

## **Spatial mismatch research in the 1990s: progress and potential\***

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**Abstract.** This article reviews recent research about the spatial mismatch hypothesis from a range of social science disciplines. Since 1990, researchers have tested the mismatch hypothesis in diverse metropolitan settings; devised more accurate measures of geographical access to employment; and developed models to address issues such as compensating variations, sample selection bias, and contextual effects. We argue for a broader conceptualization of spatial mismatch that considers how social and spatial relations affect employment outcomes for women, immigrants, and other ethnic minorities. This broader view will enhance the contribution of research to current theoretical and policy debates about urban poverty. The effects of metropolitan context and neighborhood-level differences in services, resources, and social networks on spatial access and, independently, on wages and employment also warrant future research attention.

**JEL classification:** I3, J6, J7

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### **1 Introduction**

After three decades, John Kain's spatial mismatch hypothesis continues to stimulate research and debate in a wide range of social science disciplines. Although the concepts that underpin the mismatch debate are as potent today as they were in Kain's time, the context of the debate has changed significantly. Economic restructuring, immigration, continuing suburbanization and the devolution of welfare policy are profoundly altering urban landscapes, in different forms and in different cities. This review examines recent spatial mismatch literature in light

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of these contextual changes. Building on reviews by Holzer (1991), Jencks and Mayer (1990), Kain (1992), and Mayer (1996) that emphasized labor economics, we focus on literature published since the early 1990s in geography and regional science. Whereas Ihlanfeldt and Sjoquist (1998) recently reviewed technical and policy issues in this literature, our goal is to identify important areas for future research.

'Spatial mismatch' was coined originally to describe a broad set of geographical barriers to employment for African-American inner city residents. Kain (1968) introduced the concept in analyzing the combined effects of racial segregation in housing markets and the postwar suburbanization of job opportunities on African-American unemployment. Poor geographical access to jobs, particularly jobs in manufacturing, was said "to reduce employment opportunities of Negroes who are already handicapped by employer discrimination and low levels of education" (p. 196). Although Kain emphasized the role of space and distance in African-American labor market achievement, he clearly recognized how space is connected to and embedded in social structures and labor market processes. Foreshadowing recent discussions of the "automobile mismatch", he described how transportation shapes access to employment, especially for car-less households. The importance of "skills mismatch" – access to jobs that match the skills of residents – was also examined. Kain even anticipated, albeit in a mechanistic way, the recent interest in how racially- and ethnically-defined social networks connect jobs and workers. Thus, from the very beginning, the spatial mismatch hypothesis was not just about space, but how space affects and is affected by wider labor market processes.

In this article, we adopt such a broad definition of spatial mismatch. To focus solely on spatial barriers, specifically the distance between jobs and workers, would falsely omit issues like transportation, skills, social relations, and occupational segmentation that are well-known to affect what distance means for job-seekers and employers and the effects on labor market outcomes. We define spatial mismatch as: the geographical barriers to employment for inner city residents that arise from changing social and economic relations and the impacts of those barriers on labor market achievement.

This review grows out of a concern about the persistence of poverty and joblessness in some inner city neighborhoods and the connections with social, environmental, and health problems (Wilson 1987, 1996). Despite decades of research, we still do not understand fully the causes of social and economic deprivation and how race, space and place constrain employment opportunities and choices for inner city residents. We emphasize how the processes at work in spatial mismatch vary by ethnicity and gender. Increasingly, poverty cuts across ethnic and gender divisions in the United States. Growing numbers of Latinos suffer the disadvantages of low-income and unemployment, often as residents of areas of concentrated poverty. Many Latinos and African-Americans remain economically, socially, and politically marginalized in American cities, even as the numbers of middle class Latino and African-American households have increased. Similarly, the growing feminization of urban poverty draws attention to

gender as a fundamental aspect of spatial mismatch. At a time when a growing proportion of poor households are led by single women, spatial mismatch research has concentrated on spatial access to employment for African-American men (O'Regan and Quigley 1996, Holloway 1996, Carlson and Theodore 1996, Cooke 1993). Expanding the scope of spatial mismatch enables us to identify emerging theoretical and conceptual issues that warrant further research. Recognizing the importance of spatial mismatch for groups other than African-American men also enhances policy relevance. As welfare 'reform' pushes people into the workforce, we need to identify more clearly the processes that shape employment outcomes and devise ways of facilitating access to meaningful, remunerative employment.

The remainder of this article is organized in seven sections. We begin by reviewing spatial mismatch literature from the early 1990s to the present. We first consider research on the existence of spatial mismatch, research that investigates whether the density and geographical accessibility of employment opportunities is less for minority residents of central cities than for other groups. We then review research that measures and evaluates the effects on labor market achievement of spatial mismatch. The diversity of findings, methods and measures are highlighted. The second part of the article raises key issues in spatial mismatch research. We emphasize the significance of diversity related to gender, ethnicity, nativity, and class, the importance of metropolitan context, and the impact of local variations in social networks and resources. The final section presents conclusions and future research directions.

## 2 Recent spatial mismatch literature

Do minority, inner city residents have poorer geographical access to job opportunities than other groups? This essential question, which addresses the *existence* of spatial mismatch, continues to stimulate empirical research and debate. Past reviews of spatial mismatch literature emphasized the diverse and often conflicting empirical findings (Holzer 1991). That diversity continues today, but most recent research offers at least partial support for the mismatch hypothesis. Two types of indicators are commonly used in evaluating spatial mismatch: commuting time or distance, and job availability. From San Francisco to New York, studies show that African-American workers have longer commuting times on average than do comparable white workers (Gabriel and Rosenthal 1996; Holloway 1996). These differences persist after controlling for wages, individual and household characteristics, and mode of transportation (McLafferty and Preston 1997). African-Americans are also more likely to make reverse commutes and to have constrained work trips that involve long travel times to low-wage jobs (Johnston-Anumonwo 1997). Long commuting times are important because they involve higher time and monetary costs in travelling to work. For the unemployed, actual and perceived long travel times pose barriers to job search and limit the range and number of job options that can be considered (Holzer et al. 1994).

While providing a succinct description of spatial mismatch, commuting studies have two limitations. One is sample selection bias, which arises because commuting time and distance refer only to employed workers. The estimates of spatial barriers from such studies are biased when applied to the unemployed. Using econometric methods, Cooke and Ross (1998) estimate the effects of sample selection bias in commuting time studies. Not only do they find that the bias is significant, but it varies by gender and race; thus, "statements regarding the commuting time of the unemployed cannot be inferred from the commuting behavior of the employed" (p. 18). Still, their statistical approach holds promise for modeling and measuring sample selection effects.

A second issue is the difficulty of unraveling the causes of long work-trips. The time spent in travelling to work is influenced by distance, mode of transportation, and the need to make multiple stops at childcare, school, and shopping. Research indicates that transportation, especially reliance on mass transit, is the most important determinant of minority workers' long commuting times (Taylor and Ong 1995, McLafferty and Preston 1997). Black and Hispanic workers are much more dependent on slow mass transit than are their white counterparts. Thus, Taylor and Ong (1995) argue that the main problem is an "automobile" mismatch, rather than a spatial mismatch. Although transportation is critical, other determinants of long commuting times warrant attention. As Holzer (1991) notes, long commutes can result from either choice or constraints: from workers choosing to live far from work to gain other amenities, or from the kinds of spatial constraints on job choice described in the spatial mismatch hypothesis. Although recent work has begun to explore these issues, further investigation is needed (Kwan 1998).

Job availability, the locations of appropriate jobs relative to working-age population is another common indicator of spatial mismatch. Immergluck (1998) develops a geographic information system (GIS) that uses detailed journey-to-work data to assess spatial mismatch in Chicago. He finds that "local working", the propensity for workers to be employed within a moderate distance of their homes, is lower in low-income, African-American neighborhoods. Also in Chicago, Carlson and Theodore (1997) uncover a lower density of jobs per resident worker within the commuting zones of predominately black neighborhoods. Working with survey data, Hanson et al. (1997) use GIS to identify the number of jobs in appropriate occupations that are available within a commuting radius of individual workers. Instead of using a fixed commuting radius, Ong and Blumenberg (1998) measure job access as a weighted function of distance, with nearby jobs having more weight than those far away. Kwan (1998) uses kernel smoothing methods to compute an indicator of overall space-time constraint for working men and women. Thus, by harnessing recent advances in geographic information systems and spatial statistics, researchers are developing more accurate measures of spatial availability of jobs.

Studies like these greatly advance the measurement of spatial mismatch, since they capture fine-grained patterns of employment opportunities and available workers, while avoiding surrogate indicators like commuting time. They also

focus on jobs that are appropriate for the worker's occupation and skill level and thus integrate concepts of spatial and skills mismatch. Still, assumptions must be made about the radius within which jobs are considered accessible or the decline in accessibility with distance. These vary with transportation, income, and domestic responsibilities and thus follow broader divisions based on gender, race and class. GIS-based studies of spatial mismatch should move towards more complex definitions of geographical access.

### **3 Impacts on employment outcomes**

Although most recent research shows poorer spatial and transportation access to employment for minority workers in inner city areas, the impacts on employment outcomes are more muddled. Are well-documented racial differences in earnings and employment due to spatial mismatch (Cohn and Fossett 1995)? Perhaps the strongest support for spatial mismatch effects comes from Ihlanfeldt's work on employment problems for minority youth (Ihlanfeldt 1992). Spatial mismatch, defined as the average commuting time to jobs in low-wage occupations, had strong, positive effects on employment for black and Hispanic youth in central cities (Ihlanfeldt 1992, 1993). Recent research has addressed the stability of Ihlanfeldt's results during the 1980s. Holloway (1996) showed that the effect of job access on employment for black male youth decreased from 1980 to 1990, though it remained statistically significant. Black youth in job-rich areas lost "the advantage of accessibility" (p.445) as their prospects for finding work fell through the 80s. By focussing on youth, Ihlanfeldt and others (Carlson and Theodore 1997, O'Regan and Quigley 1996, Holloway 1996) have attempted to control for the correlation between residential location and employment, a problem that plagued earlier mismatch studies (Holzer 1991). The success of these controls is still being debated, since poor employment and wage outcomes for parents and their teen children living at home are closely related (Pastor and Adams 1996). The narrow focus on youth also reduces the relevance of the findings for adult workers, the main focus of anti-poverty programs.

Job availability studies also reveal an association between spatial mismatch and employment and wages. Immergluck (1998) finds that employment probabilities vary significantly and positively with the number of nearby jobs that match the occupational levels of local residents. Carlson and Theodore (1997) report a statistically significant association between spatial mismatch and earnings, although the effect of space was much less than that of race. Among welfare recipients in Los Angeles, unemployment was highly sensitive to the concentration of low-wage jobs nearby (Ong and Blumenberg 1998).

For youth and others who are disadvantaged in labor markets, not only is geographical access to jobs important, but also access to job growth. New jobs provide direct employment opportunities, whereas vacancies in existing jobs arise only through turnover and are likely to be filled by current employees and their acquaintances. Raphael's (1998) research in San Francisco shows that geographic

isolation from areas of employment growth is a critical factor in black male youth unemployment. Such spatial mismatch explains almost half the racial difference in youth unemployment rates.

Some researchers have questioned the impact of spatial mismatch on employment outcomes, arguing that race and social processes are more important. Cooke (1993) uncovered no correlation between neighborhood unemployment rates and the ratio of low-skill jobs to population in Indianapolis. Many high unemployment neighborhoods had thriving manufacturing districts nearby. This paradox of high unemployment in urban neighborhoods that have ample, blue-collar jobs nearby is explored in a survey-based study of the Red Hook neighborhood in Brooklyn, NY (Kasinitz and Rosenberg 1994). Despite Red Hook's concentration of jobs that match the skills of local residents, few residents are employed locally. Interviews with local residents and employers reveal that unemployment stems primarily from discrimination in hiring and the absence of place-based social networks.

In a competitive land market, differences in employment and earnings caused by spatial mismatch would be adjusted by lower rents or house prices, thus compensating residents for their poor spatial access to work. In one of the few studies to address this issue, Gabriel and Rosenthal (1996) estimate the effect of compensating variations on black/white differences in earnings and commuting. Only one-third of the disparity is compensated, while the remainder reflects racial discrimination and imperfections in housing and land markets.

In conclusion, recent literature makes important advances in measuring and analyzing spatial mismatch. The use of geographic information systems, coupled with detailed urban spatial databases, has greatly improved our ability to assess spatial mismatch and link it to employment outcomes. In addition, researchers have developed multivariate models to address thorny methodological issues like sample selection bias, compensating variations, and the effects of residential mobility. Still, definitive conclusions are lacking.

Taken together, recent studies provide some support for Kain's contention that spatial mismatch affects employment outcomes, but the magnitude and significance of its effects depend on a host of factors that remain to be specified (Hodge 1996). Among the most vulnerable populations – youth and welfare recipients – spatial access, both to jobs and job growth, appears highly significant. However, when neighborhoods whose populations vary in race, gender and class are analyzed, the effects are much less striking. Furthermore, in almost any city we can find cases where high unemployment and suitable jobs exist side by side. Future research must focus on the processes that connect jobs and workers and the barriers that separate them, not just on employment and geographical outcomes.

Recent findings also underscore the interconnections among race/ethnicity, space, gender, and place. Although some researchers characterize their work as supporting "race versus space" (see Ellwood 1986) or other opposing concepts, such a viewpoint misses the essential connections among them. To a large degree, race is space in the United States. Cities bear the imprint of racialized processes

such as racial and ethnic segregation and discrimination, and space in turn affects those processes. Gender and place are intertwined with race and ethnicity, and these shape employment outcomes and social well being. Research is needed to understand better the connections among race, place, gender and space, rather than artificially separating them. These and other critical issues for future research are addressed in the next sections.

#### **4 Are African-Americans the only minorities?**

Despite growing racial and ethnic diversity in most cities, the spatial mismatch literature still focuses on African-Americans. Among the few exceptions is Ihlanfeldt (1993) who finds a strong association between unemployment and spatial access to jobs for male and female Hispanic youth. For the broader working-age population, evidence suggests that spatial mismatch may vary between African-American and Latino workers (Carlson and Theodore 1997, McLafferty and Preston 1992, 1997). African-Americans are more likely to suffer the adverse effects of spatial mismatch and racial discrimination in hiring; whereas Latinos face discrimination in the labor market that results in low wages (Aponte 1996). These differences stem, in part, from contrasting processes and patterns of labor market segmentation that channel African-Americans and Latinos into distinct sets of occupations and industries (Waldinger 1996).

In some cities, Latinos suffer more disadvantages than African-Americans. Osterman (1991) found that in Boston, Massachusetts, African-American poverty declined as the city approached full employment whereas Latinos did not enjoy the same improvement in living standards. Even with improving job opportunities within the Boston urban area, the incomes of poor Latino households did not increase as quickly as those of African-American and white households.

Diversity within the Latino community is also important. "Latino" is a heterogeneous category that blurs differences in national origin, culture, race, and employment outcomes. In Chicago, Mexicans are much more likely to be employed than Puerto Ricans (Tienda and Stier 1992, 1996). Discrimination on the part of employers may play an important role in differentiating among Latino workers from various countries of origin (Tienda and Stier 1996).

The experiences of immigrant workers add complexity to race and ethnic differences. Evidence that Mexican immigrant workers in various metropolitan areas have higher rates of employment than American-born minority workers has led to detailed examinations of the hiring strategies of employers and the job searches of applicants (Aponte 1996, Tienda and Stier 1996, Wright and Ellis 1997). The relatively high employment rates of Mexican immigrant men are intriguing because these workers often have less education than other minority workers. Studies suggest that some employers view immigrants as more reliable and diligent than American-born minority workers (Aponte 1996, Kasinitz and Rosenberg 1996). Immigrants are often thought to have special skills or aptitudes for specific jobs, for example, immigrant women are thought to be better

seamstresses than their American-born counterparts (Hanson and Pratt 1995). Employers' reliance on ethnic networks to advertise and fill job vacancies also promotes hiring from an immigrant community (Ong and Valenzuela 1996, Hanson and Pratt 1995).

The experiences of immigrants underscore the vulnerability of African-Americans in contemporary urban labor markets. American-born minorities concentrated in poverty areas are less likely to benefit from recent economic growth insofar as central-city employers have preferences for hiring immigrant minority workers rather than the native-born (Wright and Ellis 1997). Racial discrimination by employers compounds the persistent disadvantages of residential segregation that isolates American-born minorities, particularly poorly educated African-Americans, from remunerative job opportunities. The comparison between Latino immigrants and American-born African-Americans illustrates how broadening the empirical focus of spatial mismatch research provides additional insight into the employment barriers experienced by minority urban residents. By paying attention to minorities other than African-Americans, we unsettle the rigid categorization of urban residents that characterizes much of the spatial mismatch literature. The diverse experiences of Latinos call attention to the growing polarization of African-American experience. The number of middle-class African-Americans has increased at the same time that many African-Americans have suffered deepening poverty.

## **5 Where are the women?**

Gender is an equally important aspect of identity as race and ethnicity. Indeed, some have argued that the significance of race and ethnicity cannot be understood separately from gender (Anthias and Yuval-Davis 1983, Stasiulus and Yuval-Davis 1995). Yet, the spatial mismatch literature continues to overlook the impact of gender on access to employment. The majority of research has concentrated on the employment prospects of African-American men, particularly youth (Cooke 1996, Holloway 1996, Ihlanfeldt and Sjoquist 1991, McMillen 1993). Yet, evidence that minority women suffer spatial mismatch has accumulated steadily during the 1990s (Kasarda and Ting 1996, Johnston-Anumonwo et al. 1996). Indeed, one researcher (Blackley 1990) found support for the mismatch hypothesis only for the female labor force, noting that difficult access to suburban jobs lead to higher female unemployment. In a series of publications, McLafferty and Preston (1996, 1997) report that the commuting times of minority women are still longer than those of white women and as long as those of minority male workers. In Buffalo, Johnston-Anumonwo (1995) found similar trends between 1980 and 1990, a persistently higher commuting time for minority women when compared with their white counterparts.

The failure to consider the impact of spatial mismatch on minority women overlooks their historical role as the main breadwinners in many households (Amott and Matthei 1991). Compared with European-American women, minority women, particularly African-American women, have had higher rates of labor



force participation and have been more likely to be the sole wage earner in their households. Given their critical economic role, the extent to which the employment prospects of minority women are limited by spatial mismatch is a crucial issue. Recent policies promoting a transition from welfare to work underscore the need to understand spatial barriers to minority women's employment. The success of recent welfare reform hinges on the ability of women to find and keep adequately remunerated paid employment, a task that may be complicated by limited spatial access to job opportunities. We need to understand in depth the distinctive factors affecting the employment decisions of minority women.

The current spatial mismatch literature rarely offers much insight. Even where women are considered, they are distinguished simply on the basis of sex with little discussion of gender roles and gender relations (Taylor and Ong 1995). A growing feminist literature emphasizes the social construction of men's and women's identities and the social roles that underpin them. These social relations and roles are at the root of women's access to employment.

Initial explanations of spatial mismatch emphasized its origins in residential segregation. As noted earlier, however, recent research suggests that the degree of spatial mismatch differs between minority men and women. Among the factors identified as contributing to such differences are: occupational segmentation, gender differences in job search, women's limited access to transportation, and domestic responsibilities. In the United States, as in most industrialized economies, women are over-represented in poorly paid service and sales occupations and underrepresented in remunerative professional and managerial jobs (Amott 1993). This is particularly true for minority women who are concentrated in poorly paid jobs. The low earnings and inadequate health benefits that result from occupational segregation are a major bar to minority women's participation in the paid workforce (Edin 1991, Edin and Lein 1996). Low earnings should also lead to short commute times for minority women since the costs of commuting outweigh the potential financial payoffs. Yet several studies have found that minority women have longer commuting times than their white counterparts, even after variations in earnings have been accounted for (McLafferty and Preston 1996).

The long commuting times of minority women appear to contradict recent evidence about women's job searches. Women looking for nonskilled and semi-skilled work tend to concentrate their efforts in the local area where social networks are most dense (England 1995, Hanson and Pratt 1995). Often relying on informal networks for information about job vacancies, women competing for unskilled and semiskilled jobs work closer to home than highly skilled female workers (Hanson and Pratt 1995, Gilbert 1997). Entrapment in locally available jobs with a concomitant decline in commuting time is an expected outcome of this search behavior, not long commuting times for minority women.

One explanation for the long work trips of minority women emerges from recent studies of Chicago and Yonkers. Relocation from impoverished, highly segregated public housing projects in central locations to suburban areas with more job vacancies increased minority women's employment (Rosenbaum and

Popkin 1991, Popkin et al. 1993, Darden 1997). Residential segregation had forced minority women to seek employment far from home. Segregation also results in highly localized social networks for African-American women (Gilbert 1998). These can limit women's knowledge of job opportunities and the number of contacts who may refer them to potential employers (Briggs 1998).

Limited access to cars and dependency on public transit also restrict minority women's access to jobs (Taylor and Ong 1995, Johnston-Anumonwo 1995). Minority women's commuting times are longer than those of minority men in part because women are less likely to drive to work. In the New York region, significant numbers of Latina women walk to work in low-wage manufacturing jobs near their homes; African-American women are more reliant on mass transit than any other gender-race group (McLafferty and Preston 1992).

Research indicates that domestic responsibilities, specifically, childcare and housework, have important effects on women's employment and commuting decisions, yet only a handful of spatial mismatch studies have considered these responsibilities. McLafferty and Preston (1997) and Cooke (1997) found that several measures of household composition including marital status and number of children living at home do not have a significant influence on minority women's commuting times. For minority women, the economic determinants of commuting time predominate, though domestic responsibilities strongly affect employment. Hispanic youth who have borne children are less likely to be employed than their childless counterparts (Ihlanfeldt 1993). The impact of children on women's employment may also depend upon the mother's age. Older mothers may be more likely to work than teenage mothers, and once older women decide to enter the paid labor market, they seek the best-paid job regardless of its location.

## 6 Context

Geographical context has a significant influence on spatial mismatch. By geographical context, we mean all those aspects of the built, social, and natural environment that vary across metropolitan areas and within them. The relocation of employment to the suburbs was the original rationale for the spatial mismatch hypothesis. However, in his detailed examination of Chicago, Wilson (1987, 1996) noted that deindustrialization had two separate and equally detrimental consequences for African-American men. At the same time that African-American men were isolated geographically from the manufacturing plants that had been major employers, the decline in employment adversely altered the social characteristics of their neighborhoods. Rising unemployment and its associated social problems accelerated the flight of employed workers leaving the unemployed and their families socially isolated in impoverished neighborhoods of concentrated poverty. Subsequent research has found that social and economic characteristics of neighborhoods may have an independent influence on employment and wages separate from the effects of spatial access (Mayer 1996, O'Regan and Quigley 1996, Immergluck 1998).

To separate neighborhood effects from the effects of spatial access, comparative research is needed at two geographical scales: intermetropolitan and intrametropolitan. Intermetropolitan comparisons are required to identify the characteristics of metropolitan areas that influence the extent and nature of spatial mismatch (Johnson and Oliver 1991, Hodge 1996, Raphael 1998, Aponte 1996, Cohn and Fossett 1995, Pastor and Adams 1996). The unemployment gap between African-Americans and Whites is less in sunbelt cities than in northeastern and midwestern cities, possibly as a result of faster economic growth in the region during the 1970s, smaller firm sizes, and a lower rate of unionization (Cohn and Fossett 1995). Labor demand conditions also have a substantial impact on the association between spatial mismatch and employment outcomes for black male youth (Holloway 1997). In a tight labor market, the effects of spatial access to employment as measured by public transit use diminish (Holloway 1997), while employment rates and wages improve (Freeman 1991). The same relationship has been observed for low-income women. In a tight labor market, better job opportunities for women and their families allow family members to provide essential financial assistance to working single mothers (Edin and Lein 1996).

Within urban areas, the magnitude and nature of neighborhood effects and their relationships to spatial access warrant attention. Several comparisons between suburban and central locations have revealed significant differences in the extent and nature of geographical barriers to employment (Cooke 1996, McLafferty and Preston 1996, 1997, Wyly 1996). The definitions of suburban and central are crude, distinguishing between central cities and other parts of metropolitan areas. Nevertheless, they demonstrate that proximity to jobs in various economic sectors and the availability of public transportation both contribute to intraurban variations in spatial access to employment. The importance of geographical access is highlighted by residential relocation programs that have improved the employment prospects of welfare recipients by moving them to the suburbs (Darden 1997, Rosenbaum and Popkin 1991, Popkin et al. 1993). The success of these programs, however, hinges on access to childcare, transportation, and other services that enable people to access jobs and services in low-density suburban environments (Briggs 1998).

Neighborhood effects on labor market processes are less well understood. There is growing evidence for non-skilled and semi-skilled jobs that employers' hiring practices and the search behavior of job applicants are affected by extremely local circumstances (Aponte 1996, Ihlandfeldt and Holzer 1996, Pastor and Adams 1996, Hanson and Pratt 1995). For example, employers differentiate job applicants on the basis of their addresses, refusing to hire residents of public housing or from very poor neighborhoods (Kirschenman and Neckerman 1991, Kasinitz and Rosenberg 1996, Pastor and Adams 1996). The unwillingness of employers in poor neighborhoods to hire local workers may be part of the explanation for the long commuting times of minority men and women.

Neighborhood variations in the availability and quality of services and institutions to facilitate employment also affect labor market achievement. Wilson (1996) describes the limited "structures of opportunity" that exist in inner city

neighborhoods where jobs are scarce. The shortages of childcare and health services in poor neighborhoods create barriers to employment, especially for minority women (Ellen and Turner 1998, Green et al. 1995). Schools in inner-city neighborhoods are often over-crowded and under-funded, perpetuating the skills mismatch problem. Experience from the Gautreaux program indicates that poor families who move to the suburbs benefit greatly from better quality schools (Rosenbaum and Popkin 1991), an experience duplicated in many other contexts (Briggs 1998).

Residential location may also contribute to social conditions that impede residents' efforts to find and keep jobs. In his original discussion of spatial mismatch, Wilson (1996) drew attention to the loss of successful role models in inner-city neighborhoods abandoned by employed adults as unemployment and associated social problems and social stigma increased. Drawing on the 'culture of poverty' hypothesis, Wilson argued that social isolation of the poor made it more difficult for them to find and keep employment. Subsequent research has elucidated this relationship by demonstrating the importance of local social networks as sources of information about job vacancies and as sources of referrals to local employers (Hanson and Pratt 1995, Kasinitz and Rosenberg 1996). These networks, however, are as rooted in social relations as in space. As Briggs (1997) reminds us, after analyzing social networks of low-income families who moved to suburban Yonkers: "geographic proximity does not a neighbor make" (Briggs 1997, p. 197).

We are only beginning to understand how neighborhood effects interact with spatial barriers to affect employment outcomes and the findings are often contradictory. In some studies (O'Regan and Quigley 1996, Pastor and Adams 1996), neighborhood characteristics have had greater influence on employment outcomes than spatial access, whereas the reverse is true in other studies (Raphael 1998, Ross 1998). Comparisons among neighborhoods are needed to determine how neighborhood effects interact with spatial and social barriers. The research will also have to take account of the differences in employment barriers faced by women, immigrants, and Latino and African-American men. The local resources available to each group and their needs for local resources to facilitate employment differ. For example, affordable and accessible child care is a prerequisite for single mothers to enter the paid labor market successfully (Edin and Lein 1996, Gilbert 1998), but it may have far less influence on the employment outcomes of African-American male youth. Even where needs for local resources are similar, local variations in their provision may contribute to neighborhood effects on employment and wages.

## **7 Change over Time**

Although most spatial mismatch studies take a snapshot in time, researchers are beginning to examine how the connected movements of firms and workers within and among metropolitan areas influence spatial mismatch. In general, the

suburbanization of manufacturing and other employment disadvantages minority workers who tend to live in segregated neighborhoods in the center. When a Milwaukee firm moved from the city center to the suburbs, black and Hispanic workers faced significant increases in commuting time and cost (Fernandez 1994). As industries relocate, theoretically workers can move to the suburbs to improve employment prospects. However, African-Americans are less likely to move and more likely to quit in response to job relocation than are European-Americans (Zax and Kain 1991). This residential immobility reflects racial discrimination in housing markets and the lack of resources and capital to finance a move. In the short run, immobility increases the spatial mismatch; however, long term effects depend on workers' ability to find new employment within a reasonable commuting radius.

These issues raise a broader question about the temporal or historical specificity of spatial mismatch. Is spatial mismatch a product of the 1960s and 70s patterns of housing segregation and employment location, and will it persist in the face of continued suburbanization and changed economic circumstances? The few studies of temporal change show a slight decrease in spatial mismatch and its effects on employment from 1980 to 1990 (Holloway 1996, McLafferty and Preston 1997). Whether this is due to geographical changes, or to changes in transportation costs, availability and service, or to wider economic shifts is unclear. These long-term effects have not been explored systematically for a range of metropolitan contexts.

## 8 Conclusions

Addressing issues of gender, ethnicity, context, and temporal change calls for substantial revision of our conceptualization and empirical investigation of spatial mismatch. Spatial mismatch is a contingent phenomenon influenced by the social characteristics of job seekers, the attitudes and practices of employers, neighborhood characteristics, and metropolitan-level opportunity structures. Detailed case studies from which we can learn about employers' practices and attitudes and employees' job search behavior are required to understand how factors at these various spatial scales contribute to spatial mismatch. Empirically, the growing evidence of intermetropolitan and intrametropolitan variations in spatial mismatch raises questions about the utility of aggregating information about several MSAs and possibly, even for small areas within them (Raphael 1998).

While daunting in its scope, the conceptualization of spatial mismatch proposed here with the ambitious research agenda that it entails has the potential to contribute significantly to contemporary theoretical and policy debates (Summers 1996). By considering Latinos as well as African-Americans and by incorporating gender in the analysis of spatial mismatch, the research will contribute to a growing social science literature about the politics of identity (Stasiulus and Yuval-Davis 1995). The research agenda outlined here will delineate in more detail the social processes that give rise to unemployment and low wages, with

the potential to shape public opinion about poverty and the poor and thereby, alter attitudes to minorities, welfare recipients and immigrants. Understanding the causes of poverty is essential for reducing the stigmatization of the poor that often occurs solely because of their poverty, with alarming implications for contemporary racial, ethnic, and gender identities.

Labor markets are socially and economically constructed. Until we examine the social processes that link employers and potential employees, we will not be in a position to advise policymakers interested in reducing urban poverty. Qualitative and survey research that explores the dynamics of local labor markets is needed, along with more accurate quantitative models and measures.

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