Supportive neighbourhood built characteristics and dog-walking in Canadian adults

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ABSTRACT

OBJECTIVES: Our study objectives were to: 1) estimate differences in perceptions of the neighbourhood built environment among non-dog-owners, owners who walk their dogs (dog-walkers) and owners who do not walk their dogs (non-dog-walkers), and 2) estimate associations between perceptions of the neighbourhood built environment and dog-walking frequency.

METHOD: A random cross-section of Calgary adults completed telephone interviews during August–October 2007 ($n = 2,199$, response rate = 33.6%) or January–April 2008 ($n = 2,223$, response rate = 36.7%). Telephone interviews and a follow-up questionnaire captured physical activity, health and socio-demographic characteristics, dog-ownership, and perceived built environment characteristics. Using ANOVA, we compared the perceived built environment among non-dog-owners, non-dog-walkers and dog-walkers. For dog-owners only, logistic regression estimated associations (odds ratios: OR) between dog-walking participation and perceived built environment. Among dog-walkers, logistic regression estimated associations between dog-walking ≥ 4 times/week and perceived built environment. Furthermore, among dog-walkers, linear regression estimated associations (unstandardized β) between dog-walking frequency and perceived built environment.

RESULTS: Compared with dog-walkers, non-dog-owners reported more positive perceptions of neighbourhood street connectivity, pedestrian infrastructure, and walkability ($p < 0.05$). Among dog-walkers, aesthetics was positively associated ($p < 0.05$) with the likelihood of walking the dog ≥ 4 times in a usual week (covariate-adjusted-OR = 1.67) and dog-walking frequency (covariate-adjusted- $\beta = 0.15$). Among dog-walkers, walkability was also positively associated ($p < 0.05$) with dog-walking ≥ 4 times in a usual week (covariate-adjusted-OR = 1.03) and dog-walking frequency (covariate-adjusted- $\beta = 0.05$).

CONCLUSION: Perceptions of the neighbourhood built environment appear to differ between non-dog-owners and dog-owners. While built environment improvements may not encourage owners to initiate dog-walking, creating attractive and walkable neighbourhoods may support regular dog-walking among owners already walking their dogs.

KEY WORDS: Physical activity; dogs; neighbourhood; built environment; walking

La traduction du résumé se trouve à la fin de l'article.

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Population-level approaches to increase physical activity are necessary to promote overall health while combatting current trends in chronic disease incidence.¹ Similar to the case in other countries where dog-ownership is popular, such as Australia and the United States,^{2,3} approximately one third of Canadian households include a pet dog.⁴ Dog-ownership is often associated with better health for owners, likely as a result of the physical activity involved in dog-walking.⁵ Interventions that encourage dog-walking offer a potential strategy for increasing physical activity at the population level. Yet not all dog-owners regularly walk their dog.^{5,6} Findings from a recent systematic review suggest that fewer than two thirds of dog-owners regularly walk with their dogs and only about one half of dog-owners walk their dogs at least four times per week.⁷ The reasons why dogs may not be walked are multi-faceted, with studies identifying owner (e.g., sense of responsibility), dog (e.g., health status, behaviour), social environment (e.g., sense of community) and physical environment (e.g., walkability, access to off-leash areas) factors as important barriers or facilitators of dog-walking.⁸

Public spaces such as streets, sidewalks, parks, ovals and natural areas are important destinations for dog-walkers.⁹ Despite some mixed evidence, levels of dog-walking appear to be higher among

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owners who reside in walkable neighbourhoods (e.g., high residential density, mix of destinations and land uses, connected streets).^{10,11} Dog-owners, like non-dog-owners, identify several built environment characteristics as important for influencing their walking behaviour (i.e., sidewalk quality and availability, traffic safety, and attractive public open space).^{12,13} Dog-owners also report that their dog-walking behaviour is influenced by dog-specific built environment characteristics, including: the availability of waste bags, trash bins, presence of dog waste, dog-related signage, presence of natural wildlife, and availability of dog-friendly destinations.^{12,13} The proximity of parks – including parks designed to support dog-specific activities, such as off-leash areas – is also associated with dog-walking.^{9,11,14,15} Some researchers have observed that the level of general walkability, typically found to be associated with walking for transportation and recreation,¹⁶ is also important for dog-walking.¹⁷ While these findings are promising, more evidence on the built environment determinants of dog-walking is needed to inform urban planning and municipal policy (including bylaws) in the Canadian context. Given that a large proportion of the population comprises dog-owners, modifying the built environment to make it more supportive of dog-walking could have a significant impact on walking and physical activity among Canadians.

Research to date highlights the importance of the neighbourhood built environment in supporting dog-walking, yet much of this evidence is from non-Canadian populations. Furthermore, few Canadian^{11,18,19} and non-Canadian⁸ studies exist that investigate the built environment determinants of dog-walking, despite the popularity of dog-ownership among Canadian households⁴ and the high proportion of dog-owners who do not walk their dogs.⁷ Thus, our study objectives were two-fold. First, we estimated the differences in perceptions of the neighbourhood built environment among non-dog-owners, owners who walk their dogs and owners who do not walk their dogs. Second, we estimated the associations between perceptions of the neighbourhood built environment and frequency of dog-walking. Interventions aimed at improving neighbourhood walkability are likely to promote and support dog-walking. Considering a large proportion of the community have a dog, such interventions could increase physical activity levels, and in turn reduce the incidence of many lifestyle-related chronic diseases.

METHOD

Study and sample design

The methodology has been fully described elsewhere.^{20,21} Briefly, a random cross-section of Calgary residents (≥ 18 years of age) participated in structured telephone interviews during either August–October 2007 ($n = 2,199$, response rate = 33.6%) or January–April 2008 ($n = 2,223$, response rate = 36.7%). Telephone interviews, together with a follow-up postal questionnaire, captured information about physical activity, psychosocial, health and socio-demographic characteristics, including dog-ownership and perceptions of the built environment. A total of 1,967 participants completed both the telephone interview and postal survey. The University of Calgary Conjoint Health Research Ethics Board approved this study.

Data collected

Dog-walking

Respondents who identified as owning one or more dogs responded to the question “In a usual week how many times do you do physical activity with your dog(s) (e.g., walking or jogging)?” Similar items capturing recall of usual weekly dog-walking have acceptable reliability.²² Based on previous studies,^{10,17} we coded dog-owners who reported walking their dog at least one time per week as “dog-walkers” and owners who reported no dog-walking as “non-dog-walkers”. Further, using the median, we dichotomized dog-walker behaviour as low (1–3 times/week) and high (≥ 4 times/week) frequency.⁷

Perceived Neighbourhood Built Environment

The Abbreviated Neighborhood Walkability Scale (NEWS-A)²³ captured participants’ perceptions of the built environment within a 15-minute walk from home. NEWS-A items were scored on a 4-point (1 to 4) scale from strongly disagree to strongly agree. Results from a principal component analysis described elsewhere²⁰ found a seven-factor solution best fit our self-reported built environment data, reflecting the following subscales: safety from crime ($n = 5$ items; $\alpha = 0.71$); neighbourhood aesthetics ($n = 4$ items; $\alpha = 0.77$); access to services ($n = 3$ items; $\alpha = 0.65$); street connectivity ($n = 3$ items; $\alpha = 0.48$); pedestrian infrastructure ($n = 4$ items; $\alpha = 0.33$); motor vehicle traffic safety ($n = 3$ items; $\alpha = 0.55$); and physical barriers ($n = 2$ items; $\alpha = 0.35$). In addition to the perceived environment subscales, we estimated total walkability by summing all item responses ($n = 24$ items; $\alpha = 0.73$). Walking behaviour is found to be positively associated with the mix of neighbourhood destinations.¹⁶ Participants reported the time it would take them to walk from home to different destinations (i.e., <15 minutes versus ≥ 15 minutes). Using this information we estimated the self-reported mix of recreation destinations (gymnasium, recreation centre, park and trail) and utilitarian destinations (book store, clothing store, cafe, bank, transit, drug store, post office, supermarket, convenience store, fast food restaurant, hair salon/barber, video store, library, dry cleaner, farmers market, school and hardware store) within their neighbourhood. Higher scores for all built environment variables reflected increased perceived supportiveness of the neighbourhood environment for walking.

Socio-demographic and Health-related Characteristics

Socio-demographic information collected included: gender, age, neighbourhood tenure, highest level of education completed, number of children <18 years of age, dwelling type, gross annual income, and dog-ownership. Participants also reported their health, height and weight. We categorized body mass index, estimated from self-reported height and weight, into healthy weight (<25.00 kg/m²), overweight (25.00–29.99 kg/m²) and obese (≥ 30.00 kg/m²).

Statistical analysis

We compared differences in socio-demographic and health-related profiles among dog-owners who walk their dogs (i.e., dog-walkers), dog-owners who do not walk their dogs (i.e., non-dog-walkers) and people who do not own dogs (i.e., non-dog-owners) using Pearson’s chi-square. One-way analysis of variance (with Tukey Least

Significance post hoc comparisons) tested for statistical differences in perceived neighbourhood built environment variables (subscales and total walkability) among non-dog-owners, non-dog-walkers and dog-walkers. For dog-owners only, logistic regression estimated the odds ratio (OR) and 95% confidence intervals (95% CI) for the association between “any” versus “no” dog-walking in a usual week and all perceived neighbourhood built environment variables, adjusting for socio-demographic and health-related characteristics. A multivariate logistic regression model with the same correlates was also used to estimate the likelihood of dog-walking ≥ 4 times/week among owners reporting “any” dog-walking only. We also examined dog-walking frequency as a continuous outcome. Dog-walking frequency was natural log transformed to improve its distribution prior to multivariate linear regression. Using multivariate linear regression, we estimated the unstandardized beta coefficient (β) and 95% CI for the association between log dog-walking frequency and perceived neighbourhood built environment variables, adjusting for socio-demographic and health-related characteristics. A p -value of <0.05 was considered statistically significant. Analysis was undertaken using SPSS (version 20). Estimates derived from this analysis will provide insights into the neighbourhood built environment’s role in promoting and supporting regular dog-walking.

RESULTS

Sample characteristics

Of the 1,955 participants with complete data, 517 (26.4%) were dog-owners. Among dog-owners, 434 (83.9%) walked their dog at least once per usual week. The proportions of participants who had dependents <18 years, were homeowners, and were residents of detached or semi-detached homes were higher among dog-owners compared with non-dog-owners (Table 1). The proportions of women, 45–64 year olds, participants with a child <18 years at home, income $\geq \$120,000$ /year, and homeowners were higher among dog-walkers compared with non-dog-walkers and non-dog-owners (Table 1). Notably, non-dog-walkers had a twofold higher prevalence of obesity, as well as lower levels of education, compared with dog-walkers and non-dog-owners. Self-rated health did not differ significantly among the three groups. The non-transformed mean ($\pm$ standard deviation) for dog-walking frequency among dog-owners who reported any dog-walking was 5.80 ± 3.80 times/week.

Neighbourhood perceptions by dog-ownership and dog-walking status

Compared with dog-walkers, those not owning a dog reported significantly ($p < 0.05$) more positive perceptions of their neighbourhood’s street connectivity and pedestrian infrastructure (Table 2). Compared with non-dog-owners, non-dog-walkers perceived their neighbourhood overall to be significantly ($p < 0.05$) less walkable (Table 2). We found no other differences in perceived neighbourhood built environment among dog-walkers, non-dog-walkers and non-dog-owners.

Correlates of participating in any versus no dog-walking among dog-owners

Adjusting for all covariates (perceptions of the built environment, socio-demographic and health-related characteristics), dog-walking

Table 1. Socio-demographic characteristics of non-dog-owners, non-dog-walkers and dog-walkers ($n = 1955$)

	Non-dog-owner ($n = 1438$) (%)	Non-dog-walker ($n = 83$) (%)	Dog-walker ($n = 434$) (%)
Sex*			
Male	39.8	39.8	30.4
Female	60.2	60.2	69.8
Age (years)*			
<30	8.8	8.4	7.6
30–44	27.4	26.5	27.9
45–64	39.2	39.8	54.8
≥ 65	24.6	25.3	9.7
Dependents <18 years of age*			
None	69.6	62.7	56.9
At least one	30.4	37.3	43.1
Highest education completed*			
High school or less	28.5	51.8	30.4
College/technical school	25.6	22.9	27.2
University	45.9	25.3	42.4
Gross annual household income*			
$<\$60,000$	33.4	27.7	18.9
$\$60,000$ – $\$119,999$	31.7	31.3	34.6
$\geq \$120,000$	25.7	30.1	38.7
Don’t know/refused	9.1	10.8	7.8
Home residency*			
Own or buying home	83.8	88.0	92.6
Renting or boarding	16.2	12.0	7.4
Dwelling type*			
Detached or semi-detached	69.8	86.7	86.9
Other house type	30.2	13.3	13.1
Self-rated health			
Poor or fair	14.4	24.1	15.7
Good	40.8	45.8	40.8
Very good	35.0	22.9	32.3
Excellent	9.9	7.2	11.3
Weight status (body mass index)*			
Healthy weight	40.8	36.1	49.1
Overweight	37.2	34.9	36.9
Obese	14.8	28.9	14.1

* Statistically significant difference ($p < 0.05$) based on Pearson’s chi-square.

was significantly higher among those with a university education (OR = 2.16, 95% CI = 1.12, 4.16, $p < 0.05$ vs. high school or less) and lower among those considered to be obese (OR = 0.39, 95% CI = 0.19, 0.80, $p < 0.05$ vs. healthy weight) (results not shown in table). Furthermore, after adjusting for covariates, no perceived neighbourhood environment variables were significantly associated with the likelihood of owners walking versus not walking their dogs in a usual week (Table 3).

In a separate covariate-adjusted logistic regression model, perceived total walkability was not found to be significantly associated with the likelihood of owners reporting “any” versus “no” dog-walking (OR = 1.00, 95% CI = 0.73, 1.04; not shown in table).

Correlates of dog-walking frequency among owners reporting any dog-walking

Adjusting for all covariates, compared with adults ≥ 65 years of age, younger adults reported lower dog-walking frequency (<30 years of age: $\beta = -0.36$, 95% CI = -0.73 , 0.01 , $p = 0.057$, and 45–64 years of age: $\beta = -0.26$, 95% CI = -0.50 , -0.02 , $p < 0.05$). Further,

Table 2. Comparisons in self-reported neighbourhood built characteristics among non-dog-owners, non-dog-walkers and dog-walkers ($n = 1955$)

	Non-dog-owners ($n = 1438$)	Non-dog-walkers ($n = 83$)	Dog-walkers ($n = 434$)
	Mean (SD)	Mean (SD)	Mean (SD)
Access to services	3.22 (0.72)	3.15 (0.67)	3.16 (0.75)
Physical barriers	3.46 (0.64)	3.34 (0.72)	3.42 (0.65)
Street connectivity*	2.88 (0.66) ^a	2.76 (0.69)	2.78 (0.64) ^a
Pedestrian infrastructure*	3.02 (0.51) ^a	2.96 (0.52)	2.91 (0.52) ^a
Aesthetics	3.01 (0.63)	2.96 (0.69)	3.07 (0.67)
Motor vehicle traffic	2.81 (0.60)	2.74 (0.64)	2.77 (0.65)
Safety from crime	3.28 (0.57)	3.24 (0.69)	3.32 (0.58)
Mix of recreational destinations	4.14 (1.82)	3.86 (1.82)	4.26 (1.66)
Mix of utilitarian destinations	8.23 (4.98)	7.33 (4.65)	8.18 (4.90)
Total walkability*	75.78 (7.43) ^a	74.04 (8.76) ^a	75.00 (7.98)

* Statistically significant difference ($p < 0.05$) based on ANOVA. Estimates with the same superscript are statistically significantly different ($p < 0.05$) based on Tukey's Least Significant Difference Test.

participants without dependents walked dogs more frequently compared with those with dependents ($\beta = 0.28$, 95% CI = 0.14, 0.43, $p < 0.05$) (results not shown in table). After adjusting for all covariates, perceived aesthetics was positively associated ($p < 0.05$) with log frequency of dog-walking ($\beta = 0.15$, 95% CI = 0.04, 0.26) (Table 3). Furthermore, perceived aesthetics was also positively associated ($p < 0.05$) with the likelihood of walking the dog at least four times in a usual week (OR = 1.67, 1.17, 2.37) (Table 3).

Perceived total walkability was also positively associated ($p < 0.05$) with log frequency of dog-walking ($\beta = 0.05$, 95% CI = 0.01, 0.10) in a separate covariate-adjusted linear regression model. An increase in perceived total walkability was also associated with an increase in the likelihood of walking the dog at least four times in a usual week (OR = 1.03, 95% CI = 1.00, 1.05) in a separate covariate-adjusted logistic regression model (results not shown in the table).

DISCUSSION

Consistent with evidence elsewhere,²⁴ we found that perceptions of the neighbourhood built environment differed between dog-owners and non-dog-owners. Specifically, we found more positive perceptions of pedestrian infrastructure, street connectivity and walkability among non-dog-owners compared with dog-owners. Our findings also suggest that dog-owners, regardless of whether they walk their dogs or not, appear to share similar perceptions of their neighbourhood built environment. Notably, we did not find any associations between perceptions of the neighbourhood built environment and the likelihood of participating in dog-walking. Yet contrary to previous studies,^{25,26} perceived neighbourhood aesthetics was positively associated with the frequency of dog-walking. Similar to others, we also found that higher perceived neighbourhood walkability was positively associated with frequency of dog-walking.¹⁷ Perceptions of access to services, pedestrian infrastructure, physical barriers, street connectivity, personal and traffic safety, and destination mix were not independently associated with participation in, or frequency of, dog-walking.

Few studies have investigated the association between the neighbourhood built environment and dog-walking.⁸ Previous evidence suggests a link exists between aesthetics and recreational walking;¹⁶ however, studies to date have generally found mixed associations.^{25,26} Suminiski et al.'s²⁶ measure of aesthetics, which included perceived neighbourhood cleanliness and views of buildings and scenery, was not found to be associated with participation in dog-walking in the previous week after adjusting for other built and socio-demographic characteristics. Hoerster et al.²⁵ found more positive perceptions of neighbourhood aesthetics among dog-owners who walked versus dog-owners who did not walk their dogs; however, after adjusting for other characteristics, aesthetics were no longer associated with dog-walking. Based on the individual items that contributed to the aesthetics subscale in our study, increasing the appeal and attractiveness of neighbourhoods by planting trees in public right-of-ways along streets, creating points of interest along walking routes, and ensuring the maintenance of both private

Table 3. Adjusted associations between self-reported neighbourhood built characteristics and prevalence and frequency of dog-walking among dog-owners

	Any dog-walking in usual week ($n = 517$)	Walking dog ≥ 4 times in usual week among dog-walkers only ($n = 434$)	LN transformed dog-walking frequency in usual week among dog-walkers only ($n = 434$)
	Odds ratio (95% CI) [†]	Odds ratio (95% CI) [†]	Unstandardized β (95% CI) [‡]
Access to services	0.83 (0.54, 1.28)	0.86 (0.62, 1.19)	0.07 (−0.03, 0.16)
Physical barriers	1.09 (0.73, 1.64)	1.12 (0.79, 1.58)	−0.03 (−0.13, 0.07)
Street connectivity	1.19 (0.78, 1.80)	1.31 (0.92, 1.86)	0.03 (−0.08, 0.13)
Pedestrian infrastructure	0.68 (0.40, 1.16)	0.72 (0.47, 1.12)	−0.12 (−0.25, 0.01)
Aesthetics	1.22 (0.80, 1.88)	1.62 (1.14, 2.32)*	0.14 (0.04, 0.25)*
Motor vehicle traffic	0.88 (0.55, 1.40)	0.90 (0.62, 1.31)	−0.06 (−0.16, 0.03)
Safety from crime	1.04 (0.64, 1.68)	1.06 (0.69, 1.61)	0.05 (−0.07, 0.18)
Mix of recreational destinations	1.18 (0.89, 1.56)	1.15 (0.92, 1.44)	0.04 (−0.04, 0.11)
Mix of utilitarian destinations	1.02 (0.96, 1.10)	1.03 (0.98, 1.08)	0.01 (−0.01, 0.02)

* $p < 0.05$.

[†] Model estimated using logistic regression adjusting for all self-reported built characteristics, all socio-demographic characteristics, and season during which the telephone survey was administered.

[‡] Model estimated using linear regression adjusting for all self-reported built characteristics, all socio-demographic characteristics, and season during which the telephone survey was administered.

and public gardens may be important for encouraging dog-owners to increase their frequency of dog-walking. While not measured directly, other characteristics such as dog-waste in public areas may make some locations less aesthetically appealing and could deter dog-walking as well as other types of physical activities.²⁷ Previously, we found that regardless of dog-ownership, adults who perceived their neighbourhood as highly aesthetically pleasing were more likely than those perceiving low aesthetics to participate in any neighbourhood recreational walking.²⁰ Hence, specific built characteristics might provide more support for some types of physical activities than other types, and some built characteristics might be more or less important than other characteristics during an individual's attempts to initiate or maintain physical activity.²⁰ Given that neighbourhood aesthetics may encourage walking undertaken for leisure,¹⁶ policies and programs that support the creation of attractive and appealing neighbourhoods may increase physical activity in dog-owners and non-dog-owners alike.

Previous studies provide support for the association between safety and dog-walking,^{17,26} yet we found no association between perceptions of traffic or personal safety and dog-walking frequency. Similarly, our finding of a null association between the mix of utilitarian and recreational destinations within the neighbourhood contribute to the mixed evidence to date on the association between the access and availability of neighbourhood destinations and dog-walking.^{9,11,25,26} It is possible that access to specific types of recreational destinations, rather than the mix, will be more supportive of dog-walking. However, local rules or bylaws that pertain to allowing dogs in neighbourhood public spaces warrant consideration; in some instances, they may obstruct rather than promote dog-walking.²⁸ For example, in Calgary, bylaws prohibit dogs being tied up in public areas – despite some stores providing infrastructure, such as hooks for dog-leashes – which may discourage owners, especially those not accompanied by other humans, from walking their dogs during trips to stores and shops. Furthermore, Calgary bylaws prohibit dogs from entering playground areas, which could discourage parents from visiting these areas with their children and pet dogs. While potentially discouraging some dog-walking, these bylaws may also support non-dog-related walking behaviours. Thus, this highlights the importance of considering both positive and negative impacts of policy and environmental modifications on physical activity.

Despite null associations between most subscales and dog-walking, we found that the combination of neighbourhood built characteristics (i.e., total walkability) was positively associated with dog-walking frequency. Similar to our finding for aesthetics, improving the overall walkability of a neighbourhood alone might not be enough to encourage dog-owners to initiate dog-walking. Our findings suggest that walkability is important for supporting higher levels of dog-walking among owners who are already walking their dogs. Improving neighbourhood walkability provides co-benefits in that it might not only increase dog-walking,¹⁷ but also walking undertaken for other purposes.¹⁶

While the focus of this study was on the neighbourhood built environment determinants of dog-walking, other noteworthy findings deserve mention. We found a higher prevalence of self-reported obesity among dog-owners who did not walk their dog

(28.9%) compared with dog-walkers (14.1%) and non-dog-owners (14.8%). Dog-owners who had a BMI within the obese range were less likely to undertake any dog-walking compared with dog-owners with BMIs falling within the normal range, after adjusting for other characteristics. In a US sample, Cole et al.¹⁰ found a similar pattern, with 28% of non-dog-walkers being obese, compared with 22% of non-dog-owners and 17% of dog-walkers. In the current study, we are unable to disentangle the relations among weight status, dog-ownership and dog-walking. The determinants of obesity and chronic diseases are complex. Interventions could consider possible barriers to dog-walking among persons with obesity. Further, dog-walking participation (i.e., any versus none) was significantly higher among those with a university education. This finding is not surprising given that within the Canadian context, higher socio-economic status is positively associated with physical activity.²⁹ Last, adults ≥ 65 years of age and those without dependents < 18 years walked dogs more frequently compared with their counterparts. Individual, dog-related and policy-related factors appear to play important roles in dog-walking.⁸ Our findings along with previous evidence⁸ could be used to inform interventions aimed at specific high-risk groups of dog-owners who do not regularly walk their dogs.

Limitations

Despite the original random sample, given the modest response rates for the telephone interview and follow-up postal survey response, bias cannot be ignored. Further, the built environment and dog-walking data, captured by self-report, may have recall and reporting bias. Studies have found discordance between self-reports and objective measures of built environment characteristics,³⁰ which suggests that it would be informative to replicate this study using objectively-assessed neighbourhood built environment variables. We also did not compare non-dog-related physical activity between dog-owners and non-dog-owners. Future research should examine the influence of the built environment on dog-walkers', non-dog-walkers' and non-owners' dog- and non-dog-related physical activity. In addition, we were not able to account for dog-walking undertaken by non-dog-owners who walk other people's dogs (e.g., neighbours, friends, family, professional dog-walkers). Finally, the cross-sectional design limits our ability to draw causal inferences regarding the temporal relationship between perceptions of the built environment and dog-walking.

CONCLUSION

Our findings contribute to the mixed evidence on the associations between neighbourhood built environment and dog-walking. This mixed evidence here and elsewhere might reflect the fact that dogs themselves are the motivating factor for walking. Previous studies have found that many owners feel obligated to walk their dogs, and thus will overcome environmental barriers or conditions that might otherwise obstruct walking for recreation or transportation.^{8,18,21} Nevertheless, within the Calgary context, improving perceptions of neighbourhood aesthetics and walkability may encourage more frequent dog-walking. Further research is needed to better understand the complex relations between the built environment and dog-walking within the Canadian population.

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RÉSUMÉ

OBJECTIFS : Notre étude visait : 1) à estimer les écarts dans la perception de l’environnement bâti du quartier chez les non-propriétaires de chiens, les propriétaires qui promènent leurs chiens (promeneurs de chiens) et les propriétaires qui ne promènent pas leurs chiens (non-promeneurs de chiens) et 2) à estimer les associations entre la perception de l’environnement bâti du quartier et la fréquence de promenade de chiens.

MÉTHODE : Un échantillon aléatoire d’adultes de Calgary a répondu à un sondage téléphonique entre août et octobre 2007 ($n = 2\,199$, taux de réponse = 33,6 %) ou entre janvier et avril 2008 ($n = 2\,223$, taux de réponse = 36,7 %). Ces sondages téléphoniques et un questionnaire de suivi ont permis de saisir des données sur l’activité physique, la santé et les caractéristiques sociodémographiques, la possession de chiens et les caractéristiques subjectives de l’environnement bâti. À l’aide d’une analyse de la variance, nous avons comparé l’environnement bâti perçu par les non-propriétaires de chiens, les non-promeneurs de chiens et les promeneurs de chiens. Pour les propriétaires de chiens seulement, nous avons procédé par régression logistique pour estimer les associations (rapports de cotes : RC) entre le fait de promener un chien et l’environnement bâti perçu. Chez les promeneurs de chiens, une analyse de régression logistique a estimé les associations entre la promenade de chiens ≥ 4 fois/semaine et l’environnement bâti perçu. Par ailleurs, chez les promeneurs de chiens, nous avons estimé par régression linéaire les associations (coefficients non standardisés β) entre la fréquence de promenade de chiens et l’environnement bâti perçu.

RÉSULTATS : Comparativement aux promeneurs de chiens, les non-propriétaires de chiens ont affiché une perception plus positive de la connectivité des rues du quartier, des infrastructures piétonnières et de la marchabilité ($p < 0,05$). Chez les promeneurs de chiens, l’esthétisme était positivement associé ($p < 0,05$) à la probabilité de promener le chien ≥ 4 fois au cours d’une semaine type (RC pondéré en fonction des covariables = 1,67) et à la fréquence de promenade du chien (β pondéré en fonction des covariables = 0,15). Chez les promeneurs de chiens, la marchabilité était aussi positivement associée ($p < 0,05$) à la promenade du chien ≥ 4 fois au cours d’une semaine type (RC pondéré en fonction des covariables = 1,03) et à la fréquence de promenade du chien (β pondéré en fonction des covariables = 0,05).

CONCLUSION : La perception de l’environnement bâti du quartier semble être différente selon que l’on est ou non propriétaire d’un chien. Les améliorations à l’environnement bâti n’encouragent pas nécessairement les propriétaires de chiens à promener leur animal, mais la création de quartiers attrayants et propices à la marche pourrait favoriser les promenades régulières chez les propriétaires qui promènent déjà leurs chiens.

MOTS CLÉS : activité physique; chiens; quartier; environnement bâti; marche