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# **‘I think it adds value, but I don’t use it’: Use, Perceptions and Attitudes of Outdoor Exercise Equipment in an Urban Public Park**

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## **‘I think it adds value, but I don’t use it’: Use, Perceptions and Attitudes of Outdoor Exercise Equipment in an Urban Public Park**

### **Abstract**

Public open spaces are important places that can contribute to public health initiatives through facilitating leisure-time physical activity. Using the findings from 400 self-completed questionnaires of park visitors, this exploratory study examined people’s use, perception and attitudes of a specific type of outdoor exercise equipment (in the form of a stretch station circuit) installed in an urban public park in a suburb of Perth, Western Australia. The data highlights that the equipment is positively perceived by existing park users in that it is seen to add value to the park and is a ‘good investment’ by their local government authority. Users of the equipment did enjoy it and wanted more installed. However, there appears to be little perceived benefit in terms of its contribution to the physical activity levels of park users, particularly with regards to a key target group – those people who engage in little leisure-time physical activity.

### **Key words**

Urban parks, physical activity, outdoor exercise equipment, active living

## **Introduction**

The provision of public open space (or parklands) has long been a significant feature of the built environment, more recently through well-defined planning strategies, schemes and structures (which, in Australia, occur at the state and local levels). Although different stages of the land planning and development process influence varying aspects of parkland planning and design and involve consultation with a range of government agencies, it is largely local governments that determine the absolute quantity and quality of the parklands within their jurisdiction (Government of Western Australia 2014). Moreover, with a renewed focus on building healthy, active and resilient communities and managing growing, urban population concentrations, along with increasing socio-economic and environmental demands, the planning, design and use of parklands is becoming increasingly important. In Australia, a number of state government agencies (e.g. those departments responsible for sport and recreation, water, planning and the environment) actively work with local governments and commit resources to develop and maintain these assets under the premise that all communities need equal access to good quality public parkland because it ‘enhances urban amenity and provides landscapes that can positively impact community health and social connectivity, biodiversity, local water quality and water management, air quality and mitigation of the urban island effect’ (Government of Western Australia 2014, 1).

The notion that the availability of such open space provides for a range of formal and informal sport and recreation activities which have positive physical and social impacts for the community is of particular importance for leisure planning. In this way, local governments have sought to consolidate existing and consider alternative planning principles and practices when designing their sport, recreation and nature parkland spaces. In Australia, as in other countries, there has been a proliferation of physical activity infrastructure such as outdoor gym/fitness equipment in public parkland over recent years with local authorities promoting that it contributes to positive physical and mental wellbeing both for individuals and the community at large (see e.g. City of Brisbane 2016; City of Vincent 2016; Randwick City Council 2016). However, few studies have examined the actual use and benefits of such infrastructure, and thus its contribution in encouraging park visitation and physical activity behaviours.

As Veal argued in 2006, despite the prominence of parklands demonstrated by both land and budgetary allocations, there has generally been a paucity of data focused on the use of urban parks, and little consideration has been given to urban parks in discussions and analyses of leisure participation or leisure policy more broadly. More recently, there has been a growing body of work from leisure researchers analysing the importance of parks and recreation settings (Henderson 2006; Kaczynski and Henderson 2007), non-urban parks (Larson et al. 2014) and tourism behaviour (Sibson et al. 2010) and their relationship to physical activity. Similarly, in the public health literature there is a current focus on examining the relationship between the effects of park improvements or environmental interventions and levels of park visitation and physical activity (Cohen et al. 2009, 2010, 2012; Furber et al. 2014; Scott et al. 2014; Tester and Baker 2009; Veitch et al. 2012, 2013). The aim of this exploratory study is to contribute to this debate by examining people’s awareness, use, perceptions and attitudes in relation to a specific type of outdoor exercise equipment, namely stretch stations, installed at a large, urban, public park in Perth, Western Australia.

## **Review of Literature**

### ***Influencing physical activity behaviours: A multi-dimensional approach***

The importance of sufficient and regular physical activity to the health and wellbeing of adults and children (e.g. maintaining a healthy body mass and reducing the risk of a range of chronic diseases) is well established. However, as part of the most recent Australian Health Survey (ABS 2013), it has been reported that in 2011-2012, only 43% of adults were able to meet the ‘sufficiently active for health’ guidelines (150 minutes of moderate intensity physical activity over five or more sessions per week), with the remainder being insufficiently active (36%) or inactive (20%). As previously noted, there is an increased demand by a range of government agencies to develop and maintain high quality parkland for the range of benefits it provides. Not surprisingly, given the current statistics on the status of the nation’s activity levels, one of the most common drivers has been to consider how parkland settings can be developed and designed to increase the physical activity and, thus, the health levels of the communities in which they are situated. This type of response is now typical of many governments worldwide as they grapple with the rising burden of non-communicable diseases.

Traditionally, health interventions and, particularly, those which encouraged physical activity, focused on or targeted the individual to effect a behavioural change (Bedimo-Rung, Mowen, and Cohen 2005). More recently, however, researchers have argued for a multi-dimensional and contextual approach towards prevention. Frameworks such as Frieden’s (2010) five tier health impact pyramid; the policy, systems and environmental (PSE) interventions approach (Bunnell et al. 2012); and social ecological models (Chambers, Turner, and Hunt 2007) all outline a range of dimensions for health interventions as well as hierarchies of costs and impacts. For example, a social ecology approach proposes that the behaviour of people is not only influenced by intrapersonal factors (such as personal attributes and attitudes, as well as biological variables), but also by interpersonal, institutional, and community factors as well as public policy (McLeroy et al. 1988; Stokols 1992). This approach has emerged as a critical response to earlier research which emphasised psychological and social factors for changes in an individual’s behaviour, largely at the expense of research acknowledging and examining the influence of the physical environment (Dishman and Sallis 1994; Henderson 2006; Humpel, Owen, and Leslie 2002; Kaczynski and Henderson 2007; Sallis, Kraft, and Linton 2002). The above frameworks all recognize that strategies which modify environments are important components of public health, and particularly physical activity, interventions (Bunnell et al. 2012; Chambers, Turner and Hunt 2007; Frieden 2010). Indeed, strategies which seek to change environmental contexts to facilitate healthy behaviours may be more effective than clinical or other individually targeted interventions because they are likely to reach broader segments of society and require less individual efforts (Frieden 2010). Such approaches include the use of parklands to encourage people’s participation in physical activity as explored in this study.

### ***Parks and physical activity behaviour***

Parklands, including natural and built environments, are important places for facilitating community participation in physical activity. Research has indicated that broader recreation settings such as urban parks, trails and greenways, in particular, contribute to physical activity and healthy behaviour (Henderson 2006; Kaczynski and Henderson 2007). Parks are

common, yet not well understood, community assets that through a range of characteristics may indeed contribute to improved community well-being and particularly participation in physical activity (Bedimo-Rung, Mowen, and Cohen 2005; Cohen et al. 2010; Veal 2006). While some literature indicates the mere presence of public parks does not necessarily motivate people to engage in physical activity (McCormack, Giles-Corti, and Bulsara 2008), other research has stated that accessibility and residential proximity to public parks appear to be indicators of people engaging in more physical activity (Frumkin 2003; Sugiyama et al. 2010). Giles-Corti et al. (2005), however, suggested that proximity alone does not seem to increase physical activity in a public space, but that attributes such as infrastructure and design are also likely to be factors that potentially attract more people to exercise in such spaces (see also Frumkin 2003; Giles-Corti and Donovan, 2003). Thus, they indicate that more research is needed to grasp the reasons why people are attracted to partake in physical activity in public spaces. Similarly, Cohen et al. (2010, S9) stated that ‘it is unclear exactly which park characteristics and conditions will draw more people to promote greater population-wide physical activity. The conventional wisdom is that parks must be attractive and safe, and have a sufficient diversity of amenities and features to meet the needs of people with multiple different interests’.

In the last five years, there have been a growing number of studies which have sought to examine the types of characteristics which are associated with park use and whether improvements through renovations and upgrading of park facilities and amenities, and/or the addition of programming initiatives does attract more people to a park and, therefore, also increases the physical activity levels of these users (Cohen et al. 2009, 2010; Parra et al. 2010; Tester and Baker 2009; Veitch et al. 2012, 2013). In their studies of a range of urban parks in the United States, for example, Cohen et al. (2009, 2010) highlight the importance of programming or holding events and sporting competitions within the park’s facilities to increasing levels of use and physical activity. They concluded that ‘improvements to parks may not automatically result in increased use and physical activity, especially when programming decreases. Multiple factors contribute to park use and need to be accounted for in future community-level interventions’ (Cohen et al. 2009, 475). One of their key recommendations was to ensure that parks and recreation professionals consider using a multi-faceted approach to programming, along with marketing, promotion and other outreach efforts to maximise park use. Similarly, Parra et al. (2010) found providing cost-free, supervised physical activity classes in public parks in Brazil to be a useful strategy in promoting park use and physical activity. While Tester and Baker (2009), in their US study, found that two parks which underwent significant renovations by way of the installation of new artificial turf and sporting amenities, and a consequent increase in the offering of programming activities, had increased visitation and overall physical activity levels of users. In Australia, Veitch et al. (2012) also determined that improving the range of park features on offer (such as a fenced leash-free area for dogs; a playground; a walking track; a BBQ area; and improved landscaping and fencing) increased the counts of park users walking and being vigorously active.

### ***Urban parks and the use of outdoor exercise equipment***

One feature which has increasingly been introduced into parks with the specific intent of encouraging more community level physical activity has been outdoor exercise or gym/fitness equipment. Chow (2013), for example, states that outdoor fitness equipment has

become very popular in many Asian countries, including Taiwan, China and South Korea, and highlights its growing popularity in many European countries, such as Spain and Portugal, as well as the United States. Australia has also seen a rapid increase in the amount and type of this infrastructure – largely in the form of strength and/or cardio equipment - being installed in parks, particularly by local governments (see e.g. City of Brisbane 2016; City of Vincent 2016; Randwick City Council 2016). There appears to be few studies, however, which have examined whether this type of equipment is used by park visitors, and what their experiences and perceptions are.

One study by Chow (2013) which focused on the perceptions and experiences of older adults using a range of outdoor fitness equipment installed across two parks in Taiwan, found that although it was not the main purpose for their park visit, these seniors did use it as a supplement to their main activities (of group exercise or walking), and used it for enjoyment, to improve their health and to socialise with others. However, they also raised a number of issues in relation to safety, maintenance and management of the equipment for consideration. Similarly, in their more limited survey of a small group of 54 park users undertaken in New South Wales (NSW), Australia, Furber et al. (2014) found that installation of outdoor gym equipment increased visitation to the park, as well as encouraging social interaction amongst its users. In another study, this time in the United States, Cohen et al. (2012) sought to evaluate the impact of outdoor fitness equipment across 12 parks serving diverse population groups. Their results showed that park use increased more in those parks which had the equipment installed, than in the control parks that did not have equipment, but the difference was not statistically significant. However, they noted that self-reported measures of being a new park user increased and estimated energy expenditure was higher at two follow-up points than at the baseline measure. They suggested that these installations ‘appear to be a cost effective investment of resources for increased use of parks and park-based physical activity, particularly in densely populated areas and in parks where few facilities exist’ (Cohen et al. 2012, 44). Cohen, et al. identified that both outreach and marketing are likely to be important contributors in sustaining the behaviour change that might initially be inspired by these types of built environment improvements. More recently, Scott et al. (2014) have reported on survey findings from a project which sought to combine the introduction of outdoor gym equipment to a park in NSW, Australia with exercise sessions for older adults run by accredited professionals. The sessions were widely promoted and a *How to Use an Outdoor Gym Guide* was developed. The results indicated that all sessions attracted new users and increased the participants’ confidence in the correct use of equipment, and that continuing with such sessions and being able to use the guide would be facilitators of continued use. Thus, they concluded that having ‘targeted marketing, including instructional exercise sessions and guides may promote safe and sustained outdoor gym use’ (Scott et al. 2014, 214).

This research project contributes to the limited, yet growing, body of academic literature surrounding the installation of outdoor exercise equipment and its possible contribution to increased park usage and physical activity behaviours by examining people’s awareness, use, perceptions and attitudes towards a specific type of equipment - a stretch station circuit - to an urban, public park in Perth, Western Australia.

## **Methods**

## **The study site**

The study site was a large, urban park in Perth, Western Australia which provided for both formal and informal recreation use, through a number of multi-use sporting ovals and reserves and clubrooms (e.g. football, hockey, softball, cricket), as well as playground and social amenities (e.g. BBQs, toilets, drinking fountains, shelters) and a number of walking path networks. As the focus of this study, outdoor stretch stations (see Figure 1) were installed at 500 metre intervals along one of the looping footpaths (2.5 km full circle). A website was also developed to provide users with more information about the stretch stations and how to best use them, along with additional support in the form of health and fitness information. These stations were installed with the intent to promote physical activity, particularly in relatively inactive people, and the local government publicly launched and promoted the equipment and the website alongside the concept of ‘active living’, which acknowledges the importance of including physical activity in people’s everyday lives (Active Living Research, 2014). The stretch stations were intended to provide an incentive for walkers/runners to increase their activity through encouragement from feedback on their performance and the provision of health information. They could either be used simply to facilitate stretching; as a landmark to encourage interval training; or to gauge the exercisers’ effort and activity by virtue of the known distance between stations. Each station, via a plaque, promoted a range of stretching techniques and provided users with information on how to increase their physical fitness in an incremental manner; it also directed users to visit the associated website for further information. The rationale behind the stations’ contribution to encouraging increased physical activity in relatively inactive people, which was articulated by those responsible for their installation, revolved around motivating users to be active for longer and/or at a higher intensity by providing visible distance markers (the stretch stations) which facilitated goal setting, and provided a socially acceptable reason to interrupt a run. For example, an unfit person may be encouraged to break into a run for the final 50 metre distance to a stretch station where they could then stop to interact with that station without feeling physically inadequate in a public arena. Over time and with increasing fitness, the distance and/or intensity of that activity could then be increased. It was anticipated that the stretch station circuit would contribute both to attracting people to the parkland, and also by encouraging walkers at the site to partake in prolonged or higher intensity physical activity.

INSERT FIGURE 1 HERE

## **The questionnaire**

In order to assess public awareness, use, perceptions of and attitudes towards the stretch stations, a self-completed, questionnaire was developed and administered to visitors at the park almost a year after the stretch stations were installed. The questionnaires were distributed at various locations within the park using a non-probability, convenience sampling technique. In seeking to capture a range of visitor profiles, data were gathered over a range of times for each day of the week (e.g. 7am - 10am; 12pm – 2pm; 3pm -7pm across all days of the week). Based on observing the flow of movement at the park, data collectors were situated at a number of vantage points (near the stretch stations and the car park) and directed to approach people as they passed that point to distribute and collect completed questionnaires from park users. A total of 400 questionnaires were completed, reflecting an



89% response rate. Ethics approval for the research was provided by the University's Human Research Ethics Committee.

The questionnaire comprised 25 questions in three sections: Section 1 comprised four closed-ended questions (including pre-set categories and binomial (yes/no) answers) which sought general information about park use by respondents in terms of their main reason for visiting the park (e.g. type of activity) at the time of the survey and usually; how often they visited; and how satisfied they were with the park for their usual activity. These questions were derived from the local government authority's annual customer satisfaction survey which aimed to assess residents' awareness, usage and satisfaction with their services and facilities, specifically parks and reserves. Section 2 comprised six questions which examined awareness and use of, and perceptions and attitudes toward, the stretch stations in the park, as well as one question which asked whether they had used the associated website. Perceptions of, and attitudes, toward the equipment were elicited using seven-point Likert scales for agreement (1 = strongly disagree through to 7 = strongly agree) with seven and ten items respectively (see Table 2). These item statements were developed by the researchers based on consultation with the staff at the local government authority and the literature (Bruner, 2009). Section 3 sought demographic and baseline physical activity information using 14 standardised closed-ended questions with pre-set category responses based on previous Australian Bureau of Statistics surveys (e.g. ABS, 2013).

Data were entered into the statistical software SPSS for management and analysis. Basic checks for data integrity and accuracy were conducted before appropriate descriptive and inferential statistical tests were undertaken, including frequencies, percentages, means, chi-square, Kruskal-Wallis, t-test and ANOVA. An alpha level of .05 was used for all statistical tests.

## **Results**

### ***Participant profile***

Of the 400 participants to complete the survey, 49.5% were male and 50.5% were female. More than three quarters of participants (76.8%) were aged between 18 and 44 years, with the two largest age categories being 25-34 years of age (29.3%) and 35-44 years of age (28%). Participants were from a range of household structures; nearly 20% were from single person households with a further 22.4% from group dwellings. Couples living with and without children were well represented at 29.6% and 22.4% respectively, with single parent families representing 5.8% of the sample. The majority of respondents were employed full-time (43.9%) or part-time (31.8%), while 12.4% were retired and 10.6% were not employed; 57% of respondents held an undergraduate or postgraduate degree. In terms of the frequency and intensity of their general physical exercise levels, over half of the respondents (58.2%) reported that they exercised (not just at the park) 'more than once a week' or 'daily'. The duration of a usual exercise session was less than 15 minutes for 6% of respondents; between 15-30 minutes for 29.3% of respondents; 31-60 minutes for 48.5% of respondents; and more than 60 minutes for 16.2% of respondents. The self-reported level of intensity that respondents usually exercised at (not just at the park) ranged from low (28.6%) to moderate (51%) to vigorous (20.4%).

INSERT TABLE 1 HERE

### ***Park use***

At the time of survey, respondents visited the park for two main reasons: (1) for physical activities (60.5%, n=242), including exercise (e.g. walking or running), walking the dog and for organised sport activities; and (2) for social activities (35.8%, n=143), including playing with children and sitting/relaxing/socialising. In considering their usual activity at the park, however, 66.8% of respondents indicated they would visit for physical activities. Over 70% stated that they visit the park at least ‘once a week’, with 20% indicating they visit on a ‘daily’ basis.

### ***Awareness and use of stretch stations***

When prompted about the presence of the stretch stations in the park, 63.5% of respondents indicated that they were aware of the stretch stations. However, there were variations in awareness across park user groups: 86.6% of the respondents whose main activity was ‘exercise’ (e.g. walking or running) were aware of the stations, contrasting with 43.8% of those whose main activity was for ‘sitting/relaxing/socialising’. There was an association between awareness of the equipment and the main reason for visiting the park,  $X^2(5, N = 400) = 54.40, p < .05$ .

Eleven percent of all survey respondents used the stretch stations ‘often’ or ‘very often’, 12.7% used the equipment ‘sometimes’, 20.6% used it ‘rarely’, while 55.7% had ‘never’ made use of the stations. The main users were those who visited the park specifically for ‘exercise’ (24% and 19% of which used the stations ‘often’ or ‘very often’ respectively). Visitors that went to the park specifically for ‘exercise’ were more inclined to use the equipment than other visitors,  $H(5) = 62.07, p < .05$ .

The amount of use of the stretch stations was also related to the level of intensity that respondents usually exercised at. Only 8% of low intensity exercisers ‘sometimes’ to ‘very often’ used the stretch stations, whereas 27% of moderate and 35% of high intensity exercisers had ‘sometimes’ to ‘very often’ used the stations. There was a significant effect of level of intensity on how often the equipment was used,  $H(2) = 35.97, p < .05$ .

Those who had ‘never’ made use of the stations were asked to consider whether they would in the future and to explain their response. 45.8% indicated ‘no’, 33.2% ‘maybe’ and 21% ‘yes’. The responses of those who said they would try the stations centred on the equipment being freely available, the positive health and fitness benefits use could bring, or if they had guidance and the stations were suitable for them. Those indicating they would not use the stations in the future stated they either exercised elsewhere (e.g. indoor gym), did not like exercise, did not see the benefit of using the equipment, were in the park for other reasons (e.g. walking the dog, playing with or watching children), did not come to the park often enough, or that the equipment was ‘dirty and without lighting’.

### ***Perceptions of and attitudes towards stretch stations***

When prompted about their perceptions of the equipment in the park respondents tended to more strongly agree that the ‘equipment adds value to the park’ (mean = 4.05; n = 373; *scale: 1 strongly disagree to 7 strongly agree*) and disagreed it was ‘a waste of [local government] resources’ (mean = 3.00; n = 371). The statements of ‘the equipment being a good investment by the [local government authority]’ (mean = 3.80; n = 372), and ‘investment in this

stretching equipment makes me feel good about the [local government authority]' (mean = 3.71; n = 370), were also more agreeable than not, and these mean scores were higher than for the statements that 'the park should be left free of equipment' (mean = 3.61; n = 370), and 'I don't like having the equipment in the park' (mean = 3.32; n = 368). There was, however, no real agreement that 'this equipment enhances my experience at the park' (mean = 3.27; n = 367) or that 'having the equipment here has encouraged me to participate in physical activity' (mean = 3.16; n = 366).

INSERT TABLE 2 HERE

Statistical tests were conducted to ascertain whether there were differences in perceptions of, and attitudes toward the stretch stations across variables such as age, gender, main reason for visiting the park, frequency of park visitation, usual level of intensity of exercise, and usual frequency of exercise; with the significant results ( $p < .05$ ) presented here. Males ( $M = 3.44$ ,  $SD = 1.51$ ) were significantly more likely than females ( $M = 3.11$ ,  $SD = 1.34$ ) to agree that 'this equipment enhances my experience at the park' ( $t(365) = 2.22$ ). Younger people (age 18-24 years) had higher levels of agreement ( $M = 4.32$ ,  $SD = 1.57$ ) that the 'equipment adds value to the park' than the 55-64 year old cohort ( $M = 3.06$ ,  $SD = 1.59$ ) ( $F(5, 367) = 3.67$ ). People who usually exercise at a moderate ( $M = 3.81$ ,  $SD = 1.22$ ) or vigorous ( $M = 3.95$ ,  $SD = 1.47$ ) level of intensity were more likely than those that exercise at a low ( $M = 3.32$ ,  $SD = 1.32$ ) level of intensity to agree that 'Investment in this stretching equipment makes me feel good about the [local government authority]' ( $F(2, 368) = 6.36$ ). Similarly, those that visit the park for exercise ( $M = 3.89$ ,  $SD = 1.30$ ) were more likely than visitors that walk their dog ( $M = 3.26$ ,  $SD = 1.30$ ) to agree that 'Investment in this stretching equipment makes me feel good about the [local government authority]' ( $F(5, 364) = 2.25$ ).

Those who indicated that they used the stretch stations (44.3% of total respondents) were further asked to answer a series of questions regarding their attitudes towards the equipment. With the highest mean score across the set of statements, these users lent some support to the suggestion that 'the [local government] should provide more equipment in the park' (mean = 4.37; n = 180). There was also some indication that they 'enjoy using the equipment' (mean = 4.16; n = 182) and that 'the equipment is of good quality' (mean = 3.99; n = 183). However, respondents were fairly neutral on whether the equipment increased their use of the park (mean = 3.61; n = 186), encouraged them to do more exercise (mean = 3.58; n = 180), enhanced their park experience (mean = 3.54; n = 180), or helped them feel fitter because they used it (mean = 3.45; n = 182). Moreover, they did not agree they 'come to the park specifically because of the stretching equipment' (mean = 2.71; n = 183) or that they 'would not come to this park if it didn't have the stretching equipment' (mean = 2.64; n = 183).

Again, in terms of the statistical tests, there were significant differences ( $p < .05$ ) by gender in that males more strongly agreed than females with the statements that 'this equipment has increased my use of the park' (Males:  $M = 3.88$ ,  $SD = 1.39$ ; Females:  $M = 3.31$ ,  $SD = 1.43$ ,  $t(184) = 2.71$ ) and 'I feel my use of the equipment has enhanced my experience of the park' (Males:  $M = 3.75$ ,  $SD = 1.44$ ; Females:  $M = 3.33$ ,  $SD = 1.32$ ,  $t(178) = 2.04$ ). People who usually exercise at a vigorous level of intensity were more likely than those that exercise at a low level of intensity to agree with the statements that 'This equipment has increased my use of the park' (Vig:  $M = 4.02$ ,  $SD = 1.60$ ; Low:  $M = 3.21$ ,  $SD = 1.19$ ,  $F(2, 183) = 3.44$ ) and 'I enjoy using the equipment' (Vig:  $M = 4.65$ ,  $SD = 1.58$ ; Low:  $M = 3.78$ ,  $SD = 1.52$ ,  $F(2, 179)$

= 3.83). In addition, those that visited the park to participate in organised sport activities ( $M = 4.73$ ,  $SD = 1.10$ ) were more likely than those visiting to walk their dog ( $M = 2.89$ ,  $SD = 1.23$ ) to agree that 'This equipment has encouraged me to do more exercise' ( $F(5, 174) = 2.81$ ).

Finally, users were asked whether they had visited the associated website. Of the 172 users that answered the question, 38% indicated that, yes, they had visited the website, while 62% had not.

## Discussion

The results of this study have indicated that the stretch stations were not perceived to have a positive influence on the physical activity participation of the parks' users, particularly the key target group of people engaging in little or low intensity levels of leisure-time physical activity. Indeed, the findings showed that the users were predominately those who usually participated at moderate to vigorous intensity levels, and were visiting the park specifically to exercise (e.g. walking or running) or participate in organised sport activities. Further, those visiting the park to participate in organised sport who had used the stretch stations were the only user group to agree that the equipment had encouraged them to do more exercise. This finding was supported by the researchers' field observations that organised sport groups incorporated the stretch stations into their training program, such as for interval training or during warm-up/cool-down activities. Correspondingly, awareness of the equipment in the moderate to vigorous intensity exercisers was high, compared to low intensity exercisers. The fact that there was relatively high awareness amongst these groups, and that the vigorous intensity physical activity participants were the highest user group of the stretch stations, and were more likely than the low intensity level exercisers to agree that the equipment increased their use of the park is, perhaps, no surprise. Given their interest in physical activity they would likely be early adopters of any physical activity equipment. However, even these users were not in agreement that they felt fitter because they used the equipment or that the equipment had a bearing on their intention to visit the park for exercise. Moreover, although males who had used the equipment were more likely than females to indicate that the equipment increased their use and enhanced their experience of the park, the mean scores of 3.88 and 3.75, respectively, indicate that their park use and experience was not overly affected by the availability of the exercise stations. This study, therefore, supports others which have highlighted the importance of local parks in enabling physical activity behaviours (e.g. Henderson 2006; Kaczynski and Henderson 2007) and for them to be equipped with well-maintained and fit for purpose infrastructure (e.g. Cohen et al. 2010; Giles-Corti et al. 2005). However, it does not support findings from others (e.g. Furber et al. 2014) or the rationale from this local government authority that the addition of a specific type of infrastructure alone would encourage people to come to the park and/or general park users to do more exercise.

Overall, the most positive responses by park users across all statements in the survey were that the equipment added value to the park and it was a 'good investment' by their local government authority. Significant differences were seen in the agreement level of the 'adds value to the park' statement by the younger age cohort (18 to 24 years) as opposed to the older 55 to 64 age group; and for the 'investment in this equipment makes me feel good about the [local government authority]' statement for the moderate or vigorous intensity exercisers

against the low intensity exercisers, as well as for the user groups visiting the park for exercise versus walking the dog. Moreover, the users of the stretch station equipment indicated that they did enjoy using it (this applied more particularly to the vigorous intensity exercisers) and they wanted more to be installed. In regards a local government perspective then, our findings lend support to their endeavours of providing community infrastructure in the form of the stretch station circuit by indicating that these actions are seen as positive steps that are supported or at the least tolerated by the public. Moreover, this study indicates that certain demographics are more likely than others to view this equipment as a valuable addition that can increase and/or enhance their park experience, although it must be noted that there were no self-reported increases in terms of feeling fitter. However, their challenge is to improve the infrastructure rollout's effectiveness with a view to increasing physical activity participation to facilitate the public health benefits at the core of the initiative. Similar to other recent research (Cohen et al. 2009, 2010, 2012; Parra et al. 2010; Scott et al. 2014), this study highlights the need for more extensive promotional activities (such as 'come and try' sessions, and promotion of the circuit through newsletters and flyers) and guidance on appropriate equipment use and its benefits to introduce the equipment to low physically active park users and local residents not currently using the park. A number of park visitors who had not made use of the stretch station equipment, but indicated they would in the future, stated they would do so with proper guidance and if the equipment was suitable for them. As other researchers have found (Parra et al. 2010; Scott et al. 2014), providing no-cost or low-cost specific physical activity and/or exercise classes with qualified professionals could be a beneficial way to introduce people to the equipment, and improve their knowledge and confidence in how to use it correctly and appropriately for physical health benefits. Similarly, further promotion of the website is required and its usefulness or relevance may need to be re-visited. It might have more uptake if it is recommended to users by the qualified trainers involved in exercise classes. Scott et al. (2014), for example, found the development of a user guide with stretching techniques and/or suggested training methods (which was distributed at the outdoor gym participant sessions, as well as being available on the Internet) had the potential to support more sustainable equipment use by the older adults in their project.

It must be acknowledged that the stretch stations in this study are a specific type of equipment which, as discussed earlier, are designed to facilitate stretching and to act as markers for a timed walk/run. They are not the same as much of the outdoor strength and/or cardio equipment that is now seen in a lot of parks (see e.g. City of Brisbane 2016; City of Vincent 2016; Randwick City Council 2016). Given that the users of the stretch stations did make positive mention of having more equipment installed in the park, and all park visitors positively indicated that the equipment added value to the park, this could be a consideration for the local government authority. Having a different type of equipment which focuses more on strength and movement may facilitate increased use through a better perception of potential health and fitness benefits. Once again, however, the key to the use of any type of outdoor exercise equipment by non, or low to moderate intensity, exercisers will most likely lie as a step beyond its installation, in how it is more readily activated and sustained – and this will be yet an additional resourcing challenge for local governments. With limited budgets, local authorities not only have to install a range of equipment, but they have to ensure it is properly designed, managed, maintained and serviced for safety and aesthetic reasons. As identified in this study, park visitor perceptions of such equipment and whether they will make use of it can be strongly influenced by its appearance. Even just one year after

its installation the stretch station equipment was perceived by some as ‘dirty’ and ‘without lighting’ meaning that these visitors would not use it. The participants in Chow’s (2013) study in Taiwan had similar concerns with regards to the maintenance of park outdoor equipment. The very nature of outdoor equipment and the climate and public environs in which it sits and has to operate, or is operated in (either correctly or not), means that it is subject to a range of resource issues which have to be considered beyond an initial capital outlay.

## **Conclusions**

This exploratory study contributes insights into the use, perceptions and attitudes of park visitors in relation to a specific type of outdoor exercise equipment, a stretch station circuit, installed at a large, urban public park in Perth, Western Australia. Notably, it highlights that the stretch stations were not perceived to have a positive influence on the physical activity participation of the parks’ users. Nonetheless, these users perceived the infrastructure to be a relatively positive addition to the recreational space and a ‘good investment’ by their local government authority, and users of the equipment did enjoy it and they wanted more installed. The challenge for local authorities installing this type of equipment to encourage people to do more exercise in any outdoor setting is to increase its usage particularly by the low and moderate intensity exercisers. For this to be successful, a range of continuous and related activation measures are required. Suggestions include the initial and ongoing promotion of the equipment to local residents and potential users; including low-cost or no-cost sessions with professional instructors to both introduce and assist and guide them in how best to use the equipment in a safe manner and for health and fitness benefits.

This was an exploratory study with a number of limitations. This study focused only on a limited geographical urban area in Perth, Western Australia and the users of that park (e.g. a specific demography), and it relied on self-report data of physical activity levels and the perceptions and attitudes of only a sample of those users. Moreover, the sampling technique did not allow for a representation of all visitor profiles and thus, caution must be employed in any attempts to generalise the results of this research to other settings and populations. This study did not engage with local residents who did not use the park to examine their awareness, perceptions and attitudes towards the park, its infrastructure and their physical activity participation in general. Thus, this is an area that also warrants further investigation. Future research to assess the links between the use of outdoor settings, the use of outdoor exercise equipment (and any associated resources allocated to activate and sustain further use of the equipment) and changes in the physical activity levels of users over time is recommended. Other techniques which incorporate experimental designs and observation research methods, along with self-report survey data, may also provide for cross-reference of data sources. It would also be worthwhile to follow up and give some focus to the types of demographic differences that were identified in this study. Overall, such research would contribute to guiding targeted investment in infrastructure, as well as promotional and educational activities to facilitate and encourage increased use of outdoor exercise equipment, so that the ever limited resources of local authorities are used most appropriately.

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