Walkability in upper east Texas cities and implications for physical activity and health

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Abstract
Introduction: Physical activity is an important intervention strategy against the increasing cases of overweight and obesity in the USA and many other parts of the world. Walking has been identified as a component of physical activity that can easily be incorporated into one’s lifestyle. Recent studies on physical activity have focused on promoting walking as a health enhancing endeavor.
Purpose: This study examined the walkability of the environments in 57 cities drawn from 22 different counties in upper east Texas within the USA.
Methods and materials: The data for all the 57 key cities in upper east Texas were collected from the Walkscore.com.
Results: It was established that 13 (22.8%) of the cities had walkable scores below 24%; 26 (45.6%) had between 25 and 49; 13 (22.8%) between 51 and 69; 4 (7%) had between 70 and 89, and only one city had a score of 91.
Discussion: The vast majority of cities (39, 68.42%) had walkable scores that show a high dependability on vehicle transport; with only 5 (8.8%) cities being rated as very walkable or a walker’s paradise. This reflects a high dependence on vehicles in the upper east Texas region and therefore minimal walking.
Recommendations: There is need to actively pursue an agenda that promotes infrastructural investments that can bring about ease of walking and accessibility of community services at close range. Stakeholders need to collectively come together to generate interventions that can enhance the well-being of the residents in of upper east Texas.

Keywords: Physical activity; Walking; Walkability score; Social capital; Built environment

Introduction

Physical activity (PA) is a health enhancing behavior that requires to be engaged in at regular intervals. For physical activity benefits to accrue, one needs to be only active for at least 150 minutes a week for adults and 60 minutes a day for school-age youth. This physical activity

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can even occur in short bouts, lasting at least 10 minutes (Collins & Fulton, 2015). Unfortunately, only one-half of adults (Blackwell, Lucas and Clarke, 2014) and about one quarter of high school students (Kann et al., 2014) are sufficiently active to realize the health benefits of physical activity. To improve population levels of physical activity, an increase in walking may be an important place to start. Indeed people who live long and fulfilling lives suggest that physical activity should be incorporated in the natural cycle of life so that it is a lifestyle and not a separate activity.

One of the components of physical activity that is easy and natural to incorporate into one’s lifestyle is walking. Recent researches on physical activity advocate for increased focus and promotion of walking as a health enhancing endeavor (Collins and Fulton, 2015; Kegler et al., 2015). According to these authors, many Americans walk regularly especially for shopping, transportation and exercise. The Center for Disease Control (CDC, 2012) documented that 62% of USA adults reported walking for leisure or transport in the past week, while Watson et al., (2015) report that 54% of women and 41% of men in the USA cite walking as their most common activity during the past month. Similarly, Song et al. (2012) report that walking was the most frequently reported physical activity among high school students in the USA. However, according to Ferreira et al., (2006), despite the many health benefits of engaging in physical activity, many young people are not engaging in recommended levels of PA (Johnson, 2000; WHO, 2000a, b, 2004). According to Johnson (2000) and WHO (2000a, b, 2004), longitudinal studies have shown that a steep decrease in PA levels occurs during adolescence and that PA levels established in youth tend to track into adulthood. These trends show that physical activity promotion in childhood and youth can facilitate a carryover of healthful habits into adulthood and a lifelong protection from other risk factors. This implies the need to promote physical activity among all age groups at community and neighborhood levels. There is, therefore, a need to prioritize having physical activity-friendly environments in current public health policies (WHO, 1998, 2004).

Given the relationship between physical inactivity and obesity prevalence in the USA, a focus on the accessibility and opportunities for physical activity engagement is an issue worth exploring as recent studies have indeed demonstrated associations between childhood obesity and environmental features, namely at the home and neighborhood level (Ferreira et al., 2006). According to these authors, it is important to study and alter environments that promote or hinder obesity-inducing habits such as low physical activity. Environmental influences are critical as they either facilitate or hinder access to physical activity at all age levels. This study, therefore, endeavored to examine the walkability of the environments in cities drawn from the upper east Texas region in the USA.

Ogden et al., (2015) reported that 36.5% of adults in the USA were obese during the 2011 to 2014 period. However, overall the report shows that prevalence of obesity among middle-aged adults aged 40–59 (40.2%) and older adults aged 60 and over (37.0%) was higher than among younger adults aged 20–39 (32.3%). Despite the differences, no significant difference in prevalence was observed between middle-aged and older adults (Ogden et al., 2015). The report continues to point out that the prevalence of obesity among women (38.3%) was higher than among men (34.3%). For adults aged 20–39 and 40–59, the prevalence of obesity was higher among women than among men, but the difference between older women and men aged 60 and over was not significant. For the young people aged between 2 and 19 years, the prevalence of obesity was 17.0% in 2011–2014. Overall, the prevalence of obesity among preschool-aged children (2–5 years) (8.9%) was lower than among school-aged children (6–11 years) (17.5%) and adolescents (12–19 years) (20.5%). The same pattern was seen in both males and females. One significant observation was that “trends in obesity prevalence show no increase among youth since 2003–2004, but trends do show increases in both adults and youth from 1999–2000.
通过2013-2014年（第6页）。这是一个令人不安的观察，鉴于美国许多倡议和计划来对抗肥胖。

肥胖和超重病例的增加，对所有年龄段和性别来说，是一个严重健康问题。上东区的老年人口平均年龄与州和国家平均水平相比更高。2007年，该地区33.5%的人口在25岁以下；51.5%的人口在25至64岁之间；15%的人口在65岁或以上。65岁及以上的年龄组占该地区人口的15%，远高于州的10%。在美国，2007年12.5%的人口在65岁以上（Combs，2008）。老龄人口和心血管相关健康问题，以及更高的无保险居民人数（Combs，2008），要求有实际可行的干预措施。

研究表明，定期参与体育活动的一些好处包括降低慢性疾病风险和健康长寿（Ogden等，2012）。心血管方面的体育活动好处包括降低心脏病、高血压、中风、异常血脂水平、糖尿病和肥胖的风险。尽管这些发现，许多德州人，如大多数美国人，是不活跃的（Njororai，Njororai & Jivetti，2015）。2012年，报告在前一个月没有任何体育活动的德州成年人比例为27.3%，而65.9%的成年人被归类为超重或肥胖。在青少年中，只有27.2%的青少年在7天中每天至少进行了60分钟的体育活动。此外，只有37.4%的青少年在上学期间每天参加体育课（Valls，2012）。

到目前为止，已经成功地开展了一系列干预措施来促进体育活动和健身，包括：限制青少年的屏幕时间；在学校和日托所建立体育活动政策；创建基于国家标准的体育活动课程；建立促进体育活动的场所，提供激励措施，指定锻炼区域，安全的步行路径和楼梯间项目；支持提供物理活动筛查和教育的健康护理提供者；建立基础设施以保证步行和骑自行车的安全；和改善公共交通的可访问性（Njororai等，2015）。Sinnett等（2011）指出，我们居住的地方会影响我们的生活。根据Sinnett等（2011），公民的大城市、城镇和乡村感到，即使他们的当地较大问题是影响步行环境的：安全地行走他们的区域；街道的美观；当地商店和服务的质量和距离；以及对维护街道基本质量的照顾。实现物理活动不再是学校体育教育的领域，而是一个社区活动，促使各联邦、州和地方政府采取措施提高当地社区水平的参与度（Njororai等，2015）。因此，有巨大的愿望促使各类联邦和州级机构提高参与体育活动的成年人、儿童和青少年的比例（Njororai等，2015）。

对提高体育活动参与度的承诺应该在人们居住的地方明显。任何措施的成功取决于人们能够方便地访问学校操场、体育、体育相关的公园和设施、街道设计，以及为骑自行车、步行到和从购物商店、新鲜食品市场和其他可以方便地步行或骑自行车而不是开车的设施。可用性和服务的便利性将是一个判断该地区适合体育活动参与的指标。其中一个方式就是
locality or city can be evaluated on their walkability is by using the walk score (Njororai, et al., 2015). Indeed walkability has been linked to quality of life in many ways. According to Rogers et al., (2010) health related benefits of physical exercise, the accessibility and access benefits of being able to walk to obtain some of your daily needs, or the mental health and social benefits of reduced isolation are a few of the many positive impacts on quality of life that can result from a walkable neighborhood. This is even more so in the modern society where in the face of increasing energy costs and climate considerations, the ability to walk to important locations is a key component of sustainable communities (Rogers et al., 2010).

Research has suggested that individuals learn to trust one another in communities where they get opportunities to meet and interact (Kegler, et al., 2015; Lund, 2003). Social connections and networks can increase the resiliency of a neighborhood in a myriad of ways including providing emotional support or sharing resources when a need arises. Daily life can be enriched (Putnam, 2000) and resilience may be increased to face the different social, economic, and environmental challenges (Adger, 2003). Leyden (2003) suggests that the way in which communities and neighborhoods are designed and built affects social capital and thus physical and mental health. Indeed, the study’s findings indicate that residents living in walkable, mixed-use neighborhoods are more likely to know their neighbors, engage in political participation, trust others, and be involved socially.

Quality of life indicators and measurements of community sustainability are closely related and mutually relevant (Sirgy et al., 2006). Examining indicators of urban quality of life, whether they are objective or subjective, is a topic of interest in the quality of life literature (McCrea et al., 2006). Walkability and the importance of third places, that are not home nor work, have been linked to components of social capital and quality of life (Frank et al., 2009). Economic well-being is often associated with quality of life indicators as communities with higher levels of social capital have been found to exhibit better economic performance standards (Putnam, 2000).

Halstead and Deller (1997) examined how community infrastructure impacts economic development in communities and found that it was quality of life that influenced individual companies’ location preferences more than physical infrastructure such as roads and bridges. Quality of life and social capital are often discussed in similar circles but the two are rarely examined together. The land use design and physical infrastructure of neighborhoods and regions provide the conduits for individuals to meet each other, theoretically increasing social capital (Jarema et al., 2009). A neighborhood that provides residents with easy access to municipal infrastructure such as post offices, town parks, playgrounds, coffee shops, restaurants, barbershops and club meeting venues will theoretically have high values of social capital. One can argue that communities are more resilient if they have the capacity to utilize social capital and access to physical infrastructure that supports the interaction of residents. In rural settings, Kegler et al., (2015) identified destination such as homes, stores, churches, barns and feeder roads as major points of social contacts. Other key features of rural communities that are constraints to physical activity involvement include presence of sidewalks, shade, safety, and traffic flow, presence of dogs and insects, and aesthetics. The common physical activities seen in rural neighborhoods included walking, yard work, biking, playing ball, gardening, fishing, and jogging (Kegler et al., 2015). However, irrespective of whether a community is in the urban or rural area, the human connection is a vital one. Thus, social capital has the potential to be utilized in a manner that increases the quality of life in a community or region, thereby narrowing the gap between what is expected and experienced. Thus it is vital that planning agencies recognize the walkability needs in the various cities and neighborhoods so that intervention measures can be
generated to enhance the infrastructure and the eventual wellbeing of the residents. These can be accomplished by using information from walk scores.

**Purpose of the study**

Walk score is a viable tool that provides information about the walkability of a given city or neighborhood. Walk scores have been found to be a valid measure of the physical activity profile of a particular locality. However, there is a paucity of studies that have utilized walkability scores as a tool for determining the walkability of communities. This study aimed at assessing the accessibility of physical amenities in the upper east Texas counties by analyzing the walk scores for the various cities derived from www.walkscore.com, an online resource that promotes walking as a healthy lifestyle in urban communities. This study therefore relied on the walk score for selected cities to establish the walkability profile of the various cities in upper east Texas.

**Methods and materials**

This study involved collection of Walk Score data for the upper east Texas Counties (see Table 1). The 23-county upper east Texas region stretches from the piney woods bordering Arkansas and Louisiana to the eastern edge of the Dallas-Fort worth Metroplex (Combs, 2008). This data was accessed from www.walkscore.com in the fall of 2013. According to Duncan et al., (2011), Walk Score® (www.walkscore.com) is a publicly available large-scale method for calculating walkability. Walk Score was developed by Front Seat Management (www.frontseat.org), a software development company based in Seattle, WA, which focuses on software with civic applications. These authors further explain that Walk Score uses publicly available data to assign a score to a location based on the distance to and variety of nearby commercial and public frequently-visited facilities. Data sources used by Walk Score include Google, Education.com, Open Street Map and Localeze. Facilities are divided into five categories: educational (e.g., schools), retail (e.g., grocery, drug, convenience and bookstores), food (e.g., restaurants), recreational (e.g., parks and gyms) and entertainment (e.g., movie theaters).

The Walk Score algorithm then calculates the distance to the closest of each of the five facilities, using straight-line distances, and calculates a linear combination of these distances weighted both by facility type priority and a distance decay function (Duncan et al., 2011). The Walk Score data has previously been validated by Duncan et al., (2011), Carr et al., (2010) and Carr et al., (2011) as viable for establishing the physical activity profile of a community. The walk score helps one to find a walkable place to live depending on preference on accessing certain utilities including physical activity, grocery stores, super markets, restaurants, apartments etc. The Walk Score is a number between 0 and 100 that measures the walkability of any address.

The scoring between 90 and 100 is a walker’s paradise where daily errands do not require a car; 70 to 89, is very walkable as most errands can be accomplished on foot; 50 to 69 is somewhat walkable as some errands can be accomplished on foot; 25 to 49 is car dependent as most errands require a car and 0 to 24 is car dependent as almost all errands require using a car.
Results

Table 1 shows the 23 upper east Texas counties and their headquarters and the portion within the larger state of Texas. This Piney Wooded region of Texas has a number of cities and small towns located in several counties. The cities that form the seats of the various counties are listed in Table 1.

Table 1
Upper East Texas Counties and their Headquarters

<table>
<thead>
<tr>
<th>County name</th>
<th>County seat</th>
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<tbody>
<tr>
<td>Anderson</td>
<td>Palestine</td>
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<tr>
<td>Bowie</td>
<td>New Boston</td>
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<tr>
<td>Camp</td>
<td>Pittsburg</td>
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<tr>
<td>Cass</td>
<td>Linden</td>
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<tr>
<td>Cherokee</td>
<td>Rusk</td>
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<tr>
<td>Delta</td>
<td>Cooper</td>
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<td>Franklin</td>
<td>Mt. Vernon</td>
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<td>Gregg</td>
<td>Longview</td>
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<tr>
<td>Harrison</td>
<td>Marshall</td>
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<tr>
<td>Henderson</td>
<td>Athens</td>
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<tr>
<td>Hopkins</td>
<td>Sulphur Springs</td>
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<tr>
<td>Lamar</td>
<td>Paris</td>
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<tr>
<td>Marion</td>
<td>Jefferson</td>
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<tr>
<td>Morris</td>
<td>Daingerfield</td>
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<tr>
<td>Panola</td>
<td>Carthage</td>
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<tr>
<td>Rains</td>
<td>Emory</td>
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<tr>
<td>Red River</td>
<td>Clarksville</td>
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<tr>
<td>Rusk</td>
<td>Henderson</td>
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<tr>
<td>Smith</td>
<td>Tyler</td>
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<tr>
<td>Titus</td>
<td>Mt. Pleasant</td>
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<tr>
<td>Upshur</td>
<td>Gilmer</td>
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<tr>
<td>Van Zandt</td>
<td>Canton</td>
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</tbody>
</table>

The upper east Texas region has 22 Counties, most of which are rural than Texas as a whole as of 2007. Metropolitan counties accounted for just 46 percent of the region’s population, whereas 87 percent of all Texas residents lived in metro areas in 2007 (Combs, 2008).

Walkability Scores

Various cities in upper east Texas region were found to exhibit a range of walkability scores (see Table 2).
Table 2
The Walkability Percentage Score of upper east Texas Cities

<table>
<thead>
<tr>
<th>City</th>
<th>Walk score %</th>
<th>City</th>
<th>Walk score %</th>
<th>City</th>
<th>Walk score %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Starrville</td>
<td>3</td>
<td>22. Overton</td>
<td>31</td>
<td>42. Jacksonville</td>
<td>55</td>
</tr>
<tr>
<td>3. Flint</td>
<td>8</td>
<td>23. Tyler</td>
<td>32</td>
<td>43. Malakoff</td>
<td>55</td>
</tr>
<tr>
<td>7. Murchison</td>
<td>11</td>
<td>27. Alto</td>
<td>38</td>
<td>47. Mt. Pleasant</td>
<td>60</td>
</tr>
<tr>
<td>14. Lufkin</td>
<td>26</td>
<td>34. Gilmer</td>
<td>46</td>
<td>54. Atlanta</td>
<td>74</td>
</tr>
<tr>
<td>15. Texarkana</td>
<td>26</td>
<td>35. Rusk</td>
<td>46</td>
<td>55. Henderson</td>
<td>74</td>
</tr>
<tr>
<td>17. Longview</td>
<td>28</td>
<td>37. Gladewater</td>
<td>48</td>
<td>57. Athens</td>
<td>91</td>
</tr>
<tr>
<td>18. Van</td>
<td>28</td>
<td>38. Lindale</td>
<td>48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Nacogdoches</td>
<td>29</td>
<td>40. Clarksville</td>
<td>51</td>
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</tr>
</tbody>
</table>

Legend:
1. 90 and 100 is a walker’s paradise where daily errands do not require a car;
2. 70 to 89, is very walkable as most errands can be accomplished on foot;
3. 50 to 69 is somewhat walkable as some errands can be accomplished on foot;
4. 25 to 49 is car dependent as most errands require a car; and
5. 0 to 24 is extremely car dependent as almost all errands require using a car.

The results revealed that 13 (22.8%) cities, namely  Joinerville, Starrville, Flint, New Chapel Hill, New London, Noonday, Murchison, Winona, New Summerfield, Brownsboro, Arp, Edom, and Palestine had walkable scores that fall in the 0 to 24 category which is car dependent as almost all errands require using a car. Twenty six (45.6 %) cities including  Lufkin, Texarkana, Uncertain, Longview, Van, Hawkins, Nacogdoches, New Boston, Overton, Tyler, Paris, Gun Barrel City, Linden, Alto, Mt. Vernon, Troup, Grand Saline, Chandler, Pittsburg, Whitehouse, Gilmer, Rusk, Daingerfield, Gladewater, Lindale, and Bullard had scores within the 25 to 49 range that is car dependent as most errands require a car. The walkability percentage scores for cities in upper east Texas can be seen in figure 1.
Thirteen (22.8%) of the cities including Clarksville, Frankston, Jacksonville, Malakoff, Gresham, Canton, Quitman, Mt. Pleasant, Sulphur Springs, Winnsboro, Jefferson, Marshall and Kilgore had scores within the 51 to 69 range that is somewhat walkable as some errands can be accomplished on foot. Four (7%) cities, including Mineola, Atlanta, Henderson and Carthage had scores between 70 and 89, which is very walkable as most errands can be accomplished on foot. Only one city, Athens, had a walkable score of 91, which falls in the 90 to 100 range that is a walker’s paradise where daily errands do not require a car.

These results show that the majority of cities in upper east Texas score below 69% on the Walkability score which reflect neighborhoods that are very car dependent. This is an indicator of the need to actively pursue an agenda that promotes infrastructural investments that can bring about ease of walking and accessibility of community services at close range.

Discussion

According to Bauman et al., (2012), walking is convenient, easy for most people to do, and requires no special equipment. These authors add that the built environment can influence how much people walk. Youth and adults who live in walkable neighborhoods are more likely to be physically active (Njororai, et al., 2015). It is also important to point out that walkable neighborhoods offer a variety of benefits to peoples’ health, the environment, finances, and communities. Apparently, the way neighborhoods are designed with respect to proximity and connectivity to local destinations, including schools, parks and shopping centers, and the presence of footpaths - becomes a determinant of whether people are able to walk and use destinations locally (Foundation, 2011; Njororai, et al., 2015). A growing body of evidence shows that the built environment can positively influence physical activity for both recreational and transportation purposes (Foundation, 2011; Heath et al., 2006; Kahn et al., 2002). According to the social-ecological framework of behavior change, people’s behaviors are influenced by many factors including family, friends, local surroundings, built environment, and community (Flora & Flora, 2012; Rogers, 2013; Sinnett et al., 2011). Rogers (2013) contends that in order to bring
about behavior change, the supporting environments and policies must be changed to make it easier for people in those environments to make healthy choices. If people are to enjoy health and developmental benefits of independent mobility, a key priority must be in reducing exposure to traffic and in increasing surveillance on streets through neighborhood and building design, by encouraging others to walk locally, and by discouraging motor vehicle use in favor of walking and cycling. According to Rogers et al., (2010):

The ability to comfortably walk to locations of need and importance in one’s home neighborhood and quality of life have been linked by researchers, practitioners, and home owners. The research …suggests that there is another component of the equation linking walkability to quality of life and that is social capital. Analysis of a survey of neighborhoods of varying built form revealed strong correlations between the number of locations one could walk to and indicators of social capital. Just like economic and human capital, social capital can bring benefits to those who possess it, such as reduced isolation, career enhancement connections, neighborhood safety, to name a few. It is these benefits that may enhance an individual’s quality of life. Walkability enhances social capital by providing the means and locations for individual to connect, share information, and interact with those that they might not otherwise meet (p. 213).

It is argued that the average resident of a walkable neighborhood weighs 6-10 pounds less than someone who lives in a sprawling neighborhood. Cities with good public transit and access to amenities promote happiness. Additionally environmental-wise, more walking reduces carbon dioxide emissions from burning fossil fuels as peoples’ feet are zero-pollution transportation machines. Studies show that for every 10 minutes a person spends in a daily car commute, time spent in community activities falls by 10%. The amenities that make a neighborhood walkable include a center, people to attract businesses and for public transit to run frequently; mixed income, mixed use: affordable housing located near businesses; parks and public space: plenty of public places to gather and play; pedestrian design: schools and workplaces are close enough that most residents can walk from their homes; and streets are designed for bicyclists, pedestrians, and transit (Sinnett et al., (2011).

Higher levels of out-of-school-hours physical activity and walking appear to be significantly associated with higher levels of urban density and neighborhoods with mixed-use planning, especially for older children and adolescents. Proximate recreational facilities also appear to predict young people's level of physical activity (Rogers et al., 2010; Sinnett et al., 2011). However, there are inconsistencies in the literature involving studies with younger children. Independent mobility increases with age. For younger children, the impact of the built environment is influenced by the decision-making of parents as the gatekeepers of their behavior. Cross-cultural differences may also be present and are worthy of greater exploration (Njororai, et al., 2015).

As children develop and are given more independent mobility, it appears that the way neighborhoods are designed - particularly in terms of proximity and connectivity to local destinations, including schools and shopping centers, and the presence of footpaths - becomes a determinant of whether children are able, and are permitted by their parents, to walk and use destinations locally (Sinnett et al., 2011). If older children and adolescents are to enjoy health and developmental benefits of independent mobility, a key priority must be in reducing exposure to traffic and in increasing surveillance on streets (i.e. 'eyes-on-the-street') through neighborhood and building design, by encouraging others to walk locally, and by discouraging motor vehicle use in favor of walking and cycling (Sinnett et al., 2011). Parents need to be assured that the rights and safety of pedestrians (and cyclists) - particularly child pedestrians and cyclists - are paramount

if we are to turn around our ‘child-free streets’, now so prevalent in contemporary Australian and U.S. cities (Njororai, et al., 2015; Sinnett et al., 2011).

**Implications for policy and practice**

Upper east Texas is a region that is dominated by an aging population, as well as an abundance of natural resources such as lakes, parks, and other recreational facilities. Increased population aging creates new challenges and demands to societies including the occurrence of more acute diseases. Some of these diseases and conditions are costly to treat and require a significant allocation of resources. Decreased smoking, better nutrition, stress reduction, and exercise are some examples of improvements in lifestyle that can contribute to healthy aging. Additional studies suggest that physical activities help maintain good mental function (Novak, 2012).

It is vital that principle stakeholders come together to determine reasons for the minimal walkability in the region so that practical intervention strategies are generated to enhance the well-being of the residents. There is also need for policy makers to review existing built capital with the aim of making investments that are efficient and sustainable (Rogers et al., 2010). This will have further meaningful implications on the use of natural and financial capital for the upper east Texas communities.

Researchers and their agencies need to share information and interpretations with other stakeholders such as planners, economic and community development officials, and neighborhood leaders in the cities so that they can help address community needs. While it is just a start, the data analyzed here shows a need to study the built environment and social capital within these cities in the region. This is vital as research (Flora & Flora, 2012; Novak, 2012; Rogers, 2013; Rogers et al., 2010; Sinnett et al., 2011) shows the importance of social capital as a component in the link between walkability and quality of life. The community capitals framework echoes this connection in the capitals and how we can use the same to focus investments. Studies show that neighborhood walkability has broad implications for health, sustainability, and many other components of quality of life. Additionally, it has implications on perceptions on sense of belonging to a community.

Therefore, this calls for interventions at community, workplace and policy level to promote physical activity, especially walking, and not just medical and health practitioners. There is need for a network involving custodians at all levels to improve the efficiency of physical activity promotion throughout the social, economic and physical environment. The need for collaborative efforts to facilitate and promote physical activity is made more urgent given the escalating costs of health care. It is recommended that policy makers strive to provide for physical activity friendly environments to accommodate safe walking and biking if the physical activity profile of this upper east Texas locality is to improve.

Physical activity enthusiasts need to embrace walking as part of their regular exercise activity. Similarly, educational institutions need to design physical activity programs that are suitable for all age groups. A need also exists for health institutions to focus on these kinds of low-cost initiatives for preventing some of the health conditions associated with sedentary lifestyles that most citizens tend to exhibit. By so-doing, we could save a lot on health care costs and utilize the savings on other meaningful developments that confer fulfilled lives and longevity.

The key strategies that have been suggested in the literature and emphasized by Collins and Fulton (2015) to promote walking in the United States include:
1. Improving the physical environment to support walking, such as having safe streets with sidewalks and crosswalks or attractive areas to walk, including nearby trails or parks.

2. Personal motivation for walking which may include walking the dog or walking to nearby destinations, such as public transit, stores, or schools.

3. Other motivating factors can include social support, such as when friends or family walk together on a regular basis or when they use a step counter and a daily step goal. Indeed, combining these supports may substantially increase walking, especially where social media support, pedometer use, and a steps goal used in combination increased walking in young women approximately 1.5 miles per day over a standard walking intervention.

4. Partnering with sectors beyond traditional public health and physical activity domains to include transportation, land use, and community design sectors. This is vital as working with community planners and transportation engineers can ensure that new or renovated streets improve access for all users regardless of whether they drive, walk, or bike. This collaboration among different experts can design environments that are physical activity friendly and, therefore, help promote physical activity participation.

5. Public transportation has been shown to increase walking as it is best utilized in places with the greatest need and population density.

6. Finally, mixed land-use designs that include housing, transportation, and other destinations, such as stores and restaurants that are in close proximity to one another, are environments that promote walking. Improving health may not be on the minds of urban planners, although walkable communities are highly desirable destinations for housing, shopping, employment, and leisure-time pursuits.

References


