RESIDENTIAL MOBILITY AND SUBSTANCE USE AMONG AREA YOUTH: THE

MEDIATING EFFECTS OF SOCIAL CAPITAL

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ABSTRACT

This study examined self-reported substance use in relation to social capital and residential mobility by administering a survey to high school students attending three Midwestern schools. The results of this study provide partial support for social capital theory. Pearson's correlations indicate a relationship between residential mobility and two social capital variables, community involvement and community support. Results from binary logistic regression and linear regression find that students with higher levels of family and school social capital report lower levels of substance use, and higher levels of peer support are related to higher levels of reported substance use. Further exploration of interactions between social capital measures and residential mobility finds that peer support suppresses the other social capital variables in relation to substance use. Although little support was found for residential mobility, other variables found to be significant with social capital and substance use include immigration status and grade.

ACKNOWLEDGEMENTS

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CHAPTER I: INTRODUCTION

In his article discussing the collapse and revival of American community, Putnam (2000) highlights the notion that through trust, relationships, community networks, and norms of reciprocity in families, schools, peer groups, and the community, adolescents get the opportunity to engage in behavior that encourages healthy development. These relationships and connections can be developed through the accumulation of social capital. Throughout its use in research, social capital has been broadly recognized and analyzed within the study of families, youth behavior problems, education, community, the government and democracy, economic development, and collective action (Adler & Kwon, 2009).

One way social capital can decrease is through relocation, which can be a stressful and life-changing event during childhood. Links between a child's parents, teachers, neighbors, peers, and individuals in their community are broken when relocation occurs. This results in a loss of social capital as well as the child's well-being (Scanlon and Devine, 2001). Put in other words, Coleman (1988) states that for families that move often, social relations that constitute social capital are broken at each move.

As a result of moving and a loss of social capital, children are more likely to engage in delinquent behavior, such as substance use (Dong et al., 2005). Adolescent substance use is an important social issue, especially when considering what can result from it. Adolescents who use drugs are at an increased risk of low academic success, dropping out of school, early onset of sexual activity, teenage pregnancy, and trouble with interpersonal relationships (Hoffman and Johnson, 1998).

In their study on the association between residential mobility and delinquency among adolescents, Porter and Vogel (2014) find that when compared to non-mobile adolescents, mobile adolescents engage in more delinquent behavior, such as drug use and even violent offending. They also state that besides taking these findings as casual outcomes of moving, there is also support for the idea that relocation can be influenced by a number of familial, individual, and neighborhood factors, which are also associated with delinquent behavior. In other words, the delinquent behavior can result in response to why relocation occurred, such as divorce, a new job, or moving to a lower socioeconomic neighborhood (Porter and Vogel, 2014).

Social Capital

Adolescence is a period of time marked by considerable changes in physical and cognitive development. Research regarding social function and psychological well-being proposes that social factors are significant during developmental or social transition periods (Vondra and Garbarino, 1988). In other words, adolescents need to effectively transition into their social environment in order to develop social capital and increase their well-being. Without social capital, social development within adolescents is broken.

Croninger and Lee (1996) discuss the importance of social capital and what it provides for adolescents. They state that social capital can increase the capabilities of children by helping them learn better, work more efficiently with others, and it can promote the efforts of those who encourage and support children (Croninger and Lee, 1996). Relationships between children and the individuals around them (e.g., parents, teachers, neighbors, and children) and within social groups (e.g., families, schools, and neighborhoods) are what increase social capital and the capabilities of children (Hagan, MacMillan, and Wheaton, 1996). When adolescents are

connected to family, school and community groups, in which the connection is known to both parties, it is harder for the child to get away with misbehavior and stray away from social norms and control (Haynie and South, 2005). One way that a child can lose these connections and disrupt understanding of social norms is through the experience of relocation.

Residential Mobility

Mobility is not just an event that takes place, but social and psychological experiences that together produce either successful or unsuccessful adjustment to a new environment (Scanlon and Devine, 2001). Long (1992) looked at the 1988 National Health Interview Survey (NHIS) conducted by the Census Bureau for the National Center for Health Statistics. The sample included parents of 17,110 children, who were asked a series of questions including how many moves each child had made. Results showed that by age 16, about 38 percent had moved 4 or more times and almost 18 percent had moved 6 or more times (Long, 1992). Out of such a large sample, the percent of children that had moved implies a large number of mobile adolescents.

For the children that experience relocation, the effects can be detrimental. According to Porter and Vogel (2014), relocation can be a disruptive event in the lives of adolescents, intensifying what is already viewed as a rough stage in life course. The authors also discuss examples of how moving is disruptive, stating how it is hard for the mobile adolescent to make new friends, adjust to their new school, form their identity, and confront challenges within the adjustment to a new social and physical environment (Porter and Vogel, 2014). As a result, some children respond to relocation by associating with delinquent peers and engaging in delinquent behavior, such as substance use (Hoffman and Johnson, 1998; Porter and Vogel, 2014).

Substance Use

When children move, they face challenges within adapting to a new home, neighborhood, school, peers, and community. Throughout this process, children are separated from familiar people and places, and are confronting new and sometimes confusing situations. This displacement can be stressful (Cornille, 1993). In response, alcohol and other drugs have been used to relieve the distress caused by the experience of traumatic and disruptive life events for adolescents (Newcomb and Harlow, 1986).

In order to show how much adolescents engage in substance use, data was collected in 2015 in the same Midwestern public school district that was used in this study. Using the Youth Risk Behavior Survey, results provide insight for how much adolescents in this public school district engage in substance use. For 7th-8th grade responders, 4.2 percent smoked cigarettes at least once during the past 30 days, 6.6 percent stated that they first drank alcohol before the age of 11, 10 percent drank five or more drinks of alcohol within a couple of hours at least one time, and 11.8 percent stated they had used marijuana at least once in their lifetime.

Students from two high schools in this public school district, grades 9th-12th, were asked similar questions. The results stated that 5.5 percent of students smoked cigarettes on one or more days during the past 30 days, and 8.35 percent had their first drink of alcohol before the age of 13. Results also show that 15 percent used marijuana one or more times during the past 30 days, and that 12.6 percent had five or more drinks of alcohol within a couple of hours on one or more of the past 30 days. The National Institute of Alcohol Abuse and Alcoholism (NIAAA) states that four drinks for females and five drinks for males consumed within about two hours is considered binge drinking because it is a pattern of drinking that brings one's blood alcohol

concentration levels to 0.08 g/dL (NIAAA). Considering this definition and results from the Youth Risk Behavior Survey previously mentioned, 10 percent of 7th-8th graders have engaged in binge drinking at least once in their lifetime, and 12.6 percent of 9th-12thgraders engaged in binge drinking within the past 30 days.

This data shows that substance use is taking place in this school district among middle and high school students. Furthermore, this information provides the basis for further research, such as looking at why substance use is taking place. In the context of this study, is substance use taking place because there are low levels of social capital? Are students engaging in substance use because they are mobile? Or, are students engaging in substance use because they are mobile and therefore have less social capital? This study seeks to explore these questions further.

Purpose of Study

The purpose of this study was to assess the relationship between residential mobility and students' social capital, which in turn functions as an intervening variable on substance use. To do this, a survey was given to middle and high school students attending three different Midwest schools. The survey contains questions regarding four areas of social capital (family, school, community, and peers/friends), substance use related questions, and questions regarding relocation within the past 24 months.

Understanding the relations that exists between mobile adolescents and social capital provides the insight needed to address the transitional needs of students who relocate. More specifically, exploring the relation between social capital and residential mobility within this context will provide understanding for why mobile adolescents engage in substance use.

Furthermore, identifying areas where students lack social capital will help the community to identify and provide beneficial resources to encourage positive social development for youth.

Research Questions

1. Is there a relationship between residential mobility and social capital?

    a. If so, which forms of social capital have the strongest relationship with residential mobility?

2. Is there a relationship between residential mobility and substance use?

    a. If so, what forms of substances are most related to residential mobility?

3. Is there a relationship between social capital and substance use?

    a. If so, what forms of social capital are most related to substance use?

4. Does social capital function to significantly intervene in the relationship between residential mobility and substance use?

    a. If so, what forms of social capital most strongly mediate this relationship?

Significance of Study

The presence of social capital in which individuals are connected to one another allows for the development of positive standards for adolescents, which provides social resources (e.g. mentors, role models, educational sponsors, and employment connections in the community). On the other hand, the lack of positive norms, community associations, and informal adult relationships leaves adolescents to be in charge of making their own decisions regarding their environment and who they associate with. This could lead to impulse decisions and deviant behavior (Putnam, 2000). Dong et al. (2005) states that emerging research suggests that changes of residence during childhood is associated with increased risk of numerous developmental and

behavioral problems (e.g. poor academic achievement, emotional and behavioral problems, substance abuse, and juvenile delinquency).

This study will contribute to existing research on social capital and adolescent development by examining the relationship between residential mobility, social capital, and the likelihood for substance use. Furthermore, this study will provide new research by looking at this relationship in regards to other forms of capital that could be associated with a change in one's social capital upon relocation. Determining how relocation relates to adolescent development and behavior provides families, schools, and communities as a whole with knowledge for how to increase social capital for mobile adolescents and provide them with the resources for success. The following section will discuss the existing research on social capital, residential mobility, and substance use for adolescents.

CHAPTER II: LITERATURE REVIEW

This study seeks to examine the relationship between residential mobility, social capital, and the likelihood of engaging in substance use. Chapter II contains the review of literature, which has been divided into the following sections: social capital, other forms of capital, residential mobility, social capital and residential mobility, substance use, and will conclude with a summary.

Social Capital

Social capital has been discussed in research in broad terms over the years, giving it no clear and common definition. With that said, there are many prominent theorists that have researched social capital and given their sense of what social capital is and how it is applicable. The rest of this section will discuss how social capital has been referred to in past research in relation to the context of this study.

Bourdieu (1986) defines social capital as the accumulation of resources that are linked to one's social network, in which the relationships within one's social network recognize the importance of mutual benefits and reciprocity, as well as group membership. The acclimation of social capital, according to Bourdieu (1986), depends on the size of the network of relationships that the individual can transfer along, as well as the volume of the capital possessed by the person and those in their network of relationships. Bourdieu (1986) also states that social capital takes time to accumulate and reproduce itself to a state where it is profitable.

Coleman (1990), a prominent theorist that has studied social capital, states that social capital is not a single entity, but a variety of different entities with two common characteristics: the entities consist of some aspect of a social structure, and facilitate certain actions of the

individuals who are within the structure. Coleman (1990) continues by stating that social capital provides more opportunity for purposive action, or fulfilling a function for mutual benefit, compared to other forms of capital. Furthermore, social capital is a significant resource for individuals because it encourages action and can affect perceived quality of life.

Coleman (1990) also indicates that social capital is productive in the fact that without it, certain ends and achievements are not possible. Unlike other forms of capital, productivity within social capital occurs in the structure of relations among people, it is not embedded in individuals alone. Within these relationships and social structures, the facilitation of social capital is established and continued when the actors continue to provide benefits (Coleman, 1988). Lesser (2000) describes social capital from a different point of view suggesting that it is easiest to think about social capital as the wealth or benefit that exists because of an individual's social relations. Within these relations, mutual benefits develop from the structure of the relationship, the interpersonal dynamics that exist, and the common context and language held by those in the structure (Lesser, 2000).

Another perspective on social capital comes from Putnam (2000), who defines social capital as connections among individuals and social networks, and the trust and norms of reciprocity that result from the connection. No matter how rich or poor individuals are, how well educated adults are, one's race or religion, connections among those within a community are crucial for education of children. Putnam states that this is related to the density of social connectedness in a community where civic engagement is high, in which civic engagement refers to the development of knowledge, skills, values and efforts made to make a difference in the quality of life within a community. He continues on saying that communities and schools that

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have high civic engagement have higher levels of parent support, less student misbehavior, less violence, and better school attendance (Putnam, 2000). Aside from civic engagement, there are other components of social capital that are essential to discuss. These components include relationships, social networks, trust, and norms.

In his definition of social capital, Putnam (1995) claims that the features of social life – networks, norms, and trust – help individuals to act together more effectively to seek shared objectives. Putnam (1993a) states that elements of social capital such as trust, norms, and networks, tend to be self-reinforcing and cumulative, in which collaboration in one endeavor builds connections and trust, which facilitate future collaboration in other tasks. According to Coleman (1988), the components of social capital act as resources in order for individuals to use in achieving their interests and provide the opportunity to develop networks of connectedness that can meet personal needs as well as needs of a larger social structure. These components include relationships, social networks, norms, and trust.

Relationships

Croninger and Lee (1996) discuss how the main idea behind social capital is the notion that behavior is motivated from social networks and relationships, which encourage and discourage one's actions. These social connections directly affect relationships through the exchange of emotional support, information and material resources, and indirectly through norms and expectations that form the basis for social interaction (Croninger and Lee, 1996). Bordieu (1986) discusses relationships within social capital by stating how the network of relationships is a product of individual or collective investment strategies. These social relationships are established to be used in the short or long term. Regarding relationships between children and

those around them, Croninger and Lee (1996) state that strong interpersonal connections to adults within supportive networks significantly influence how children grow up, how well they function as adults, and how effectively they can work with others to create a prosperous society.

Social Networks

A social network includes all the relatives and friends that an individual sees on a regular basis (Vondra and Garbarino, 1988). Relationships and social networks are similar when discussing elements within social capital. This is shown by Croninger and Lee (1996), who suggests that social capital occurs in two broad spheres of a person's life: in the spontaneous relationships that include an individual's personal social network, and in more formal relationships that comprise the public social networks people engage in. Social networks are very important to highlight because social capital encourages action to secure benefits through honor and membership in social networks or other social structures (Portes, 1998). As previously mentioned regarding relationships, Portes (1998) also states that social networks must be developed through investment strategies and used as a source of benefit.

Norms

Norms are formed within relationships and are motivated by exchanges between social structures. These exchanges create "norms of reciprocity" which are used for mutual benefit between parties, develop trust, and encourage the continuation of exchanges (Croninger and Lee, 1996). Norms depend on closure and arise from efforts made to limit negative external effects or encourage positive ones. However, in many social structures where this exists, norms do not form and there is a lack of closure in the social structure (Coleman, 1988).

As for norms within adolescent relationships, Croninger and Lee (1996) state that the values and goals developed by the public and one's social networks lead to obligations and expectations for adults and their children, which defines boundaries for reciprocal actions. A strong, supportive structure focuses the social capital ingrained in the relationships that children form with significant others. This facilitates the promotion of specific cognitive, social, and moral goals, and guides the developmental agenda necessary for regulating actions and social resources (Croninger and Lee, 1996).

Trust

Similar to the development of norms, closure is important in the creation of trust within relationships. When considering the importance of closure within social networks and the development of norms, closure is important if trust is to reach a level that is accepted by the trustworthiness of the potential trustees (Coleman, 1990). Putnam (1993a) discusses the importance of trust within a society by stating that "trust lubricates social life" (p. 3-4). Uslaner (1990) supports these ideas by expressing that trust helps create a vibrant and virtuous community where people know their neighbors, join one another in voluntary efforts, give of themselves, and commit to moral codes. Putnam (1995) elaborates on this idea stating that when individuals act together and share similar objectives, this serves the interests of the broader community, which leads to more connections and the creation of trust. More specifically regarding youth, the development of trust and connections of adults within the community provides more opportunity for the supervision and control of children (Coleman, 1990). Aside from these components that are accumulated within social capital, other forms of capital are associated to the development and maintenance of social capital.

Other Forms of Capital

Lesser (2000) states that the concept of social capital focuses on two positive consequences. These include the positive derivative of human interaction and the positive effects it has on other forms of capital. Bourdieu (1986) was a French social theorist whom was one of the first sociologists to highlight the relationships between the different types of capital. The different forms of capital include human, financial, and cultural capital. Social capital exists in the relations among people and facilitates action. Financial capital is measured by one's wealth or income and provides physical resources that can produce achievement. Human capital is measured by one's education and knowledge that can be used to encourage learning and development. Cultural capital is measured by the language and understanding within the environment (Coleman, 1988).

The difference between these forms of capital and their application can be illustrated in the following example. To further the education of a child, parents use their financial capital, or money, to buy their child textbooks and school supplies. The parents use human capital, their skills and knowledge, to help teach their child. Social capital is the actual application and use of human capital to connect to the children and form a relationship of understanding and trust throughout the learning process. The cultural capital comes into play within the learning environment and understanding between the child and parent. These different forms of capital are important to distinguish within the discussion of social capital to understand how one affects the other and to clearly determine how social capital is defined.

Based on previous literature, these different forms of capital can and should be applied to the discussion of social capital and residential mobility. In regards to financial capital, relocation

can be influenced by a new job or moving to a lower socioeconomic neighborhood due to financial concerns. For human capital, relocation can be influenced by parent relationship status, such as divorce or being raised in a single parent household, which means there is only one parent to provide skills and knowledge to help their child learn. As for cultural capital, relocation could take place upon moving within or into the country. This could imply that the family has less awareness of their environment and how to teach their child within their new surroundings. Looking at these different forms of capital together suggests that delinquent behavior can result in response to why relocation occurred, such as such as divorce, being raised in a single parent household, a new job, or moving to a lower socioeconomic neighborhood, or having immigrant status (Porter and Vogel, 2014).

Residential Mobility

In March 2000, Schachter (2001a) conducted a Current Population Survey that went through statistical testing and met the U.S. Census Bureau standards for statistical accuracy. This survey found that between March 1999 and March 2000, 43.4 million Americans moved. Of those that moved, 56 percent moved within the same county, 20 percent moved between counties in the same state, and 19 percent moved to a different state (Schachter, 2001a). The effects of relocation and the change it produces affects the whole family and those around them.

According to Putnam (1995), "Mobility, like frequent repotting of plants, tends to disrupt root systems, and it takes time for an uprooted individual to put down new roots" (p. 669). More specifically, this process affects children and their development, causing relocation to act as a stressful life event (Humke and Schaefer, 1995). Children and adolescents face unique challenges during relocation such as the loss of a familiar school environment and friendships.

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Children are unlikely to initiate moves and have little input regarding conditions of relocation. If intense or prolonged, stressful events such as relocation can permanently disrupt one's psycho-social functioning (Scanlon and Devine, 2001). As expressed by Porter and Vogel (2014), there is a large body of research indicating a clear link between residential mobility and delinquency. In other words, mobile adolescents may face many negative behavioral outcomes compared to those who have been stable throughout their development. However, delinquency and development of youth can also be affected by the motivation behind the relocation.

Based on the data from the Current Population Survey from March 1999 and March 2000 previously mentioned, 52 percent of people moved due to housing related reasons, 26 percent moved because of family, and 16 percent moved for work related concerns. Furthermore, those that moved further were more likely to move for work related reason, and shorter distance moves were more likely due to housing related reasons (Schachter, 2001b). Scanlon and Devine (2001) note that even though residential mobility may be needed for upward mobility, many relocation decisions are made in response to housing conditions, economic displacement, divorce, or other negative situations. Knowing this, certain factors need to be considered and controlled for in research, such as parental education, parental employment, and who the child lives with.

In a study conducted by Porter and Vogel (2014), findings indicate that more delinquency for adolescents who relocate could be attributed to demographics, socio-economic, familial, and neighborhood characteristics when compared to adolescents who are not mobile. Furthermore, they found that mobile adolescents are more likely to have parents who are not married, to be exposed to violence, live in an unsafe neighborhood, and have financial concerns in their family (Porter and Vogel, 2014). Rumberger and Larson (1998) make a similar claim, stating that there

is research suggesting that changing schools has a negative effect on student achievement after controlling for differences in poverty, socioeconomic status (SES), and other background factors. Long (1992) found that living with both biological parents lowers a child's lifetime number of moves and increases the duration of residence in the current residence. On the other hand, families with annual incomes under $15,000 are more likely to move and less likely to stay at their current residence for a long period of time.

Another factor to consider when examining residential mobility and social capital is the immigrant status of new residents. For immigrant families, it can be more difficult to obtain social capital within their new community due to cultural barriers. For today's non-white immigrants, adapting to a new community takes place within the white middle-class, a largely minority underclass, and a delayed or selective assimilation in which the family continues to refer to the moral and material resources from their immigrant community. Being a minority and a new immigrant resident in a white-dominated setting can produce feelings of isolation and loneliness, and lead to social disadvantages such as lack of social networks and economic loss. If immigrant parents do not make economic progress in a way that benefits their child and encourages to them to grow and succeed, immigrant children can become discouraged from achieving their full potential (Neckerman, Carter, and Lee, 1999).

Theoretical models widely classified as factors operating at individual, family and neighborhood levels may contribute to the understanding of how residential mobility in childhood relates to health and positive development (Jelleyman and Spencer, 2008). This statement along with the previous evidence discussed from research shows how familial and

neighborhood factors can affect mobility and behavioral outcomes. This serves as the rationale for considering other forms of capital as well as familial and neighborhood factors in this study.

Social Capital and Residential Mobility

Portes and Landolt (1996) discuss some of the problems with social capital theory. One of these problems is the isolation that can occur for outside individuals that are new to a community and have not yet developed social capital within their new environment. In other words, strong relationships built within the community can negatively affect new residents by making it harder for outsiders or new individuals in the community to make connections and build relationships. This isolation can also occur when individuals do not conform to the norms of the community. These claims apply to the discussion regarding residential mobility since relocation has a negative effect on the development of social capital. In communities with strong social ties, new residents often find themselves unable to compete with those already assimilated to the norms and culture, no matter how good their skills and qualifications are (Portes and Landolt, 1996).

Coleman (1990) states that every form of social capital depends on stability, and when there is no stability or there are disruptions within one's social organizations, the result can be highly destructive to one's social capital. A family may think that relocation for a new job opportunity would be a positive move for the family, but because social capital consists of relationships, members of the family may experience more loss than gain due to decreased relations with friends, peers, co-workers, members of the community, and other family members. More specifically, such losses weakens norms and sanctions that help law enforcement, as well as norms that help parents and school staff in socializing children. The total cost each family

experiences as a consequence of the decisions it makes may outweigh the benefits that come from those few decisions it has control over. However, the beneficial consequences to the family from the decisions it does have control over may outweigh the minor losses experienced from them alone (Coleman, 1990).

Overall, Putnam (2000) states that mobile communities as a whole are less friendly and welcoming, have higher crime rates, and have students with lower academic success. With that said, social capital is affected by relocation in many aspects. The next section will address the different areas within social capital for youth that are affected by relocation. The different areas include social capital within the family, school, community, and peers/friends.

Social Capital and Families

Coleman (1988) asserts that social capital for adolescents can be attained within one's family relationships. As previously discussed, Coleman discusses the different types of capital that exist within families, which are financial, human, and social capital. These different forms of capital are important to distinguish because they each serve a different purpose. Social capital plays a major role in adolescent development, and without social capital, the effects of financial and human capital are minimal due to a lack of opportunities available for development. Coleman (1988) states that when the parental human capital is not complemented by social capital within family relations, it is irrelevant to a child's educational growth.

Vondra and Garbarino (1988) state that family relationships have a great deal of influence on the social functioning and development of adolescents, which also affects social psychological adjustment. When there is a strong relationship within family networks, mutual respect and support helps adolescents function in other social networks. The study conducted by

Vondra and Garbarino (1988) examined families and their relationships during the adolescent years by using phone and in-home interviews of middle and upper class families in Pennsylvania. They found that when teenagers have strong relationships with those in their immediate family, they were less likely to have behavior problems. On the other hand, when teenagers are not involved in family relationships, they were more likely to form relationships with other teens in the same situation, which could lead to engaging in risky behavior. Therefore, this research implies that the absence of social capital within adolescents and their family leads adolescents to engage in delinquent behavior (Vondra and Garbarino, 1988).

The final study that will be discussed regarding social capital within family networks was done by Parcel and Durfur (2001). This study used the National Longitudinal Survey of Youth (NLSY79). This was developed by the Center for Human Resource Research to examine maternal and child background in relation to social adjustment with information on school resources and experiences. The sample included 1,833 children from data between 1992-1995. Results showed that certain family and school social capital variables can help prevent and reduce adolescent behavioral problems. These variables include parents knowing their child's friends, knowing where their child is when they are not together, the child attending church and private school, as well as attending a school where teachers care. Overall, the results suggest that schools can work together with households to influence child social adjustment (Parcel and Durfur, 2001).

Social Capital and Schools

Schools are a major public social network that serve children by teaching them a wide variety of technical skills at depths that surpass the financial and human resources of most

families (Croninger and Lee, 1996). Schools are important within this discussion due to the fact that students learn more in schools with organizational characteristics that display and develop strong social capital. Croninger and Lee (1996) even go as far to state that schools provide most of the social resources needed to encourage positive adolescent development. Schools can do so by creating and maintaining social environments, encouraging solid academic and professional goals, and promoting common obligation and responsibility between students and adults (Croninger and Lee, 1996).

Putnam (2000) highlights the importance of social capital within schools to encourage healthy adolescent development suggesting that when there is a high level of trust among students, parents, teachers, and administrators, there is a more commitment to the educational objectives of the school. Teachers in settings with more trust feel loyal to the school, seek innovative approaches to learning, communicate with parents, and have a deep sense of responsibility for student development (Putnam, 2000). However, relocation disrupts the educational setting for adolescents by making it harder to build trustworthy information channels, learning services provided by the school, and make them more prone to struggle with developing relationships with teachers (Teachman et al., 1996). Scanlon and Devine (2001) make a similar claim, asserting how relocation disrupts a student's learning process, leaving the adolescent to feel out of the loop with subject matter and not as prepared to be as academically successful as the rest of their peers.

Families that are new to a community have less information about the school system. This means they have less opportunity to take advantage of school resources than children who have lived in the community for a long time and are more aware of available resources.

Furthermore, teachers are less likely to invest in a child they do not have much of a relationship with, which could lead to the child feeling isolated and therefore connect with other antisocial individuals and activities (Astone and McLanahan, 1994).

Social Capital and Peers/Friends

Current research states that the harmful effects of adolescent relocation are attributable primarily to casual processes, and specifically to changes in the quality and composition of peer networks (Porter and Vogel, 2014). Vernberg (1990) agrees with this claim, implying that relocation during young adolescent years is an event that disrupts one's peer networks at a time when these relationships are a key part in development and social functioning. In order to study this claim more in depth, Vernberg monitored peer relations within a group of young adolescents who started the academic year in a new school due to relocation. After following this group for a school year, experiences of the adolescents who had been in the same residence for at least two years were compared with the new students. The goal of the study was to assess the length of time required for the experiences of the newly moved adolescents with their peers to equal those of the relatively stable group, and to identify the ways in which relocation during early adolescence might be related to variations in social experiences. Results indicated less positive social experiences with peers on a number of dimensions for the mobile adolescents compared to their stable counterparts during the year following relocation. In conclusion, this study implies that relocation during adolescence leads to them having more difficult experiences with peers than stable students (Vernberg, 1990).

Social Capital and the Community

Social capital can also be found outside the family in the community, which can consist of social relationships that exist among parents within the institutions and organizations in the community (Coleman, 1988) and can provide access to an expanded set of role models, educational experiences, and social settings (Croninger and Lee, 1996). Uslaner (1990) states that communities with strong positive values that bond the relationships of people to each another, typically have powerful norms of generalized reciprocity and cooperation. Overall, working together as a community is easier when there is rich social capital (Putnam, 1993a).

In regards to adolescent development, the accumulation of social capital is dependent on the fact that children create a network of healthy relationships in their community with consistent behavior in their daily pattern of communication (Putnam, 1993a). Despite that most evidence relates to individual-based models including family factors and considering individual outcomes, some evidence has found interactions at the neighborhood level that heighten the impact of relocation (Jelleyman and Spencer, 2008). This is shown in Winstanley et al. (2008), which examined adolescent perceptions of neighborhood disorganization and social capital to see if they are associated with substance use. After controlling for individual and family level factors, neighborhood disorganization and social capital were associated with substance use (Winstanley et al., 2008).

Substance Use

In a study conducted by Dewit (1998), it was found that movers are significantly more likely than non-movers to begin using illicit drugs at an early age. This was found true for various reasons. First, children are rarely involved in the moving and decision process, which

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could leave them feeling helpless and lonely. Second, relocation often leads to reduced or lost contact with friends and supportive individuals in one's life, which could increase feelings of stress and anxiety. Third, the demands of a new environment and stress can preoccupy parents and lead to a disconnect between parents and children. This also means less parental supervision, which could lead to children spending their time with deviant peers. Fourth, stress can come from transitioning to a new school, meeting new friends and teachers, and the expectation for fitting in and excelling in schoolwork. Lastly, youth turn to substance use in response to family issues such as divorce, low socioeconomic status, and family dysfunction, which are common reasons for relocation (Dewit, 1998).

Support for the correlation between social capital and substance use can be found in the study by Winstanley, Steinwachs, Ensminger, Latkin, Stitzer, and Olsen (2008). This was a secondary analysis of data from the 1999 and 2000 National Survey on Drug Use and Health (NSDUH), which is a cross-sectional survey of a random sample of the non-institutionalized U.S. population and is conducted in respondents' homes. One of the major findings from this study was that medium and high levels of social capital were negatively associated with alcohol or drug use and dependence. This implies that the higher one's social capital is, the less likely they are to engage in substance use.

Similar findings also come from a study by Curran (2007), which examined the relationship between social capital and substance abuse by public high school students from a medium sized, Midwestern city. Participants included 590 students between 9th and 12th grade who completed the Youth Risk and Protective Factor Survey (YRPFS). Results from the survey show that social capital is a significant contributor to adolescent substance use and an increase in

social capital is associated with decreased alcohol use. The authors provide support for these findings, stating that youth engage in substance use at high rates and at such young ages is because the relationships and resources needed for children to develop into prosocial members of society have been provided less and less in the past 15-25 years (Curran, 2007).

As for the relationship between residential mobility and substance use for youth, Dong et al. (2005) examined the relationship between childhood residential mobility and health problems during adolescence and into adulthood using a cohort of 8,116 adults. The participants completed a survey which asked questions regarding childhood residential mobility, adverse childhood experiences, and multiple health problems. This study found a strong relationship between the number of Adverse Childhood Experiences (ACEs) and the number of moves during childhood for all six health outcomes examined. The possible relationship between childhood residential mobility and negative health and social outcomes is mostly, if not completely, due to the effects of underlying ACEs that frequently occur in extremely mobile families (Dong et al., 2005). The authors conclude that mobile adolescents may use certain negative behaviors such as delinquency and substance use as a way of gaining acceptance into their new environment and obtaining a sense of security that the move had compromised (Dong et al., 2005).

<div align="center">

Summary

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Social capital has been found to decrease for children and families after relocation, however, it is important to note that some findings show that mobile children are also responding to traumatic and stressful events that may accompany adolescent development and changes in residence, school, and environment (Dong et al., 2005, p. 1108). More specifically, Dewit (1998) states that research has found that adolescents who move frequently or are classified as recent

movers are more likely than others to develop conduct disorder, commit deviant acts, engage in sexual behavior, drop out of school, and mistreat teachers and classmates. This is due to the lost connections and relationships post-relocation that normally lower the chance of deviant behavior (Dewit, 1998).

Findings also suggest that mobility occurs more for at-risk youth in response to being raised in a socioeconomically disadvantaged family and environment (Porter and Vogel, 2014). Hoffman and Johnson (1998) state that fewer economic resources and greater residential mobility may disturb family life because they produce more stress for parents and adolescents, reduce the amount of time that family members can spend together, and upset social ties by marginalizing adolescents. If this is true, then the lower income of single-mother families and diminished residential stability of stepparent families could explain the association between family structure and various types of drug use (Hoffman and Johnson, 1998). Based on these findings and assertions from research, the reduction in social capital for adolescents after relocation can lead to delinquent behavior, but could occur in response to change in family structure and the reason for relocation, such as divorce or a new job.

Whether relocation is related to social capital and delinquency or not, this knowledge can be useful for schools, social workers, and other support systems when helping youth who are dealing with risk factors that could lead to delinquent behavior (Porter and Vogel, 2014). Educators and health care professionals need to be aware of the strong possibility that mobile children may have other unobserved family problems. It is also important for schools and other agencies working with children to provide appropriate counseling for mobile families with children who are affected by moving (Dong et al., 2005). Children who experience favorable

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conditions at home and school may exhibit fewer behavior problems and those who experience

adverse conditions may show increased behavior problems (Parcel and Durfur, 2001). In

response to this claim, schools and families should work together to encourage effective social

adjustment for children.

CHAPTER III: METHODS

Chapter III presents a description of the methods used in this study. The purpose for conducting this research was to determine if relocation affects adolescent social capital and therefore leads to participation in substance use. The following sections in this chapter will include: participants, a description of the instrument, administration of the survey, the measures used, and data analysis.

Participants

As stated previously, this survey was administered at a middle school and two high schools from a Midwestern public school district as a pilot study. Before the survey was implemented, a letter was sent to parents in the three schools informing them of the survey being administered. The letter and newsletter described the purpose of the survey and alerted parents that their child would have an opportunity to participate in a survey conducted by the school district. The letter and newsletter included information as to when the survey would be administered and how the results of the survey would be used (e.g. to improve resources addressing social capital). The letter informed parents that their child's participation in the survey would be optional. If they chose not to have their child participate in the survey, they needed to sign a form wishing for their child not to participate in the survey. Parents who signed this form were informed their child would be assigned regular school duties.

This study used purposive and convenience ("availability") sampling methods. Purposive sampling is a non-probability sampling method in which the population is chosen by the judgment of the researcher. In this study, the community coalition and school district chose one middle school, one high school, and one high school ELL population with intentions to obtain a

representative sample. Convenience, or availability sampling, is a non-probability sampling method that relies on data from a population that is conveniently available to participate. In this study, the available students are the ones that were given consent to participate and were conveniently at school the day the survey was administered. In regards to both of the sampling methods used, time and money had to be considered; both sampling methods did not cost the researcher money and was done in a timely manner to complete the study. It is important to note that even though the survey was administered at a middle school, this study specifically focuses on the 9th-12th graders that completed the survey.

Description of Instrument

The survey instrument, The Student Social Capital Survey, was developed by a Midwestern public school district and Community Coalition in a medium sized community. Coalition members include representatives from various organizations including juvenile court, children's advocacy centers, the local police department, the public school district, religious organizations, and cultural diversity resource centers. The Community Coalition and school district spent a little over a year developing the survey and modifying it to accurately measure the level of social capital and protective factors in adolescents. Within the Community Coalition, different groups were formed to meet the needs of different tasks and goals, one of which was specifically focused on creating the survey tool. This group conducted extensive research and a literature review to thoroughly understand social capital theory in depth and how it has been measured in past research. Local data regarding youth development, and protective and risk factors were also examined to ensure that the survey represented current trends in the community.

Following the literature review on social capital theory, various surveys were examined to observe consistency in questions that have been used to measure social capital and protective factors for positive adolescent development. The questions that were chosen to be in the survey came from The Youth Risk and Protector Factor Survey (YRPFS), The PRIDE Questionnaire, and Communities That Care Survey, which have all been assessed. Curran (2007) evaluated the Youth Risk and Protective Factor Survey (YRPFS) for content validity and conducted a pilot test of the survey. It was concluded that the YRPFS was appropriate for adolescent reading level and was sufficient in form and content for information regarding the presence of risk and protective factors, as well as substance use involvement. The scales in this survey were analyzed regarding reliability and consistency, and produced Cronbach's alpha scores of .41, .68, .71, and .80 for each of the four social capital measures in the survey. According to Field (2009), the generally accepted value for Cronbach's alpha score is .7, but when dealing with psychological constructs, values below .7 can be expected because of the diversity of the constructs that are being measured (p. 675).

The PRIDE Questionnaire for Grades 6-12 has been used for several years throughout the United States to determine substance use rates among youth. Vidourek & King (2010) assessed the stability reliability of the PRIDE Questionnaire by distributing the survey to 631 students on two separate occasions one week apart. To determine reliability, the Pearsons correlation coefficient was used. The Pearson correlation coefficient was calculated for each of the items in the survey and yielded coefficients between .81-.85. Adams (1994) compared PRIDE results to the National Institutes of Drug Abuse Monitoring the Future study results and found that alcohol

use rates in each survey were comparable. Psychometric characteristics of this survey were also shown to be valid and reliable (Craig and Emshoff, 1987).

Communities That Care, a PRIDE survey, was designed to assess risk and protective factors identified by longitudinal research across community, school, family, peer, and individual domains, as well as health and behavior outcomes such as substance use, violence, and delinquency. This survey was also designed to be appropriate for adolescents between age 11-18 and to be given in a school setting during one class period. Using a representative statewide sample of more than 10,000 students from grades 6, 8, and 11, findings suggests that this survey is reliable, with reliability values averaging around .78 across all scales. Furthermore, the risk and protective factors used are correlated with the problem behaviors, providing evidence of the construct validity of the scales. These results were also found to be reliable across gender and age groups (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002).

After questions were compiled from these surveys, questions for the Student Social Capital survey were narrowed down throughout much discussion within the Community Coalition. The survey was then reviewed by two different focus groups made up of high school students in the community from a volunteer school program and a youth drug court program. These focus groups were conducted to ensure that the survey and its questions were easily understood and that they were being asked in a way that measures what it is intending to. Review of the survey also included making sure that the survey was not too long in order to keep the attention span of the students and that it could be administered during a regular school day. The last step in creating the survey was to generate an online edition that could be easily administered by the different schools. This step was taken for the convenience of the school

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district since all of the students are provided with a school issued tablet. To complete this step, the list of survey questions complete was given to a coalition member experienced in survey development and administration, who put the questions into an online format.

The Student Social Capital Survey administered contained 68 multiple choice questions divided into the different areas of social capital distinguished from the literature review conducted. The first section included demographics and asked about grade, gender, race, who the student lived with, if they have attended a different school in the past two years, how long they have lived in the United States, what country they were born in, and parental education and employment. The next section discussed home and family life and included ten questions regarding the relationship between youth and their parents. School life was the next section and included nine questions regarding youth relationships within the school staff, school rules and policies, and youth participation in school activities. The next section included ten questions about relationships youth have with those in their community and involvement such as clubs, organizations, a job, and volunteering. The following section discussed peers and friends, asking questions about support, friend involvement in school activities and outside of school, and average time spent with their friends. The last section included 20 questions about experience with and view on substance use, specifically tobacco, alcohol, marijuana, and prescription drugs not prescribed to them. Questions included use in the past 30 days for each substance, if they feel it is harmful to their health to use each substance, if their parents/guardians would approve of them using each substance, and if their friends would approve of them using each substance.

Administration of the Survey

The final copy of the Student Social Capital Survey and administration materials for teachers were provided to the Superintendent of the school district in October of 2016, who then gave the materials to the principals at each of the three schools administering the survey. In November of 2016, the informational flyer and waiver form were distributed in the monthly student newsletters to inform parents/guardians that a survey would be administered later in the month. Between November and December of 2016, students who did not opt out of taking the survey were asked to complete the survey one time. The survey was then administered in electronic form and supervised by teachers from the school. Before administering the survey, teachers read a confidentiality statement to the students which provided information such as the purpose of the survey, student confidentiality, and provided a reminder that participation was voluntary. Following this statement, teachers provided the instructions for accessing the web-based survey and directions for answering the questions.

Once the survey was completed in each of the schools, the raw data was processed by a private consulting agency that was hired by the coalition. A USB drive with a copy of the survey information was then provided to the current researcher. In total, 1,663 students logged on to participate in the current study. Of these, only the high school students (grades 9-12) were used for the current study (n=944). In addition, students who did not complete a large portion (less than 80% completion) of the questions were also removed. This resulted in a final sample of 916 students.

<center>**Measures**</center>

To address the research questions in this study, several variables are examined. The primary dependent variable for this study was self-reported substance use. The independent variables were residential mobility and social capital, in which social capital served as a mediating variable as well. In addition, several control variables were also included in the analyses, which will be discussed in detail below.

Dependent Variable

The dependent variable for the current study was substance use. To assess substance use, this study focused on four types of substance use: tobacco, alcohol, marijuana, and prescription drug misuse. The substance use variables were measured in two ways. The first was a dichotomous measure of the variable. This provided an indication as to which students used any of the four substances in the past 30 days with a "yes" or "no" response. Students who responded "no" to all substances assessed were coded as zero and any student who reported use of at least one of the substances was coded as one.

The second method used to measure substance use included creating a scale using the continuous frequency response of substance use (See Appendix A). To create the scale score for substance use, a factor analysis was conducted. All four of the substance use measures, tobacco, alcohol, marijuana, and prescription drugs were inserted into the factor analysis model using principal components analysis and varimax rotation. Table 1 provides the number and percent of students who answered each of the individual items regarding substance use frequency. The initial results demonstrate that all four items are correlated. This is confirmed by the Bartlett's test of sphericity, which is significant (1226.35, df = 6, sig = .000). The Kaiser-Meyer-Olkin test

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reveals a significant sampling adequacy with a value of 0.79. For those that answered the four

dichotomous measures, 760 students (83%) stated that they had not used any substances in the

past 30 days and 142 students (15.5%) stated that they used any substance in the past 30 days.

The mean for the dichotomous variables is 1.15 and a standard deviation of .36.

Table 1

Substance Use Items

	Number of Cases	Percent
28a. During the last 30 days, on how many days did you use any tobacco products (cigarettes, electronic cigarettes, vaping, chewing tobacco, cigars, cigarillos, little cigars, etc.)?	910	99.3
28b. During the last 30 days, on how many days did you have one or more drinks of an alcoholic beverage (beer, wine, liquor, etc.)? (Do not count a few sips for religious purposes)	910	99.3
28c. During the last 30 days, on how many days did you use marijuana (pot, weed, grass, etc.)?	908	99.1
28d. During the last 30 days, on how many days did you use prescription drugs not prescribed to you?	906	98.9

The principal components analysis and scree plot both indicate a single factor solution.

The eigenvalue is 2.58 and it explains 64.46 percent of the variance. The average communality

score for these variables is 0.64. A reliability test was also run which revealed an alpha score of

0.80. Each of the items were then summed to create a scale with possible scores ranging from 4-

24, with higher numbers indicating a higher frequency of substance use. Table 2 provides the mean, standard deviation, and range for both substance use measures.

Table 2

Substance Use Scale

	Mean	Standard Deviation	Range
Substance Use Frequency	4.73	2.37	4.0-24.0

Independent Variables

This study used two independent variables: social capital and residential mobility. Social capital also served as a mediating variable and was broken down into four types: family, school, community, and peer.

Family Social Capital

The individual means and standard deviations for each of the ten family social capital items are displayed in Table 3. Nine of the items were formatted on a six-response Likert scale and one item took the form of a six-response scale (See Appendix B). A scale based on the latent factor, family social capital, was then constructed using factor analysis.

The initial correlations revealed that all the items were significantly correlated, indicating that all of the items should remain in the factor analysis. The Kaiser-Meyer-Olkin measure of sampling suitability was 0.89, indicating a strong sampling adequacy to conduct a factor analysis for these variables. Bartlett's test of sphericity also indicated a significant chi-Square (3667.11, $df = 45$, sig = .000) suggesting that the items included in this scale do not form an identity matrix, indicating that there are relationships between the variables.

Table 3

Family Social Capital Items

	Number of Cases	Mean	Standard Deviation
12. On average, how many times a week do you eat with your family?	915	3.51	1.56
13a. My parents/guardians set clear rules for me.	915	5.07	1.00
13b. When I am not home, one of my parents/guardians knows where I am and who I am with.	913	5.13	1.05
13c. I regularly share my thoughts and feelings with my parents/guardians.	906	3.96	1.52
13d. I enjoy spending time with my parents/guardians.	905	4.88	1.15
13e. My parents/guardians regularly talk to me about how I am doing in school.	903	4.90	1.17
13f. My parents/guardians regularly attend meetings or events at my school and activities in the community.	908	4.22	1.51
13g. My parents/guardians encourage me to do the best I can.	912	5.43	0.89
13h. I feel that my parents/guardians always care about me.	911	5.38	1.01
13i. My parents/guardians often tell me they are proud of things I have done.	911	4.96	1.25

The principal components analysis extracted one factor with an eigenvalue of 4.78, greater than the 1.0 eigenvalue factor needed for consideration. This factor explains 47.8 of the variance with 0.58 being the average communality. An examination of the scree plot indicated a

single factor solution and an assessment of the reliability of the new scale produced a Cronbach's alpha value of 0.86 for these ten items.

The final step for creating a scale for family social capital was to sum each of the items. The ten items included in the final scale used a six-response Likert scale format, so there was no need to weight the data. The additive scale including means and standard deviations are listed in Table 4, and scores range from 10 (indicating a low family social capital) to 60 (indicating a high family social capital).

Table 4

Family Social Capital Scale

	Mean	Standard Deviation	Range
Family Social Capital	47.59	8.22	10.0-60.0

School Social Capital

Of the eight school social capital items, six were formatted on a six-response Likert scale, one was a five-response scale, and the final question was a dichotomous "yes" or "no" response. The initial correlations revealed that two variables, "During the past 12 months, in how many clubs, organizations, sports, and other activities did you participate at school?" and "When I feel sad, empty, hopeless, angry, or anxious, I can talk about it with a teacher or other adult in this school" were not associated with the other variables and were excluded from further analyses.

Correlations run on the remaining items revealed that all the items were significantly correlated. A scale based on the latent factor, school social capital, was then constructed using factor analysis. The individual means and standard deviations for each of the eight school social capital items are displayed in Table 5. The Kaiser-Meyer-Olkin measure of sampling suitability

was 0.85, indicating a strong sampling adequacy to conduct a factor analysis for these variables.

Bartlett's test of sphericity also indicated a significant chi-Square (2290.40, df = 15, sig = .000)

suggesting that the items included in this scale do not form an identity matrix, indicating that

there are relationships between the variables. The principal components analysis extracted one

factor with an eigenvalue of 3.53, greater than the 1.0 eigenvalue factor needed for consideration.

This factor explains 58.9 percent of the variance with 0.59 being the average communality. An

examination of the scree plot indicated a single factor solution and an assessment of the

reliability of the new scale produced a Cronbach's alpha value of 0.85 for these ten items.

Table 5

School Social Capital Items

	Number of Cases	Mean	Standard Deviation
14a. I feel valued as a person in my school.	913	4.48	1.25
14b. I feel the adults at my school care about me as a student.	914	4.66	1.13
14c. My school has clear rules, policies, and regulations that they expect me to follow.	909	5.12	0.90
14d. My school consistently enforces the rules, policies, and regulations that are in place.	912	4.63	1.19
14e. Adults at my school encourage me to be the best I can.	908	4.82	1.10
14f. I can talk to adults at my school openly and freely about my problems and concerns.	913	4.00	1.49

The final step for creating a scale for school social capital was to sum each of the items. The six items included in the final scale used a six-response Likert scale format, so there was no need to weight the data (See Appendix C). The additive scale including means and standard deviations are listed in Table 6, and scores range from 6 (indicating a low school social capital) to 36 (indicating a high school social capital).

Table 6

School Social Capital Scale

	Mean	Standard Deviation	Range
School Social Capital	27.71	5.39	6.0-36.0

Community Social Capital

The nine items examined in regards to community social capital included three questions on a six-point Likert scale, three questions that assess frequency on a four-point scale, two that assess involvement on a five-point scale, and one with a dichotomous response. The initial correlations indicated that the variable, "During a typical week, how many hours do you spend working for pay outside of school?" was not correlated with the other variables and was eliminated from further analysis.

Correlations run on the remaining items revealed that all the items were significantly correlated. A scale based on the latent factor, community social capital, was then constructed using factor analysis. The individual means and standard deviations for each of the eight community social capital items are displayed in Table 7. The Kaiser-Meyer-Olkin measure of sampling suitability was 0.67, indicating a moderate sampling adequacy to conduct a factor analysis for these variables. Bartlett's test of sphericity also indicated a significant chi-Square

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(1075.75, df = 28, sig = .000). The principal components analysis extracted two factors. The first

factor, representing community support, has an eigenvalue of 2.29, and explains 28.67 percent of

the variance, with .45 being the average communality. The second factor, representing

community involvement, has an eigenvalue of 1.54 and explains 19.31 percent of the variance,

with .52 being the average communality. An assessment of the reliability of the new scales

produced a Cronbach's alpha of .62 for community support and .59 for community involvement.

The final step for creating a scale for community social capital was to sum each of the

items. The five items in the final community support scale included three items using a six-

response Likert scale format, one that assess involvement on a five-point scale, and one with a

dichotomous response (See Appendix D). The three items in the final community involvement

scale included three questions that assess frequency on a four-point scale (See Appendix E). The

additive scale including means and standard deviations are listed in Table 8, with scores ranging

from 5-25 for community support and 3-12 for community involvement. For both scales, a lower

score indicates a lower level of social capital.

Table 7

Community Social Capital Items

	Number of Cases	Mean	Standard Deviation
Community Support			
18a. Other than my parents/guardians and teachers, there are many other adults in my life that I could talk to about something important.	912	4.54	1.39
18b. I can trust the police in my local community.	911	4.62	1.37
18c. I feel that most adults in my community care about me.	906	4.33	1.26
20. During a typical school day, how many hours do you spend studying or doing homework outside of school?	916	2.58	1.01
27c. When I feel sad, empty, hopeless, angry, or anxious, I can talk about it with another adult (other than a parent or adult in this school).	916	1.15	0.36
Community Involvement			
19a. How recently have you participated in clubs or organizations other than sports, outside of school (4H, scouts, boys and girls clubs, YWCA, YMCA, etc.)?	912	2.23	1.23
19b. How recently have you practiced or taken lessons in music, art, drama, or dance, outside of school?	906	1.93	1.17
19c. How recently have you volunteered or helped other people without getting paid? (Include helping out at a hospital, daycare center, food shelf, youth program, community service agency, or doing other things.)	911	2.56	1.24

Table 8

Community Social Capital Scales

	Mean	Standard Deviation	Range
Community Involvement	6.71	2.70	3.0-12.0
Community Support	17.23	3.61	5.0-25.0

Peer Social Capital

The eight items examined in regards to peer social capital, three were a six-response Likert scale, three were a six-response scale measuring peer associations, one was a five-response scale examining frequency, and the final question was a dichotomous "yes" or "no" response. The initial correlations indicated that the variable, "In a typical week, how many of your four best friends have been suspended from school?" was not correlated with the other variables and was eliminated from further analysis.

Correlations run on the remaining items revealed that all the items were significantly correlated. A scale based on the latent factor, peer social capital, was then constructed using factor analysis. The Kaiser-Meyer-Olkin measure of sampling suitability was 0.66, indicating a moderate sampling adequacy to conduct a factor analysis for these variables. Bartlett's test of sphericity also indicated a significant chi-Square (1451.01, df = 21, sig = .000). The principal components analysis extracted two factors. The first factor, representing peer involvement, has an eigenvalue of 2.63. This factor explains 37.68 percent of the variance with .79 being the average communality. The second factor, representing peer support, has an eigenvalue of 1.48. This factor explains 21.16 percent of the variance with .51 being the average communality.

Table 9

Peer Support Social Capital Items

	Number of Cases	Mean	Standard Deviation
Peer Support			
25a. I feel that my friends always care about me.	913	4.89	1.04
25b. My friends encourage me to be the best I can be.	911	4.81	1.10
25c. Through the use of social media networks, I feel more connected to students both in school and in the community.	909	4.54	1.39
26. In a typical week, how many evenings do you spend out with your friends?	913	2.75	1.24
27d. When I feel sad, empty, hopeless, angry, or anxious, I can talk about it with a friend.	916	1.62	0.49

The final step for creating a scale for peer social capital was to sum each of the items. A frequency table indicated a very low response rate for the peer involvement variable, with a total of 144 of the 916 students indicating they did not know the level of activity involvement of their friends, therefore the peer involvement variable was dropped from any further analyses. The means and standard deviations for the remaining items are shown in Table 9. The five items in the final peer support scale included three items using a six-response Likert scale format, one that assesses involvement on a five-point scale, and one with a dichotomous response (See Appendix F). The additive scale including means and standard deviations are listed in Table 10, with scores ranging from 5-25. Similar to the other scales, a lower score indicates a lower level

of peer social capital. An assessment of the reliability of the final peer social capital scale

produced a Cronbach's alpha of .67.

Table 10

Peer Social Capital Scale

	Mean	Standard Deviation	Range
Peer Support	18.63	3.63	5.0-25.0

Residential Mobility

The second independent variable used in this study is residential mobility. Three

categories for this variable were created: have moved within the district in the past 24 months,

have moved into the district in the past 24 months, and have resided in the same school district in

the past 24 months. This cutoff point was chosen based on the discussion and study by Vernberg

(1990). This study examined adolescents who began the academic year in a new school due to a

change of residence, and compared their experiences to those of adolescents who had been in the

same residence for at least the prior two years. The objectives of this study were to assess the

length of time needed for the experiences of the newly moved adolescents with their peers to

approximate those of the more stable group, and to identify ways in which relocation during

early adolescence might be related to variations in social experiences. The cutoff of two years

allows for differences to be observed between newly moved adolescents and more stable

adolescents while still preserving an adequate sample size.

Control Variables

The first control variables examined in the current study are demographic variables.

Grade was included as a control variable (9th, 10th, 11th, 12th) as well as gender (female or male).

In addition, an indicator of immigrant status was also used. The three categories created for this variable include: have always resided in the United States, have resided in the United States for more than six years, and have resided in the United States for six years or less. This cutoff point was chosen based on Blake et al. (2001) study of immigration and substance use and allows for differences to be observed between native-born, immigrant, and recent immigrant populations while still preserving an adequate sample size.

In addition to demographic variables, family variables were used as controls. These include parental education, parental employment status, and the current living arrangement of the student. Education and employment status were asked separately for the female and male head of household, and the living arrangement variable was broken down into three categories: the adolescent is living with both biological or adoptive parents, living with at least one biological or adoptive parent, or living with non-parental adults (e.g. foster parents or other adult relatives).

Although some research has indicated that negative effects are due to relocation itself, other research has suggested that residential mobility is associated with family disadvantages, such as living in a single parent home and poverty, that could negatively affect adolescent well-being (Dong et al., 2005, p. 1104). In the study by Jelleyman and Spencer (2008), a young adult sample drawn from the Ontario Mental Health Supplement and found that the early initiation of illicit drug use was significantly associated with relocations before 16 years old, in which the majority of evidence relates to family stressors such as socioeconomic circumstances and disruption of family structure. Similar findings were also found by Porter and Vogel (2014), which examined a nationally representative survey of adolescents enrolled in high school during the 1993-1994 academic year and followed through early adulthood from the National

Longitudinal Study of Adolescent Health. Rather than the act of moving, findings indicate that higher levels of delinquency among mobile adolescents may be related to demographic, socio-economic, familial, and neighborhood characteristics (Porter and Vogel, 2014).

Data Analysis

The analysis of data in this study began with descriptive statistics and frequencies. To address the first research question, "Is there a relationship between residential mobility and social capital? If so, what forms of social capital have the strongest relationship with residential mobility?", a Pearson's correlation was used. To examine the second research question, "Is there a relationship between residential mobility and substance use? If so, what forms of substances are most related to residential mobility?", and the third research question, "Is there a relationship between social capital and substance use? If so, what forms of social capital are most related to substance use?", logistic and linear regressions were used. These two methods were used to determine differences in levels of substance use across areas of social capital (family, school, community, and peer) and residential mobility status. To examine the fourth and final research question, "Does social capital function to significantly intervene in the relationship between residential mobility and substance use? If so, what forms of social capital most strongly mediate this relationship?", interaction effects between residential mobility and social capital variables were examined in relation to reported substance use. Chapter IV will discuss the results of these tests.

CHAPTER IV: RESULTS

The purpose of this study was to assess the relationship between residential mobility and students' social capital, which in turn functions as an intervening variable on substance use. This chapter contains the following sections: a description of the sample regarding demographics, results for each research questions examined, and a summary of the findings.

Description of sample

This study involved the collection of data from three schools in a Midwestern city using the Student Social Capital Survey. A total of 1,663 middle and high schoolers participated in the survey. After evaluating the frequencies of substance use reported by students, the middle school participants were excluded from further analysis due to very low rates of reported substance use. In addition, students who did not complete a large portion (less than 80% completion) of the questions were also removed. This resulted in a final sample of 916 students.

The control variables for the sample are shown in Table 11. Looking at demographics, 9th grade students represented the largest portion of participants with a total of 277 students (30.2%). The fewest participants are 12th graders with a total of 182 students (19.9%). When examining gender, females represented just under half of the sample with 446 students (48.7%), and males represented just over half of the sample with 466 students (50.9%). In terms of familial characteristics, a large percentage of students did not know the education level their parents have received and the employment status of their father, so these variables were excluded from further analyses. As for mother/female household employment and living arrangements, the majority of participants' mothers have at least part-time employment (81.6%), and just over half live with both parents (59.4%).

Table 11 also presents demographic information on immigrant status and residential mobility. The majority of respondents were born in the U.S. (75.2%) with the remaining respondents indicating that they have been in the U.S. for more than six years (6.7%) and more indicating that they have been in the U.S. for six years or less (17.9%). Most respondents have not been mobile in the past two years (82.9%). As for those that were mobile in the past two years, 5.7 percent have moved within the district and 10.2 percent have moved into the district.

Table 11

Demographic Information for Survey Respondents (N=916)

	Number	Percent
Residential Mobility		
Non-mobile	759	82.9
Mobile within district	52	5.7
Mobile into district	93	10.2
Immigration Status		
Born in U.S.	689	75.2
In U.S. for more than 6 years	61	6.7
In U.S. for 6 years or less	164	17.9
Grade		
9th Grade	277	30.2
10th Grade	220	24.0
11th Grade	225	24.6
12th Grade	182	19.9
Gender		
Female	446	48.7
Male	466	50.9
Living Arrangements		
Both Parents	544	59.4
One Parent	314	34.3
Not Living with Either	50	5.5
Mother Employment		
Employed	738	81.6
Not Employed	138	15.1
Substance Use		
Reported Use	142	15.7
Did not Report Use	760	84.3

Results for Research Question 1

The first research question proposed in this study was, "Is there a relationship between residential mobility and social capital? If so, what forms of social capital have the strongest relationship with residential mobility?". This relationship was examined using a Pearson's correlation, shown in Table 12. The results of this correlation indicate that two of the five social capital variables assessed were significantly related to residential mobility. The community involvement ($r = -0.15$) and community support ($r = -0.09$) social capital variables were significantly, negatively associated with residential mobility at the 0.01 level. This indicates that when considering all social capital variables, community involvement and community support have the strongest relationship with residential mobility. More specifically, as residential mobility increases, community involvement and community support social capital decreases. The remaining social capital variables, family, school and peer support, were not significantly related to residential mobility. These results are consistent with previous literature, indicating that some types of social capital are affected by residential mobility and some are not.

Table 12

Correlation Matrix

	Family Social Capital	School Social Capital	Community Social Capital Involvement	Community Social Capital Support	Peer Social Capital Support	Substance Use Yes/No	Substance Use Frequency	Residential Mobility
Family Social Capital	1	.48**	.13**	.54**	.32**	-.26**	-.23**	-.07
School Social Capital	.48**	1	.04	.63**	.41**	-.23**	-.24**	.03
Community Social Capital Involvement	.13**	.041	1	.19**	.14**	-.02	-.03	-.15**
Community Social Capital Support	.54**	.63**	.19**	1	.37**	-.18**	-.23**	-.09**
Peer Social Capital Support	.33**	.41**	.14**	.37**	1	-.01	-.02	-.04
Substance Use Yes/No	-.26**	-.23**	-.021	-.18**	-.01	1	.71**	.01
Substance Use Frequency	-.23**	-.24**	-.031	-.23**	-.02	.71**	1	.01
Residential Mobility	-0.07	.03	-.15**	-.09**	-.04	.01	.01	1

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)

Results for Research Question 2

The second research question asks, "Is there a relationship between residential mobility and substance use? If so, what forms of substances are most related to residential mobility?". This question was assessed using two methods, binary logistic regression and linear regression. The binary logistic regression equation included control variables, social capital scales, residential mobility, and the dichotomized substance use variable, were assessed. Following this, a continuous substance use variable measuring the frequency of use was assessed employing a linear regression equation.

Binary Logistic Regression

The first step in addressing the second research question was to conduct binary logistic regression using the dichotomized measure of substance use (see Table 13). Before the binary logistic regression was calculated, a test of collinearity was conducted to ensure that none of the variables presented an issue of multi-collinearity. This test did not indicate multi-collinearity as a concern due to tolerance scores all above .1 (min= .49) and VIF scores all below 10 (max= 2.04). Model 1 included the control variables. The regression indicated that three variables were significant predictors of substance use: grade, living arrangement, and immigrant status. Adolescents who did not live with their parents were the most likely to report substance use (B=1.57, p<.01), and those living with both parents were the least likely to report substance use (B=.68, p<.01). Grade was statistically significant (B= .44, p<.001) indicating that higher grades were more likely to report substance use in the past 30 days. Lastly, the immigration status category 2 (lived in the U.S. 6 years or less) was statistically significant (B= -1.05, p<0.01) indicating that newer immigrants had lower reports of substance use.

The second model includes the control variables and adds the residential mobility variable. Three variables in the model are significant predictors of self-reported substance use: living arrangements (living with one parent (B=.65, p<.01) and living with no parent (B=1.53, p<.01)), grade (B=.44, p<.001), and immigration status (lived in the U.S. 6 years or less (B=-1.05, p<.01)). Adding residential mobility into the model had little effect on the predictive ability of grade, living arrangements, and immigration status. Residential mobility itself was not a significant predictor of the log odds of substance use in the past 30 days.

The final model included the control variables, residential mobility, and the social capital measures. Here, the immigration status variable (lived in the U.S. for less than six years) became non-significant. This indicates that the social capital variables possibly account for the relationship between immigration status and substance use. Model 3 indicates that five of the observed variables are significant. These include two control variables: grade and living arrangements, and three social capital variables: family social capital (B=-.06, p<.001), school social capital (B=-.10, p<.001), and peer support (B=.11, p<.01). The negative relationship between family and school social capital and substance use indicates that students who had higher levels of family and school social capital reported lower levels of substance use. The peer support variable was different, indicating that higher levels of peer support are related to higher levels of reported substance use.

Comparing Model 3 to Model 2, one of the residential mobility variables (moved within the district in the past two years) increased when the social capital variables were included. Even though the residential mobility variables were not significant, the increase in the coefficient for moving within the school district suggests that perhaps social capital might be suppressing this relationship. This relationship will be explored further later in the current study.

Table 13

Binary Logistic Regression of Dichotomized Substance Use

	Model 1			Model 2			Model 3		
	B	S.E.	Exp (B)	B	S.E.	Exp (B)	B	S.E.	Exp (B)
Grade	.44**	.09	1.56	.44**	.09	1.55	.44**	.10	1.56
Gender	-.23	.21	.80	-.25	.21	.78	-.20	.23	.82
Immigration Status									
>6 years	-1.08	.56	.34	-1.07	.56	.34	-1.43	.60	.24
≤6 years	-1.05**	.39	.35	-1.05**	.39	.35	-.66	.41	.52
Living Arrangement									
One Parent	.68**	.21	1.98	.65**	.22	1.92	.44**	.23	1.56
No Parent	1.57**	.48	4.79	1.53**	.50	4.60	1.37**	.54	3.94
Mother Employment									
Part-time	-.62	.36	.54	-.64	.36	.53	-.65	.38	.52
None	.05	.31	1.06	.02	.31	1.02	.14	.33	1.15
Residential Mobility									
Moved within district				.66	.40	1.93	.79	.44	2.20
Moved into district				.08	.35	1.08	-.06	.38	.94
Family Social Capital							-.06**	.02	.94
School Social Capital							-.10**	.03	.91
Community Involvement							.00	.04	1.00
Community Support							-.02	.04	.98
Peer Support							.11**	.04	1.11
Constant	-4.57	.64	.01	-4.55	.64	.01	-.83	1.06	.44

**. significant at the 0.01 level
*. significant at the 0.05 level

Linear Regression

In addition to the binary logistic regression, a multiple-linear regression was conducted to explain the substance use scale based on social capital and residential mobility measures (Table 14). The multiple-linear regression used the factor analyzed substance use variable indicating the self-reported frequency of substance use. Before the analysis was run, a test to examine the assumption of collinearity was conducted and indicated that multi-collinearity was not a concern because all tolerance scores were above 0.1 (ranging from .49 to .99) and all VIF scores were lower than 10 (ranging from 1.00 to 2.04). The data also met the assumption of independent errors (Durban-Watson= 2.10).

Model 1 contained the control variables used in the study. Three variables were associated with frequency of substance use: grade, living arrangements, and immigration status. Grade was significantly positively related at the .001 level indicating students in higher grades report more frequent use. Living arrangements were significant at the .05 level, indicating that the more disrupted living arrangement a child has, the higher frequency of substance use they report. Finally, immigration status was significant at the .05 level, indicating that the more recent immigrants report lower frequencies of substance use. Overall, the initial model presents significant regression equation ($F(5, 758) = 7.51$, $p < .000$), with an R^2 of .05.

The second model included the control variables and added the residential mobility measure into the equation. Model two was also significant, ($F(6, 757) = 7.67$, $p < .000$), with a variance R^2 of .05, the same as Model 1. In this model, grade, living arrangements, and immigration status remained significant at the .001 level (grade) and .05 level (living arrangements, immigration status). In regards to residential mobility, this variable was not

significant and did not change the variance of the model. This implies that residential mobility is not related to the frequency of substance use at the .05 level when controlling for background characteristics. The additional question regarding which forms of substances were most affected was not examined due to the lack of significance between residential mobility and substance use.

Table 14

Linear Regression of Frequency of Self-Reported Substance Use

	Model 1			Model 2			Model 3		
	Beta	t	Sig.	Beta	t	Sig.	Beta	t	Sig.
Grade	.17	4.84	.00**	.17	4.83	.00**	.15	4.47	.00**
Gender	.06	1.77	.08	.06	1.73	.09	.08	2.12	.03*
Immigration Status	-.09	-2.43	.02*	-.09	-2.45	.02*	-.05	-1.36	.17
Living Arrangements	.09	2.54	.01*	.09	2.42	.02*	.05	1.30	.19
Mother Employment	.03	.71	.48	.03	.69	.49	.04	.96	.34
Residential Mobility				.01	.39	.70	.01	.15	.89
Family Social Capital						.	-.13	-3.14	.00**
School Social Capital							-.16	-3.35	.00**
Community Involvement							.01	.24	.81
Community Support							-.09	-1.94	.05
Peer Support							.11	2.98	.00**

**. significant at the 0.01 level
*. significant at the 0.05 level

Model 3 was the final linear model and included all control variables, residential mobility, and the social capital measures. This model also was significant (F(11, 752) = 13.74, p

< .000), with an R^2 of .13. As indicated in the previous models, grade was also significantly, positively related to frequency of use, but the living arrangement and immigration status variables were no longer significant. In addition, when adding social capital variables into the model, gender became a significant factor, with males being more likely to report higher frequencies of substance use. Inclusion of the social capital measures indicates that three of the five social capital variables were significantly related to self-reported frequency of substance use. Similar to findings from binary logistic regression, family and school social capital measures indicate that an increase in family and school social capital is related to a less frequent substance use, and increases in peer support is related to higher reported rates of substance use.

Results for Research Question 3

The third research question, "Is there a relationship between social capital and substance use? If so, what forms of social capital are most related to substance use?" was examined using the binary logistic regression (Refer back to Table 13). Including the social capital variables in Model 3 indicated that three social capital variables were significantly related to substance use: family social capital (B=-.06, p<.001), school social capital (B=-.10, p<.001), and peer support (B=.10, p<.01). The negative relationship between family and school social capital and substance use indicates that students who had higher levels of family and school social capital reported lower levels of substance use, and the positive relationship between peer support and substance use indicates that higher levels of peer support are related to higher levels of reported substance use. These findings were also consistent with results from the linear regression models.

Results for Research Question 4

The fourth research question asks, "Does social capital function to significantly intervene in the relationship between residential mobility and substance use? If so, what forms of social capital most strongly mediate this relationship?". In other words, does social capital help explain the relationship between residential mobility and substance use? To explore further the possibility that one of the three significant social capital scales is functioning to suppress the residential mobility-substance use association, three separate logistic regression equations were ran and included an interaction term (separately) for residential mobility by social capital (Table 15). Model 4 shows the results of the interaction term for residential mobility by family social capita, school social capital, and peer support social capital.

Peer support was the closest to reaching significance, but none of the three social capital variables approached significance. The results from Table 13, 14, and 15 indicate that the association involving students who moved within the school district and the log odds of substance use is different for those with peer support. The direction of the coefficient indicates that peer support may be more important for elevating substance use among students who moved within the school district than those who did not move or those who moved from another school district. While the coefficient is not significant at the .05 level, the direction is of interest and makes logical sense regarding students moving from school to school. This finding merits some discussion in the next section.

Table 15

Binary Logistic Regression of Dichotomized Substance Use and Interaction of Residential Mobility and Social Capital Variables

	Model 1			Model 2			Model 3			Model 4		
	B	S.E.	Exp (B)	B	S.E.	Exp (B)	B	S.E	Exp (B)	B	S. E.	Exp (B)
Grade	.44**	.09	1.56	.44**	.09	1.55	.44**	.10	1.56	.46**	.10	1.60
Gender	-.23	.21	.80	-.25	.21	.78	-.20	.23	.82	-.19	.23	.83
Immigration Status												
>6 years	-1.08	.56	.34	-1.07	.56	.34	-1.43	.60	.24	-1.35*	.60	.26
≤6 years	-1.05**	.39	.35	-1.05**	.39	.35	-.66	.41	.52	-.68	.42	.51
Living Arrangement												
One Parent	.68**	.21	1.98	.65**	.22	1.92	.44*	.23	1.56	.46	.23	1.60
No Parent	1.57**	.48	4.79	1.53**	.50	4.60	1.37*	.54	3.94	1.45*	.57	4.28
Mother Employment												
Part-time	-.62	.36	.54	-.64	.36	.53	-.65	.38	.52	-.73	.40	.48
None	.05	.31	1.06	.02	.31	1.02	.14	.33	1.15	.15	.34	1.16
Residential Mobility Moved within district				.66	.40	1.93	.79	.44	2.20	-2.47	3.50	.09

* significant at the 0.05 level
** significant at the 0.01 level

Table 15

Binary Logistic Regression of Dichotomized Substance Use and Interaction of Residential Mobility and Social Capital Variables (continued)

	Model 1			Model 2			Model 3			Model 4		
	B	S.E.	Exp (B)	B	S.E.	Exp (B)	B	S.E	Exp (B)	B	S. E.	Exp (B)
Residential Mobility Moved into district				.08	.35	1.08	-.06	.38	.94	2.52	2.40	12.37
Family Social Capital							-.06**	.02	.94	-.05*	.018	.96
School Social Capital							-.10**	.03	.91	-.10**	.03	.90
Community Involvement Social Capital							.00	.04	1.00	-.01	.04	.99
Community Support Social Capital							-.02	.04	.98	-.03	.04	.98
Peer Support							.10**	.04	.98	.09*	.04	1.10

* significant at the 0.05 level
** significant at the 0.01 level

Table 15

Binary Logistic Regression of Dichotomized Substance Use and Interaction of Residential Mobility and Social Capital Variables (continued)

	Model 1			Model 2			Model 3			Model 4		
	B	S.E.	Exp (B)	B	S.E.	Exp (B)	B	S.E	Exp (B)	B	S. E.	Exp (B)
Family Social Capital & Residential Mobility (Moved within district)										-.02	.07	.99
Family Social Capital & Residential Mobility (Moved into district)										-.09	.05	.92
School Social Capital & Residential Mobility (Moved within district)										-0.9	.12	.92

* significant at the 0.05 level
** significant at the 0.01 level

Table 15

Binary Logistic Regression of Dichotomized Substance Use and Interaction of Residential Mobility and Social Capital Variables (continued)

	Model 1			Model 2			Model 3			Model 4		
	B	S.E.	Exp (B)	B	S.E.	Exp (B)	B	S.E	Exp (B)	B	S. E.	Exp (B)
School Social Capital & Residential Mobility (Moved into district)										.05	.08	1.05
Peer Support Social Capital & Residential Mobility (Moved within district)										.33	.18	1.39
Peer Support Social Capital & Residential Mobility (Moved into district)										-0.1	.10	.99
Constant	-4.57	.64	.01	-4.55	.64	.01	-.83	1.06	.44	-1.15	1.12	.32

* significant at the 0.05 level
** significant at the 0.01 level

Summary

As social capital theory would predict, initial Pearson's correlations indicate that there is a significant relationship between community support and community involvement social capital measurements and residential mobility (Research question #1). This suggests that when considering all social capital variables, community involvement and community support have the strongest relationship with residential mobility. To further examine the relationship between residential mobility and social capital on reported substance use, binary logistic regression and linear regression were used.

Results from both the binary logistic regression and linear regression indicated that residential mobility was not a significant predictor of substance use in the past 30 days when controlling for background characteristics (Research question #2). Inclusion of the social capital measures in both the binary logistic regression and linear regression determined that family, school, and peer support were the three social capital variables significantly related to substance use (Research question #3). As expected, there was a negative relationship between family and school social capital and substance use, indicating that students who had higher levels of family and school social capital reported lower levels of substance use. Peer support had the opposite effect, a positive relationship between peer support and substance use, indicating that higher levels of peer support are related to higher levels of reported substance use.

The final examination in this study explored the possibility that one of the three significant social capital scales is functioning to suppress the residential mobility-substance use association (Research question #4). Three separate logistic regression equations were ran and included an interaction term (separately) for residential mobility by social capital. The interaction term for residential mobility by peer support was not significant, but the increase in

this coefficient after inclusion of the social capital variables indicates that the association involving students who moved within the school district and the log odds of substance use is different for those with peer support. While the coefficient is not significant at the .05 level, the direction is of interest and makes logical sense regarding students moving from school to school. The other two interaction terms were not close to being significant.

CHAPTER V: SUMMARY, CONCLUSIONS AND DISCUSSION, AND

RECOMMENDATIONS

This chapter presents a summary of the present study within the context of previous related research, the findings, and conclusions drawn from the results. Secondly, limitations are acknowledged in regards to interpretation of the findings. Following that, recommendations to educators and researchers are provided.

Summary

The purpose of this study was to assess the relationship between residential mobility and students' social capital, which in turn functions as an intervening variable on substance use. To do this, a survey was given to middle and high school students attending three different Midwest schools. For the purposes of this analysis, middle school students and students who did not complete a majority of the survey were removed from the analysis. This resulted in a total sample of 916 students. Initial correlations were administered to examine the relationship between the variables followed by a binary logistic regression and multiple-linear regression. These analyses examined the predictive values of residential mobility and social capital on reported substance use and frequency of use respectively.

The first research question examined in this study, "Is there a relationship between residential mobility and social capital? If so, what forms of social capital have the strongest relationship with residential mobility?" was examined using a Pearson's correlation, shown in Table 12. The results of this correlation indicate that two of the five social capital variables assessed were significantly related to residential mobility. According to Dong et al. (2005) social capital has been found to decrease for children and families after relocation, however, it is important to note that some findings show that children that have experience with relocation are

also responding to traumatic and stressful events that may accompany adolescent development and changes in residence, school, and environment (Dong et al., 2005, p. 1108). This question served as the rationale for the first research question in this study as well as the inclusion of the control variables chosen. Initial correlations found that there is a significant relationship between community involvement and community support social capital measurements and residential mobility. More specifically, as residential mobility increases, community involvement and community support social capital decrease. This finding is supported by Teachman et al. (1996) which states that obtaining social capital is dependent on the fact that children generate a network of healthy social relationships in their community with consistent behavior in their daily interactions.

To further examine the relationship between residential mobility and social capital on reported substance use, binary logistic regression and linear regression were used. Results from both analyses provided results for the second research question, "Is there a relationship between residential mobility and substance use? If so, what forms of substances are most related to residential mobility?". These results indicated that residential mobility was not significant on the reporting of substance use in the past 30 days when controlling for background characteristics. Inclusion of the social capital measures in both the binary logistic regression and linear regression determined that there were three social capital variables that are significantly related to substance use. This provides results for the third research question, "Is there a relationship between social capital and substance use? If so, what forms of social capital are most related to substance use?" indicating that family, school, and peer support were significantly related to substance use. These results suggest that students who had higher levels of family and school social capital reported lower levels of substance use, and higher levels of peer support are related

to higher levels of reported substance use. Support for this finding comes from Curran (2007) who found a negative relationship between family and school social capital and substance use where increases in family and school social capital are associated with decreases in alcohol, tobacco, marijuana, and other drug use. This relationship implies that the development and maintenance of communication and social skills that foster relationships within the family and school and may be important in reducing the risk of high-risk behavior engagement.

The fourth and final research question in this study asked, "Does social capital function to significantly intervene in the relationship between residential mobility and substance use? If so, what forms of social capital most strongly mediate this relationship?". This explored the possibility that one of the three significant social capital scales is functioning to suppress the residential mobility-substance use association. Three separate logistic regression equations were ran and included an interaction term (separately) for residential mobility by social capital. The interaction term for residential mobility by family social capital, school social capital, and peer support social capital was not significant, but the increase in the peer support coefficient after inclusion of the social capital variables indicates that the association involving students who moved within the school district and the log odds of substance use is different for those with peer support. This finding is supported by Vernberg (1990) who stated that relocation during early adolescence is a life transition that disrupts existing peer networks during a period when they play important roles in development. This study found that mobile adolescents have less positive social experiences with peers during the year following relocation when compared to their non-mobile counterparts.

This finding is significant to the researcher because it was an initial hypothesis before beginning the literature review and research for this study. The researcher hypothesized that

residentially mobile students have less social capital and therefore will engage in substance use or other deviant behavior in an attempt to fit in and make friends within their new environment. Astone and McLanahan (1994) support this idea suggesting that children attending a new school may feel socially isolated or marginalized, therefore they seek out other marginal students, such as those involved in antisocial activities.

Conclusions and Discussion

Overall, the results of this study provide partial support for social capital theory. Initial correlations found a significant relationship between community involvement and community support social capital measurements and residential mobility. This indicates that when considering all social capital variables, community involvement and community support have the strongest relationship with residential mobility. Binary logistic regression and linear regression found a significance for family, school, and peer support social capital measures for both any substance use and frequency of use. Further analysis of the logistic regression indicated that one of the residential mobility measures (moved within the district in the past two years) became more significant when the social capital variables were included. Further analyses of interactions between residential mobility and social capital measures found an increase in the peer support social capital coefficient, but this interaction term was not significant, along with the other two social capital variables. The increase in the peer support coefficient after inclusion of the social capital variables indicates that the association involving students who moved within the school district and the log odds of substance use is different for those with peer support.

Even though support was not found for the residential mobility variable in this study, it still provides findings for other variables associated with social capital and substance use. One of these variables is immigration status, which was found to be statistically significant in the

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analyses utilized in this study. Even though this was not the focus of the study and was used as a control variable, its significance should be highlighted.

The presence of social capital in which individuals are connected to one another provides social resources and allows for the development of positive standards for adolescents. On the other hand, the lack of positive norms, community associations, and informal adult relationships leaves adolescents to be in charge of making their own decisions regarding their environment and who they associate with. This could lead to impulse decisions and deviant behavior (Putnam, 2000). This statement, the meaning of social capital theory, and its significance, provides the importance for its inclusion in continued research.

Limitations

The current study had several limitations. First, a purposive and availability sample was used to obtain data from adolescent students. The use of purposive and availability sampling is occasionally discouraged due to the relevance of bias beyond the control of the researcher and high sampling error. For this reason, it cannot be assumed that the participants involved in the current study are representative of the general population in the area. However, this study utilized these sampling methods due to the lack of time and money.

In addition, the survey used for the current study has not been empirically validated. The current implementation of the survey was a pilot study, in which the community coalition used this trial run to assess any potential problems with the survey and/or problems with the administration procedures. Results from this pilot study will be provided to the community coalition so that future administration of the survey can be improved and more reliable. It is also important to consider the fact that the substance use questions were included at the end of the Student Social Capital Survey, which could result in a larger proportion of students not

answering the question due to time or lack of focus. Students may also have been dishonest on reporting use because the survey was taken on a school-appointed tablet, which may have created an additional concern for privacy compared to paper-and-pencil surveys. Since it is difficult to assess why reported use is lower than previous years, this should be noted as a limitation of the current study. Furthermore, it is unknown how many parents opted out of allowing their child to participate in the study, or why parents chose to withhold their child's participation.

The current study also utilized self-report data, which can produce issues regarding participants either over- or under-reporting. More specifically, the rates of reported substance use observed in the current study are much lower than self-reported use obtained in previous years from the Youth Risk Behavior Survey. Self-reported substance use could be lower in the current study for several reasons. One possible explanation is that substance use has drastically declined in the area due to increased educational efforts and heightened awareness, as well as lower availability, etc. Another explanation is that the substance use questions were placed at the end of the survey, which could mean that students lost focus or skipped these questions to complete the survey. Furthermore, it could be the case that those with lower social capital and increased substance use were not attending school the day this survey was administered due to being institutionalized, suspended, being involved with juvenile court, etc.

Recommendations

Policy recommendations can be provided from the findings of this study. For schools and communities, a program could be used to provide peer groups or peer mentoring for new students. This could help the new students get familiar with the school more quickly, help build peer networks, and provide a smoother transition for the new students. In regards to the

community coalition that helped create and administer the Student Social Capital Survey, findings from this study imply that this community already enjoys higher levels of social capital and low levels of substance use because of high levels of family, school, community, and peer connections. With that said, the coalition should continue efforts in maintaining this healthy environment and not modify what is already working.

Recommendations for future research can also be provided from this study. Taking the limitations in consideration, future research should examine the relationship between residential mobility and social capital on substance use using a validated survey that specifically measures different forms of capital. Due to restrictions and guidelines regarding how long the survey could be, the Student Social Capital Survey was limited in the number of questions it employed, which could have impacted the measurement of social capital. Similar studies should be conducted to see if the findings from this study are consistent. Future research could also look at the administration of the survey at two different points in time with the same students to see what changes as students age. In relation to this study, one could examine if the cutoff for mobile individuals getting accustomed into the community is less than two years, as some research has indicated (Vernberg, 1990), or if the cutoff for measuring immigrant status is accurately measured at six years.

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APPENDIX A. CONTINUOUS SUBSTANCE USE VARIABLES

Question	Answer Possibilities	Coding
28a. During the last 30 days, on how many days did you use any tobacco products (cigarettes, electronic cigarettes, vaping, chewing tobacco, cigars, cigarillos, little cigars, etc.)?	0 days 1 or 2 days 3 to 9 days 10 to 19 days 20 to 29 days All 30 days	0 days = 1 All 30 days = 6
28b. During the last 30 days, on how many days did you have one or more drinks of an alcoholic beverage (beer, wine, liquor, etc.)? (Do not count a few sips for religious purposes)	0 days 1 or 2 days 3 to 9 days 10 to 19 days 20 to 29 days All 30 days	0 days = 1 All 30 days = 6
28c. During the last 30 days, on how many days did you use marijuana (pot, weed, grass, etc.)?	0 days 1 or 2 days 3 to 9 days 10 to 19 days 20 to 29 days All 30 days	0 days = 1 All 30 days = 6
28d. During the last 30 days, on how many days did you use prescription drugs not prescribed to you?	0 days 1 or 2 days 3 to 9 days 10 to 19 days 20 to 29 days All 30 days	0 days = 1 All 30 days = 6

APPENDIX B. FAMILY SOCIAL CAPITAL VARIABLES

Question	Answer Possibilities	Coding
12. On average, how many times a week do you eat with your family?	0 times 1 or 2 times 3 or 4 times 5 or 6 times 7 or 8 times 9 or more times	0 times = 1 9 or more times = 6
13a. My parents/guardians set clear rules for me.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
13b. When I am not at home, one of my parents/guardians knows where I am and who I am with.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
13c. I regularly share my thoughts and feelings with my parents/guardians.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
13d. I enjoy spending time with my parents/guardians.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
13e. My parents/guardians regularly talk to me about how I am doing in school.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
13f. My parents/guardians regularly attend meetings or events at my school and activities in the community.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6

Question	Answer Possibilities	Coding
13g. My parents/guardians encourage me to do the best I can.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
13h. I feel that my parents/guardians always care about me.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
13i. My parents/guardians often tell me they are proud of the things I have done.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6

APPENDIX C. SCHOOL SOCIAL CAPITAL VARIABLES

Question	Answer Possibilities	Coding
14a. I feel valued as a person in my school.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
14b. I feel the adults at my school care about me as a student.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
14c. My school has clear rules, policies, and regulations that they expect me to follow.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
14d. My school consistently enforces the rules, policies, and regulations that are in place.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
14e. Adults at my school encourage me to be the best I can.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
14f. I can talk to adults at my school openly and freely about my problems and concerns.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6

APPENDIX D. COMMUNITY SUPPORT SOCIAL CAPITAL VARIABLES

Question	Answer Possibilities	Coding
18a. Other than my parents/guardians and teachers, there are many other adults in my life that I could talk to about something important.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
18b. I can trust the police in my local community.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
18c. I feel that most adults in my community care about me.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
20. During a typical school day, how many hours do you spend studying or doing homework outside of school?	0 hours 1 hour 2 hours 3 to 5 hours 6 or more hours	0 hours = 1 6 or more hours = 5
27c. When I feel sad, empty, hopeless, angry, or anxious, I can talk about it with another adult (other than a parent or adult in this school).	No Yes	No = 1 Yes = 2

APPENDIX E. COMMUNITY INVOLVEMENT SOCIAL CAPITAL VARIABLES

Question	Answer Possibilities	Coding
19a. How recently have you participated in clubs or organizations other than sports, outside of school (4H, scouts, boys and girls clubs, YWCA, YMCA, etc.)?	Never More than 12 months ago In the last 12 months In the last 30 days	Never = 1 In the last 30 days = 4
19b. How recently have you practiced or taken lessons in music, art, drama, or dance, outside of school?	Never More than 12 months ago In the last 12 months In the last 30 days	Never = 1 In the last 30 days = 4
19c. How recently have you volunteered or helped other people without getting paid? (Include helping out at a hospital, daycare center, food shelf, youth program, community service agency, or doing other things.)	Never More than 12 months ago In the last 12 months In the last 30 days	Never = 1 In the last 30 days = 4

APPENDIX F. PEER SUPPORT VARIABLES

Question	Answer Possibilities	Coding
25a. I feel that my friends always care about me.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
25b. My friends encourage me to be the best I can be.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
25c. Through the use of social media networks, I feel more connected to students both in school and in the community.	Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree	Strongly Disagree = 1 Strongly Agree = 6
26. In a typical week, how many evenings do you spend out with your friends?	0 evenings 1 evening 2 evenings 3 to 5 evenings 6 or more evenings	0 evenings = 1 6 or more evenings = 5
27d. When I feel sad, empty, hopeless, angry, or anxious, I can talk about it with a friend.	No Yes	No = 1 Yes = 2