

## ABSTRACT

BAKER, ALISON MARY. Neighborhood Factors and their Influence on Adolescent Females' Perceptions of STD, HIV/AIDS, Pregnancy Risk, and Perceptions of Pregnancy as a Life Event. (Under the direction of Craig C. Brookins.)

Teenage sexual behavior is a serious public health concern in the United States due to risks for STDs, and HIV/AIDS. In addition, adolescent pregnancy imposes great taxpayer and other social costs to society. Previous research has shown that neighborhood characteristics influence adolescent females' sexual risk perceptions and behaviors. However, neighborhood characteristics have rarely been compared to adolescents' perceptions of their own neighborhoods when examining perceptions of STDs, HIV/AIDS, or pregnancy. In fact, it is reasonable to explore the degree to which adolescents in certain neighborhood contexts may perceive pregnancy as an adaptive strategy. This study uses longitudinal data from the in-home interviews of the National Adolescent Health Survey Wave 1 to examine neighborhood characteristics, adolescent females' perceptions of their neighborhood, attitudes towards STDs, HIV, and pregnancy, and parent perceptions of the neighborhood. The results show significant between group mean differences for adolescents' females' living in neighborhoods with high poverty rates for their perceptions toward chances of contracting an STD. In addition, adolescent females living in neighborhoods with high rates of unemployment and high proportions of young children yielded higher perceptions of risk of AIDS without protection. Adolescent females' perceptions of safety in their neighborhood predicted perceptions of risk towards pregnancy; however, neighborhood perceptions did not significantly predict any other perceptions of risk. Neighborhood perceptions did not mediate the relationship between neighborhood characteristics and perceptions of risk for STDs, HIV/AIDS, or pregnancy. Lastly, favorable perceptions about pregnancy as a life event were

predicted by high proportions of young children in the neighborhood, with less favorable perceptions predicted by low unemployment and perceptions the neighborhood as a safe place.

Neighborhood Factors and their influence on Adolescent Females'  
Perceptions' of STD, HIV/AIDS, Pregnancy Risk,  
and Perceptions of Pregnancy as a Life Event.

by  
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## **BIOGRAPHY**

Alison Baker was born in Calgary, Alberta in Canada before moving to Australia, where she spent the majority of her childhood, living with her mother, father, and older brother. At the age of eight, she returned to Calgary, where she lived until she completed high school. Alison went to the University of Memphis on a soccer and track scholarship to obtain her undergraduate degree in Psychology and Sociology, before continuing on to North Carolina State University in Raleigh, North Carolina to pursue a PhD in Psychology in the Public Interest. Her research interests are in international program design, with a focus on community empowerment.

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## CHAPTER 1

### Introduction

Adolescents in the United States are engaging in sexual behaviors that may place them at an increased risk for unintended pregnancy, STDS, and HIV infection. According to the Centers for Disease Control (CDC), approximately 47 percent of all high school students have had sexual intercourse and of this group, 34 percent of sexually active high school students did not use a condom during the last intercourse (CDC, 2005). This risky sexual behavior among adolescents is clearly having a negative impact on their health with adolescents aged 15-19 accounting for almost half of the 19 million new STD cases reported in the United States (CDC, 2005). The number of youth aged 13-24 diagnosed with HIV in 2004, was about 13 percent , totaling about 4,883 adolescents living with the disease, not including the 7, 716 young people with AIDS diagnosis (CDC, 2006).

Disease infection is not the only outcome stemming from risky sexual intercourse. According to the CDC, the pregnancy rate for adolescents aged 15-19 was slightly more than 750, 000 in the United States, however, 425, 000 were live births, 215, 000 were abortions, and 117, 000 were fetal losses (CDC; Martin et al. 2004). Previous research has shown that adolescent females are at increased risk for STDs, HIV, and pregnancy, due to biological, social, and economic risk factor exposures, making this population of special interest for sexual health-based interventions (Wingwood & Diclemente, 2000). Although in the United States recent pregnancy rates represent a decrease in comparison to the early 1990s, the social and economic costs such as public assistance, food stamps, child health care, and the loss of human potential

still persist (Mott Foundation, 1998). For example, it is estimated that the societal costs of adolescent pregnancy are 9.1 billion per year in the United States (Hoffman, 2006).

This study seeks to examine the ways in which specific neighborhood characteristics are related to adolescent females' perceptions of their neighborhood and their perceived susceptibility to STDs, HIV/AIDS, and pregnancy. This project will extend research about neighborhood influence on adolescent sexual health, more specifically, examining risk perceptions, while taking into account adolescents' perceptions of their neighborhood. This project will also explore the notion that females in certain neighborhood contexts may perceive pregnancy as adaptive.

### *Conceptual Frameworks*

This study will use one main ecological framework to examine the ways in which neighborhoods are related the perceptions adolescents form about their neighborhoods' and the perceptions about the risk sexually-related outcomes: (1) A modified version of Bronfenbrenner's (1989) Ecology of Human Development model that was recreated into a risk factor model by Small and Luster (1994) and is specific to adolescent sexual risk behaviors. Small and Luster's (1994) conceptual model also identifies gender as a potential risk factor; however, Wingwood and DiClemente's (2000) multi-risk exposure theory has been incorporated to expand upon gender and sexual risk outcomes. Therefore, Connell's Theory of Gender and Power, later specifically tailored to examine HIV risk exposures by Wingwood and DiClemente is an integral part of the ecological framework, but will be closely examined in the theoretical models.

Bronfenbrenner's (1979) ecological model has been used as a foundation for studies that seek to examine the various systems operating in child and adolescent development, including neighborhoods. The ecological model includes multiple levels of analysis, including the microsystem,

the mesosystem, the exosystem, the macrosystem, and lastly the chronosystem. The microsystem consists of structures that are in direct contact with the individual, this includes relationships with parents, and immediate family. Bronfenbrenner (1989) theorizes that relationships between the individual and micro-level structures in their environment are bidirectional. For example, an individual is influenced by their parents' beliefs and values, but an individual also influences their parents' beliefs and values through interaction. The mesosystem is the level that represents a connection between the structures of the microsystem and other structures, such as neighborhoods, schools, and church. The relationships and interactions between an adolescent's parents and his or her teachers, or the relationship between the adolescent's neighborhood and church are examples of the mesosystem level. The macrosystem is the level farthest from the individual, and includes societal influences such as culture, policies, and laws. According to Bronfenbrenner (1989), the macrosystem structures have a trickle down effect, influencing the other levels by way of policy, access to resources, and cultural norms. Lastly, Bronfenbrenner (1999) includes the chronosystem in the ecological model, which accounts for changes that occur over time. For example, changes that occur in the external environment, such as the death of a family member, or internally, including the physical changes in puberty (Berk, 2000).

The ecological model was tailored by Small and Luster (1994) to examine adolescent sexual behavior by incorporating elements of the risk factor approach into various levels of the ecological model. Figure 2 illustrates the way in which the models were combined to provide context and multi-system influence to examine sexual behavior among teens. The Small and Luster (1994) model has three main levels of analysis, individual, familial, and extra-familial, covering elements of cumulative risk in several contexts, such as neighborhood quality, peers, school, and family structure.

The major strengths of Small and Luster's (1994) revised model are that it includes many different risk factors, which influence sexual behavior among adolescents, at different levels of the ecological model. This model also emphasizes the cumulative effects of risk factors and allows researchers to understand what contexts of risk may include, and whether or not additive risk effects increase the probability for negative individual outcomes. For example, at the neighborhood level, Small and Luster (1994) listed low quality of neighborhood and low neighborhood monitoring as extra-familial risk factors, leading adolescents to engage in sexual behaviors at an earlier age. Individual-level factors such as previous drug-use, low intellectual ability, and history of sexual abuse were included as risk factors for early sexual behaviors in adolescence. The more risk factors an adolescent is exposed to increases the likelihood they will engage in risky sexual behavior, although Small and Luster (1994) point out that it does not guarantee negative outcomes for all individuals. Lastly, Small and Luster (1994) note in their description of the model that a possible individual risk factor is gender, more specifically, that adolescent females are at a higher risk for negative sexual outcomes due to 'genetic constitutions,' and 'typically different life experiences.' The description provided by Small and Luster (1994) does not outline the specific ways in which being female in our society places you at risk, at a number of different levels. Therefore, this study will integrate Wingwood and Diclemente's (2000) expanded theory of gender and power, identify specific exposures females experience as a result of unequal power structures, such as poverty or education level.

There has been very little research examining the ways in which adolescent women and their perceptions of sexual behaviors and risks are influenced by the neighborhoods they live in. Much of the existing research has used race as a focus for explaining differences in rates of

HIV/AIDS, STDs, although socioeconomic status appears to minimize the observed differences between racially segregated neighborhoods (Brewster, 199b). It is important to take into account the distribution of power and social capital within the United States, and the ways in which the conjunction of race and gender influence such processes.

### *Theoretical Models*

Several theories are required in order to understand the complex, multidimensional nature of neighborhood influence. Bronfenbrenner's (1989) ecological model and Small and Luster's (1994) cumulative risk model provide a framework for understanding neighborhoods in relation to other systems, such as family and peer networks. In the literature on neighborhoods, there are several widely accepted theories, including contagion theory, collective socialization, and institutional theory that will be described in the following section. Robert Connell's (1987) theory of gender and power will also be explained, and each theory will provide a basis for this study's research questions and hypothesis.

Theories developed by Jencks and Mayer (1990) have been widely used when examining the ways in which neighborhoods influence the development of individuals (Crane 1991, Brooks-Gunn et al., 1993; Baumer & South, 2001; Sampson et al, 2002). Jenks and Mayer (1990) have identified certain neighborhood elements that tend to influence the development of youth living in those areas. These neighborhood factors include quality of local services, socialization by adults, peer influences, social networks, exposure to crime and violence, and physical distance and isolation. These influences fit into three theories: contagion theory, collective socialization theory, and institutional theory, all of which have been widely used in the literature on neighborhoods' effects on adolescent development. In addition, Wingwood and

DiClemente's (2000) expansion of Robert Connell's (1987) theory of power and gender, focuses the ways in which social structures, such as neighborhoods, are places of inequality power puts adolescent females at a higher risk for HIV/AIDS, STDs, and pregnancy.

Contagion theory focuses on the influence peers have on each other regarding sexual behavior norms, while also examining how social networks may play a role in the knowledge of perceived risk to certain health outcomes. Collective socialization theory focuses on how adults in the community participate in the socialization of adolescents, in addition to how adults also serve as role models for local youth. Institutional theory states that neighborhoods' success is in part a reflection of the resources present in the area, for example, social capital, and residents' ability work together to create change. Finally, Robert Connell's (1987) theory of gender and power is a theory examining social structures to locate gender-based power inequalities, which has been reconceptualized by Wingwood and DiClemente (2000), in order to apply to females' unique biological, social, and economic risk factors.

Contagion theory is based on the assumption that social problems and behavior operate as an "epidemic," spreading through social interaction with peers in the context of the neighborhood. Specifically, researchers have postulated that problem behaviors among adolescents such as early sexual activity, alcohol and drug use, criminal behavior, pregnancy, and violence, are transmitted through peer interaction as though they were contagious. Contagion theory falls into the mesosystem level of analysis because it consists of two structures, neighborhood and peers, interacting to indirectly influence the individual. Neighborhoods are not only the context in which adolescents interact with their peer group but also define a geographical proximity that plays a major role in the selection of peers. Adolescence is widely known as a time when

autonomy is sought after, the influence of immediate family declines, and teens' interaction with peers and others outside the home increases (Brown, 1989; Maxwell, 2002; Steinberg and Silverberg, 1986).

Therefore it is assumed with contagion theory that as adolescents mature, peers increasingly influence the development of their values, worldview, and behaviors. Consequently, if adolescents live in a neighborhood in which their peers are participating in criminal activity, risky sexual behavior, having children out of wedlock, and doing drugs, these behaviors may be seen as commonplace or normal (Ellen and Turner, 1997). Adolescents' sexual behavior, in particular, is strongly influenced by their peers, especially regarding age at first intercourse, and more generally, the decision to engage in sexual behavior (Whitaker et al, 2000; Biglan et al, 1990; Miller & Moore, 1990).

Research examining the influence of peers has also revealed how economic factors in neighborhoods influence norms of sexual behavior. For example, teen females living in a poor neighborhood began having sex primarily because it is an indicator of maturity in their peer group (Brewster, 1994). Although contagion theory has been used frequently in the literature to explain the ways in which problem behaviors can become contagious among adolescents living a neighborhood, it has more recently been applied to the transmission of risk perception among community members (Scherer and Cho, 2003). This use of contagion theory to explain how social networks in neighborhoods can contribute to the dissemination of knowledge about risk is particularly valuable because it emphasizes the relational aspects of the development of risk perception, rather than strictly focusing on the individual cognitive processes. Contagion theory as used by Scherer and Cho (2003), could be applied to neighborhood influence on adolescents'

formation of risk perception to sexually transmitted diseases, including HIV/AIDS. Assuming that social networks and peer influence are mechanisms for the transmission of risk perception and acceptable sexual behavior respectively, the current study seeks to examine the extent to which individuals living in the same neighborhood also share similar perceptions of risk regarding sexually transmitted disease and perceptions of pregnancy.

Theories of collective socialization have been used in research examining neighborhood influences on child and adolescent development (Crane, 1991; Brewster, 1994; Wilson, 1987; Ainsworth, 2002; Brody, 2001). Neighborhoods fit into both the mesosystem and the microsystem of Bronfenbrenner's (1989) ecological model; they are spaces where knowledge, attitudes, and values can be implicitly or explicitly relayed from adults to children and teens. In a neighborhood setting, adults may serve as role models for children and teens, creating norms and demonstrating acceptable behavior (Wilson, 1997). The influence of Wilson's (1991;1997) research on neighborhoods has emphasized the structural elements of neighborhood, showing that in communities where there are high numbers of adults unemployed, children and adolescents will be less informed about planning ahead and time management.

However, collective socialization can also include the ways in which adults in the neighborhood teach, care for, discipline, and protect children from danger (Ellen & Turner, 1997, Stack, 1974). Sampson and Groves (1989) identified a group of collective socialization processes that would be protective factors for children and adolescents who may be exposed to various negative neighborhood influences. The processes include adult's ability and/or desire to monitor children in the neighborhood, and the extent to which adults living in the neighborhood

organize themselves around issues pertaining to collective socialization (i.e. systems in place to deal with issues of violence or drugs) (Sampson & Groves, 1989).

The institutional theory of neighborhoods emphasizes the role schools, businesses, political organizations, social service agencies, and police play in the community (Jenks & Myer, 1990). Bowles and Gintis (1979) claim that institutions are structures that reflect the larger society's racial, economic, and gender inequalities. In American society, Bowles and Gintis (2002) argue, that resources are distributed unequally, due to the capitalistic values and systems of rewards. Thus, the racial segregation of communities in the United States is an example of how the reproduction of social inequality exists, as communities of color are disproportionately living in poor neighborhoods, where a host of disadvantages in access to banks and loans for economic development, pharmacies and physicians for healthcare, good schools and teachers for educational opportunity. Institutions are also affected by the larger society's culture in general, therefore; policies, laws, and popular culture are replicated within institutional structures. Institutional theory is in accordance with Bronfenbrenner's (1989) model of ecological theory because the latter states that exosystem influences such as neighborhoods, schools, and media are influenced by the larger macrosystem, adopting many of the same values, and ideals.

In the literature on neighborhoods, institutional theory of neighborhoods can be directly related to social capital (Wilson, 1997; Briggs & Muller, 1997; Coleman, 1988; Putnam, 1993). Although there is much debate over the definition of social capital, Coleman (1988) states that social capital refers to 'intangible and that exists in the relationships between people.' Putnam (1993) adds that in neighborhoods, social capital involves levels of trustworthiness and sense of obligation between residents, while playing a major role in the establishment of norms and a

community's ability to adapt to change. Neighborhoods and the institutions embedded within them are structures in which social capital operates, creating quality resources and opportunities for residents. Neighborhoods that tend to be lower-income have more crime, mistrust between residents, weak institutional infrastructure, and less opportunities for those living within them (Wilson, 1997). Tenkin and Rohe (1998) define the concept of institutional infrastructure as the existence of community organizations and their ability to advocate for residents. Furthermore, community organizations bear the responsibility of linking neighborhoods to the larger government structures and making certain that sufficient resources are being allocated. Tenkin and Rohe (1998) concluded that neighborhoods with weak institutional infrastructure do not have a foundation solid enough for residents and organizations to assemble themselves to protect the interests of the neighborhood. Essentially this foundation is formed by able-bodied organizations and residents, is an indicator of a community with capacity and social capital. Neighborhoods with increased community capacity have higher levels of the social capital and tend to be stable, and are more economically prosperous (Tenkin and Rohe, 1998).

Therefore, lower income neighborhoods do not contain various institutions and organizations that have the resources to provide stability and opportunities. As a result, poor neighborhoods often experience low quality of living and tend to be plagued with crime, unemployment, and other issues (Wilson, 1997; Tenkin & Rohe, 1998, Crane, 1991). Small and Luster's (1994) revised ecological model confirms the notion that a lack of resources and instability between institutional structures can result in multi-level risk exposures for individuals living in low-income neighborhoods. For example, low quality neighborhood, low socioeconomic status, and single-parent family structure can accumulate to increase an

individuals' likelihood of engaging in risky behaviors. This study seeks to understand the extent to which adolescents' neighborhood institutions and social capital may contribute to the availability of opportunities and how they may impact adolescents' perceptions of risk of STDs/HIV and views regarding pregnancy.

Robert Connell's (1987) theory of gender and power is rooted in several theories pertaining to different gender and power imbalance. Connell (1987) defines three social structures, the sexual division of labor, the sexual division of power, and the structure of cathexis, which define the realities of gender for men and women. The sexual division of labor refers largely to the economic inequalities in power between men and women, such as the assignment of certain jobs to men and women (Connell, 1987; Wingood & DiClemente, 2000). However, other elements of society, including limited access to resources such as education, can implicitly affect the opportunities available to women. The sexual division of power refers to imbalance in power and the use of power to influence the lives of others. More specifically, this division of power, such as the abuse of authority positions, dominance in positions of power, and the control of images of women in society, ensure that women's positions in society remains subordinate to men (Connell, 1987). Lastly, the structure of cathexis refers to the affective and emotional components of the imbalance of equality between men and women. For example, appropriate sexual ways of being for women in our society, and the ways in which these gender norms limit and influence women's lives in general (Connell, 1987; Wingood & DiClemente, 2000). The three structures exist at multiple levels, including the societal level, the interpersonal level, and the individual level. At the societal level the gender manifests in culture, politics, and systems of rewards, and also at the institutional level, including work sites, medical systems, and families (Wingood & DiClemente, 2000). At the interpersonal level, gender differences

can result in the inability to successfully negotiate safe sex practices, violent interactions, and a general power imbalance in the relationship. At the individual level, factors such as low self-esteem and personal histories of abuse, place women at an increased risk for negative outcomes. Therefore, this theory enhances Bronfenbrenner's (1989) ecological framework, by examining the imbalance of power in gender relationships as it manifests at societal, institutional (Connell, 1987) and interpersonal levels (Wingood & DiClemente, 2000). In addition, the theory has been extended and applied by Wingood and DiClemente (2000) in order to examine gender and power imbalances in the three main structures as it influences HIV/AIDS risk for women. More specifically, Wingood and DiClemente (2000) outline specific risk exposures within each of the three structures, many of them also apply to STD risk and unintended pregnancy. Table 9 (see Appendix) includes the sexual division of labor, the sexual division of power, and the structure of cathexis, as originally included in Connell's (1987) theory of gender and power, but also Wingood and DiClemente's (2000) exposures to social, physical, behavioral, socioeconomic, and personal risk factors.

Wingood and DiClemente (2000) also include another element of exposure, which is biological in nature and specific to the increased susceptibility to STDs and HIV infection. Women are eight times as likely to acquire HIV from a single exposure (vaginal intercourse) as men (Padian et al, 1997). Other female-specific biologically related factors that increase likelihood of HIV transmission include having sexual intercourse during menstruation, using oral contraceptives, cervical ectopy (breakdown of cervical area), and genital ulcers (CDC, 2000). For STDs a similar pattern of transmission risk for women exists with gonorrhea and chlamydia male-to-female transmission ranging from 60 to 80 percent (Hook, 1990). Implications for STDs are also more serious for women because diseases like gonorrhea and chlamydia can be asymptomatic for longer

periods of time, delaying diagnosis and treatment, causing more complications (Cates, 1990). Finally, adolescent may be especially susceptible to several STDs compared to older women due to the fact that the cervix is still developing (Cates, 1990). Regarding teen pregnancy the biological factors are quite clear, as females are the ones who carry the baby, which has also translated into assumed social responsibilities for being the main caregiver once the baby is born.

Sociocultural elements that place teen women, especially those specific to racial and/or ethnic minorities at an even higher risk for STD/HIV infection and unintended pregnancy have been acknowledged in the literature, notably by Wingood and DiClemente (2000) concerning HIV/AIDS. These researchers have identified elements of risk they call ‘exposure/s’ which can be biological, social, and economic, all of which are characterized by the inequality of gender in American society. Several of these ‘exposures’ parallel with characteristics of neighborhoods as typically measured in the literature. For example, Wingood and DiClemente (2000) identified the sexual division of labor as a risk classified as economic exposure. More specifically, living in poverty is an economic exposure that is supported by the more recently noted feminization of poverty and disproportionate number of racial/ethnic minorities living below the poverty line (Wilson, 1987). If translated into neighborhood factors, one could include indicators such as whether or not the neighborhood is classified as *ghetto* or *high-poverty* (i.e. with poverty levels being 40% or higher) (Crane, 1991; Brooks-Gunn et al., 1993), the number of female headed-households, percentage of unemployed adult women, and average education level of adult females in a given neighborhood. These particular indicators have shown to be linked (together or as part of a larger neighborhood composite) to earlier sexual initiation (Cubbin, 2005;

Brewster, 1994a), unintended teen pregnancy rates (AGI, 2004), contraception use (Brewster, 1994b; Ramirez-Valles, Zimmerman, & Newcomb, 1998), and STD rates (Santelli et al., 2000)

Wingood and DiClemente (2000) also note being an ethnic minority and young are socioeconomic risk factors, pointing out that rates of poverty intersect with race and gender, placing minority women, especially African-American females who are at an elevated risk for STDs, HIV/AIDS, and teen pregnancy. Understanding this intersection of race, class, and gender dynamics in the context of neighborhoods is imperative to understanding female adolescent sexual behaviors and subsequent possible adverse outcomes.

## CHAPTER 2

Literature Review on factors that influence perceptions of risk and sexual behaviors

The concept of “perceived susceptibility” has widely been used in health-behavior models and can be defined as the perceived likelihood of certain self-reported outcomes occurring in the future (Kershaw, 2003). According to the Health Belief Model proposed by Janz & Becker (1984), individuals who perceive themselves to be at elevated risk for a negative health outcome are more likely to take steps to decrease their risk by changing their behavior. More specifically, the Health Belief model includes several factors, one of which is the individual’s perceived susceptibility to the health issue, whether or not this particular health outcome is likely to occur. Another factor listed in the Health belief model is the perceived severity of the health outcome, more specifically how serious the illness may be, according to that individual. Two other factors in Janz and Becker’s (1984) Health Belief Model include the perceived benefits of changing ones behavior to avoid the negative outcome, and lastly, the perceived barriers to changing ones behavior to avoid a particular health outcome (i.e. painful or difficult to carry out). In Janz and Becker’s (1984) meta analysis of health-related studies examining the Health Behavior Model, they found that research conducted generally supported the model, and that perceived barriers and susceptibility were two of the most important factors in the health behavior change process. Although this seems like a logical delineation, human sexual behavior is highly complicated and often times awareness of risk or precarious attitudes do not always translate into practicing safer sex. In addition, the individual does not exist in a vacuum; contextual factors such as neighborhood characteristics can influence one’s perceptions and awareness of sexual risk.

Perceived susceptibility is a concept that consists of attitudes and the formation of knowledge by individuals. Kershaw and colleagues (2003) have examined perceived risk of STD/HIV among urban adolescent females and have found that there was a substantial disconnect regarding accuracy of risk assessment. In fact, 81 percent of the participants in the sample who were diagnosed with an STD during the study had thought there was little or no chance of contracting any STD. Those who had prior STD infections were likely to see themselves at moderate to high risk for another STD, however, there was not a significant relationship between unprotected sex, high numbers of partners and perceived susceptibility. Kershaw and fellow researchers (2000) found that adolescent females are not making the connection between high-risk sexual behaviors and an increased risk for STDs, but rather they are assessing risk based on previous experience of having an STD. These findings have serious implications because STDs share the same sexual risk behaviors as HIV or unplanned pregnancy, both of which have more long-term consequences. This study seeks to fill specific gaps in the existing research by taking into account external factors that may explain how neighborhoods can influence adolescents' perceptions of risk.

Whaley (2000) studied adolescent females' perceived risk to contract STDs, HIV, and pregnancy using both a community and college sample. This study found that adolescent females had an optimistic bias, rating their likelihood of acquiring the aforementioned outcomes as low, while rating others' susceptibility as significantly higher. In addition, Whaley (2000) found that adolescent females had the same risk for STDs or unwanted pregnancy as with other general health problems. Although perceptions of risk for HIV were lower in comparison to

pregnancy and STDs, adolescents perceived themselves at a much lower risk than their peers for HIV.

Adolescent females' perceptions of pregnancy differ from that of STDs and HIV. Typically, risk of pregnancy is perceived as equally likely as that of STDs, but much less likely than HIV (Whaley, 2000). The literature has generally shown a mismatch between attitudes toward being pregnancy and the behaviors that will decrease the likelihood of becoming pregnant (Rodrigues & Moore, 1995). Zabin, Astone, and Emerson (1993) examined the attitudes toward pregnancy and contraception use of inner-city African-American adolescent females and found that there was a significant amount of ambivalence regarding 'wantedness' of a pregnancy, and those with higher levels of ambivalence were more likely to conceive. This study seeks to identify discrepancies between risk perceptions of STDs, HIV, and pregnancy for adolescent females living in different neighborhood conditions. Although there are vast amounts of research on adolescent pregnancy and the possible reasons for why it occurs so frequently in the United States, there is not as much research examining how neighborhoods may influence female adolescents' perceived reasons for becoming pregnant.

Neighborhoods have been conceptualized using a number of different factors. Much of the literature examining neighborhood context and adolescent sexual behavior and risk perceptions has included low income or *ghetto* categorization (i.e. with poverty levels being 40% or higher) (Ellwood, 1988; Brooks-Gunn et al., 1993), the number of female headed-households, percentage of unemployed adult women, and average education attainment of adult females in a given neighborhood (Brewster, 1994).

Although it is important to study the influence of different factors individually, studying neighborhoods provides a context that incorporates many of these single indicators, allowing for a more comprehensive measure of neighborhood. For example, peer influence on perceptions of sexual behavior and norms regarding what is acceptable sexual behavior are frequently studied (Kinsman et al, 1998). However, the concentration of peers and schoolmates within neighborhoods is seldom included in the models. Family variables are also typically examined, such as income level, monitoring, family structure, and education level have been included with neighborhood characteristics in a number of studies (Lauritsen, 1994; Small & Luster, 1994; Ramirez-Vallez et al, 1998; Brooks-Gunn et al., 1993; Chen et al., 1997). The current study seeks to include several additional measures that represent general neighborhood characteristics such as number of unemployed men/women, overall poverty status, average educational attainment, household income levels, and the percent of women who are employed in the neighborhood. Using this type of approach, one can analyze not only the neighborhood characteristics but also understand the possibly role family and peer networks can play in the development of risk perception among adolescent.

As stated earlier Brofenbrenner's (1989; figure 1) ecological model illustrates the significance of neighborhood context as an important influence of adolescent development. The ecological model posits that individuals exist within the context of many different systems and/or environments. The neighborhood falls into what Brofenbrenner (1989) labels as the mesosystem, which includes other institutions and structures such as schools, and peers. Most studies that take into account neighborhood influence on adolescent sexual behavior do not include adolescents' subjective perceptions about their neighborhood nor do they include sexual

risk perceptions. However, much of the literature has examined other systems in conjunction with the neighborhood, and although these studies focus on sexual risk behaviors and not perceptions, they still provide important findings about multi-systemic influences (Cubbin, 2005; Luster & Small, 1994; Brooks-Gunn et al., 1993; Brewster, 1994b) peer influence (Crane, 1991; Baumer & South, 2000; Whitaker & Miller, 2000; Kinsman et al., 1999; Biglan et al., 1990; Chen et al., 1997), and individual-level characteristics such as self-esteem or self-efficacy (Whitaker, Miller, & Clarke, 2000; Rosenthal, Moore, & Flynn, 1991).

Rates of STDs, HIV, and unintended pregnancy among teens differ according to socioeconomic factors and by racial and ethnic groups. The research that does examine neighborhood effects finds that the social and economic composition of neighborhoods is an important influence on sexually related outcomes. For example, Crane (1991) used a contextual census tract dataset that linked individuals to their neighborhood and found that African-American and European-American teenagers living in the most economically disadvantaged urban neighborhoods were significantly more likely to experience negative outcomes such as dropping out of high school and giving birth out of wedlock, than those teens living in economically advantaged neighborhoods.

Although much of the research has not examined neighborhood influence with the intersection of race, class, and gender, some studies have examined these concepts individually or in dyads. Lauritsen (1994) examined race and gender differences in adolescent behavior with a number of contextual variables, including individual level factors, family level factors, school involvement, and peer involvement in various behaviors. This research provided important insight into the intersection of race, class, and gender in the context of neighborhood measures

affecting sexual behaviors among adolescents. The results of Lauritsen (1994) showed that once family structure (i.e. female head of household), income, and neighborhood conditions (i.e. neighborhood disorder measure) are controlled for; race is no longer a predictor of sexual behavior for female adolescents in their sample. Lauritsen's (1994) study utilized a nationally representative sample of adolescents ages 11 to 17 to obtain self-reported information from adolescents as well as one of their parents, thus having a large and diverse sample. This study found differences between male and female teenagers regarding different social influences, many of them within the realm of neighborhood context. For example, Lauritsen (1994) found that family structure, including family income, and neighborhood characteristics account for racial and ethnic differences in sexual activity. However, for white adolescents, social control variables such as educational aspirations and family attachment predicted sexual activity, whereas black adolescents' sexual behaviors were predicted by strain variables such as perceived inability to achieve educational goals (Lauritsen, 1994). One possible limitation of Lauritsen's (1994) study was that although this study included a scale of 'neighborhood disorder,' it only measured the perceptions the adolescents' parents had, rather than the adolescents themselves. It is important to understand how adolescents perceive their neighborhoods in order to adequately delineate which neighborhood characteristics influence sexual risk perceptions or behaviors.

Karin Brewster (1994a) has researched the intersection of race, gender, and class for adolescent females' sexual behavior with the neighborhood as the main context. Brewster's (1994a) research supports the notion that neighborhood characteristics can raise structural barriers and affect development by not providing sufficient resources to adolescents. For example, Brewster (1994a) found that regardless of race and ethnicity, adolescent females

responded similarly to structural constraints and lack of opportunities in their neighborhoods. This research also demonstrates that, due to the ubiquitous nature of racial segregation in neighborhoods located in the United States, race can sometimes appear to be the reason for the disproportionate numbers of African-American female teenagers becoming pregnant unintentionally, and acquiring STDs and HIV at a higher rate than their European-American counterparts. However, upon closer examination it becomes clear that the sexually related outcomes African-American females experience are a reflection of social capital and the lack of resources available in their neighborhoods, which are more likely to be categorized as low-income.

Although most studies examine the influence of neighborhood characteristics on adolescent sexual behavior, many do not include adolescent's subjective perceptions of their neighborhoods. As noted previously, Lauristen's (1994) included parental perceptions of the neighborhood, but failed to include the adolescents' perspectives on their neighborhoods. Upchurch and colleagues (1999) used a dataset linked to census tract data that examined how neighborhood characteristics and family variables affect sexual behavior of a sample of adolescents ranging in age from 12 to 17. Although this study examined a group of 870 adolescents limited to the Los Angeles area, the findings revealed that race and socioeconomic status are not the only environmental factors that may predict sexual activity. In fact, Upchurch et al. (1999) found that family structure and factors such as single parent households, recontact families, and high levels of parental overcontrol were related to the age of first sexual intercourse. However, it was also found that neighborhood characteristics influenced the initiation of sexual intercourse, more specifically, how Upchurch et al.(1999) conceptualized as

experiential neighborhood. This is a rare study in that it measured neighborhood characteristics such as economic structure and measured adolescents' perceptions of their neighborhood. Using what Upchurch et al. (1999) called the "ambient hazards scale" (Ansehensel & Sucoff, 1996), the construct consisted of 11 items to examine perceived levels of personal threat, the physical condition of the neighborhood, crime, and social disorder. The ambient hazards scale had good reliability ( $\alpha = .90$ ). However, this study had several limitations: their sample was geographically restricted, the measure of neighborhood characteristics only examined class (i.e. working class) and racial and ethnic composition, without attention to gender, and finally their dependant variable was only age of first intercourse. Consequently, there is no measure of risk perceptions or behaviors in relation to negative outcomes of having sex, for example, STDs, HIV, and pregnancy. This can leave unanswered questions about the relationship between neighborhood characteristics, adolescent perceptions of risk, and then behaviors that place them at risk for STDs, HIV, and unintended pregnancy. In addition, obtaining adolescents' perceptions of their neighborhoods could be valuable for understanding what neighborhood influences are most significant in the formation of risk perceptions.

Previous research has examined adolescent pregnancy as problem-behavior, without taking into account the ways in which adolescent women may perceive pregnancy (McAnarney & Hendee, 1989; Marsiglio, 1985; Hogan et al., 2000). More recently, however, researchers are beginning to examine perceptions of pregnancy by teenage females, to address the possibility that teens view pregnancy as something functional or adaptive, given their neighborhood environment (Brewster, 1994; Bonell, 2004).

Wilson (1997) claimed that young women of color living in low-income communities experienced isolation from mainstream society and institutions such as schools, leading to disconnection from certain social norms. Anderson (1989) argues that adolescent women of all racial/ethnic and economic backgrounds experience ambivalent and confusing emotions regarding sexual behaviors. In addition, Anderson (1989) attributes these feelings and experiences to both biological (hormonal) and societal origins, due to adolescence and gender role confusion, respectively. Anderson (1989) states that middle-income adolescent females have future ambitions for ‘economically self-sufficient adult lives,’ whereas youth living in inner city, low-income neighborhoods are less likely to have these specific aspirations because there are not as many positive role models or resources in their community. In this qualitative study, Anderson (1989) found that specific ‘sex codes’ among adolescent peer groups deemed sexual behavior as normative, even evidence of masculinity and prowess among adolescent males. This study seeks to examine neighborhood characteristics and the perceptions’ adolescent females have towards pregnancy, specifically whether or not unintended pregnancy is viewed as a positive or negative life event.

In summary, research has shown that in certain neighborhood and social contexts adolescent females underestimate their risk to both STDs and HIV/AIDS, and demonstrate ambivalence towards pregnancy (Whaley, 2000; Ethier et al, 2003; Kershaw, 2003; Zabin, Astone, & Emerson, 1993). Most studies that examine neighborhood characteristics and adolescent sexual development, focus solely on sexual behaviors (Brewster, 1994;1994a; Ramirez-Vallez, Zimmerman, & Newcomb, 1998; Cubbin et al., 2005, Crane, 1991; Small & Luster, 1994). A gap exists in the current neighborhood and adolescent development literature,

that ties neighborhood characteristics such as those used in previous studies, to the risk perceptions adolescent females' form in the context of their social environments. Exploring this connection between neighborhood characteristics and adolescent risk perceptions about HIV/AIDS, STDs, and pregnancy, would give insight into which neighborhood factors contribute to sexual risk formation. This knowledge would allow social scientists to create interventions that aim to decrease the likelihood of risky sexual behavior, by understanding which neighborhood characteristics have the strongest influence. In addition, most studies examining neighborhood influence have failed to include how adolescents' perceptions of their neighborhood may be related to the formation of risk perceptions towards STDs, HIV/AIDS, and pregnancy. The current research has not examined adolescents' subjective perceptions of their neighborhoods in relation to objective neighborhood characteristics such as poverty levels, unemployment, educational attainment, and income levels. Although these objective neighborhood characteristics yield important information regarding the social and economic of a given neighborhood, of equal importance is how adolescents view their neighborhoods, shedding light upon issues such as criminal activity, gangs, social control, and general neighborhood climate.

This study will include not only the neighborhood characteristics widely accepted in neighborhood literature, but also take into account the perceptions of adolescents and their parents, to identify elements of the neighborhood that might otherwise be overlooked. In addition, this study will focus on perceptions of sexual risk, rather than risk behavior, in order to identify influences from the neighborhood that may create differential risk perceptions of HIV/AIDS, STDs, and pregnancy.

Lastly, the literature on female adolescents and pregnancy has more recently considered the notion that pregnancy is considered adaptive in some neighborhood contexts (Bonell, 2004; Brewster, 1994b; Rodriguez, Moore, & Nelwyn, 1995; Anderson, 1989). It is widely accepted that adolescent pregnancy leads to negative outcomes later in life (Zimmerman et al. 2001), however, most studies do not examine the possibility that adolescents' perceptions may view pregnancy as a positive life event. This study seeks to extend this literature by including adolescents' perceptions of the neighborhoods, in addition to neighborhood characteristics, to examine the validity of the idea that pregnancy may be perceived as normative.

### *Research Questions and Hypotheses*

In order to fill in the gaps in our knowledge of the influence of neighborhood characteristics on adolescent perceptions and behaviors regarding STDs, HIV/AIDS and pregnancy this study proposes the following research questions and hypothesis:

**RQ1:** What is the relationship between neighborhood characteristics and adolescent females' perceptions of their risk of STDs, HIV/AIDS, and pregnancy?

*H1:* Adolescent females who live in neighborhoods characterized by high resources will have high perceptions of risk.

**RQ2:** What is the relationship between adolescent females' perceptions of their neighborhood and risk perception?

*H2:* Adolescent women with positive perceptions of their neighborhoods will underestimate their risk for STDs, HIV/AIDS, and pregnancy while controlling for neighborhood characteristics.

**RQ3:** Do female adolescents' perceptions of their neighborhood mediate the relationship between neighborhood characteristics and perceived risk to STDs, HIV/AIDS, and pregnancy?

*H3:* Adolescents' perceptions of their neighborhood will mediate the relationship between neighborhood characteristics and perceptions of risk.

**RQ4:** What neighborhood characteristics are associated with female adolescents' perceptions of pregnancy as an adaptive strategy?

## CHAPTER 3

### Methods

#### *Dataset*

The data used for this study comes from Wave 1 of The National Longitudinal Survey of Adolescent Health (Bearman, Jones, & Udry, 1997) Data on health behaviors and social environments were collected from an ethnically diverse and, nationally representative, school-based sample of adolescents living in the United States in grades 7 through 12 (ages 12 to 19 years). Wave I (WI) was collected during 1994-1995, in which an In-School Questionnaire was administered to every student from a nationally representative sample of schools (N=90, 118). Add Health sampled 80 U.S. high schools and 52 middle schools, selected using a stratified cluster design. In addition, In-Home interviews were also conducted with a smaller subset (n= 20, 745) to further examine health behaviors. Parents [N= 17,700] were also interviewed in WI on their perceptions of their adolescent's health and neighborhood structure.

This study uses only the public-use dataset (n =6, 504), a sub-set of the larger Add Health sample (N= 90, 118). This sample, however, represents students from diverse backgrounds, including an over sampling of African-American students living with at least one parent with a high-education degree (n= 520). The public use set contains data from the same three surveys given in the larger study, including the In-School, In-Home, and Parent questionnaire. The public use data also provides the Community Contextual Data, which was included in the larger study and reduced in sample size for the public data set. The Community Contextual Data contains information about neighborhood contexts, which were compiled from the US census, Centers for Disease Control and Prevention, the National Center for Health Statistics, and other

notable sources. This data provides information about adolescents' neighborhoods in the form of demographic and household characteristics, labor force participation and unemployment, income and poverty levels, social integration/disintegration, access and utilization of health services, social programs, and crime (Bearman, Jones, and Udry, 1997).

This study also uses data only from the In-Home interviews and the Community Contextual Data. The response rate for WI In-Home interviews was 78.9 percent for the larger study sample. The present study further reduced the database to include only participants who had indicated their biological sex as female, were not married, and participants whose neighborhood contexts were successfully linked to their survey information using their Add Health ID numbers. Missing data (approximately three hundred cases) from the Community Contextual Data was also eliminated due to missing geocode data (inability to locate participants addresses using GPS to establish longitude and latitude information), or because the observations were set to missing due to small sample sizes that would lead to estimability problems.

#### Procedure

In-Home interviews were conducted between April and December 1995, with most taking place in the participant's residence. This lengthy interview was given only to a subset of the total number of adolescents participating in the Add Health study. However, more than 75 percent of those completing the in-home questionnaire also completed the in-school questionnaire. All participants completed the same interview within approximately one to two hours and, to protect confidentiality, responses were recorded on a laptop computer. The more sensitive questions were given to participants through earphones and directly recorded by

the participant onto the laptop, in order to prevent interference from parents or other family members.

### *Sample*

This study used a sample (n= 1, 541) of females from the public data set. The females included in this study had to have neighborhood information linked to them using their Add Health identification number; those who did not have this information were dropped from the sample. In addition, those who had missing data from the survey questions of interest were also dropped from the sample.

### *Measures*

#### Demographic Information

Demographic information for both the community context and the In-Home survey participants is included in Table 1 shown in the Appendix.

#### Neighborhood Context (Characteristics)

Variables used in the neighborhood context consist of the proportions of individuals living below the poverty line (1989), proportion of females aged 16 and over in the labor force, unemployment rate, educational attainment of those over 25 years of age. The neighborhood characteristics are shown below in Table 1 and include means and standard deviations.

#### Independent Variables

#### Neighborhood Characteristics (Add Health's Community Contextual Data)

#### *Poverty status (proportion persons with income in 1989 lower than poverty level)*

This variable is measured in categories of low (1), medium (2), and high poverty levels (3), comprised of the proportion of persons below the 1989 poverty level. In block groups where

the proportion of the population with an income below the poverty level was less than 11.6 percent, the block was coded as “low” poverty. A block group was considered “medium” income if the proportion fell between 11.6 and 23.6 percent, and those with a proportion higher than 23.9 percent were categorized as ‘high.’ In this study the overall average score among all blocks included was considered slightly below middle income ( $M=1.81$ ,  $\sigma = .86$ )

*Modal in educational attainment of individuals 25 years and over*

Modal education attainment of a given block was categorized into three levels of education. The categories included; less than high school education, high school education, more than high school education and were coded as 1, 2, or 3 respectively. This study’s sample had an average in which most people had a high school education ( $M = 1.85$ ,  $\sigma = .86$ )

*Female labor participation (proportion of females older than 16 in civilian population)*

Using three categories of “high (3), medium (2), low (1),” this variable consists of the proportion of women over the age of 16 in the civilian population who are in the labor force. In order for a block to have a ‘high’ categorization of female labor force participation proportion would have to be greater than 68.5 percent. The ‘medium’ categorization consists of a proportion from 44.3 to 68.5, and a ‘low’ proportion as less than 44.3. The community contextual sample of female in the labor force averaged a medium rating of the number of women ( $M = 1.95$ ,  $\sigma = .57$ )

*Unemployment rate*

Unemployment rates were measured using the percentages and using the same scale as previous community contextual variables, “high (3), medium (2), and low (1).” If a block had an unemployment rate of less than 6.5 percent it was considered ‘low.’ A ‘medium’ unemployment

rate ranged from 6.5 to 10.9 percent and a ‘high’ rating was given for block groups higher than 10.9 percent. This study used a sample that yielded a close to ‘medium’ categorization ( $M = 1.83, \sigma = .86$ ).

#### *Fertility indicator*

The fertility indicator measures the proportion of the population that are under the age of 5 years. Three categories of ‘high (3), medium (2), and low (1),’ are used to establish how many children under 5 live in the neighborhood. A neighborhood with 4.3 percent or less was considered “low” on the fertility indicator variable. If the neighborhood had 4.3 to 11 percent of the population under the age of 5, a score of “medium” was given. Lastly, a neighborhood with a proportion of the population under 5, was considered “high” if it was 11 percent or more. In this study the neighborhoods averaged medium numbers of women in the labor force ( $M = 2.03, \sigma = .46$ )

#### Possible Mediating Variable

##### *Subjective Neighborhood*

Adolescents’ perceptions of their neighborhood were captured using three items that were combined to create composite score. All items in the neighborhood perception composite measure were dichotomous and (1) was equal to true and (2) equaled false. The sum of the three items was combined for each respondent to create a score ranging from 3 to 6. The variable was recoded to make interpretation easier, ranging from (3) very negative perceptions, to (6) very positive neighborhood perceptions. One example item is, “In the past month, you have stopped on the street to talk with someone who lives in your neighborhood,” measures the extent to

which adolescents' interact with members of their neighborhood. The scale was moderately reliable with a Cronbach's alpha ( $\alpha = .60$ ).

#### *Neighborhood Perception of Safety*

One other item was included as a neighborhood perception measure; however, it examined the feeling of safety an adolescent perceives in her neighborhood, rather than simply positive or negative perceptions. The items asked respondents, "Do you usually feel safe in your neighborhood?"

#### Dependant Variables

##### *HIV/AIDS Risk Perceptions*

In the Add Health dataset several questions examine adolescents' perceptions of HIV/AIDS. This study includes two items, which focus specifically on the adolescents' perceived likelihood of contracting HIV/AIDS.

For example, one item measures adolescents' perceptions of the risk of getting AIDS without protection by asking, "Suppose that sometime soon you had sexual intercourse for a whole month, as often as you wanted to, without using any protection. What is the chance that you would get the AIDS virus?" This item was coded as (1) equals "Almost no chance," (2) equals "Some chance, but probably not," (3) equals "A 50-50 chance," (4) equals "A good chance," (5) equals "Almost certain."

The other item that measured perceptions toward risk of contracting AIDS stated, "What do you think your chances of getting AIDS?" This item was reverse coded so that (1) equals "None," (2) equals "Very Low," (3) equals "Low," (4) equals "High," and (5) equals "Very High."

### *STD Risk Perceptions*

This study will also examine adolescents' perceptions of risk towards STDs, using one item from the Add Health dataset. This item asks adolescents, "What do you think your chances are of getting another sexually transmitted disease, such as gonorrhea or genital herpes? Would you say..." This item was reverse coded so that (1) equals "None," (2) equals "Very Low," (3) equals "Low," (4) equals "High," and (5) equals "Very High."

### *Perceptions of the Risk of Pregnancy*

The Add Health Survey included one item measuring the risk of pregnancy with unprotected intercourse. This item stated, "Imagine that sometime soon you were to have sexual intercourse with someone just once, but were unable to use any method of birth control for some reason. What is the chance that you would get pregnant?" (1) almost no chance (2) some chance, but probably not (3) a 50-50 chance (4) a good chance (5) almost certain.

### *Perceptions of Pregnancy*

This study examines adolescents' perceptions of pregnancy as a favorable or non-favorable event, using seven items from the Add Health survey. At face value the items appeared to be measuring different constructs. As a result a Principle Axis Factoring (PAF) on eight items was performed; two main factors emerged containing five and two items respectively. The first eigenvalue was 2.45 and accounted for 40 % of the total variance; the second factor had an eigenvalue of 1.28 and accounted for 18 % of the total variance. The first factor's underlying theme represents adolescent females' perceptions' about the social consequences of pregnancy, if it were to occur at that time. The second factor included items

that were examining the construct of pregnancy at the present time as a life event for the female adolescent.

Therefore, a composite score of the second factor was created by averaging the respondents' score on those two items. The composite score included two items the first was, "Getting pregnant at this time in your life is one of the worst things that could happen." In addition the other item asked, "It wouldn't be all that bad if you got pregnancy at this time in your life." Responses for these items are on a Likert scale, ranging from (1) "strongly agree" to (5) "strongly disagree," with the second item reverse coded so the items responses could be summed. In addition, after creating the composite score the variables were interpreted as (5) strongly disagree equaling very favorable perceptions of pregnancy, (4) disagree equals favorable perceptions toward pregnancy, (3) neither agree or disagree equals ambivalence towards pregnancy at current time, (2) agree equals unfavorable perceptions of pregnancy, and (1) strongly agree equals very unfavorable perceptions of pregnancy. The scale was reliable with a Cronbach's alpha ( $\alpha = .75$ ).

The questions examining adolescents' perceptions of pregnancy were from the following sections in the Add Health survey; *Motivations to engage in risky behavior, Pregnancy, AIDS and STD risk perceptions, and General Health.*

## CHAPTER 4

### Results

Means, standard deviations, percentages, and descriptions for independent and dependent variables are displayed in Table 2. Preliminary analysis included examining correlations between six neighborhood characteristics to identify multicollinearity. As a result, income was dropped as a neighborhood characteristic since it was very highly correlated with every other neighborhood characteristic and was measured more as an individual rather than an aggregate group variable (i.e. proportion living in poverty). The main economic measure for neighborhood used in this study was the *proportion of people living in poverty in the neighborhood*. In addition, simple correlations shown in Table 4, highlight the nature of basic relationships between neighborhood characteristics, neighborhood perceptions, and risk perception variables.

### Research Question 1

**What is the relationship between neighborhood characteristics and adolescent females' perceptions of their risk of STDs, HIV/AIDS, and pregnancy?**

*Hypothesis 1:* Adolescent females who live in neighborhoods characterized by high resources will have high perceptions of risk.

The relationship between each neighborhood characteristic and respondent perception of risk was examined using mean comparisons (i.e., mean perception of risk by low, medium and high levels of each neighborhood characteristic),  $F(13, 1454), p < .05$ . Separate ANOVAs were used to determine if between group mean differences were statistically significant.

As shown in Table 3, there is a statistically significant difference in mean level of female adolescent risk of AIDS without protection by level of neighborhood unemployment (i.e., low,

medium, and high)  $F(2, 1497) = 3.47, p = .05$ . Specifically, adolescent females from neighborhoods with high unemployment rates had higher perceptions of getting AIDS without protection ( $M = 3.57, SD = 3.57$ ) in comparison to those living in neighborhoods with medium ( $M = 3.34, SD = 1.14$ ) or low unemployment rates ( $M = 3.49, SD = 1.21$ ).

In addition, there was a statistically significant difference in mean perceptions of AIDS risk by neighborhood proportion of children under age five  $F(2, 1530) = 3.14, p = .05$ . Adolescent females living in neighborhoods consisting of a high proportion of children under the age of five rated their risk of getting AIDS if no protection was used ( $M = 3.69, SD = 1.05$ ) as significantly more than those living in neighborhoods with medium proportion ( $M = 3.44, SD = 1.21$ ) or a low proportion ( $M = 3.50, SD = 1.17$ ).

Lastly, there were statistically significant differences in mean perceptions of STD risk by level of neighborhood poverty  $F(2, 1526) = 3.17, p = .05$ . Adolescent females living in neighborhoods with high levels of poverty had higher perceptions of risk ( $M = 1.77, SD = 1.02$ ) than those adolescents living in neighborhoods with medium ( $M = 1.75, SD = .84$ ) or low ( $M = 1.89, SD = 1.00$ ) levels of poverty. However, the between group means were relatively small, with the majority (77.6%) of adolescents rating their perception about risk of getting an STD and “none” to “very low.”

There were no other statistically significant differences in the relationship between other neighborhood characteristics and adolescent females’ perceptions of their risk of STDs, HIV/AIDS, and pregnancy.

The hypothesis was rejected. Higher levels of neighborhood disadvantage are associated with higher levels of risk perceptions for adolescent females. It should be noted that this

relationship is not linear for chances of getting an STD; individuals living in areas with moderate levels of disadvantage have slightly lower levels of risk perceptions than individuals living in areas with low or high levels of disadvantage.

## **Research Question 2**

### **What is the relationship between adolescent females' perceptions of their neighborhood and risk perception?**

*Hypothesis 2: Adolescent women with positive perceptions of their neighborhoods will underestimate their risk for STDs, HIV/AIDS, and pregnancy while controlling for neighborhood characteristics.*

A multiple regression analysis was used to examine the relationship between neighborhood perceptions and risk perceptions (refer to Table 5). Age and race variables were entered into the first model (Model 1). Five neighborhood characteristics were entered in the second model (Model 2). The neighborhood perceptions composite and the perceptions of safety in the neighborhood were included in the third model (Model 3). These models were run for each of the four risk perception outcome items.

Only one of the four risk perceptions, the risk of pregnancy without protection, was significantly associated with neighborhood perceptions and perceptions of safety in one's neighborhood  $F(8, 1459) = 2.49, p > .05$ . The neighborhood perception items together accounted for 1.3% of the overall variance ( $R^2 = .013$ ). Feeling safe in the neighborhood, however, was the only neighborhood perception variable that was significantly related to perceptions of risk of pregnancy without protection ( $\beta = .09$ ). Model 1 shows that taken together with age, African-American race/ethnicity is not a significant predictor of risk of

pregnancy without protection ( $\beta = .03$ ). However, in Model 2, after controlling for neighborhood characteristics and Model (3) neighborhood perceptions, African-American race/ethnicity becomes a significant predictor of increased perception for risk of pregnancy from unprotected intercourse ( $\beta = .09$ ).

The hypothesis was partially supported because feeling safe in the neighborhood was significantly associated with pregnancy risk perceptions. However, there was not a significant association between the neighborhood perceptions composite measure and the perceptions of risk of pregnancy without protection, thus the hypothesis are not entirely supported.

### **Research Question 3:**

**Do female adolescents' perceptions of their neighborhood mediate the relationship between neighborhood characteristics and perceived risk to STDs, HIV/AIDS, and pregnancy?**

*Hypothesis 4: Adolescents' perceptions of their neighborhood will mediate the relationship between neighborhood characteristics and perceptions of risk.*

According to Barron and Kenny (1986) and Frazier, Barron, Tix (2004) several relationships must be established before testing for mediation. These steps were followed to test for a mediating relationship between neighborhood characteristics, adolescent neighborhood perceptions, and the dependant variables. First, separate bivariate correlations were used to test for significant relationships between each of the five neighborhood characteristics and the four items measuring STD, AIDS, and pregnancy risk perception (see Table 3).

In Table 4, the results of the bivariate correlations reveal that the neighborhood characteristics are not significantly correlated with any of the risk perception variables, with the exception of proportion of the population in poverty being significantly correlated to chances of

getting other STDS. However, in order to further test for a mediating relationship, all of the neighborhood characteristics must be correlated with chances of getting other STDS.

#### **Research Question 4:**

#### **Which neighborhood characteristics are associated with female adolescents' perceptions of pregnancy as an adaptive strategy?**

A linear regression was performed that examined neighborhood characteristics at different levels (high, medium, and low) and their relationship with the pregnancy perceptions measure. The overall model was significant  $F(13, 1454) = 12.87, p < 0.05$  with the neighborhood characteristics accounting for 12.8 percent of the variance ( $R^2 = .128$ ). After controlling for age and race variables (see Model 1), neighborhood characteristics were included and there were several significant predictors of pregnancy perceptions. As shown in Model 2 (see Table 6) low levels of unemployment predicted less favorable perceptions of pregnancy as a life event ( $\beta = -.11$ ). Lastly, high proportions of the population under five years, significantly predicted more favorable perceptions of pregnancy as a life event ( $\beta = .10$ ).

#### **Additional Analysis**

Model 3 (Table 6) included the social network variables to examine their influence on perceptions of pregnancy as a life event. When social network variables were included in the model it remained significant  $F(13, 1454) = 7.01, p < 0.05$ . As shown in Model 3, the same neighborhood characteristics remained significant predictors of pregnancy perceptions, in addition, the number of acquaintances the respondent knows with AIDS ( $\beta = .10$ ) significantly predicted perceptions of pregnancy as a less favorable event.

#### *Mediation Model with Pregnancy Perception*

The pregnancy perceptions measure was the only dependent variable that had significant correlations with the majority of neighborhood characteristics and one of the neighborhood perceptions (safety in neighborhood). Table 4 shows the possibility a mediating relationship, with feeling safe in the neighborhood mediating the effects of the neighborhood characteristics on pregnancy perceptions. However, one neighborhood characteristic was not correlated with the possible mediator, proportion of females in the neighborhood, thus it was not used. As a result four neighborhood characteristics were then used in a regression to predict the possible mediating variable, perceptions of safety in the neighborhood.

First, following the steps for mediation, neighborhood characteristics needed to be tested to establish a significant association with perceptions of safety in the neighborhood. A multiple regression yielded significant results when examining neighborhood characteristics and respondents' perceptions of safety in their neighborhoods ( $F(8, 1477) = 12.34, p < 0.05$ ). As can be seen in Table 7, neighborhood characteristics accounted for 7.0 percent of the variance ( $R^2 = .07$ ). After controlling for age and race, several neighborhood characteristics were predictors of female adolescents' perceptions of safety in their neighborhood; poverty levels ( $\beta = -0.13$ ), adult education ( $\beta = -.07$ ), unemployment rate ( $\beta = -.07$ ), and the proportion of children under five  $\beta = -.06$ ). The proportion of people living in poverty was the strongest predictor of female adolescents' neighborhood safety perceptions. More specifically, the more people living in poverty in the neighborhood, the more likely an adolescent was to perceive their neighborhood as an unsafe place. Adult education was also negatively associated with perceptions of safety in the neighborhood, therefore as the number of adults with higher levels of educations increased, the adolescent females' perceptions of safety in their neighborhood decreased. In addition, as the

unemployment rate increased in a given neighborhood, the adolescent females' perceptions of their neighborhood as a safe place decreased. Similarly, as the proportion of children under the age of five increased in an adolescents' neighborhood, the more likely they were to perceive their neighborhood as unsafe.

As shown in Table 8, a linear regression examined the relationship between neighborhood characteristics and the neighborhood composite measure. However, only two neighborhood characteristics predicted adolescent females' perceptions of their neighborhood social interactions; adult education and females in the labor force. Therefore, the neighborhood composite measure was not included in the final mediation model because more neighborhood characteristics needed to be associated with the neighborhood perceptions composite measure.

Second, the next step needed to establish a significant association between neighborhood characteristics and pregnancy perceptions.

A multiple regression was performed to examine the possibility that adolescent females' perceptions of safety in their neighborhood, mediate the relationship between neighborhood characteristics and pregnancy as a life event. Model 2 (Table 9) shows that neighborhood characteristics did significantly predict pregnancy perceptions. The overall variance explained in Model 2 was  $R^2 = 5.1\%$  after controlling for age and race.

As shown in Model 2, age remained significant and unique predictors of pregnancy perceptions, after the addition of neighborhood characteristics. For every unit increase in age (year) of the respondents, the perceptions of pregnancy were more favorable ( $\beta = .15$ ).

In addition, the proportion of children under five was also a significant predictor of positive perceptions of pregnancy ( $\beta = .09$ ), and the effects persist even after taking into account acquaintance characteristics ( $\beta = .08$ )

Other neighborhood characteristics, such as poverty, educational attainment, and unemployment were not shown to significantly predict the perceptions adolescent females have about pregnancy as a life event.

Lastly, adolescents' perceptions of safety in their neighborhoods remained a unique and significant predictor of pregnancy perceptions as a life event. Thus, partial or full mediation did not occur, revealing certain neighborhood characteristics and perceptions of safety to have exclusive relationships to perceptions about pregnancy as a life event.

#### Additional Analysis

As shown in Table 8, Model 4 examined the extent to which acquaintance characteristics, such as the number of acquaintances the respondent knows with AIDS or an STD, predict pregnancy perceptions in the presence of the control variables and neighborhood characteristics. The model was significant  $F(10, 1460) = 21.80, p < .05$  with both the number of acquaintances with AIDS ( $\beta = .13$ ) and the number of acquaintances with STDs ( $\beta = .05$ ) known by the adolescent were significant predictors of pregnancy perceptions. The model accounted for 9.2 percent of the overall variance ( $R^2 = .092$ ). More specifically, as the number of acquaintances the respondent knew with AIDS or STDs, the more likely the adolescent was to see pregnancy as favorable.

## CHAPTER 5

### Discussion

This study sought to fill gaps in the literature regarding the relationship between neighborhood characteristics and adolescent females' perceptions of risk toward pregnancy, HIV/AIDS, and STDs. In addition, this study included adolescent females' neighborhood perceptions to gain a better understanding of how environmental factors are perceived by adolescents, and how these perceptions may in turn influence formation of sexual risk perceptions. The findings reveal neighborhood characteristics to be insignificant in terms of influencing formation of perceptions toward HIV/AIDS, and STDs, but more important for perceptions of risk about pregnancy. However, mean differences were found between neighborhood characteristics at different levels for the risk of AIDS without protection, and chances of getting an STD. Lastly, positive perceptions about pregnancy as a life event was predicted by high proportions of young children in the neighborhood, whereas, negative perceptions about pregnancy as a life event was predicted by neighborhoods with low unemployment rates.

The findings of this study contribute to the research on understanding how neighborhood characteristics influence female adolescents' perceptions of STD, AIDS, and pregnancy risk, and perceptions about pregnancy as a life event. Using data from Add Health, this study examined how different neighborhood characteristics both help to shape perceptions of one's neighborhood, and influence adolescents' perceptions towards pregnancy as a life event.

These neighborhood characteristics investigated includes: neighborhood resources and age

distribution. From the analyses conducted, it appears that adolescent females living in neighborhoods with high resources do not have higher perceptions of risk of AIDS. In fact, adolescents living in neighborhoods with higher rates of unemployment and more young children tend to rate their risk of AIDS (without protection) as higher than adolescents living in moderate or high resource neighborhoods. These neighborhood characteristics did not, however, influence adolescent perceptions about the chances of getting AIDS. These patterns may emerge given that the majority of female adolescents in this sample across all socioeconomic groups perceived their general chances of getting AIDS as almost non-existent or very low. Whereas the majority of females in the sample perceived their risk of contracting AIDS without protection as at least moderately high. Restated, these findings reveal that certain neighborhood characteristics influence adolescent females' specific perceptions of risk for contracting AIDS by engaging in unprotected sexual intercourse, but not necessarily for the general likelihood of contracting AIDS.

Adolescent female perceptions' regarding the chance of contracting STDs was also different by level of neighborhood socioeconomic deprivation. Adolescent females living in neighborhoods characterized by low levels of poverty were more likely to rate their chance of getting an STD as higher than those living in neighborhood with moderate or low levels of poverty. The first hypothesis was female adolescents living in high resource neighborhoods would have higher perceptions of risk. Therefore, the findings support, in part, the first hypothesis as adolescent females from neighborhoods with low levels of poverty rated their chances of getting an STD as higher than those adolescents living in neighborhoods with moderate levels of poverty. It is important to note, that this relationship was curvilinear,

adolescents with high levels of poverty rated their chance of contracting an STD as similar to adolescents in neighborhoods with low levels of poverty. In addition, despite significant differences between neighborhood resource levels, the general distribution was not evenly distributed across risk rating, the majority of the sample perceived their chances of contracting an STD as non-existent or very low. This finding supports previous research by Kershaw and colleagues (2000) who found that a sample of urban adolescent females rated their chances of contracting an STD as extremely low, despite formerly having an STD. This study found that adolescent females living in neighborhoods with low levels of poverty perceived their risk as significantly higher, which gives some evidence that maybe adolescents living in high resource neighborhoods have access to knowledge that provides them with a more realistic perception of risk. It should also be noted that in this sample, consistent with previous research, adolescent females perceived their chances of getting an STD as being higher than their chances of contracting AIDS (Whaley, 2000).

In addition to important differences in risk perception by neighborhood context, there were also important individual and group level characteristics that remained important influences on risk perceptions, even with the addition of numerous controls and measures at the individual and neighborhood level. In general, the analysis revealed that age and race/ethnicity remain important factors when considering perceptions of risk towards STDS, AIDS, and pregnancy.

Little research has examined the extent to which adolescents' perceptions of their neighborhoods aid in the formation of attitudes and perceptions towards risk of STDs, AIDS, and unexpected pregnancy. In fact, most studies examining the influence of neighborhoods on

adolescent sexual health do not take into account the possible discrepancy between objective neighborhood characteristics and adolescents' perceptions of their neighborhoods.

The findings of this study show that adolescent females' perceptions' of their neighborhoods were not significant predictors of their perceptions of sexual risks, with the exception of pregnancy risk perceptions. Furthermore, neighborhood perceptions examining social interactions in the neighborhood did not significantly predict perceptions of risk towards pregnancy from unprotected intercourse, however, adolescents who felt safer in their neighborhoods rated their risk of pregnancy higher than other adolescents. Of special interest is the fact that after controlling for age and race/ethnicity variables, neighborhood characteristics alone were not significantly associated with any of the perceptions of risk towards STDs, HIV/AIDS, or pregnancy. In addition, after controlling for race/ethnicity, age, and neighborhood characteristics, only adolescent females perceptions' of safety in their neighborhoods predicted risk of pregnancy without protection. This finding implies that risk perceptions are not one-dimensional. Adolescents in this sample did not assume that environmental security in the neighborhood translates into invincibility in other domains of risk. In addition, the analysis revealed that controlling for neighborhood characteristics and subsequently neighborhood perceptions, being an African-American adolescent female became a significant predictor of higher perceptions of risk towards of pregnancy. This finding indicates that regardless of low, medium, or high resource neighborhoods, African-American female adolescents' perceptions' of risk towards pregnancy from unprotected intercourse were still relatively high. Thus, African-American adolescent females appear to be more informed regarding the risk of pregnancy from

unprotected intercourse, indicating that there may be additional environmental influences, such as the church, informing African-American female adolescents about pregnancy risk.

Lastly, examining perceptions of pregnancy as a ‘favorable life event,’ for adolescent females’ from qualitatively different neighborhoods was a focal point of this study. The notion that females from certain environments perceive adolescent pregnancy as favorable or normative has gained momentum in recent research (Bonell, 2004; Brewster, 1994b; Wilson, 1997; Anderson, 1989). The findings of this study indicated support of this theory and provided information about context and cultural factors that may contribute to more positive perceptions of teenage pregnancy. For example, female adolescents from neighborhoods with high proportions of young children were more likely to perceive pregnancy as a favorable event. This supports the idea that adolescent females observe social norms within the neighborhood, which in turn serve as indicators of the acceptability of pregnancy, lending support to Wilson’s (1997) notion that adolescents from neighborhoods are more likely to be disconnected to mainstream societal social norms.

Furthermore, this study confirms Brewster’s (1994b) research on neighborhood factors and sexual behavior among female adolescents of different racial and ethnic groups. Brewster (1994b) found that adolescents, regardless of race/ethnicity faced similar barriers when neighborhoods had similar characteristics, such as poverty level. In this study, none of the race/ethnicity variables proved to be significant predictors of pregnancy perceptions. However, adolescent females living in neighborhoods with high proportions of very young children are likely to see pregnancy and having children as normative. Consistent with previous research this study found that neighborhoods with low levels of unemployment may provide adolescents with

role models, subsequently influencing them to perceive pregnancy as less favorable, leading adolescent females to delay childbirth to pursue educational or career aspirations.

It was hypothesized that this study would find at least partial mediation, with neighborhood perceptions acting as the mediating variable between neighborhood characteristics and adolescent females' perceptions of sexual risk. However, simple analysis revealed the relationship between neighborhood characteristics and risk perceptions was insignificant, which was also the case with neighborhood perceptions and risk perceptions. It was found that some neighborhood characteristics predicted adolescents' perceptions' of their neighborhood, which is of importance due to the lack of current research examining possible discrepancies between the two. Specifically, being of Hispanic origin became significantly associated with more negative perceptions about the neighborhoods' social interactions, after the addition of neighborhood characteristics. This indicates that the neighborhood characteristics and social context are influential in the formation of perceptions about social interactions in the neighborhood for Hispanic female adolescents. Previous research focusing on Hispanic female adolescents and their neighborhoods has shown that strong cultural norms such as, respect for the community and family, informal social networking, monitoring, and social cohesion have remained important for Hispanic youth born and raised in the United States (Vélez-Ibáñez, 1993; Denner et al., 2001).

Therefore, for Hispanic adolescents living in heterogeneous neighborhoods, social interactions and cohesion may be perceived as fewer, in comparison to what is emphasized and experienced in their familial and community norms. More research needs to be done to examine neighborhood ethnic composition and social capital components such as informal networks, as

they may buffer the influence neighborhood characteristics have on adolescents' formations of perceptions about their neighborhood.

Similarly, factors influencing adolescent females' perceptions of their neighborhoods as safe places were of importance. Race/ethnicity significantly predicted perceptions of safety; Hispanic and African-American female adolescents perceived their neighborhoods as less safe, while white adolescents perceived their neighborhood as safe places. Proportion of people living in poverty was a strong predictor of feeling safe in one's neighborhood and as poverty increased, female adolescents' perceptions about safety in their neighborhood decreased. Other neighborhood characteristics were also significant predictors; both unemployment rate and proportion of children under five were inversely related to adolescents' perceptions about safety in their neighborhood. Adult education was also a significant predictor of perceptions of safety, interestingly as the proportion of educated adults increased; adolescents' perceived their neighborhood as less safe. This finding is inconsistent with previous research examining neighborhood characteristics and adolescent development, which suggest that higher education levels are closely related to neighborhood stability and are linked with more positive outcomes (Brooks-Gunn et al, 1993; Brewster, 1994). However, few studies have examined neighborhood characteristics' influence on the perceptions of safety adolescents have of their neighborhoods, therefore more studies need to examine a range of familial, peer, and neighborhood-level variables to establish more contextual factors of influence.

In general the findings of this study reveal that neither neighborhood characteristics nor neighborhood perceptions were significantly associated with adolescent females' perceptions of risk towards STDs or HIV/AIDS. However, secondary analysis did provide evidence that peer

groups may have a greater influence than many of the structural characteristics in the neighborhood. Adolescent females' perceptions of risk of STDs and the chances of getting AIDS were significantly positively correlated to the number of acquaintances they new with STDs and AIDS. Further research is needed to examine the extent to which the influence of neighborhood and/or school peer networks contributes to formations about sexually-related health risks.

More research is needed however, to examine the influence of smaller peer groups that may also influence adolescent females' in their perceptions about pregnancy.

This study had several limitations, specifically related to the items used to measure risk perceptions. Perceptions of risk towards STDs consisted of only one item rather than a scale, which limits measuring more than a singular dimension of risk. In addition, the item measuring AIDs risk without using protection was very specific to one particular situation, having unprotected sex multiple times during the course of a month. Therefore, this item targeted specific knowledge adolescents have about exposure to the AIDS virus and the actual probability of acquainting the disease. Lastly, the neighborhood perception composite scale was also limited in that it measured adolescents' perceptions of the social interactions in their neighborhood, failing to include perceptions of aesthetic environmental factors or indicators of crime.

This research calls for a more nuanced approach in understanding the relationship between neighborhood characteristics and risk perceptions. There are a number of complexities and intricacies that would best be captured by in depth ethnographic research, which would examine norms regarding perceptions of sexual risk for specific social groups.

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## APPENDICES

Table 1: Adopted from Wingood and DiClemente's (2000) structures and risk exposures for women.

<b>Sexual Division of Labor</b>	<b>Sexual division of power</b>	<b>Cathexis: Social norms and attachments</b>
<b>Economic Exposures</b>	<b>Physical Exposures</b>	<b>Social Exposures</b>
Live at poverty level Less than high school education No employment or are underemployed Have high demand and low control environment	History of sexual abuse Partner disapproves of practicing safe sex High-risk steady partner Exposure to sexually explicit media Limited access to prevention knowledge material	Partner is older A personal desire or has a partner who desires to conceive Conservative cultural and gender norms Religious beliefs do not condone contraception Mistrust of medical system Family influences not supportive of HIV prevention
<b>Socioeconomic Risk Factors</b>	<b>Behavioral Risk Factors</b>	<b>Personal Risk Factors</b>
Ethnic Minority Young (Under 18 years old)	History of alcohol and drug abuse Poor assertive communication skills Poor condom use skills Lower self-efficacy to avoid negative health outcomes Limited perceived control over condom use	Limited knowledge of HIV prevention Perceived invulnerability to HIV/AIDS History of depression or psychological disorders

**Table 2. Variable Descriptions, Means and Standard Deviations for Females (N=1541)**

Variable	Description	Mean	SD	Percent
<b>DEPENDENT VARIABLES</b>				
<b>Pregnancy Outcomes</b>				
Pregnancy Perceptions (Composite)	Five point Likert scale measuring respondent perception of teen pregnancy; where 1 is not favorable and 5 is favorable	1.76	0.98	----- --
Risk of Pregnancy without Protection	Five point Likert scale measuring respondent perception of likelihood of pregnancy without protection: where 1 is almost no chance and 5 is certain.	3.28	1.10	----- --
<b>AIDS/STD Outcomes</b>				
Risk of AIDS without Protection	Five point Likert scale measuring respondent perception of likelihood of getting AIDS without protection: where 1 is almost no chance and 5 is certain.	3.48	1.25	----- --
Chances of Getting AIDS	Five point Likert scale measuring respondent perception of chances of getting AIDS: where 1 is none and 5 is very high	1.96	1.00	----- --
Chances of Getting Other STDs	Five point Likert scale measuring respondent perception of chances of getting and STD: where 1 is none and 5 is very high.	1.82	0.97	----- --
<b>MEDIATING VARIABLE OF INTEREST</b>				
<b>Neighborhood Outcomes</b>				
Neighborhood Perceptions (Composite)	Four point Likert scale measuring respondent perception of neighborhood: where 3 is positive neighborhood perceptions and 6 is negative perceptions	3.84	1.00	----- --
Feel Safe in Neighborhood	Respondent report of feeling safe in neighborhood: where 1 is yes and 0 is no	0.88	0.32	88.00 %
<b>INDEPENDENT VARIABLES</b>				
<b>Individual Level Characteristics</b>				
<i>Race/Ethnicity</i>				
Non-Hispanic White	Respondent reported white	0.57	0.50	56.78 %
Non-Hispanic Black	Respondent reported black	0.35	0.48	35.11 %
Hispanic	Respondent reported Hispanic	0.08	0.27	8.11 %
Age	Respondent reported in years	15.53	1.03	----- --
<b>Neighborhood Level Characteristics at the Block Group Level</b>				
Adult Education	Modal educational attainment of individuals 25 years and over: where <i>Low</i> is equal to 1: Less than high school; <i>Medium</i> is equal to 2: High school; and <i>High</i> is equal to 3: More than high school	1.85	0.52	----- --
Unemployment rate	Modal unemployment of individuals 16 years or over: where <i>Low</i> is equal to 1; <i>Medium</i> is equal to 2 and <i>High</i> is equal to 3	1.83	0.86	----- --
Females in Labor Force	Modal level of females in the labor force age 16 or over: where <i>Low</i> is equal to 1; <i>Medium</i> is equal to 2 and <i>High</i> is equal to 3	1.95	0.57	----- --
Poverty Level	Modal level of persons with income in 1989 lower than poverty level: where <i>Low</i> is equal to 1; <i>Medium</i> is equal to 2 and <i>High</i> is equal to 3	1.81	0.86	----- --
Population Under 5 Years Old	Modal level of persons under 5 years: where <i>Low</i> is equal to 1; <i>Medium</i> is equal to 2 and <i>High</i> is equal to 3	2.03	0.46	----- --
Sex Composition	Model level of sex ratio: where 1 is heavily female balanced; 2 is equally balanced and 3 is heavily male balanced	2.05	0.46	----- --
Median Age	Median age	33.37	7.44	----- --
Hispanic Level	Level of Hispanic persons: where <i>Low</i> is equal to 1; <i>Medium</i> is equal to 2 and <i>High</i> is equal to 3	1.15	0.53	----- --
Marital Status	Modal marital status: where 1 is never married; 2 is married with spouse present and 3 is separated or divorced	1.90	0.63	----- --
Modal Race	Modal race: where 1 is white; 2 is black and 3 is other.	1.4	0.74	----- --
Urbanicity	Census coded urbanized area	1.47	0.50	----- --
<b>Acquaintance Characteristics as Reported by Respondent</b>				
Acquaintance with AIDS	Respondent reported and an acquaintance with AIDS	0.52	1.02	51.78 %
Acquaintance with STD	Respondent reported and an acquaintance with an STD	0.86	1.31	86.46 %

**Table 3. Mean Pregnancy and AIDS/STD Perceptions by Neighborhood Characteristics**

Neighborhood Characteristics	AIDS/STD Perceptions						Pregnancy Perceptions					
	Chances STD			Risk of AIDS			Chances AIDS			Risk of Pregnancy		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
<b>Adult Education</b>												
<i>Low</i>	339	1.76	0.99	341	3.50	1.30	339	1.97	1.10	341	3.21	1.23
<i>Medium</i>	1065	1.83	0.95	1075	3.47	1.22	1066	1.96	0.97	1075	3.29	1.05
<i>High</i>	111	1.84	1.00	111	3.52	1.33	111	1.92	0.97	111	3.39	1.18
<b>Unemployment Rate</b>												
<i>Low</i>	701	1.84	1.00	704	3.49	1.21 *	701	1.93	0.94	704	3.32	1.03
<i>Medium</i>	338	1.81	0.90	341	3.34	1.14 *	339	1.95	1.00	341	3.22	1.04
<i>High</i>	449	1.76	1.00	455	3.57	3.57 *	449	2.00	2.01	455	3.24	1.25
<b>Females in Labor Force</b>												
<i>Low</i>	279	1.77	1.00	284	3.58	1.36	280	2.01	1.05	284	3.58	1.36
<i>Medium</i>	1004	1.81	0.97	1008	3.45	1.20	1004	1.95	1.01	1008	3.45	1.20
<i>High</i>	213	1.86	0.94	216	3.50	1.30	213	1.92	0.92	216	3.50	1.30
<b>Poverty Level</b>												
<i>Low</i>	733	1.89	1.00 *	740	3.43	1.02	733	1.97	0.95	740	3.32	1.02
<i>Medium</i>	349	1.75	0.84 *	251	3.46	1.24	349	1.91	0.89	351	3.22	1.02
<i>High</i>	447	1.77	1.02 *	450	3.58	1.29	448	2.00	1.14	450	3.26	1.27
<b>Population Under 5 Years Old</b>												
<i>Low</i>	143	1.88	0.97	143	3.50	1.17 *	143	1.95	0.90	143	3.27	1.10
<i>Medium</i>	1193	1.82	0.98	1202	3.44	1.21 *	1194	1.97	1.01	202	3.27	1.04
<i>High</i>	185	1.72	0.88	188	3.96	1.50 *	185	1.90	1.01	1533	3.32	1.46

**Note:**

\* significant at .05 level

\*\* significant at .01 level

\*\*\* significant at .001 level

**Table 4. Correlations for Individual Level Pregnancy and AIDS/STD Perception Items with Neighborhood and Acquaintance Characteristics (N=1541)**

Neighborhood Characteristics	Neighborhood Perceptions		AIDS/STD Perceptions			Pregnancy Perceptions	
	Composite	Feel Safe	Chances STD	Risk of AIDS	Chances AIDS	Composite	Risk of Pregnancy
Adult Education	-0.06 *	0.08 **	0.03	0.00	-0.01	-0.11 **	0.04
Unemployment Rate	0.03	-0.16 **	-0.03	0.02	0.04	0.12 **	-0.03
Females in Labor Force	-0.06 *	0.02	0.03	-0.02	-0.03	-0.61 *	0.01
Poverty Level	0.02	-0.19 **	-0.06 *	0.05	0.01	0.11 **	-0.03
Population Under 5 Years Old	-0.04	-0.14 **	-0.04	0.04	-0.02	0.13 **	0.01
<b>Neighborhood Perceptions</b>							
Neighborhood Perceptions (Composite)	-----	--- 0.17 **	-0.04	-0.04	-0.03	-0.06 *	0.03
Feel Safe in Neighborhood	0.17 **	-----	-0.02	0.04	0.00	-0.16 **	0.04
<b>Acquaintance Characteristics</b>							
Acquaintances with AIDS	0.01	-0.09 **	0.08 **	-0.08 **	0.08 **	0.19 **	-0.03
Acquaintances with STD	-0.04	0.00	0.01 **	0.00	0.15 **	0.11 **	0.01

**Note:**

\*\*Correlation is significant at the .01 level (2-tailed)

\*Correlation is significant at the .05 level (2-tailed)

**Table 5. Estimated Regression Coefficients for Risk of Pregnancy (N=1541)**

	<b>Model 1</b>			<b>Model 2</b>			<b>Model 3</b>		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
<b>Individual Level Characteristics</b>									
<i>Race/Ethnicity</i>									
Non-Hispanic White (Reference Category)									
Non-Hispanic Black	0.08	0.06	0.03	0.18	0.07	0.08 **	0.20	0.07	0.09 **
Hispanic	-0.08	0.11	-0.02	0.01	0.11	0.00	0.04	0.11	0.01
Age	0.04	0.03	0.04	0.05	0.03	0.05	0.05	0.03	0.05
<b>Neighborhood Level Characteristics at the Block</b>									
<b>Group Level</b>									
Adult Education				0.09	0.07	0.04	0.09	0.07	0.05
Unemployment rate				-0.06	0.04	-0.05	-0.06	0.04	-0.04
Females in Labor Force				-0.04	0.06	-0.02	-0.04	0.06	-0.02
Poverty Level				-0.05	0.05	-0.04	-0.04	0.05	-0.03
Population Under 5 Years Old				0.02	0.66	0.01	0.03	0.07	0.01
<b>Neighborhood Perception Variables</b>									
Neighborhood Perceptions (Composite)							-0.05	0.03	-0.42
Feel Safe in Neighborhood							0.30	0.10	0.09 **
Constant	2.5	0.43	-----	2.5	0.50	-----	2.41	0.53	-----
<b>Fit Statistics</b>									
Prob > F	0.164			0.059			0.003		
R <sup>2</sup>	0.003			0.011			0.019		
Adjusted R <sup>2</sup>	0.001			0.005			0.012		

**Note:**

\* significant at .05 level

\*\* significant at .01 level

\*\*\* significant at .001 level

**Table 6. Estimated Regression Coefficients for Pregnancy Perceptions (Composite Score) (N=1541)**

	Model 1			Model 2			Model 3		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
<b>Individual Level Characteristics</b>									
<i>Race/Ethnicity</i>									
Non-Hispanic White (Reference Category)									
Non-Hispanic Black	0.98	0.05	0.05	-0.02	0.06	-0.01	-0.09	0.06	-0.04
Hispanic	0.12	0.09	0.03	0.00	0.10	0.00	-0.24	0.10	-0.01
Age	0.15	0.03	0.15 ***	0.14	0.02	0.15 ***	0.14	0.02	0.14 ***
<b>Neighborhood Level Characteristics at the Block</b>									
<b>Group Level</b>									
<i>Adult Education</i>									
<i>Low</i>				0.05	0.08	0.02	0.05	0.08	0.02
<i>Medium (Reference Category)</i>									
<i>High</i>				-0.14	0.10	-0.04	-0.13	0.10	-0.03
<i>Unemployment rate</i>									
<i>Low</i>				-0.22	0.07	-0.11 ***	-0.19	0.07	-0.10 **
<i>Medium (Reference Category)</i>									
<i>High</i>				-0.07	0.08	-0.03	-0.08	0.07	-0.04
<i>Females in Labor Force</i>									
<i>Low</i>				-0.01	0.07	0.00	0.01	0.07	0.00
<i>Medium (Reference Category)</i>									
<i>High</i>				-0.01	0.08	0.00	0.00	0.08	0.00
<i>Poverty Level</i>									
<i>Low</i>				-0.03	0.07	-0.02	-0.05	0.07	-0.02
<i>Medium (Reference Category)</i>									
<i>High</i>				-0.02	0.08	-0.01	-0.01	0.08	0.00
<i>Population Under 5 Years Old</i>									
<i>Low</i>				-0.11	0.09	-0.03	-0.08	0.09	-0.03
<i>Medium (Reference Category)</i>									
<i>High</i>				0.31	0.08	0.10 ***	0.30	0.08	0.10 ***
<b>Respondent Acquaintance Characteristics</b>									
Acquaintance with AIDS							0.14	0.03	0.15 ***
Acquaintance with STDs							0.03	0.02	0.04
Constant	-0.57	0.38	-----	-0.27	0.39	-----	-0.26	0.34	-----
<b>Fit Statistics</b>									
Prob > F	0.000			0.000			0.000		
R <sup>2</sup>	0.026			0.055			0.047		
Adjusted R <sup>2</sup>	0.024			0.047			0.072		

**Note:**

- \* significant at .05 level
- \*\* significant at .01 level
- \*\*\* significant at .001 level

**Table 7. Estimated Regression Coefficients for Feel Safe in Neighborhood (N=1541)**

	Model 1			Model 2			Model 3		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
<b>Individual Level Characteristics</b>									
<i>Race/Ethnicity</i>									
Non-Hispanic White (Reference Category)									
Non-Hispanic Black	-0.11	0.02	-0.17 ***	-0.06	0.02	-0.09 **	-0.06	0.02	-0.09 **
Hispanic	-0.15	0.03	-0.13 ***	-0.13	0.03	-0.11 ***	-0.13	0.03	-0.11 ***
Age	-0.01	0.01	-0.02	0.00	0.01	-0.01	0.00	0.01	-0.01
<b>Neighborhood Level Characteristics at the Block</b>									
<b>Group Level</b>									
Adult Education				-0.04	0.02	-0.07 *	-0.04	0.02	-0.07 *
Unemployment rate				-0.03	0.01	-0.07 *	-0.03	0.01	-0.07 *
Poverty Level				-0.05	0.01	-0.13 ***	-0.05	0.01	-0.13 ***
Population Under 5 Years Old				-0.05	0.02	-0.07 *	-0.05	0.02	-0.06 *
<b>Respondent Acquaintance Characteristics</b>									
Acquaintance with AIDS							-0.03	0.01	-0.09 ***
Acquaintance with STDs							0.02	0.01	0.06 *
Constant	1.02	0.12	----- ***	1.31	0.14	----- ***	1.32	0.04	----- ***
<b>Fit Statistics</b>									
Prob > F	0.000			0.000			0.001		
R <sup>2</sup>	0.035			0.061			0.070		
Adjusted R <sup>2</sup>	0.034			0.056			0.064		

**Note:**

- \* significant at .05 level
- \*\* significant at .01 level
- \*\*\* significant at .001 level

**Table 8. Estimated Regression Coefficients for Neighborhood Perceptions (Composite Score) (N=1541)**

	<b>Model 1</b>			<b>Model 2</b>			<b>Model 3</b>		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
<b>Individual Level Characteristics</b>									
<i>Race/Ethnicity</i>									
Non-Hispanic White (Reference Category)									
Non-Hispanic Black	0.01	0.06	-0.01	0.00	0.06	0.00	0.01	0.07	0.01
Hispanic	-0.17	0.10	-0.48	-0.20	0.10	-0.05 *	-0.19	0.10	-0.05 *
Age	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.03	0.00
<b>Neighborhood Level Characteristics at the Block</b>									
<b>Group Level</b>									
Adult Education				-0.13	0.06	-0.07 *	-0.13	0.06	-0.07 *
Unemployment rate				0.01	0.04	0.01	0.01	0.04	0.02
Females in Labor Force				-0.12	0.05	-0.07 *	-0.12	0.05	-0.07 *
Poverty Level				-0.05	0.04	-0.05	-0.06	0.04	-0.05
Population Under 5 Years Old				-0.10	0.06	-0.05	-0.10	0.06	-0.05
<b>Respondent Acquaintance Characteristics</b>									
Acquaintance with AIDS							0.02	0.03	0.02
Acquaintance with STD							-0.03	0.02	-0.36
Constant	5.91	0.40	----- ***	5.97	0.45	----- ***	5.95	0.45	----- ***
<b>Fit Statistics</b>									
Prob > F	0.320			0.006			0.382		
R <sup>2</sup>	0.002			0.014			0.015		
Adjusted R <sup>2</sup>	0.000			0.008			0.008		

**Note:**

\* significant at .05 level

\*\* significant at .01 level

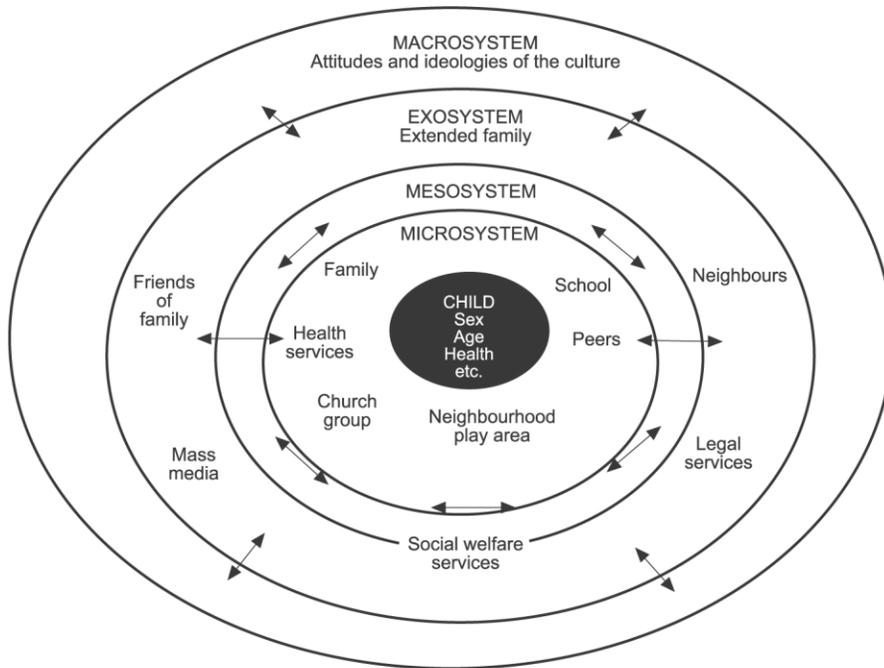
\*\*\* significant at .001 level

**Table 9. Estimated Regression Coefficients for Perceptions of Pregnancy as Life Event (Composite Score) (N=1541)**

	<b>Model 1</b>			<b>Model 2</b>			<b>Model 3</b>			<b>Model 4</b>		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
<b>Individual Level Characteristics</b>												
<i>Race/Ethnicity</i>												
Non-Hispanic White (Reference Category)												
Non-Hispanic Black	0.98	0.05	0.05	-0.02	0.06	-0.01	-0.04	0.06	-0.02	-0.08	0.06	-0.04
Hispanic	0.12	0.09	0.03	0.00	0.10	0.00	-0.06	0.10	-0.02	-0.05	0.10	-0.01
Age	0.15	0.03	0.15 ***	0.14	0.02	0.15 ***	0.14	0.02	0.15 ***	0.01	0.02	0.04 ***
<b>Neighborhood Level Characteristics at the Block</b>												
<b>Group Level</b>												
Adult Education				-0.08	0.06	0.05	-0.11	0.06	-0.06 *	-0.12	0.06	-0.06
Unemployment rate				0.09	0.04	0.08 *	0.09	0.04	0.08 *	0.08	0.04	0.07
Poverty Level				0.01	0.04	0.00	0.02	0.04	-0.01	0.00	0.04	0.00
Population Under 5 Years Old				0.21	0.06	0.10 ***	0.19	0.06	0.09 ***	0.18	0.06	0.08 **
<b>Neighborhood Mediating Variables</b>												
Feel Safe in Neighborhood							-0.42	0.08	-0.14 ***	-0.39	0.08	-0.13 ***
<b>Respondent Acquaintance Characteristics</b>												
Acquaintance with AIDS										0.13	0.03	0.13 ***
Acquaintance with STD										0.04	0.02	0.05 *
Constant	-0.59	0.38	-----	-0.84	0.43	-----	-0.16	0.46	-----	-0.15	0.46	-----
<b>Fit Statistics</b>												
Prob > F	0.000			0.000			0.000			0.000		
R <sup>2</sup>	0.028			0.510			0.069			0.092		
Adjusted R <sup>2</sup>	0.026			0.047			0.064			0.086		

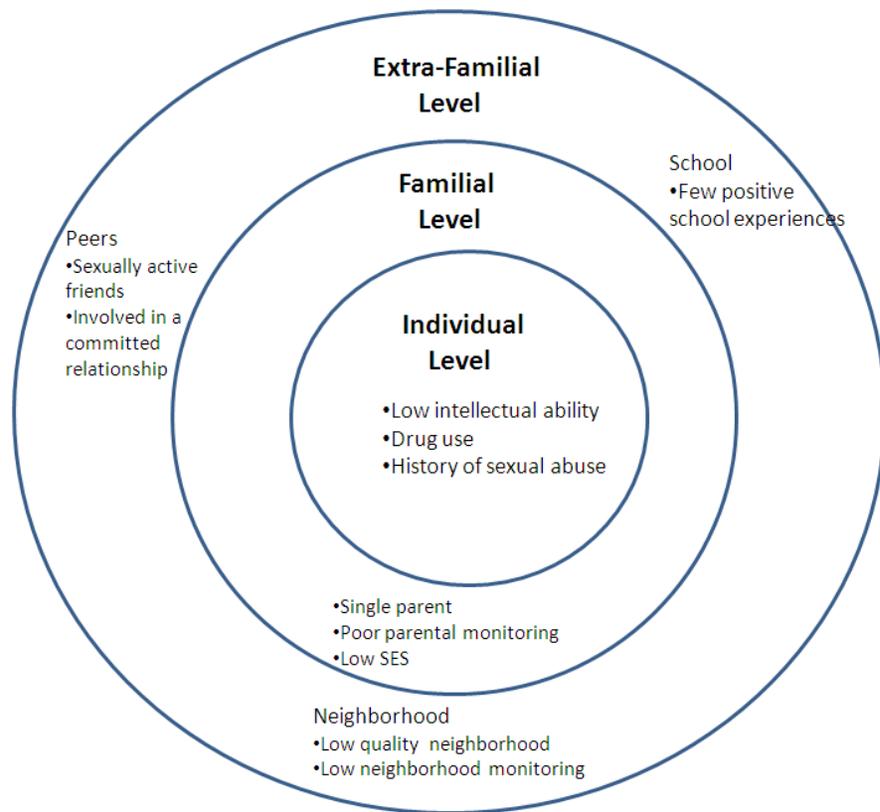
**Note:**

- \* significant at .05 level
- \*\* significant at .01 level
- \*\*\* significant at .001 level

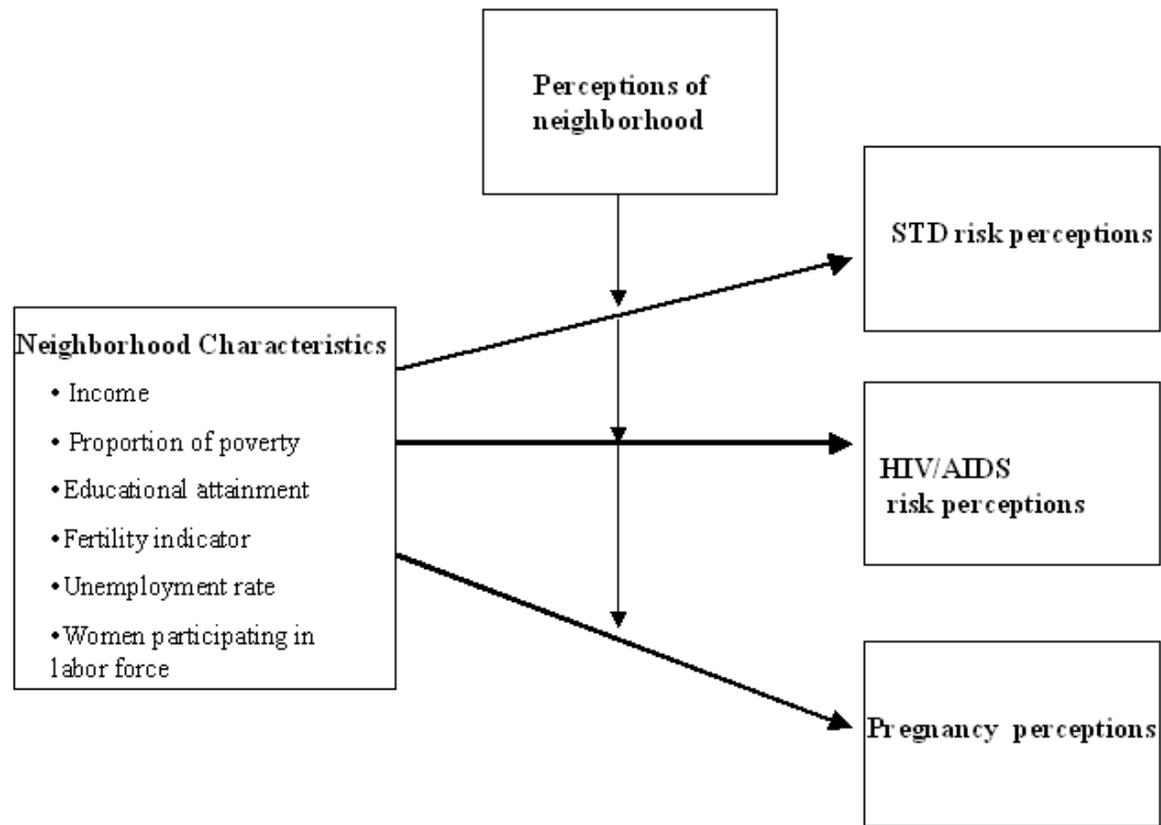


Source: Dockrell and Messer (1999, p. 139)

**Figure 1: Bronfenbrenner (1989) Ecological Model of Development**



**Figure 2: Ecological Model of Selected Risk Factors for Adolescent Sexual Activity (Small and Luster, 1994)**



**Figure 3: Neighborhood characteristics, perceptions of neighborhood, and risk perceptions of adolescents' model.**