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A Spatial Analysis of Risks and Resources for Reentry Youth in Los Angeles County

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Abstract

Research on youth reentering the community following incarceration has largely focused on individual risks for negative outcomes and in doing so, has overlooked the potential importance of the neighborhood context(s) where youth return. Addressing this research gap, this study explores associations between neighborhood risks and resources and rates of youth reentering the community following incarceration. Examining archival data from 272 zip codes in Los Angeles County, spatial analysis detected positive associations between rates of youth reentry and unemployment, poverty, and ethnic minority concentration. Reentry rates were also positively associated with neighborhood risks including density of off-premise alcohol outlets and level of community violence. Examining resources on their own, specifically designated youth services were positively associated with reentry rates, whereas education and mental health/substance abuse services were negatively associated. However, none of these resources were significantly associated with reentry rates when neighborhood risks were simultaneously considered. The results of this study highlight the relevance of neighborhood context in youth reentry research and lead to several directions for future study.

Keywords

Offender Reentry; Juvenile Justice; Spatial Analysis; Neighborhood Effects; Community Resources

In the U.S., estimates of number of youth released annually from correctional placements (including public and private group homes and correctional institutions) range from roughly 100,000¹ (Griffin, 2005; Snyder, 2004) to 200,000² (Mears & Travis, 2004). It is well documented that these “reentry youth” face many barriers to successful transitions into mainstream societal institutions and pro-social lifestyles (Osgood, Foster, Flanagan, & Ruth, 2005; Snyder, 2004). Research on the community reintegration of incarcerated youth has largely attributed these difficult transitions to a nexus of individual risk factors and/or problem behaviors, such as poor attachments to schooling, anti-social attitudes, and negative peer relationships (Anthony et al., 2010). This focus on individual risks has remained the dominant approach to reentry research despite ample theoretical and empirical evidence that neighborhood conditions can play a very significant role in structuring opportunities for high

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¹The lower end of this range includes the number of youth who stayed in a juvenile correctional facility after their case was adjudicated. It includes youth who accepted placement as part of a diversion.

²The upper end of this range results because some researchers define youth as individuals up to the age of 24 who were confined in either juvenile placements or adult correctional facilities

risk youth (Duncan & Brooks-Gunn, 1997), and more specifically, in contributing to delinquent behavior (Sampson et al., 2002).

This study draws upon neighborhood effects theory to examine the environmental context of youth offender reentry in a large urban area. Using spatial analysis, we explore associations between neighborhood risks and resources in relation to the rates of youth returning from probation camps in Los Angeles County. Two exploratory questions drive this study:

1. What neighborhood risks are associated with rates of reentry youth (per zip code)?
2. What neighborhood resources are associated with rates of reentry youth (per zip code)?

By investigating these questions, this study contextualizes the challenges associated with youth offender reentry beyond the individual and lays the groundwork both methodologically and theoretically for further neighborhood-level juvenile reentry studies.

Youth Reentry: Individual Barriers to Success

Youth who return to the community following incarceration face significant barriers to reentry success (Osgood et al., 2005). “Success” in this context is typically defined in the literature as repeat contact with the criminal justice system, although this is arguably only one of many indicators of success (Anthony et al., 2010; Spencer & Jones-Walker, 2004). Documented rates of repeat contact with the criminal justice system are quite high. In one large juvenile detention system in the Southwest, Trulson, Marquart, Mullings, & Caeti (2005) found re-arrest rates as high as 85% at five years post-release. Similarly, the California Department of Juvenile Justice estimates that 70% of youth paroled from its state institutions are re-arrested within two years (California Juvenile Justice Reentry Partnership, 2007).

In addition to high rates of return to the criminal justice system, formerly incarcerated youth face significant barriers to educational attainment. Researchers have estimated that fewer than 20% of formerly incarcerated youth earn a GED or high school diploma (Osgood, Foster, & Courtney, 2010), and have also found that the majority of reentry youth are unable to successfully re-enroll in public school upon their release (Stephens & Arnette, 2000). Poor employment and earnings are also associated with histories of juvenile incarceration (Uggen, Manza, & Berhens, 2005). For example, Bullis and Yovanoff’s (2006) study of youth exiting the Oregon Youth Authority found that just 29% were employed at 6 months post-release, and these rates declined over time.

A number of empirical studies have sought to uncover specific individual risk factors for these poor outcomes. Research has found, for example, that factors such as poor school performance, mental illness, substance abuse, learning disabilities, and family dysfunction (including child maltreatment) are all salient predictors of transition failure, defined primarily as recidivism (Bullis et al., 2002; Dembo et al., 1991; Heilbrun et al., 2000; Ryan & Testa, 2004). Other demographic factors such as being younger and male also predict less positive outcomes (Niarous & Routh, 1992; Heilbrun et al., 2000).

Qualitative research has examined some of the nuances of these reentry challenges on an individual level. Studies have found, for example, that youth experience few supports for actualizing their goals for schooling and education, often finding themselves without direction or guidance when they exit secure confinement (Abrams, Shannon, & Sangalang, 2008). Other research has discovered that reentry youth and young adults struggle to avoid associations with their friends and family members who may be criminally involved, but who also comprise their main sources of social support (Hughes, 1998; Sullivan, 2004).

Qualitative studies have also uncovered ways that some youth are able to overcome these barriers by drawing on internal strengths and pro-social social support networks (Todis, Bullis, Waintrup, Schultz, & D'Ambrosio, 2001), or by circumventing potentially high risk activities through a selective approach to engaging with criminally-minded friends or illegal activities (Abrams 2007). These studies have provided more context and dimension to youths' reentry experiences yet remain on the level of individual study.

Frameworks for Interventions

Increased knowledge of the major challenges and poor outcomes associated with reentry has contributed to a framework for interventions that have centered on removing individual barriers to transition success. For example, the Office of Juvenile Justice and Delinquency Prevention (OJJDP) sponsored Intensive Aftercare Program (IAP) (funded from 1987 to 2000) developed and tested a model of intensive transition case planning during incarceration as well as continued aftercare supports upon reentry. After several years of demonstration and funding, outcome studies using control or comparison groups found that although the IAP program positively affected program completion and satisfaction among youth offenders, it did not significantly impact outcomes (i.e., recidivism rates) (Frederick & Roy, 2003; Wiebush et al., 2005). This program was not re-authorized, yet similar individually-oriented interventions, such as mentoring and case management, have remained the dominant approach to juvenile reentry (Spencer & Jones-Walker, 2004).

Despite the stronghold of the individual model, a more neighborhood centered policy framework for prisoner reentry appears to be evolving. The federal "Second Chance Reentry Initiative" (*Pub. L. 110-199*), authorized in 2007 at \$165 million dollars per year, launched a "comprehensive response" to problem of adult and juvenile offenders returning to communities following incarceration. The initiative, for example, has prioritized applicants that focus their programs on particular geographic areas (USDOJ, 2009). In fiscal year 2009, the request for proposals also required applicants to use a Socioeconomic Mapping and Resource Topography (SMART) system to examine the risks and resources of neighborhoods that are targeted for reentry intervention. As the most recent federal policy initiative for returning offenders (both youth and adult), it appears that an environmental, neighborhood-based framework for reentry interventions may emerge. However, a more significant body of research on neighborhood conditions and youth reentry is needed to develop neighborhood-based interventions.

Neighborhood Conditions and Reentry Research

Just a handful of studies have sought to understand neighborhood-level factors as they impact the reentry experiences and outcomes of *adult* offenders. In Chicago, Visher and Farrell (2005) used census data to map similarities and differences in rates of home ownership, high school graduation, poverty, and crime in neighborhoods with high densities of returning adult parolees. They concluded that the concentrated risks of these environments create significant obstacles for ex-prisoners to successfully reintegrate into their communities. Applying this type of neighborhood analysis to understanding outcomes, Kubrin and Stewart's (2006) study of returning adult offenders in Portland, Oregon examined the effects of neighborhood and individual factors on recidivism rates. Using hierarchical linear modeling (HLM), they found that neighborhood indicators of poverty and disadvantage remained significant predictors of reentry failure (defined as re-offending), above and beyond individual risk characteristics. These studies, although confined to adults, have contributed to a general understanding that neighborhood disadvantage may play a greater role in reentry experiences and outcomes than the individual characteristics (or risk factors) of offenders themselves.

Studies of neighborhood resources and offender reentry are quite limited. In one study of conducted in Newark, New Jersey, Mellow, Schlager, and Caplan (2008) sought to understand the potential “match” or “mismatch” of the location of community services with the residences of the adult parolees. Using GIS technology, they found that the majority of social services were located closer in proximity to the parole district office than to the bulk of adult parolees’ residences. They also found that agencies providing similar services (*e.g.*, mental health, addiction, or employment services) were clustered closely together. They concluded from this research that although neighborhood resources were present, they were not geographically accessible to the majority of parolees who might use them (Mellow et al., 2008). This study begins to address a key issue related to reentry – Where are the services located geographically that individuals re-entering society after some form of incarceration may need? However, the study did not examine the density of any of these service types using a multivariate statistical approach.

Theory and Research Supporting a Neighborhood-Based Reentry Approach

The past fifteen years has witnessed a resurgence in understanding how neighborhood processes affect child and family well-being (see for example, Burton & Jarrett, 2000; Leventhal & Brooks-Gunn, 2000; Sampson et al., 2002). The overall premise is that by understanding how environmental characteristics and social interactions work in neighborhood areas, we can develop more comprehensive and effective programs to reduce social problems affecting youth and their families. In reviewing the burgeoning literature on neighborhood effects, Sampson and colleagues (2002) found that studies have focused on four distinct, but related, theoretical frameworks: social ties/interactions, norms and collective efficacy, institutional resources, and routine activities. The first two frameworks focus on how the interactions and relationships between neighbors can enhance neighborhood conditions through processes such as frequency of interactions, trust, informal social control and social cohesion. The latter two frameworks focus more specifically on the diversity of institutions that are youth-focused and are found within neighborhood areas, and how land use patterns may further exacerbate or mitigate neighborhood problems. Put another way, the environmental risks (*e.g.*, land use patterns) and resources (*e.g.*, services and institutions) available within neighborhood areas may facilitate or reduce social problems pertaining to youth and their families. Extending this theory to youth offender reentry, this means that the supports or risks within and around where these youth return may be a critical piece of information about the social contexts and structures that can support or deter transition success. This paper considers the specific neighborhood risks of alcohol outlet availability, vacant housing, and community violence, for the reasons noted below.

Environmental risks

Alcohol outlets are related to a variety of youth problems, including injuries due to assaults, traffic crashes, child abuse, and accidents (Freisthler et al., 2008; Gruenewald et al., 2010). In particular, off-premise alcohol outlets (*i.e.*, establishments where alcohol is purchased but must be consumed elsewhere such as liquor stores or convenience stores) have been linked to rates of violent crime among youth aged 15–24, accidental injuries, and injuries from assaults (Alaniz et al., 1998; Freisthler et al., 2008; Gruenewald et al., 2010). Access to alcohol via off-premise establishments may expose youth to other harms (*e.g.*, drug dealings and violence) associated with the illegal acquisition of alcoholic beverages. Thus youth may be exposed to these additional risks if they purchase alcohol in these areas prone to other problem behaviors (*e.g.*, drug sales and prostitution, Alaniz et al., 1998). Or, as is the case

among adults, violence may be more directly tied to greater use when alcohol is purchased and consumed by youth (Stockwell & Gruenewald, 2001).

Limited social capital restricts the ability of neighborhoods to respond to social problems, while reduced levels of social control encourages illegal activities such as drug sales to take place. Similarly, vacant housing has also been associated with rates of assaults among youth and adults and tends to occur in neighborhood areas with higher levels of disorganization (Freisthler et al., 2008; Gruenewald et al., 2010). Vacant housing is a negative use of land space that often signals the presence of fewer guardians who could intervene when neighborhood youth act out or become unruly, making it easier for these youth to participate in the types of activities that may lead to juvenile offending.

Another neighborhood risk associated with juvenile offending is exposure to community violence. As a precursor to more recent research on exposure to violence, several studies have established that neighborhood disorganization and disadvantage contribute to deviant and delinquent behavior among youth (c.f., Herrenkohl, Hawkins, Chung, Hill, & Battin-Pearson, 2001; Sampson & Groves, 1989; Shaw & McKay, 1969). These studies linked neighborhood disorganization and disadvantage to disparities in rates of delinquency and violence *between* neighborhoods, but did not examine the effects of specific risk factors *within* disorganized neighborhoods. Subsequent research has attempted to understand the unique contributions of these specific risks in disorganized neighborhoods, including exposure to violence. For example, Gorman-Smith and Tolan's (1998) longitudinal study of urban ethnic minority youth in Chicago found that exposure to community violence was positively associated with aggressive behavior and depression in adolescence, even when controlling for parenting practices and other protective factors. Similarly, Patchin, Huebner, McCluskey, Varano, & Bynum (2006) found that among a sample of youth (ages 9–15) from high risk neighborhoods, those who witnessed more violence were more likely to report assaultive behavior and weapon carrying, even when controlling for additional risk factors for delinquency. These findings that aggressive and anti-social behaviors increase according to level of exposure to violence are consistent among samples of young adults (Eitle & Turner, 2002).

Environmental resources

The work of Sampson and others (Morenoff et al., 2001) has contributed to an understanding that the presence of institutional resources can mitigate neighborhood risks by providing services that address the needs of community members. For youth reentering the community following incarceration, neighborhood resources such as social services, employment programs, and youth-oriented community centers may provide concrete services such as school and job assistance, as well as intangible benefits such as friendship, pro-social activities, and informal social control that can mitigate risk of re-offending (Laub, Nagin, & Sampson, 1998; Wright, Cullen, & Miller, 2001).

The presumed positive benefits of social services use for reentry youth has not been empirically confirmed (Anthony et al., 2010). There is some evidence that use of formal neighborhood resources may positively influence the transition to school and work and can potentially deter recidivism. Bullis & Yovanoff's (2002) longitudinal study of over 500 released youth in Oregon found that those who engaged mental health services were 4.8 times as likely to be engaged in work or school at one year post release. In a separate analysis, they found that these "engaged youth" were at least twice as likely as those who were not engaged to avoid repeat contact with the criminal justice system (Bullis, Yovanoff, Mueller, & Havel, 2002). However, a recent and comprehensive study of over 13,000 released youth offenders in Illinois found that those who used government resources (i.e., child welfare, public assistance, and Medicaid related services) had higher rates of return to

the criminal justice system than those who did not use any of these services (Cusick, Goerge, & Bell, 2009). Thus while there is ample reason to believe that the presence of resources may provide opportunities and supports for reentry youth, more extensive research on this topic is needed.

Significance of Study

In sum, much remains to be discovered about the interactions between neighborhood risks and resources and youth returning to the community following incarceration. Little is known, for example, about the neighborhoods where reentry youth reside, how neighborhood conditions may facilitate or deter opportunities for reentry youth, or how resources may protect youth from involvement in risky behaviors and criminal activity. Moreover, conflicting information about the use of resources leaves many questions about the role that formal supports may play in relation to neighborhood risks, and also raises the potential importance of spatial questions, such as the accessibility of these resources relative to where reentry youth reside. This exploratory study of the associations between rates of juvenile reentry and neighborhood risks and resources in a large urban area is an initial step in addressing these critical research gaps.

Method

Local risks and resources related to juvenile reentry were examined using a cross-sectional ecological design with 272 zip codes in Los Angeles County, California. An ecological design is one where the unit of analysis is at the population, rather than individual, level. In the case of this study, the ecological unit of analysis is the zip code. Los Angeles County, while primarily urban, does have several zip codes with lower population densities, thus increasing the variation between areas. In Los Angeles County there was variation between zip codes on overall rates of juvenile reentry and in the ethnic and racial composition, poverty levels, density of resources, and density of alcohol outlets. The 272 zip codes represent the universe of zip codes that are entirely located within the boundaries of Los Angeles County. Thirteen additional zip codes that were primarily administrative and had little geographic extent and population because they referred to the location of universities or federal buildings were combined with the larger zip code that contained them. For example, zip code 90095 (UCLA) is located entirely within the boundaries of 90024. Therefore, any data associated with 90095 was included into that of 90024. A fourteenth zip code (90704) was removed from the analysis because it referred to Catalina Island and is not able to be modeled using spatial analysis techniques.

Los Angeles County has a population of about 9,000,000 residents, with about 48% being Hispanic, 9% African American and about 13% of Asian descent. The County is an ideal place to study juvenile offender reentry and neighborhoods due to its sizable reentry population. In 2006, the state of California accounted for 16% of all youth correctional placements in the United States (Sickmund, Sladky, Kang, & Puzzanchera, 2008). Among the youth correctional facilities in California, about 30% of juvenile hall beds and over 50% of camp or "ranch" beds are located in Los Angeles County (Office of the Legislative Analyst, 1995).

Dependent Variable

The dependent variable for study is the rate of juvenile offenders (per 1000 youth aged 10 to 19) in each zip code ($n = 272$) who were released back to the community after spending time at one of 18 probation camps in Los Angeles County. The zip code of residence for all 4,398 juvenile offenders who were released from these camps in year 2007 was obtained from the Los Angeles County Department of Probation, Data Management Unit. While the County

Probation Department is the most reliable source for this information, we are not able to confirm the accuracy of the data provided. The average rate of reentry per zip code was about 2 per 1,000 children (see Table 1). On average, these youth serve five months at the probation camps and in a pilot survey of youth transitioning out of the camps, 93% of youth surveyed planned return to their residence of origin upon their release (Author Citation, 2010).

Independent Variables

Environmental risks related to juvenile offending included measures of community violence, alcohol outlet density, and vacant housing. Rates of violence per 1,000 individuals were obtained from assault injuries by zip codes for the residence of the patient (99% geocoding rate) from California's Office of Statewide Health Planning and Development for the year 2007. These records provide information on all admissions that result in at least one overnight hospital stay, including ICD-9 diagnostic codes related to the hospital stay. Assault injuries are those with event codes of E960 to E969, excluding E967.0 to E967.9 (i.e., homicide or injury purposely inflicted on another).

The density of alcohol outlets was measured by the number of off-premise outlets, restaurants that serve alcohol, and bars per area. Off-premise outlets are establishments where alcohol is purchased at the location but must be consumed elsewhere and includes liquor stores, convenience stores and grocery stores. Data on the locations of licensed alcohol establishments were coded as an off-premise outlet if the license type was "Off-Sale Beer & Wine" or "Off-Sale General". Establishments with license types of "Small Beer Manufacturing", "On-sale beer", "Beer/Wine Public Premise", "General Public Premise", "Beer public premises", "General Brew-Pub" were coded as bars, and those with license types of "Beer/Wine Eating Place" or "General Eating Place" were coded as restaurants. Only establishments with active licenses at the beginning of January 2007 were used in this study and had a geocoding rate of 99%.

The percentage of vacant housing units was obtained from dividing the number of vacant housing units by total number of housing units for each zip code. The data were obtained from Geolytics, which collects and updates annually particular demographic information for each of the zip codes.

The locations of community resources/social services were obtained from the Rainbow Directory of Social Service agencies in Los Angeles for 2006. This directory contains listings of over 25,000 social service agencies in Los Angeles County in 58 different service areas. The location information for these data sources was geocoded using ArcGIS 9.0 (Environmental Services Research Institute, 2004). Density variables were created (number of services per area) for the following types of services: housing (e.g., Low Income – HUD), legal/probation (e.g., Correctional-Prison-Probation), youth, including those that serve transition age youth (e.g., Youth-Anti-Gang Resources), health services (e.g., AIDS-Sexually Transmitted Diseases), employment (e.g., Employment Placement-Job Training), mental health and substance abuse (e.g., Counseling, Mental Health, Emotions), education (e.g., Education – Children, School Districts), and general social services (e.g., Emergency Assistance, Basic Need). The full list of service categories can be found in Appendix 1. Overall 97% of the social service agencies were successfully geocoded.

Sociodemographic information used as control variables for each of the 272 zip codes used in the study was obtained from Geolytics. Demographic variables used in this analysis include the number of youth aged 10 – 19 per area, the percentage of households with incomes less than \$25,000, and the percentage of Blacks, Hispanics, and Asians. Table 1 provides the descriptive statistics for the study variables.

Data Analysis

Data were analyzed using spatial regression error models. These procedures were chosen over traditional Ordinary Least Squares (OLS) regression models due to the presence of spatial autocorrelation. Spatial autocorrelation occurs because units that are located next to each other may share characteristics (e.g., are correlated), which violates the assumption of unit independence required for OLS procedures (Bailey & Gatrell, 1995). The Moran coefficient provides information on the extent to which spatial autocorrelation is present in the dependent variable and allows for an assessment of the appropriateness of OLS or spatial regression procedures. These coefficients are similar to correlation coefficients in that they are bounded by 1 and -1 (Cliff & Ord, 1973). A positive value indicates that zip codes located next to each other have more similar reentry rates and increases the chances of committing Type I error. Negative spatial autocorrelation indicates that areas with high reentry rates will be spatially located next to zip codes with low reentry rates and may increase the occurrence of Type II errors (Cliff & Ord, 1973; Freisthler et al., 2006).

In order to determine the level of spatial autocorrelation using the Moran coefficient, a spatial weights matrix is created that is $n \times n$ in dimension (in this case 272×272) and identifies which zip codes are located next to other zip codes with a "1" and not-adjacent zip codes are denoted by a "0". Zip codes are considered adjacent if they share a boundary, not just a point (also called a rooks spatial weights matrix) (Freisthler et al., 2006). In this study, the Moran coefficient was positive and statistically significant for juvenile reentry rates (Moran = .48, $p = .01$).

The multivariate spatial regression error model (also called the nuisance parameter model) treats the spatial dependence found in the model as a "nuisance." In other words, this model assumes that the spatial autocorrelation that is present is related only to the correlated error in the model but is otherwise unrelated to the independent and dependent measures (Bailey & Gatrell, 1995). Four models were developed to determine the associations between area risks and resources and rates of juvenile reentry. Model 1 included only the sociodemographic controls of density of youth, percentage of households with income less than \$25,000, and percentage of residents that are Black, Asian, or Hispanic. Model 2 examined the five risks related to reentry including violence, density of off-premise alcohol outlets, restaurants that serve alcohol, and bars, and the percent of vacant housing units. In Model 3, the relationship of the eight social service categories was examined with respect to rates of juvenile reentries. The final model (Model 4) incorporated all the variables from the three preceding models.

Results

Results from the four spatial regression models are located in Table 2. Model 1 shows that the percentage of households with income less than \$25,000, percentage of Black residents, and the percentage of Hispanic residents are positively related to rates of reentry in zip code areas. The percentage of residents who are Asian was negatively related to reentry rates and the density of youth was not related to reentry rates.

In Model 2, levels of community violence as measured by the number of assaults per 1,000 population, density of off-premise alcohol outlets, and percent of vacant housing units were positively related to rates of juvenile reentry. No statistically significant relationship was found for the density of bars while the density of alcohol-serving restaurants was negatively associated with rates of reentry.

With regard to the presence of local resources (Model 3), higher densities of education services and higher densities of mental health service (including substance abuse programs)

were related to lower rates of reentry. Conversely, the density of youth-specific resources was positively related to rates of reentry. The density of housing, legal, health, employment, and general social services were not related to reentry rates.

The full model (Model 4) incorporating all of the variables from the prior three models found significant and positive relationships between the percent of households with income less than \$25,000, percent of Black residents, percent of Hispanic residents, the rate of assaults, and the density of off-premise alcohol outlets and the rate of juvenile reentries. The density of restaurants continued to be negatively related to reentry rates. None of the variables related to neighborhood resources were related to rates of reentry when the sociodemographic and risk variables were included in the model.

Discussion

As a step toward building an environmentally-focused model of youth reentry, this study sought to understand the neighborhood risks and resources associated with rates of returning youth offenders in a large urban county. We found that reentry rates for juvenile offenders were higher in neighborhood areas with higher levels of poverty and ethnic minority residents. This makes sense given the disproportionate numbers of poor and ethnic minority youth involved in all aspects of the juvenile justice system (Piquero, 2008). In regard to environmental risks, zip codes with more concentrated densities of off-premise alcohol outlets had higher rates of reentry; a finding similar to previous studies showing positive relationships between off-premise alcohol outlets and a variety of youth problems as well as rates of adult crime (Alaniz et al., 1998; Freisthler et al., 2008; Gorman et al., 2001; Gruenewald et al., 2010; Lipton & Gruenewald, 2002). Zip codes with higher per capita level of violence (as measured by assaults) also had higher juvenile reentry rates. This is consistent with prior research establishing a positive relationship between exposure to violence and youth anti-social behavior (Patchin et al., 2006). In the full model when both risks and resources were included, none of the resources examined were related to rates of reentry.

Examining resources alone, the number of youth-focused services available per zip code (including services specifically for transition age youth) had a positive relationship with reentry rates while mental health services (including substance abuse programs) and education services were negatively associated with rates of reentry. Because no study has examined the presence of resources with this level of specificity, we are not sure if these findings are particular to this County or if they are atypical. Yet even more importantly, when risks were added to the model along with resources, none of the resources studied were significantly associated, either positively or negatively, with rates of reentry.

There are multiple frameworks within which these findings can be interpreted. Akin to the work of Sampson and colleagues (2002), the findings may suggest that routine activities are more likely to affect juvenile reentry rates than geographic densities of institutional resources. That the geographic density of any type of resources was not significantly related to reentry rates when environmental risks were simultaneously considered may mean that it may not matter where services are located if neighborhood risks are not modified. Further, the dominating aspects of environmental risks may create a culture where young people participate in violence or crime for survival needs, such as income, or to deflect violent victimization directly towards themselves or their family members (Anderson, 2000). This way of interpreting the data has direct implications for prevention efforts that seek to modify the conditions in which youth offending (or re-offending) occurs, rather than trying to change the individual youth, as has been the historical thrust of probation as well as enhanced reentry practices such as the IAP (Weibush et al., 2005).

The second framework that may provide insight into these findings is that of spatial mismatch. Historically, spatial mismatch has been used to describe the difference in location of jobs and the populations employed by those jobs. In this paper and in the one similar study on returning adults by Mellow et al. (2008), spatial mismatch is used to describe the geographic availability of services and their location to populations of offenders re-entering society following incarceration. The negative findings regarding education services and mental health/substance use services when resources alone were considered may mean that the density of these services is not high enough to combat the overwhelming amount of risk that reentry youth face in troubled neighborhoods or that the accessibility of these services for high risk populations is low. Conversely, one might also infer from these findings that the youth-specific services were deliberately placed in these areas to target high densities of reentry youth. Our cross-sectional design is unable to provide concrete answers to these questions with certainty yet does pose interesting angles for further inquiry.

In essence, as suggested by Sampson and colleagues (2002) the density of resources or lack thereof may further signal disinvestment in both the community and the youth living there. The unfortunate outcome of this may be unsuccessful reentry transitions that result in juvenile re-offending and subsequent placement in juvenile probation camps or adult facilities that further weakens the structure of these neighborhood areas. Moreover, the skills learned in juvenile probation camps or residential treatment centers (such as cognitive skills training) tend to focus on strengthening refusal skills and crime temptations with peers. However, they do not necessarily teach youth in real world settings how to circumvent the multiple risks of the neighborhood environment (Abrams, 2006). This idea receives support from ethnographic studies that assert that reentry youth not only struggle to find and forge new friendships and identities upon their return to the community, but are also inordinately challenged by resource-poor and disorganized neighborhoods, the absence of jobs or family support, and the widespread availability of drugs and alcohol that can potentially violate their probation orders (Abrams, 2007; Sullivan, 2004). In sum, as much as individuals may be assisted in various ways through connections to neighborhood resources, the overarching risks of the environment may override the benefits that these resources might bring.

These findings thus lead us to hypothesize that until environmental risks are addressed, they may continue to pose challenges for reentry youth. Intervention approaches that seek to modify the high risk environments may assist these youth in their transition from incarceration. For example, interventions designed to reduce or limit the number of off-premise alcohol outlets, particularly those in low income, ethnic minority areas may also reduce opportunities for participating in criminal activities and thereby lower rates of reentry and potentially, recidivism (Alaniz et al., 1998). Similarly, creating safe environments for youth that are coupled with tangible and accessible services may provide protective resources for returning youth offenders, although further study of service utilization patterns and outcomes would be needed to confirm this hypothesis.

Limitations

Despite the potential importance of this study's findings, several limitations exist. First, the study has a relatively limited geographic focus. With a primarily urban population that is both ethnically and racially diverse, the findings cannot be generalized to areas with dissimilar compositions. Further, the use of zip codes as a unit of analysis may not correspond with what one would consider to be his or her immediate neighborhood and have boundaries that are easily permeable. Future studies could introduce the use of spatial lags (characteristics of adjacent zip code areas) to assess their associations with re-entry rates. This study may also undercount the true number of resources available as it relies on a major, albeit just one, directory of social services.

Moreover, this study is limited by its cross-sectional design. This is reflected in the discussion, where multiple interpretations are provided and the “correctness” of these interpretations is dependent on understanding more about the timing of events related to when services become available and the changing patterns of youth incarceration and reentry. In other words, we know little about how reentry rates impact service availability, or vice-versa. The cross-sectional design also precludes us from being able to fully understand how these services impact re-offending, an outcome that is heavily weighted in the literature. Given these limitations, we hypothesize from these findings that the presence of resources in these neighborhoods with such high risks may not significantly limit opportunities for youth to engage in pro-social activities and to avoid criminal activity. The cross-sectional nature of this study is also limited in that we do not have information on whether or not families with at-risk or offending youth choose to live in neighborhoods with greater risk or whether the amount of risks influence the youth’s offending behaviors (Tienda, 1991). Future longitudinal research building on these ideas will be able to more fully confirm or deny these hypotheses.

This study was designed to examine the population-level characteristics related to youth reentry. As a population-level study, the data did not include characteristics of the particular youth who were involved in the juvenile probation camps. Therefore we do not have any information on the length of time they individually spent in the camps, when they entered the camps, their race or age, or their committing offenses. In our future research, we plan to analyze data on both the youth and the neighborhoods in which they return using a multi-level statistical design.

Finally, this study does not include any information about the utilization of the resources studied, the size of agencies and whether or not the services can be used by the population under study. Using administrative data, we also cannot assess whether or not reentry youth have any inclination to use the services that are available. Given the stigma and low rates of utilization associated with use of services for youth and ethnic minority youth in particular (Harrison, McCay, & Bannum, 2004), one might also suspect that the density of services may not matter as much as youths’ willingness to use these resources. To address this limitation, we suggest that case study research involving neighborhoods with varying levels of risks, resources, and reentry rates would provide greater insight into these important questions.

Conclusion

The purpose of this exploratory study was to identify environmental conditions that may inhibit or exacerbate successful facility to community transitions for incarcerated youth. Many important questions exist regarding the optimal investment in services for the greatest yield in more positive transition outcomes for reentry youth. This study begins to address this knowledge gap, finding that zip codes with high densities of returning youth offenders have higher levels of environmental risks (i.e., alcohol availability and violence) and also higher amounts of certain types of resources (i.e., youth services), but not others (i.e., mental health, substance abuse, and education services). And, perhaps most important, the potential impact of these resources is eclipsed when they are considered along with environmental risks. Further the use of spatial regression procedures to analyze these data allows us to explicitly control for the correlations that exist between zip code areas and provide better unbiased estimates of the true effects of the relationship between the risks and resources for reentry (Freisthler et al., 2006). This type of analysis has not been previously applied to this problem or population.

In conclusion, youth offender reentry is a social problem with long-lasting social and economic consequences. After decades of research and practice focusing on individually-oriented solutions, government attention has recently turned to more community-level interventions for reentry youth. However, research about the benefits of this environmental approach specifically for juvenile offenders is sparse. This study underscores the importance of more specific knowledge about neighborhood resources and risks in regard to youth reentry. We anticipate that this trajectory of research will inform the design and delivery of neighborhood interventions for this particularly vulnerable population.

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Table 1

Descriptive Statistics for Rates of Reentry, Socio-demographics, Neighborhood Risks, and Institutional Resources by Zip Code in Los Angeles County (n = 272)

Variable Name	Mean	SD	Minimum	Maximum
Rates of Reentry (per 1,000 children)	2.16	2.21	0.00	13.61
<u>Socio-demographic Variables</u>				
Youth per Area	1306.95	1207.51	0.84	7473.33
% Income < \$25,000	28.43	14.19	0.00	88.00
% Black	9.17	14.66	0.20	88.30
% Asian	13.40	13.13	0.20	69.50
% Hispanic	37.38	27.67	3.00	98.80
<u>Neighborhood Risks</u>				
Assault Rate	0.50	0.70	0.00	8.55
Density of Off-Premise Outlets	6.34	6.65	0.00	60.00
Density of Restaurants	9.06	18.39	0.00	200.00
Density of Bars	1.40	2.34	0.00	20.00
% Vacant Housing	4.47	3.14	1.30	30.50
<u>Institutional Resources</u>				
Housing Services	1.29	4.52	0.00	40.00
Legal Services	0.72	2.39	0.00	30.00
Youth Services	0.91	1.76	0.00	13.75
Health and Health-Related Services	2.04	4.68	0.00	67.50
Employment Services	0.66	2.43	0.00	30.00
Mental Health and Substance Abuse	0.96	2.53	0.00	32.50
Education and Related Services	0.71	2.53	0.00	40.00
General Social Services	2.24	5.04	0.00	60.00

Table 2

Spatial Error Regression Models Examining the Relationship Between Neighborhood Risk and Resources on Juvenile Reentry Rates (n = 272)

Variable Name	Base Model (Model 1)		Neighborhood Risks (Model 2)		Institutional Resources (Model 3)		Full Model (Model 4)	
	B	SE	B	SE	B	SE	B	SE
Constant	-0.645	0.268 *	0.817	0.234 ***	2.005	0.289 ***	-0.640	0.280 *
<u>Socio-demographic Variables</u>								
Youth per Area	-0.0001	0.0001					-0.0002	0.0001
% Income < \$25,000	0.066	0.010 ***					0.053	0.013 ***
% Black	0.066	0.008 ***					0.045	0.008 ***
% Asian	-0.017	0.008 *					-0.004	0.008
% Hispanic	0.016	0.005 **					0.012	0.005 *
<u>Neighborhood Risks</u>								
Assault Rate			1.422	0.157 ***			1.050	0.260 ***
Density of Off-Premise Outlets			0.106	0.023 ***			0.067	0.028 *
Density of Restaurants			-0.054	0.007 ***			-0.038	0.010 **
Density of Bars			0.095	0.067			0.059	0.071
% Vacant Housing			0.070	0.032 *			0.005	0.030
<u>Institutional Resources</u>								
Housing Services					0.094	0.056	-0.069	0.055
Legal Services					-0.174	0.114	0.015	0.093
Youth Services					0.490	0.112 ***	0.060	0.104
Health and Health-Related Services					0.035	0.061	0.061	0.047
Employment Services					0.189	0.128	-0.061	0.107
Mental Health and Substance Abuse					-0.260	0.106 *	0.107	0.089
Education and Related Services					-0.198	0.092 *	0.022	0.082
General Social Services					-0.061	0.074	-0.071	0.058
Spatial Autocorrelation	0.343	0.076 ***	0.488	0.067 ***	0.652	0.053 ***	0.359	0.075 ***

*
p < .05,**
p < .01,

100 > p

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Appendix A

Specific Service Categories in Rainbow Resource Directory for each Service Category

Service Category	No.	Title
Housing	27	Homeless Resources and Programs
	30	Housing Assistance – Tenant Rights
	31	Housing – Low Income – HUD
Legal/Probation	9	Correctional-Prison-Probation
	34	Law Enforcement
	35	Legal Assistance
Youth, including those that serve transition age youth	54	Youth-Anti-Gang Resources
	55	Youth-High Risk
	56	Youth-Recreation Activities
	57	Youth-Shelters
	58	Youth-Transition-Emancipation
Health Services	2	AIDS-Sexually Transmitted Diseases
	13	Dental Care
	14	Disabled – Special Education, Rehabilitation
	17	Eating Disorders and Food Addictions
	24	Family Planning-Pregnancy-Child Birth
	26	Health Care-Medical
	28	Hospitals
Employment	22	Employment Placement-Job Training
Mental Health & Substance Abuse	3	Battered Persons
	10	Counseling, Mental Health, Emotions
	12	Death-Hospice-Grief Support
	45	Self help, support groups
Education	18	Education – Children, School Districts
	19	Education – Colleges, Universities
	36	Libraries
	37	Literacy, ESL Programs
General Social Services	1	Adoption, Foster Care
	6	Child Abuse Prevention and Treatment
	7	Child Care
	20	Emergency Assistance, Basic Need
	21	Emergency Assistance-Soup Kitchens
	32	Human Service Administrative Offices
	33	Immigration, Refugee Programs
	41	Optical Services, Visually Impaired
	42	Parenting Resources, Education
	44	Pregnant and parenting teens

Service Category	No.	Title
	45	Transportation