



# Attributing activity space as risky and safe: The social dimension to the meaning of place for urban adolescents

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## ABSTRACT

The social dimension of urban adolescents' interpretation of their activity space was investigated by examining reasons for attributing place as risky and safe, and analyzing these reasons by social network quality. Activity space and social network data were collected on 301 teens presenting for routine medical check-ups. SPSS Text Analysis for Surveys performed linguistic analyses on open-ended survey responses, applying concept derivation, concept inclusion, semantic networks, and co-occurrence rules. Results produced 13 categories of reasons for locations attributed as risky and safe. Categories were then transformed into dichotomous variables and analyzed with chi-square tests by social network quality. Results indicated two categories of reasons for locations attributed as risky: alcohol and drugs and Illegal activity, which were dependent upon social network quality. Two categories of reasons for locations attributed as safe, namely protective place and Neighborhood, were also dependent upon social network quality. These findings assert that adolescents' social networks influence their interpretations of risk and safety, highlighting a social dimension to the meaning of place.

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## 1. Introduction

The idea that risk exacerbating places are associated with negative health outcomes is especially salient for urban youth. Research has shown that urban youths are particularly vulnerable to early use and future dependency on illicit drugs and alcohol (Wright, 2004) and that young African Americans living in the inner city are at unique risk for substance abuse. For example, while African American adolescents use less marijuana compared to white and Hispanic teens, African Americans as a group engage in greater lifetime use of marijuana as compared to white and Hispanic counterparts. Further, there is evidence that as African Americans age, they suffer from substance abuse-related diseases at a greater rate as compared to other ethnic groups (CDCP, 2007). Given these risks, understanding the role of place, and specifically the unique meaning of activity space for urban youth is important when considering health policy and programming.

The role of urban places association with health outcomes has a long history. Classic sociological studies have linked large urban geographic units to negative outcomes, such as rates of suicide and chronic unemployment, providing an empirical link between behaviors and place (Durkheim, 1951; Wilson, 1987). Building on these sociological theories of alienation and isolation, Shaw and McKay (1942) posited that juvenile delinquency is in large

measure influenced by social disorganization in inner-city neighborhoods, where indicators such as abandoned or dilapidated housing and criminal activity signify a lack of social control stemming from poverty, isolation from 'mainstream society,' and residential instability. Relevant to the present study, a growing body of research has shown that perceptions of particular places are thought to influence health and health-related behaviors and are particularly suggestive of causal pathways linking place with health outcomes (Airey, 2003; Popay et al., 2003). More specifically, studies have established that individual perceptions of the characteristics of home neighborhoods have been found to be a robust predictor of behavior such as substance use and mental health outcomes (Ellaway et al., 2002; Kawachi and Berkman, 2003; Lambert et al., 2005; Latkin and Curry, 2003; Mason et al., 2009). However, very little is known about (a) how place is perceived within the context of individuals' routine activities, or activity spaces—not just home locations, (b) why particular places are attributed as risky and safe, and (c) if these place-based attributions are associated with social network quality (levels of risk for and protection against substance use). The purpose of the present study is to collect and categorize urban adolescents' reasons for attributing their activity spaces as risky and safe, and to test these categories' dependency on social network quality.

### 1.1. Activity space

An important construct that provides methodological guidance for addressing the socio-spatial dimension of adolescents' lives is

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activity space. Activity space has a long interdisciplinary history with disciplines such as geography, public health, sociology, transportation studies, time–space studies, social psychology, and human–environment interactions. It can be defined as all the locations that an individual has direct contact with as a result of his or her daily activities (Miller, 1991). More broadly, activity spaces are the manifestation of our spatial lives, serving as an index representing routine locations and all the accompanying psychological, social, and health-related experiences of these places (Golledge and Stimson, 1997; Sherman et al., 2005). Recent research with urban youth informs us that the type of locations in which youth spend their time are varied and geographically dispersed, and are not delimited by traditional geographical boundaries such as census tract, home neighborhood, block group, or political ward (Mason and Mennis, 2010; Mason et al., 2004). It is due to this unique spatial behavior of urban youth that traditional geographic boundaries are not effective in capturing teens' spatial signatures and associated health outcomes.

Recent research on adolescent activity space has demonstrated that neighborhood characteristics influence adolescents' perceptions of safety and risk and are associated with substance use and mental health outcomes (Mason and Korpela, 2009; Mason et al., 2009), underscoring the importance of this construct for understanding urban youth. These findings provide objective insight into adolescents' perceptions of safety and risk by examining observed risk and protective features that are most proximal to teens' activity space locations and the associated health outcomes. However, what is missing in this area of research is an understanding of why, or the reasoning for attributing activity spaces as safe or risky. Research that addresses this reasoning will provide insight into urban teens' psycho-social interpretation of space and has preventive implications for researchers seeking to deepen their understanding of the influence of place. That is, in order to provide a fuller contextual understanding of adolescents' activity space, social network analysis needs to be incorporated into these efforts to address the influence of the spatial dimension through the interaction with the social dimension.

### 1.2. Social networks

While the influence of social interactions on adolescent substance use and mental health is well established (e.g. Mayes and Suchman, 2006; Valente et al., 2005; Mason, 2009), there has been little recognition in the literature on the interplay between social networks and place. While research has demonstrated that adolescents develop social strategies through their social networks to regulate emotions (Berkman and Glass, 2000), a broader approach considers the role of place in producing environmental strategies to regulate emotions and promote identity development (Korpela et al., 2002). Selected locations represent critical environments for adolescent social development, such as identity formation, by selecting and shaping appropriate outer contexts or settings to moderate internal states and address developmental needs through processes of control, creativity, mastery, privacy, security, personal displays, and serenity (Clark and Uzzell, 2006; Korpela et al., 2002; Mason and Korpela, 2009). These healthful outcomes are linked to appropriate self and emotional regulation, which in turn serve as protective factors against mental health problems (Cole et al., 1994; Eisenberg et al., 2004; Kring and Werner, 2004) and against substance use (Hull and Slone, 2004; Sayette, 2004).

Place can be integrated into social network approaches adding a necessary and under-examined contextual grounding to network research. Place-based social network research assumes that adolescents' social networks are not static across peer

composition or across locations. That is, adolescents' social networks have different qualities (levels of risk) based upon the varied composition of a network and the level of risk at a particular location. The physical and social characteristics of adolescents' routine locations, whether measured by perceptions or independent measures, are known to interact with substance use and mental health (Fagg et al., 2008; Mason and Korpela, 2009). These findings support the theory that different settings are important at different developmental periods for adolescents (Cicchetti and Blender, 2004). Place-based social network quality then is dependent upon the alters who may or may not frequent a particular location of interest, constituting an interaction between network composition and place.

Recent place-based social network research has attempted to link the social and spatial dimensions of adolescents. Mason and colleagues analyzed whether the likelihood of urban adolescents' substance use involvement was dependent on place-based social networks (based upon activity space) and whether that is moderated by gender and age. Results show that for young female adolescents (13–16), substance use is strongly associated with their place-based social networks compared to older female adolescents (17–20) and compared to young and older male adolescents (Mason et al., 2010b). This research has established links between socio-spatial behaviors and health outcomes and provides further insight into the social ecology of urban adolescents.

### 1.3. Considering the meaning of place

Social science researchers interested in understanding the role of place on behavior have typically examined environmental influences by simply tallying geographic features hypothesized to influence outcomes within prescribed locations. For example, one may count the number of liquor stores within the census tract where an individual lives to investigate how the availability of alcohol influences alcohol abuse. Recent research asserts, however, that this approach fails to address the primacy of meaning of place for individuals (Frohlich et al., 2002; Cummins et al., 2007). These studies show that the meaning ascribed to various places is important, and is linked to and expressed through social practices and health behaviors. Specifically, the interpretation of meaning of places is the psycho-social mechanism by which geographic features exert influence on individuals (Mason et al., 2009).

By understanding the attributive meaning of places for individuals, researchers can collect more accurate social ecological data. For example, concepts such as a 'high-crime neighborhood' or 'safe neighborhood,' while ostensibly objectively measureable using crime and other large-scale data sources, may be experienced and interpreted completely differently by different individuals depending on their psychological, social, and behavioral background and practices. For example, recent research has confirmed that urban adolescents' interpret their home as safe regardless of objectively measured features considered "risky" such as crime, violence, drug sales, poverty, etc. (Mason et al., 2009). In this study Mason and colleagues used both the density of and the distance to risky features to examine adolescents' interpretation of their homes as safe or risky. This finding was then tested on the sample divided by substance users and non-users, with both groups reporting home as safe regardless of the objective risk, indicating that risky behaviors are not predictive of place interpretation. This finding is important and provides support for using activity space data to more accurately understand the socio-spatial lives of urban teens. Specifically, a more detailed understanding is needed to find out

why these activity spaces are perceived as risky or safe, and what, if any, is the role of social network quality on these perceptions.

The current study builds upon and extends our previous work that has described and analyzed the social ecology of urban youth within the context of a typical large US city, which shares many of the common social ills (poverty, violence, etc.) that plague other US cities. Our work has examined three distinct lines of research: (a) patterns of place-based self-regulation (Mason et al., 2010a); (b) risk and protection of social network quality (Mason et al., 2010b); and (c) relationship between the geographic characteristics and perceptions of activity spaces (Mason et al., 2009). These studies have made unique contributions to understanding urban youth substance use within the context of (a) how teens interact with places, (b) how their networks are protective or risky, and (c) how they perceive their activity space. However, none of these studies have applied sophisticated qualitative data analysis software (SPSS Text Analysis) on adolescents' reasons for attributing places as safe or risky, nor have these studies linked their attributions of place with social network quality. In an effort to further understand the social dimension of urban adolescents' interpretation of their activity space, this study analyzed place attributions by social network quality. Social network quality is a construct that bridges both ego-centric network and peer influence literatures. Social network quality is used in this research because it is linked to our previous research, and it specifies the peer influence of risk behaviors, particularly substance use, which is the primary outcome of interest in our research. Given that perceptions of activity space and social networks are predictive of outcomes such as substance use, understanding the social influence of individual attributions of activity space would address a significant gap in the literature. Based on the literature reviewed this present study focuses on the construct of activity space and hypothesizes that the reasons that urban adolescents attribute places as risky or safe will vary by social network quality (levels of risk or protection), as well as by gender and by age.

## 2. Methods

### 2.1. Participants

The sample comprised 301 adolescent primary care patients at a Philadelphia Department of Public Health, health care center. This clinic provides general medical services, and is not a mental health or substance abuse focused facility and is representative of urban community health clinics. Table 1 presents demographic data for this sample. As indicated in the table, the sample was 87% African American and 13% self-identified as mixed or other race/ethnicity, with the majority being (60%) female, which corresponds with other primary care gender distributions (Mason et al., 2004). The high African American rate is representative of the urban area served by the health care center. Nearly one-third – 30% – of subjects were living below the poverty line and 14% were on public assistance. Participants were eligible for the study if they met the requirements of age (13–20 years), Philadelphia residence, free from major mental health disturbance (active psychosis would exclude a patient from completing the interviews), literate or fluent in English, and for minor patients be accompanied with parents or legal guardians capable of providing informed consent.

### 2.2. Procedure

Parents or guardians of all adolescent patients were approached in the clinic waiting area, the study was explained,

**Table 1**

Participant and resident neighborhood characteristics ( $n=301$ ).

	Count	%	Mean (SD)
<i>Age</i>			17 (2)
13–15	105	35	
16–18	116	39	
19–20	80	26	
<i>Sex</i>			
Male	118	39%	
Female	183	61%	
<i>Race</i>			
African American	262	87%	
Mixed race	24	8%	
Other	15	5%	
<i>Resident neighborhood characteristics</i>			
Below poverty line	30%		
Receiving public assistance		14%	
Unemployed		8%	

and eligibility screening questions were asked. Families who met eligibility requirements were recruited to participate in the study. Adolescents over 18 were approached directly while they waited for their appointments. Written informed consent was obtained from all parents and/or adolescent participants. Nominal incentives were used to acknowledge participants' time and effort and the study's consent rate was 90%. Measures were administered in private (i.e., in a separate room from parents to protect patient confidentiality and obtain more valid data) and the procedure generally lasted 45 min or less. The first author's university and the city of Philadelphia Health Department's institutional review boards approved the research protocol and the study received a federal certificate of confidentiality.

### 2.3. Measures

All assessments were conducted by trained interviewers who completed a training protocol that included role-play training and ongoing weekly supervision to ensure the collection of high-quality data. Individual background characteristics such as age, sex, race/ethnicity, and social economic status of all participants were assessed.

*Activity space measure.* Activity space data were captured from the Ecological Interview (Mason et al., 2004), which produces a location-specific listing of the teen's weekly routine locations, as well as participant evaluations of these various locations. The Ecological Interview is a structured interview that uses a method known as "Free Listing" where participants are asked to list and describe all the elements that are part of a particular domain of interest, in this case weekly locations (Weller and Romney, 1988) and Recall Method (Verma and Saraswathi, 1992) where respondents report on their activities in sequential order for a given reference period, in this case one week. The Ecological Interview produces accurate and valid geographic data with previous studies successfully identifying and geocoding 90% of the collected geographic data (Mason et al., 2004). Teens are asked to identify specific geographical information of their locations in a priority order such as (a) complete addresses if known, if not then (b) cross streets, and lastly (c) names of known landmarks such as parks, subway stations, and the like that are close to the participants' activity space location. Subjects are asked to identify the mode of transportation, time of presence, day of the week, and duration of stay for each of these locations. Participants are asked which place from their locations is the (a) most important, (b) the safest, (c) the riskiest, and (d) their favorite. Safe places were

defined as safest place from harm, danger, or the likelihood of engaging in risky or dangerous activities and risky places were defined as the place where you are most likely to engage in risky or dangerous activities, cause trouble, or do illegal activities. For the present study, we only utilized locations perceived as safe or risky. When they identified a location as either safe or risky, subjects were asked, ‘What makes this place safe/risky?’ Answers were recorded as brief narrative responses for why adolescents perceive particular places in their activity space as safe or risky.

**Social network measure.** Social network data was gathered using the Adolescent Social Network Assessment (ASNA) (Mason et al., 2004). The ASNA captures information on each person's close personal contacts: their strong ties which constitute their social networks. The ASNA has favorable internal consistency reliability (Cronbach's alpha .84) and correlates significantly in the expected direction with self-report measures of substance use ( $r = -.66$ ). Adolescents are asked to name the people with whom they have contact at *least once per month* and with whom they have a “meaningful relationship”. Respondents provide health risk information on each alter. Subjects are asked whether they know if each alter uses substances and how often and whether they have been directly or indirectly influenced to use or not to use substances by each alter. This item has been shown in past research to be an important influence on behavior (Valente et al., 1997). Subjects are asked about positive activities such as receiving help with school or transportation, as well as negative activities such as engaging in illegal or dangerous behaviors. These procedures follow those widely used and accepted in the social network field (Burt, 1992; Brewer, 2000; Cotterell, 2007; Liebow et al., 1995; Marsden 1990; Valente 2003; Vehovar et al., 2008).

Responses are given weighted values of 1–6 forming a possible range of –70 to 70, with higher scores indicating more protection and lower scores indicating more risk. Weights were based upon previous research that has shown risk for substance use increases with one substance user in a network, and risk for mental health problems is elevated with one daily substance user in a network (e.g., 3 fold increase) (Mason, 2009; Mason et al., 2004). Given these data, the following weighted scoring procedures were developed: Risk dimension consist of: substance user = –1, daily user = –3, negative activity (substance use, illegal activities, violence, or high-risk sexual activity) = –4, influence to use substances = –6; Protective dimension consist of: non-substance user = 4, absence of negative activities = 4, influence not to use substances = 6.

#### 2.4. Analytic plan

The overall goal of the analysis was to examine and categorize adolescents' reasons for attributing activity space locations as risky and safe and to test these categories for dependency upon social network quality, controlling for gender and age. To be clear, the social network quality variable is ascribed by the research team and the attribution and explanation of places as risky or safe are ascribed by the participants. Frequency and descriptive statistics were conducted on demographic, social network, and place locations. SPSS Text Analysis for Surveys 3.0 was used to perform linguistic analyses on open-ended survey responses in order to produce categories of reasons for locations being attributed as risky and safe. The open-ended text data was analyzed and mined to extract key concepts. Linguistic analysis identified patterns of speech, and located related words and ideas taking into consideration the context of where these concepts appeared. The linguistic analysis created categories with closely related concepts, opinions, or attitudes through advanced

category building techniques including concept derivation, concept inclusion, semantic networks, and co-occurrence rules. These categories were then manually reviewed to check for coding errors as well as for category distinction (sharing less than 75% of another category as recommended by SPSS Text Analysis 3.0). The resulting categories of risk ( $n=6$ ) and safety ( $n=7$ ) were then transformed into dichotomous variables (yes/no) and exported into SPSS 17 to apply quantitative analyses to these data. The continuous social network quality variable was transformed into a dichotomous variable based upon a medium split (score of 40) using 0=risky network, 1=protective network. A series of  $2 \times 2$  chi-square analyses was then conducted to test each category's dependency on social network quality classification (risky/protective). All chi-square analyses controlled for gender and age, which were dichotomized based upon a mean age of 17 ( $0 = < 17$ ,  $1 = \geq 17$ ) to test younger teens compared to older teens.

### 3. Results

Descriptive statistics of the participants' social network quality variables are displayed in Table 2. Total network score and eight sub-variables provide an overview of the average, minimum, maximum, and standard deviation of network variables used in this study. Next, Table 3 displays activity space locations attributed as both safe and risky. Seven types of locations are listed for both safe and risky places, with an “Other category” for the fewest endorsed locations (<3%). Results of the linguistic analyses on the open-ended survey responses produced 13 categories representing risk and safety. Specific categories are listed below with explanations for the less obvious categories. The six categories of reasons for locations attributed as risky are: (1) risky people (high-risk individuals are typically there), (2) illegal activity, (3) drugs and alcohol, (4) violence,

**Table 2**  
Descriptive statistics of social network quality ( $n=301$ ).

Network variable	Mean	Min	Max	SD
Total network score	36.5	–70.0	70.0	26.3
Substance users in network	1.8	0	5	1.6
Non-substance users in network	3.1	0	5	1.7
Daily substance users	.65	0	5	1.1
Non-daily substance users	4.3	0	5	1.1
Influencers to use substances	.33	0	5	.09
Protectors against substance use	2.4	0	5	1.9
Positive activities (monthly)	188	0	644	100.2
Risky activities (monthly)	8.1	0	157	20.5

**Table 3**  
Activity space locations attributed as risky or safe ( $n=301$ ).

Safe			Risky		
	Count	Percent		Count	Percent
Home	144	48	City places <sup>a</sup>	139	46
Friend's home	75	25	Friend's home	42	14
School	32	11	School	38	13
Church	16	05	Park/nature	31	10
City places <sup>a</sup>	16	05	Recreation center	24	08
Park/nature	13	04	Work	11	04
Other	05	02	Other	8	03

\*Risky places do not total 301 as 8 subjects did not state having a risky location.

<sup>a</sup> City places served as an omnibus variable for this table and subsumed these locations: city streets, subway stops, nightclubs, retail, restaurants, and movie theaters.



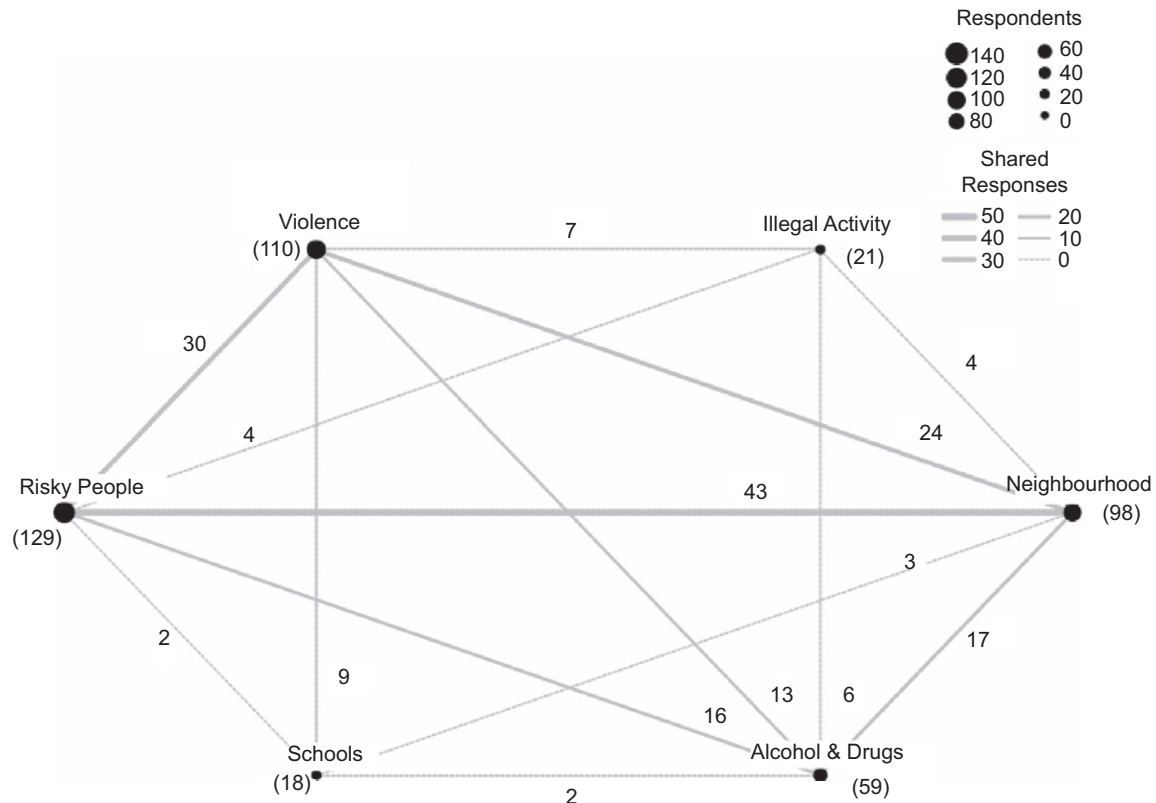


Fig. 1. Frequency and shared responses of attributions of risky activity spaces (n=301).

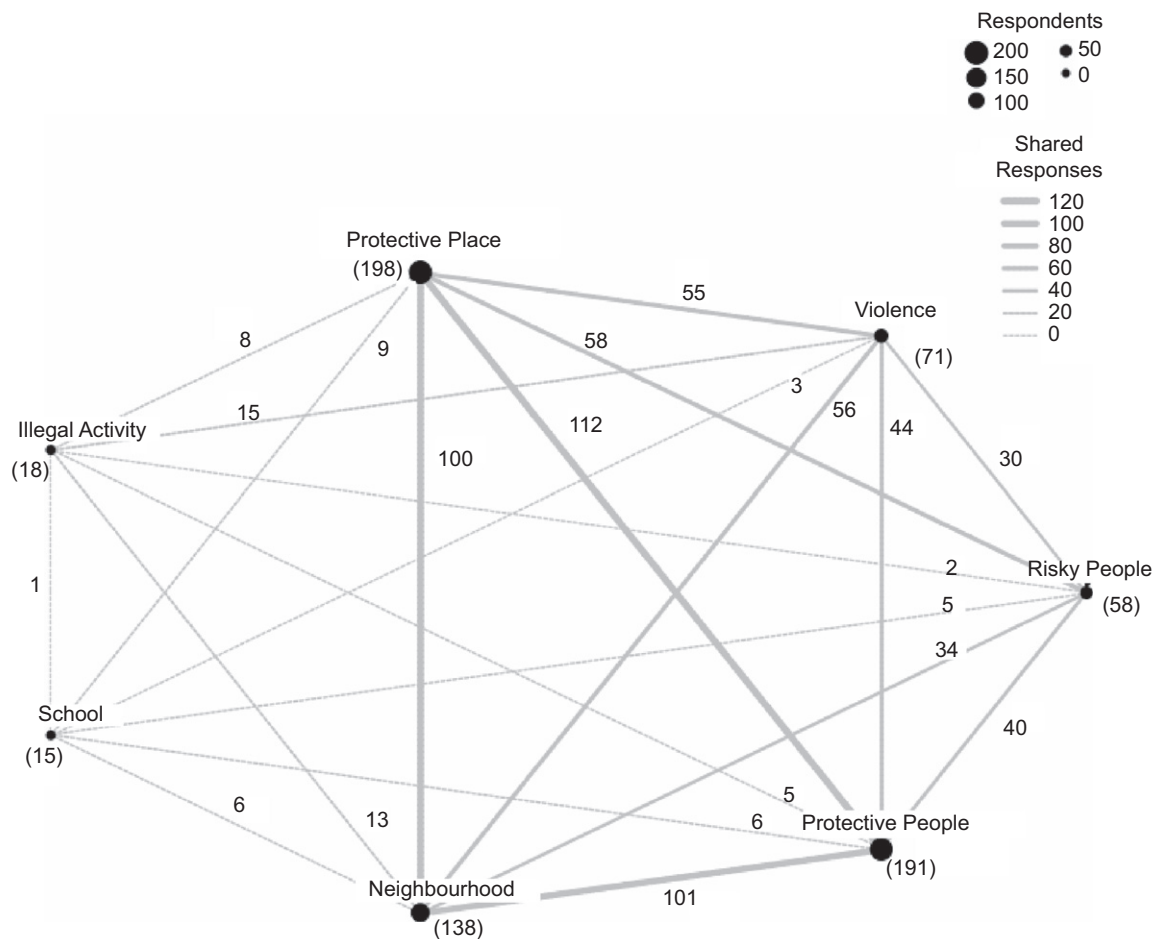


Fig. 2. Frequency and shared responses of attributions of safe activity spaces (n=301).

(5) neighborhood (a broad interpretation that an entire neighborhood is risky), and (6) school (the entire school context is in itself a high-risk place). The seven categories of reasons for locations attributed as safe are: (1) protective people, (2) neighborhood (a broad interpretation that an entire neighborhood is safe), (3) violence, (4) protective place (a narrow interpretation that a specific place represents safety), (5) risky people, (6) illegal activity, and (7) school (the entire school context is in itself a safe place). As can be seen, four categories appeared in both risky and safe reasons: illegal activity, violence, neighborhood, and school.

Figs. 1 and 2 are category web graphs indicating nodes and ties. Within the web graphs, each node represents a category. The size of the node represents the relative size based on the number of records (frequencies) for that category. The thickness of the line between two categories denotes the number of shared responses (ties) for each category. To clarify an example is provided: An individual may attribute a location as risky because risky people gather there, use drugs, and often become violent. In this example, the location would be placed in three categories (nodes): risky people, alcohol and drugs, and violence and would have ties connecting all three. In this way, the data were allowed to represent more realistic explanations that are often multi-categorical in nature. As can be seen in Fig. 1, risky people represents the largest node ( $n=129$ ). The strongest tie is between Risky people and neighborhood ( $n=98$ ), representing 43 shared responses. Fig. 2 illustrates the web graph for safe activity spaces and identifies protective place as the largest node ( $n=198$ ) with the strongest tie to protective people ( $n=191$ ) resulting in 112 shared responses.

Tables 4 and 5 show frequencies and percentages of subjects' reasons for activity space attributed as risky or safe by social network classification (risky or protective). As noted in the network graphs, subjects can give multiple attributions

regarding a place's risk or safety, leading the Yes frequencies to sum to more than the sample size of 301. For each chi-square test gender and age were used as control variables. Results revealed no dependency on either gender or age for reasons places were attributed as risky or safe by social network classification. Table 4 shows that endorsing alcohol and drugs and illegal activity as reasons for risky activity spaces was significantly dependent upon social network classification, with small Phi coefficients. Adolescents with risky social networks were twice as likely to attribute alcohol and drugs as the reason for their location being risky as compared to teens with protective networks. Likewise, those adolescents with risky social networks were four times as likely to attribute illegal activity as the reason for their location being risky as compared to teens with protective networks. Table 5 shows that endorsing protective place and neighborhood as reasons for safe activity spaces was significantly dependent upon social network classification, also with small Phi coefficients. Adolescents with risky social networks were about 1.5 times as likely to attribute protective place as the reason for their location being safe as compared to teens with protective networks. Similarly, adolescents with risky social networks were about two times as likely to attribute neighborhood as the reason for their location being safe as compared to teens with protective networks.

#### 4. Discussion

The present study provides links to the meaning and interpretation of activity space for teens within the context of their social lives, and represents an innovative and unique approach towards understanding the social ecology of urban youth. These findings support previous research that indicate activity space is

**Table 4**  
Reasons for places attributed as risky by social network quality ( $n=301$ ).

Reasons attributed as risky						
Risky social network			Protective social network			
Reason	Yes frequency	Percent	Yes frequency	Percent	$\chi^2 (1)$	$\Phi$
Risky people	69	22.9	60	19.9	.495	.041
Violence	64	21.3	46	15.3	.394	.036
Neighborhood	49	16.3	49	16.3	1.992	.081
Alcohol and drugs	41	13.6	18	06	5.567*	.136*
Illegal activity	17	5.6	4	1.3	5.785*	.139*
School climate	09	03	09	03	.262	.030

\*  $p < 0.05$ .

**Table 5**  
Reasons for places attributed as safe by social network quality ( $n=301$ ).

Reasons attributed as safe						
Risky social network			Protective social network			
Reason	Yes frequency	Percent	Yes frequency	Percent	$\chi^2 (1)$	$\Phi$
Protective place	123	40.9	83	27.6	9.334**	.176**
Protective people	108	35.9	75	24.9	.113	.019
Neighborhood	88	29.2	50	16.6	6.538*	.147*
Violence (absence of)	40	13.3	31	10.3	.010	.006
Risky people (absence of)	32	10.6	26	8.6	.012	.006
Illegal activity (absence of)	09	03	09	03	.262	.030
School climate	05	1.7	10	3.3	3.235	.104

\*  $p < 0.05$ .

\*\*  $p < 0.005$ .

important when studying urban youth, and demonstrate that the meaning youths attribute to places is related to their social network quality. The idea that adolescents' social networks influence their interpretative schemes of risk and safety is a unique and significant element of this research. Another contribution of this research is the collection, visual examination through web categories, and transformation of qualitative data into quantitative data through the use of linguistic analysis software. The study's hypothesis that the reasons that urban adolescents attribute places as risky or safe will vary by social network quality (levels of risk or protection) appears to be supported by these findings. However, the sub-hypotheses regarding variation of attributions based upon gender and age appear not to be supported by these findings. It is unknown why gender and age were not related with reasons for places being risky and safe. One interpretation is that these reasons cut across gender and age, thereby eliminating any differences due to the importance of making accurate interpretations of particular urban places. For example, the reasons that adolescents attribute a location as risky may represent, in many instances, a life or death interpretation of these spaces, given the level of violence and homicide within many urban communities that these teens are active in.

The visual representations of the categories of risky and safe activity space through the web graphs are a useful way to explore these data. By examining not only the differences of types of categories between risky and safe locations but also the differences in node size and tie strength, these web graphs visually reveal how these teens conceptualize their multi-dimensional activity space. This type of visual graphic has potential to not only serve as a descriptive research tool but also be used as an intervention tool, whereby youth support personnel could discuss activity space and levels of risk and protection. Providing educators or youth leaders with this type of tool could be linked to interventions that seek to understand teens' socio-spatial lives by incorporating social network information as another layer to illustrate the social ecology of these youth. That is, these data could help address questions such as, "what is the composition of teens' social network and which network members typically accompany these teens to which locations?" By connecting the spatial with the social, adding layers of socio-spatial data, a greater depth of understanding is likely to result, which could lead to more relevant and meaningful interventions for urban youth.

In examining the results that indicate Alcohol and Drugs and Illegal Activity were the reasons for locations attributed as risky and that these reasons were related to social network quality is revealing. Those adolescents with more protective social networks are likely to be engaged in less substance use themselves and are less likely to have close ties in their social network who are using substances (Mason, 2009). These two factors, personal behavior and social relations, appear to be influencing the interpretation of their most risky activity space. The same reasoning would appear to hold true for engaging in illegal activity—these teens and their peers are less involved in these activities and therefore do not interpret their risky activity space through the lens of these illegal activities. The fact that these youths are likely to be interpreting the same places (school, mall, e.g.) but interpret the risk/protection of these places differently is interesting and is supportive of the idea that social networks influence spatial interpretations.

Interpreting the findings regarding reasons for safe activity space is also interesting. Those teens with protective networks are less likely to consider specific places (protective place) and more general areas (neighborhoods) as reasons for making their places safe. In considering safe places, the role of a protective social network may be particularly salient. It would seem reasonable

that for the teens with more protective networks, they are less likely to attribute places and neighborhoods as reasons for safety, as they may experience safety from their protective, more positive social networks. Thus, their networks serve to mitigate environmental risks as well as negate the need to seek safety from specific and general locations when one has a protective circle of friends.

Limitations to this study should be considered when interpreting these findings. First, the cross-sectional nature of the design limits the understanding of the causal processes behind many of the associations revealed in this research. In particular, when examining adolescents and social networks, being able to examine the duration of these findings across developmental periods would be very beneficial. Second, the sample constituted a low-resource, urban primary care setting, and thus may not generalize beyond this type of sample.

Nevertheless, the present research extends recent work on urban adolescent activity space and asserts that social influences are not aspatial, but rather are embedded within place, and in fact play an important role in creating adolescents' experiences of place through the social interactions that occur at particular locations. Indeed, an adolescent's perception of a place is closely tied to the people with whom the adolescent interacts and their attendant's attitudes, values, and behaviors at various locations.

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