentrated disadvantage?" Recall that factor analysis was conducted to build up the scale of concentrated disadvantage with four factors—poverty rate, female-headed household rate, unemployment rate, and percent Black. Percent African American was found to have the lowest factor loading. It was dropped from the scale and used as an independent level-2 predictor. This way of constructing concentrated disadvantage proved important for this study. The findings suggest that this would also be appropriate in other cities with middle class, predominantly African American neighborhoods where conventional lifestyles and criminal lifestyles are closely integrated (Pattillo, 1998). In these neighborhoods, the most important indicator of concentrated disadvantage is not racial composition, but class level.

The second question is: what is the relationship among these neighborhood predictors? Do neighborhood structural characteristics, such as concentrated disadvantage, lead to high rates of violence crime, which, in turn, result in lower levels of satisfaction with police? It would be useful if hierarchical linear modeling and structural equation modeling could be combined. In addition, what is the relationship between concentrated disadvantage and residential mobility? In this sample, they are correlated with one another in a moderately high manner—is this also the case for other neighborhoods?

Citizen satisfaction with the police remains an critical issue for police administrators during the postera of community policing or the information technology era where geo-based crime prevention and fighting strategies and tactics become essential in performing a new model of policing that is mainly driven by data and technology (Rosenbaum, 2007). In this sense, understanding of neighborhood-based attitudes toward the police and specific neighborhood characteristics that shape resident attitudes represents key data or information for police managers to enhance public participation in crime prevention programs and police-community relations.

Our findings also have other important implications for policy. First, given that younger residents are less likely than elderly residents to be satisfied with local police, efforts should be made to improve police activity toward this group of individuals. For police departments, one of the keys is to increase positive contacts and reduce negative contacts between younger citizens and police. Positive contacts could be cultivated through field training programs and community policing programs, such as citizen police academy and school resource officers, whereas negative contacts could be reduced by avoiding overly aggressive enforcement and fairly applying of justice.

Second, police departments need to seek ways to improve their services to crime victims, who have consistently shown a higher level of dissatisfaction with police. According to past research, victims' negative perceptions of police come mainly from two sources: they blame police for failing to prevent the crime and perceive that officers treat them with complete indifference. It would be hard to stop citizens complaining about crime prevention or victimization, but it is feasible to require officers to display polite behaviors and gracious manners in their contacts with victims. Police administrators should constantly cultivate a compassionate understanding of human suffering or the so-called "tragic perspective" (Muir, 1977) among officers to enhance victims' satisfaction with police.

Finally, our findings indicate that variation in neighborhood contexts influences residents' evaluations of local police. Policymakers and practitioners thus should continue to work together to build up positive physical and social capital for highly disadvantaged neighborhoods. Physical capital could be strengthened by attending to quality of life issues, increasing neighborhood opportunity structures, and implementing better environmental design, while social capital could be enhanced by promoting community networks and cohesion, decreasing social disorganization and crime, and attracting external capital-building institutions (White, 2006). Police departments should actively participate in community-building and crime-prevention programs, and hopefully this kind of involvement would lead to higher levels of satisfaction with police.

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