UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Usage of UBC Vancouver Informal Outdoor Recreation Space: An Observational Study

Shelby Elkes, Riley Bizzotto, Victoria Wood, Matthew Yuen, Balraj Singh

University of British Columbia

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Executive Summary

The goal of the University of British Columbia (UBC) Campus and Community Planning Public Realm Plan for the Vancouver campus is to envision, build and maintain sustainable outdoor recreation spaces for the UBC community (UBC, 2009). The purpose of these spaces is to create opportunity for community, wellbeing, activity and socialization for UBC students, staff and faculty (UBC, 2009). This observational study offers insights to future outdoor recreation developments by determining the type of usage and degree of usage of three informal outdoor recreation spaces (Skatepark, Forestry Field and Basketball Court) along Thunderbird Boulevard on UBC Vancouver campus. Data was collected during three randomly selected observations periods for each condition during the week (two in the evening 5:00 - 5:30 pm and one in the afternoon 12:00 - 12:30 pm). Results revealed that there were significantly more active participants who used the Forestry Field over the Skatepark and Basketball Courts. Furthermore, there was a greater variety of activity that occurred in the Forestry Field in comparison to the other two conditions. The findings suggest that informal spaces are used more frequently for a variety of different activities and are just as important to healthy student life as are recreation spaces dedicated to specific sporting activities.

Introduction

The UBC Vancouver campus boasts a variety of open fields, green spaces and outdoor sport facilities for the attending community to use for their leisure or activity. In 2009, the UBC Campus and Community Planning released the UBC Public Realm Plan for the Vancouver Campus outlining their vision and objectives for UBC outdoor public spaces. This plan sought to prioritize the renovation and development of five physical elements on the Vancouver campus (organizing spines, large commons, outdoor information social and learning spaces, pedestrian pathways and entryways) (UBC, 2009). The vision of this plan is meant to inspire creativity, pride, community and wellbeing in UBC student, staff and faculty members (UBC, 2009). Many factors are considered the development, protection and renovation of the physical outdoor spaces. For one, it is important to understand why the UBC community values these outdoor spaces. Tawfiq Abu-Ghazzeh (1999) surveyed a combination of 140 students, staff and faculty from the University of Jordan in an attempt to understand their motivations behind seeking and attending specific outdoor spaces on campus. His research determined informal outdoor spaces between the University buildings were specifically important to the students for a variety of reasons (Abu-Ghazzeh, 1999). When asked why they sought these specific outdoor spaces on campus, participants reflected on specific emotions (such as they found the space a peaceful place to study), landscape design and were able to engage in an activity of their choosing or socialize (Abu-Ghazzeh, 1999).

Another important external factor in the development of outdoor recreation space is the convenience of location. Convenience dictates much of what we do and when we do it, and this is no different for our recreational habits. Surveying 262 18-60 year olds in Sweden, Degenhardt, Frick, Buchecker & Gutscher (2011) found that the distance to a recreational space had a large impact on how likely people were to use it. They concluded the further away a space seems, the less likely people are to visit and use the space (Degenhardt, Frick, Buchecker & Gutscher, 2011). Moreover, according to Godbey (2009), proximity, safety, leisure time, nature of community and design of outdoor recreation spaces are important factors in predicting physical outdoor activity. He observed adults in New York City, Baltimore, and Forsyth County, North Carolina and found that they were 28% more likely to participate in recreation activities if parks and recreation facilities were within five miles of their homes (Godbey, 2009). Godbey (2009) also found that stress reduction was an important benefit reported by older visitors to local parks and that negative moods, anxiety, and sadness decreased. Finally research by Colley, Brown and Montarzino (2016) found worker job stress was positively associated with weekly visits to outdoor spaces outside their workplace. These findings suggest there are significant mental health benefits for employees engaging with the outdoors during their workday (Colley, Brown & Montarzino, 2016).

This observational study therefore examines the type of usage and degree of usage of three outdoor recreation spaces on UBC Vancouver campus used by students, staff and faculty. The three locations are the Skatepark, Basketball Court and Forestry Field all located along Thunderbird Boulevard (see Appendix A for map outlining location of conditions**)**. We hypothesize a high degree of usage for active participants in comparison to passive participants across all three conditions. Further, we hypothesize the type of usage will be conducive to the purpose of the outdoor recreation space it was designed for. To elaborate, we anticipate skateboarding will occur in the skatepark, basketball will occur in the basketball courts and a variety of activity will occur in the forestry field. Results will provide valuable insights for the

UBC Campus and Community Planning for the frequency and quality of use of these spaces and if there is a need for further spaces such as these.

Methods

Participants

A total of (N = 109; 13 females; 96 males) UBC community members (UBC students, staff or faculty inclusive) were observed in this study. The researchers did not engage with any of the participants and all were unaware the study was taking place. Academic or employment status of participants (student, staff or faculty) along with consequent demographic information was not collected so researchers could remain anonymous in their data collection.

Conditions

Our study included three conditions, the Skatepark (condition one), Forestry Field (condition two) and Basketball Court (condition three) all located along Thunderbird boulevard on UBC Vancouver campus.

Measures

The first measure, type of usage, was defined as the type of sport or activity participants played or engaged in while using the outdoor recreation space (such as soccer, frisbee, basketball, yoga or skateboarding). Data collection for this measure involved observational descriptions by the researchers of the sports or activity. The second measure, degree of usage, was defined as the number of individuals actively or passively participating in an activity in the outdoor recreation space. To isolate participant's active or passive usage of the outdoor space, we divided type of usage into ***active participation*** (defined as individuals actively involved or required for the game/activity occurring) and ***passive participation*** (individuals not actively involved or required for the game but still standing or sitting within the recreation space, observing the activity or socializing)**.** This measure was documented by numerically counting the number of participants using the space either actively or passively. We also included temperature and weather conditions as a third measure while observing all outdoor recreation spaces. Temperature (measured by degree celsius) and a description of the weather (for example, sunny) was noted at the start of every observation period for each condition.

Procedure

All data was collected in a table secured in an online platform available to all researchers. In order to determine the degree of usage and type of usage of these spaces, researchers randomly selected three days per week over a three-week period to observe each of the conditions. Observation times for each condition included two evening sessions (starting at 5:00 pm and ending at 5:30 pm), and one afternoon session (starting at 12:00 pm and ending at 12:30 pm). The researcher arrived at the location of each condition at the start of the observation period and document the temperature, number of active and passive participants as well as type of sport or activity being engaged in by both passive and active participants. The researchers then maintained a tally of additional participants and further activity throughout the half hour observation period. The researchers did not speak to any of the participants. The data collection table is shown in (see Appendix B)**.**

Results

To analyze the degree of usage a chi squared analysis was conducted to determine if a significant difference occurred between active and passive participants across all three conditions. Our analysis returned significant results at an alpha level of .05 ($\chi 2$ = 5.9964, p = .049). To determine where the significant difference occurred, we conducted two more chi squared analyses comparing each condition with each other. Between the Skatepark and Basketball Courts, as well as between the Basketball Courts and Forestry Field we obtained non-significant results at an alpha level of .05 ($\chi 2$ = 2.0301, p = n.s.; $\chi 2$ = 0.7915, p = n.s.), this indicates that there was no meaningful difference in usage between these spaces during our observation. However, there was a significant difference in usage between the Skatepark and Forestry Field conditions at an alpha level of .05 ($\chi 2$ = 5.9938, p = .014), meaning that there was significantly more people using the forestry field than the Skatepark during our observation times (see Appendix C)

To analyze type of usage, the types of activities occurring at the space was compared to what the space was intended to be used for (see Appendix D). The results supported our initial hypothesis stating the activities that occurred in the recreation space were conducive to the purpose it was designed for. In other words, skateboarding occured in the Skatepark (condition one), basketball occured in the Basketball Courts (condition three) and a variety of activities (such as soccer, dog walking and frisbee) in the Forestry Field. Socializing was observed in all conditions (see Appendix B).

Finally, we conducted another chi squared analysis to determine whether time of the day had an impact on the number of people using the Skatepark, Basketball Courts, and Forestry Field. We obtained highly significant results at the .05 level ($\chi 2$ = 23.8796, p < .00001), leading us to do further further chi squared analyses to find where this difference occurred. We found highly significant results at the .05 level between two of our conditions, namely between the Skatepark and Forestry Field ($\chi 2$ =19.7661, p < .00001) and between the Basketball Courts and Forestry Field ($\chi 2$ = 12.5556, p = .000395). However, we obtained non-significant results at the .05 level between Skatepark and Basketball Court ($\chi 2$ = 1.2012, p = n.s.). These results indicate that in the afternoon people were more inclined to use the Forestry Field compared to both the Skatepark and Basketball Court (see Appendix E).

Discussion

With the goal of accommodating students needs through further development of formal outdoor recreation, it would appear from our results that the need for socialization is just as salient as the need for activity. In line with previous research on this topic, we believe that people were more likely to use the informal Forestry Field space due to its convenience, it's ease of use and possible positive emotional connection to the space. Furthermore, we surmise that people felt more motivated to use this space creatively, which is partially supported by our observations of people using the Forestry Field in unconventional ways. Essentially, we theorize that the UBC community can use this space for whatever activity they wish, whether it is eating lunch, socializing or playing a sport of their choosing. And that since there is no required level of expertise to use the Forestry Field it is potentially more enticing to a wider range of individuals. With informal spaces, there is a greater flexibility in usage, and thus a larger population of people will be motivated to use spaces such as the Forestry Field.

Two complications occurred during this study that should be noted. First, it was difficult to determine the line between active participants and passive participants during the observation period. For example, some of the active participants would stop playing halfway through the observation period and socialize with friends, therefore moving into the passive participation category. This resulted in us reevaluating what was considered an "active participant" for our study. We adjusted this description to a participant who was engaged in an activity for the full length of the observational study. Future studies should be aware of this shift and set specific parameters on how to define these terms. Second, originally our study was to observe the basketball courts outside The Nest and Hebb lecture hall. Due to construction, this space was fenced off and prevented anyone from using that space. It is recommended future studies incorporate this location into their study to compare results that may influence the degree of usage as a function of convenience of location.

Future studies investigating this topic should be sensitive to the difference between the Fall, Winter and Summer term weather conditions. To compensate for this difference and to obtain more comprehensive results and longitudinal study should be undertaken to account for the external factor of weather. In addition to this, weekends should also be taken into consideration when measuring usage of spaces on the UBC campus. Furthermore, the UBC community is made up of more than just students, staff and faculty members, therefore the populations of the surrounding five neighbourhoods should be focused on more intently to identify how these members are using UBC Campus spaces and what specific needs they may have. To really obtain all-encompassing results, future researchers should follow Abu-Ghazzeh's (1999) lead and explore the motivations behind people seeking out these outdoor recreation spaces. Not only would this clear up the matter of overall motivation of personal recreation but it would also help UBC Recreation better identify what people look for in these types of places.

Lastly, it was observed that weather was a high predictor of outdoor recreational space usage. Typically, days that were clear and sunny yielded more participants in these outdoor spaces. This implicates a need for consideration when planning the construction of additional outdoor recreational spaces, specifically so potential rain protection can be constructed, and future spaces are located in areas that receive optimal sunlight.

Recommendations

As previously mentioned, our results provide valuable insights to the UBC Recreation Framework in assessing what future outdoor recreation developments should be made at UBC Vancouver campus. From our observations, we are unable to conclude if any *specific* outdoor recreation spaces should be constructed as the type of usage did not allude to a need for a specific sport or activity space (for example, another basketball court or soccer field). We can conclude however there was a high degree of usage of informal recreation spaces, in particular, the forestry field, which allows for a variety of activities and socialization. From this, we can recommend that more of these open spaces and informal fields should be placed on campus. The current spaces (such as the Forestry Field) should be preserved and protected against future development as they are currently frequently used by the UBC community for a variety of activities such as walking and socialization. We can also conclude from our observations that weather was an influencing factor of degree of usage of the outdoor spaces. We believe this

implicates a need for rain protection over the current outdoor recreation spaces (e.g., skatepark, basketball courts and forestry fields).

References

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Appendix A

Appendix B

Day	Date	Time	Location	Active Participants (Degree of Usage)	Number of Passive Participants (Degree of Usage)	Total (Number of Passive & Active Participants)	Type of Activity (Type of Usage)	Temperature (degrees celsuis)	Descriptive Weather Conditions
Monday	February 26, 2018	5:00 - 5:30 pm	**Skate Park**	9	0	9	Skateboarding & Socializing	6 Celsius	Overcast with sunny breaks. Snow on
Monday	March 5, 2018	5:00 - 5:30 pm	**Skate Park**	9	7	16	Skateboarding & Socializing	6 Celsius	Sunny
Monday	March 12, 2018	12:00 - 12:30 pm	**Skate Park**	2	0	2	Skateboarding	14 Celsius	Sunny
Tuesday	February 27, 2018	5:00 - 5:30 pm	**Basketball Courts by Skate Park**	4	7	11	Skateboarding, Scooters & Socializing	6 Celsius	Cloudy, partially sunny
Friday	March 2, 2018	5:00 - 5:30 pm	**Basketball Courts by Skate Park**	8	3	11	Basketball & Socializing	6 Celsius	Cloudy, cold
Monday	March 12, 2018	12:00 - 12:30 pm	**Basketball Courts by Skate Park**	3	2	5	Basketball, Eating Lunch	14 Celsius	Sunny
Friday	March 9, 2018	5:00 - 5:30 pm	**Forestry Field**	2	6	8	Playing pass with soccer ball, socializing	7 Celsius	Sunny
Tuesday	March 13, 2018	5:00 - 5:30 pm	**Forestry Field**	2	6	8	One with baby carriage, no sports being played, dog walking	9 Celsius	Pouring Rain
Monday	March 12, 2018	12:00 - 12:30 pm	**Forestry Field**	18	15	33	Soccer, frisbee, lunch, socializing	14 Celsius	Sunny

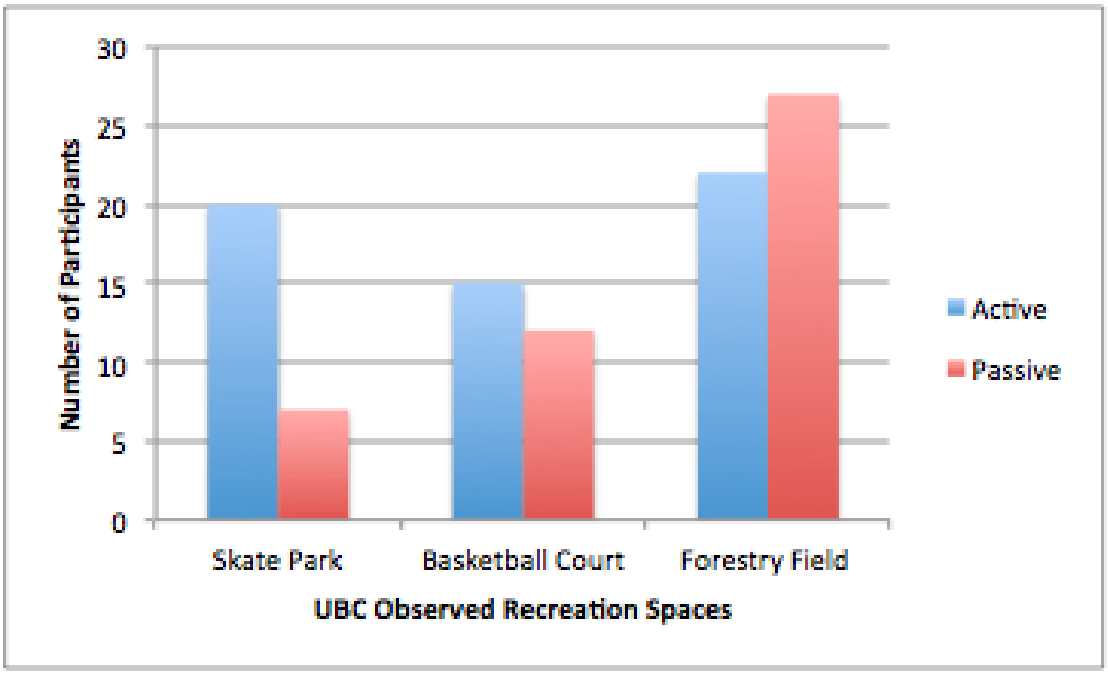
Appendix C

Results						
	Active	Passive				***Row Totals***
Skate Park	20 (14.92) [1.73]	7 (12.08) [2.14]				27
Forestry	22 (27.08) [0.95]	27 (21.92) [1.18]				49
Column Totals	42	34				76 (Grand Total)

The chi-square statistic is 5.9938. The *p*-value is .014356. The result is significant at $p < .05$.

Appendix D

D	E
Location	**Type of Sport Being Played (Type of Usage)**
Skate Park	Skateboarding & Socializing
Skate Park	Skateboarding & Socializing
Skate Park	Skateboarding
Basketball Courts by Skate Park	Skateboarding, Scooters & Socializing
Basketball Courts by Skate Park	Basketball & Socializing
Basketball Courts by Skate Park	Basketball, Eating Lunch
Forestry Field	Playing pass with soccer ball, socializing
Forestry Field	8 pedestrians, One with baby carriage, No sports being played, Dog walking
Forestry Field	Soccer, frisbee, lunch, socializing



Appendix E

Results						
	Afternoon	Evening				***Row Totals***
Forestry	2 (7.89) [4.39]	12 (6.11) [5.67]				14
Skatepark	5 (9.01) [1.79]	11 (6.99) [2.31]				16
Basketball	33 (23.10) [4.24]	8 (17.90) [5.48]				41
Column Totals	40	31				**71 (Grand Total)**

The chi-square statistic is 23.8796. The p-value is < 0.00001. The result is significant at $p < .05$.