Introduction

The design of a community is one of the most important factors influencing the general well-being of its members. From providing healthcare to recreation, a community’s design plays many vital roles in the lives of its members. Some of these design elements include, access to recreational and natural areas, transportation, social programs, and inter-neighbourhood accessibility. These design elements all play an important role in the day to day life of community members, and have the potential to significantly influence their sense of well-being. Therefore, the exploration of their effectiveness; in the eyes of community members, was the goal of this research project. Furthermore, our project explores the importance of community design as we focused our research on a specific area of Guelph, being Royal City Park, located in the downtown core. Our research sought to answer the following question: what community design elements of Royal City Park support or impeded its user's health and well-being?

Literature Review

Our research consisted of examining how the natural environment of Royal City Park, supported or impeded the health and well-being of the surrounding community. The interaction between the natural environment and humans has been a well-researched and a seriously debated topic for a long time. With the release of Edward O. Wilson’s book “Biophilia” in 1984, the importance of the natural environment was clearly defined and set very early on. He argues that Biophilia is human’s innate tendency to seek connections with nature (Wilson, 1984 – Appendix I). Based on the evolution of humans throughout time, it has been concluded; by Wilson, that humans have a natural instinct to be connected with nature as this relationship is essential for a healthy and happy lifestyle (Wilson, 1984 – Appendix I). As this is a very old review to cite, the opinion on this relationship could have changed over time with further analysis, so we kept searching for more answers.

Many literature reviews that we studied were based on different demographics than what we wanted to focus on and further explore. One literature review studied the younger demographic including children and how their interaction with the natural environment was essential for proper child development (BMC, 2013 – Appendix I). Although this is of course a very important topic to discuss, it had little to no relevance to the research we were hoping to conduct, other than providing a good framework that were able to build on. Another interesting study we found dealt with examining how often people with mental health illnesses interact with the natural environment and how it affects them (Colman, 2015 – Appendix I). This study was
trying to determine certain psychological connections based on observational data from their
patients and personal feedback from them (Colman, 2015 – *Appendix 1*). It was determined by
this particular study that interactions with the natural environment for as little a time as 30
minutes can have a very positive impact on people with mental health illnesses (Colman, 2015 –
*Appendix 1*). Although this study gave us great insight about mental health, it didn’t provide
much information about linking their mental state with a lack of interaction with nature.

As there seems to be no evidence to support the research we were hoping to conduct in
the community of Guelph, we took it upon ourselves to find the answers ourselves. With the
general concept of there being some form of relationship between physical and mental health and
well-being and natural space, we decided to focus more on what specific features of a given park
better helped promote this relationship. The premise behind our research was to collect
community feedback of individual perception of how natural spaces affect their well-being. Our
goal was to encourage city planners to not only incorporate natural green spaces within
communities based on our results, but to also put effort into modifying and renovating existing
locations to meet community requests. This will ensure certain standards of living are met with
the implementation of various community design elements that encompass both physical features
and social aspects that the natural environment provides.

We were given a set of very instructive guidelines to follow from our community
partners, which outlines the importance of natural green space not only to benefit community
members but also to ensure that the natural environment is being preserved. As their research is
well justified from legitimate sources, we made sure to follow their guidelines and incorporate
their vision into our research. The basis behind their research for natural spaces is to “preserve
and connect open space and environmentally sensitive areas, maximize opportunities to access
and engage with the natural environment, reduce urban air pollution, mitigate urban heat island
effect, and expand natural elements across the landscape.” (Healthy Built Environments, 2014 –
*Appendix 1*). We intended to follow these five planning principles by creating sub questions to
ask the public as well as a key informant to further gain knowledge on what the overall
community thinks about the natural environment that already exists in the Guelph area. For each
planning principle they have provided an evidence diagram and a linkage summary to outline
and support the knowledge they currently have on this particular topic. Each principle has
associated impacts it may pose, either negatively or positively as well as any possible health
related outcomes and the severity of each. The ranking of each planning principle will help us
organize and prioritize the basis for our research (Healthy Built Environment, 2014 – *See
Appendix 1*).

After reviewing many of these studies we formulated some potential outcomes that we
thought would occur. In general, our knowledge gave us reason to believe that there is a positive
correlation between natural space in the community and good well-being and mental health. We
expected this outcome to be the same with our research as there seems to be a strong
psychological relationship present. With that thought in mind we expected our results to be slightly different than most studies that have been conducted as our research is more focused on how individual features of Royal City Park influence its users well-being. We expected our results to be more specific towards the given location we chose and how the overall relationship between wellbeing and natural space influences this particular area and its community users, which we later have proven to be true.

Methodology

The methodology we had chosen to derive an answer for our proposed research question, was through a questionnaire style survey that we handed out when in the field, that we had created for a quick and efficient method of gaining a vast number of answers. As well we conducted a key informant interview with a planner in Guelph, with the purpose of comparing the data collected through the survey. We had decided to add a key informant interview to identify if the original intentions of the community design elements were being used as originally intended by the public of Guelph. We had chosen to conduct more than one method to gain multiple perspectives, as well by doing a key informant interview we did in fact gain insight on factors we might have missed otherwise. By using two methods we gained access to different answers, ultimately aiding our group to better understand the overall arching question our community partner posed and to answer our own research question.

By using a questionnaire survey method while in the field, we found it was beneficial because this was a productive way to gather a broad and diverse amount of data. We found the survey helpful because we could gather a variety of answers in a practical and time efficient way, and had chosen a questionnaire to eliminate poor response rates. We believed by using a questionnaire we would have access to a larger number of participants as well as having many responses to work with, in a user-friendly format. With our survey, we had physically handed out 29 copies on three separate days at different times, including a Wednesday afternoon (1:00-2:00pm) where we had gotten 3 surveys, a Thursday afternoon (3:00-4:00pm) where we had received 12 surveys, and a Sunday morning (11:00-12:00) where we collected 14 more surveys. We had gone out in smaller groups during the days with the best possible weather during the time frame we were given to collect data.

The format of our questionnaire was eleven questions, our first being an open-ended question stating “What brings you to the park today?” This question was open enough to get a variety of responses but did not leave too much space for off topic answers, as well as setting the mood for our survey. The second question we had on our survey was a ranking question based on the physical features of the park, asking which the participants use the most. We decided the ranking question would be a good choice because it eliminated outlier responses as well would relate to the key informant questions we had planned for the interview. This question gave us a good comparison if the public is using the park as it was initially intended. The features we had included were, the access to river, playground, and sports fields (soccer and baseball) and
walking/biking trails. The third question was a scale based question stating (1-5 format, one being most important and five being unimportant) does Royal City Park impact your level of physical activity. Number four on our questionnaire was a rank the following social features including the gazebo (where social events are held), the picnic tables, the benches, or if they were there to meet up with a friend(s). Our fifth question was a circle one of the following, on what percent of the time you would estimate you visit Royal City Park with others including family and/or friends. Question six was similar to question two, with a 1-5 scale format on how Royal City Park impacts their mental wellbeing. Number seven was circle yes or no, asking if there are any features/aspects missing from the park, with the yes option there was be a please state what area. Our eighth question was based on the location our participant had travelled to visit the park, whether they had traveled from within Guelph or outside of the city. If they had travelled from within Guelph we had them state the major intersection they were closest too so we could pinpoint on a map provided by the community partner to see any trends or patterns of where people are coming from to use the park. Questions nine and ten were demographic based asking about an age range and an education based question so we can have an estimated income rate. Both these questions were a “tick the one that applies best to you” format for a user-friendly purpose. We had decided to add an age demographic questions to ensure we weren’t including any minors in our research, otherwise we asked anybody walking through the park at the given times to participate in our survey. And our final question was another open ended one, “is there anything else or alternative opinion you’d like to share about Royal City Park”, incase our participants had thought of something else to add.

We had also decided to conduct a key informant interview because we believed it would have gave us a more in depth outlook then what other methods could have provided. Detailed reasoning on the park's key features from a professional gave us insight on how and why members of the community use Royal City Park. We had prepared five questions to ask our key informant participant and which gave us an appropriate time to expand on each question to really gain perspective. The nature of our questions included asking our participant about their current job title and how it relates to parks more generally and RCP specifically, their educational background and how it relates to parks/natural spaces and/or health and welling, unique features of RCP such as the gazebo, playground and riverside features (benches, picnic tables) was there a specific purpose for including these features in the park (their intended use), was there a unique role that urban parks (like RCP in the middle of downtown) play in residents health and well-being, and were social and physical well-being taken into account when they designed RCP?

As a group we analyzed our data through a comparison of the responses from our interviewer with the results of the questionnaire surveys. We aimed to find any correlations between the intended use and the actual use of the parks physical features as well to analyze any of the social aspects the Royal City Park brings to Guelph citizens. As a group, we believe the methods we had used to conduct our research were both appropriate and beneficial for our type of study. As well the techniques we used to visualize the data collected was through bar graphs and pie charts that are represented in appendix 2 of this report.
Findings

Throughout our project we had found correlations between the data we collected through our surveys as well through our key informant interview. There were many similarities in the intended uses of the park that the city had planned and how the public perceived and used the features within Royal City Park. Our main findings as a group focused on three common themes including, physical aspects of the park, social aspects of the park and interactions with the natural environment. Our key findings were supported by the results of our surveys, and proven valid through our key informant interview.

Some of the questions we deemed important to our research included “what draws residents of Guelph to Royal City park” and “the most common physical and social feature of Royal City Park” being used in the winter. Throughout the surveys we found that most people were visiting the park for either walks or walking their dog, which makes sense due to factors such as cold weather. Other reasons people were visiting the park included the natural aesthetic of the park, to be closer to nature, their kids and many more. To see the distribution between the 29 surveys we collected is represented in Figure 1 of Appendix 2. Our group also focused on the participants favourite features of the park, in order to help achieve better understanding of our overall arching question. As seen in Figure 2 of Appendix 2 the most prominent feature was the natural aspect of the park, as well park benches and the band shell (gazebo), which were aspects mentioned by our key informant. We also focused on the role and importance the park played in its users daily physical activity and social well being (Figures 3 and 4 in Appendix 2). We found that most people considered the park quite important for both their physical activity and social well being. When comparing this to the information we received from our key informant, our survey results matched well with the intended use of the park the City of Guelph was hoping for. “Royal City Park is one of our older parks and it has always been one of those places where at least in the main portion of the park is a gathering social space” this was a quote our key informant shared with us during the interview. From her professional opinion, the park was built in such a manner that it would encourage a social atmosphere.

After conducting our interview with the key informant, we discovered the purpose of Royal City Park was its social capabilities, due to its near downtown location, connecting paths with other parks and being Guelph’s Regional park. As The key informant mentioned because of the large space the park occupies it has the ability of “drawing from a greater base outside the city as well”. The key informant used words such as “Social Hub” and Guelph’s “Walking 401” because the main intent of the park was to bring residents from all around the city and even people living outside of Guelph to this regional park. When assessing all the data collected, we found that most people were only sometimes visiting the park with others rather than most of all of the time. We believe this is due to factors such as weather, since in the winter there aren’t nearly as many events or festivals held at Royal City Park. This was backed up by our key informant (quote on winter and social events).
Some other aspects that helped us better understand and support the outcome of our findings were factors such as age distribution as seen in Figure 5 in Appendix 2, in this pie chart the different age ranges are distributed relatively evenly, ultimately showing that every age group uses this park equally. As well building off the key informant’s concept of a regional park, we had asked a specific location question. The purpose was to identify how many people were in fact from Guelph using the park, as well from what community in Guelph they had traveled from. The exact numbers can be seen on a map found in Figure 6 of Appendix 2, that show a range of people from all over the city, but mainly those in a closer proximity which could be a factor of convenience or again weather. As well from the 29 people we surveyed, three of them were from outside of Guelph meaning a little over 10% visit from outside of Guelph.

Discussion

After we conducted our research and started analyzing the data, we noticed that there were three common themes that we could categorize. These included physical aspects of the park, social aspects of the park and interactions with the natural environment. All of these themes presented themselves through the results of our surveys and were backed up by our key informant interview. We were also able to apply our results to the planning principles that were outlined in the healthy built environment information package that our community partners provided for us.

The physical aspects of the park include natural features such as trees, the river, grass areas and walking paths. They also include human built features such as park benches, the play structures, the band shell and the baseball diamond. All of these physical features play an essential role in the intended use of the park. Our key informant; described Royal City Park differing from other parks and being unique for many reasons. Royal City Park; as referred to by the key informant, is essentially “The Gateway to the Downtown” and provides a good aesthetic impression of what to expect from the city of Guelph. The unique natural features of Royal City Park make it stand out from others, which adds to the attraction base it brings not only from within Guelph but from surrounding areas. The key informant outlines that “Walking into Royal City Park and noticing the mature trees that are present, allows you to enjoy more shade provided from a larger canopy.” (See Appendix 3). Many of our surveyors commented on the aesthetic of the park bringing them to this area as well as key features being an essential part of their daily routine (See Appendix 1 – Figure 2). As we have been working with Wellington-Dufferin Public Health we have related this theme to match one of their planning principles that they deem important for natural space planning. Planning principle 1 directly corresponds to our theme as it seeks to “Preserve and connect open space and environmentally sensitive area.” (See Appendix 4). We feel that based on the results we have gathered, from the surveys, research and our key informant interview, that Royal City Park meets that standard.

Our second theme; encompassing social aspects of the park, is probably the most important trend for Royal City Park. As the key informant refers to this natural space as “The Gateway to the Downtown,” it is clear that it is a common place for people to meet up before
doing further activities in the downtown area. When we asked the key informant what the main purpose of the park was she responded with “The main portion of the park is a gathering social space.” (See Appendix 3). This has proven to be somewhat accurate with our results as people are occasionally using it as a meeting place with friends and family, but probably not as much as initially intended (See Appendix 2 – Figure 7). As the nature of our research was conducted in the winter, seasonality has proven to be a key variable affecting the amount of users entering the park. As most people use the park in the winter for dog walking, we expect the results to be different should we have collected data during the summer. There are ultimately more festivals that the park hosts as well as people feeling more inclined to use the space when it’s not below zero degrees outside. As Royal City Park is considered a regional park; intending to attract people from Guelph and surrounding areas, our results suggest that during the winter months it turns into a community park as most people we encountered lived nearby (See Appendix 2 – Figure 6). As the social aspects of Royal City Park and significant we feel that it should be a planning principle for natural space in the future; as we were unable to match it with an existing one.

Our third and final theme being interaction with the natural environment directly correlates with the results we have found in our literature reviews. It is clear that there is a positive correlation between interaction with nature and positive mental and physical health and well-being. The planning principle that this theme relates to is 2; “Maximize opportunities to access and engage with the natural environment”, and 5; “Expand natural elements across the landscape.” (See Appendix 4). The key informant also confirms this by declaring that “Any park plays a key role in health and well-being and quality of life for residents or even a visitor to the municipality.” (See Appendix 3). Much of her work surrounds the concept of promoting interaction with natural space for its community members, and it has proven to be very significant with her work and Royal City Park.

These themes are all extremely important as they clearly define the most essential elements of Royal City park that support positive health and well-being of its users. Identifying these themes is helpful for future park planners to know what changes and improvements can be made, as well as what design elements should be incorporated with the new development of parks. This was the intention behind our research and we feel that we have accomplished this. Based on our knowledge of the subject we feel that the results we got were what should be expected and it directly goes back to the biology of humans. We have evolved from species that depended on their natural surroundings to survive and this cannot simply be taken away from us, even though the way we live is very different today. We will always have the tendency to seek interactions with natural; like Wilson suggests, as it helps us become more grounded. Our overall research has bettered our understanding of the role natural space plays in our daily lives. Through the interaction with park users and surveying, supporting literature reviews and our key informant interview, we have learned that natural space is essential to promote a positive and healthy lifestyle. We feel accomplished to say that our research will better the public and help with future park planning that promotes the interaction of natural space and humans.
Conclusion/Recommendations

After surveying members of the community and talking with the key informant we have a few recommendations to propose. As a group we believe that adding social aspects to the Healthy Built Environment, under the Park Planning Principles segment, would be extremely beneficial. This would help support community members mental health and well-being while adding depth to the parks functionality. It would slightly impact the development of the park, but in a minor way, and we strongly agree it is worth the extra money, and design time. While conducting our research we found the Healthy Built Environment document to be very helpful. As social aspects are a very important theme in our study, we believe they would correlate well together and aid in any future research of parks and overall well-being of community members.

We would also love to see more planned social activities from the City of Guelph, to encourage more people to visit the park during the winter season. As seen through our research a large majority of the community members surveyed were visiting the park for physical reasons, such as walking their dogs or on leisure walks, but none were there for social events during the winter.

Another recommendation we saw popular through our research was better maintenance of the park, especially after storm damage or early spring after the intense winter season. This would help maintain the park's going aesthetic that many people mentioned to be a key reason why they visit this specific location. This would be beneficial and would potentially encourage more people to come out and spend time at Royal City Park. The only weakness of this recommendation would be finding staff or hiring new staff to maintain the park, which could add an additional cost to the City of Guelph.

Overall the deep correlation between one’s positive relationship with their community’s design, and their sense of general well-being, is a well documented observation, one which was further validated through this project’s research. Notably, the aspect of, ‘natural space’, appeared to be a particularly important community design element, which influences the health of community members. Our review of various literatures, demonstrates this observation very well. Much of Royal City Park can be defined as ‘natural space’ and therefore it is fitting that a relationship was found in our research between the community’s sense of well-being, and its relationship to natural space. However, the most common intention of people who visited the park was the fairly practical reason of, dog walking.

As mentioned earlier, the surveys for the report were all conducted during the colder, winter season, which resulted in limited use of the park, compared to what we would expect to see in the summer months. Therefore, gathering survey data during warmer seasons, could drastically influence survey results, regarding the people’s usage and opinion of the park. We believe this to be true as there are many festivals and other social events that are held in the park during the warmer weather. As suggested by our key informant, the ‘social hub’ aspect of the park may become more prominent during warmer seasons. These social aspects could hypothetically become a primary reason for people visiting the park, during different seasons, thus altering many of our survey responses. Overall, our findings support that both social and physical aspects
of parks plus interactions with the natural environment are essential for a good community design. By implementing a few small changes, park planners could improve upon existing parks and better incorporate natural space in communities. As community design is extremely important, these changes will help improve the overall health and well-being for all.

Appendix 1: Literature Reviews


Purpose of the Study (Focus, Argument, Research Question, Main Contributions): Is to provide evidence of humans’ innate nature to connect with our natural surroundings in order to achieve happiness

Methods Used and/or Theoretical Perspective: the framework behind this research was to study the relationship between humans and their natural environment during this time period. Edward O. Wilson was trying to back up his hypothesis that there is a strong correlation between humans and nature based on biological components of the evolution of man.

Strengths and Limitations of this Study: This study is fairly old as it was written in the mid 80’s – this can be challenging to determine whether or not this information is credible based on its age – however, it does prove that this topic has been studied for many generations as is still a valid topic to look into and further discuss

Findings (Relevant to my Research Project): The study of human biological evolution being connected to nature suggests that interaction with the natural environment will increase overall happiness – which is the main premise of our research while focusing on the Guelph area specifically

Website retrieved from: https://books.google.ca/books/about/Biophilia.html?id=CrDqGKwMFAkC&redir_esc=y

Source (Author/Title/Citation): Bio Med Central (BMC) Public Health (2013), Pickett William, Janssen Ian, Huynh Quyhn, Craig Wendy, Exposure to Public Natural Space as a Protective Factor for Emotional Well-Being among Young People in Canada.

Purpose of the Study (Focus, Argument, Research Question, Main Contributions): The purpose of the study was to conduct an analysis on the link between the well-being of the younger population in Canada and their exposure to the natural environment.

Methods Used and/or Theoretical Perspective: A sample of 17, 249 children that attended 317 different elementary schools was taken in Canada. Furthermore, elements of GIS tools were used to examine the areas that students went within a 5 km radius of the school to see where they were interacting with the natural environment within close proximities.
**Strengths and Limitations of this Study:** This study is very useful when analyzing a younger demographic only. It will not apply to everyone. This is excellent for research on a given demographic but limits the usefulness for other research projects that do not incorporate the younger demographic

**Findings (Relevant to my Research Project):** Overall this study is not the demographic that we are focusing on, however it does give us a good idea that exposure to the natural environment at an early age results in a positive outcome and will potentially affect how often these children when they become adults will seek interaction with nature.

**Reference:** Bio Med Central (BMC) Public Health (2013), Pickett William, Janssen Ian, Huynh Quyhn, Craig Wendy, Exposure to Public Natural Space as a Protective Factor for Emotional Well-Being among Young People in Canada.
Website retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3662164/
Purpose of the Study (Focus, Argument, Research Question, Main Contributions): Is to link community design, planning and health in the Guelph area. Finding linkages between all of these components will help to promote a stronger, well connected, built and planned community.

Methods Used and/or Theoretical Perspective: To conduct their original research on the given topic of building a healthy built environment, many highly respected sources of literature were used to provide a starting point and a premise behind the information they have provided.

Strengths and Limitations of this Study: The idea behind this research is extremely important to study the dynamics of how a community functions and what can be modified in a positive way. Limitations of this study is that research is strictly limited to the area being studied. All solutions that are concluded will most likely not apply to all communities as the way people interact within a community varies.

Findings (Relevant to my Research Project): This package provides a good guideline to kick start our research project. We intend to follow the five planning principles the encompass the healthy natural environments section to ensure the data we are collecting follows the overall goal our community partners have created for us.

Reference: Provincial Health Services Authority (2014), Healthy Built Environment, Healthy Natural Environments.

Appendix 2:

![Why People are Visiting the Park](image)

*Figure 1: showing what brings people to Royal City Park*
Figure 2: Showing the most favourable feature of Royal City Par

Figure 3: showing the importance participants deem of Royal City Park on their daily physical activity
Figure 4: showing the importance participants deem of Royal City Park on their mental well-being

Figure 5: showing the age distribution of participants who filled out our survey while visiting Royal City Park
Figure 6: showing a map of all Guelph Communities in relation to where participants travelled from to visit the park

Figure 7: Showing a chart outlining how often people visited the park with others
Appendix 4: Healthy Built Environment Information Package

1. Preserve and connect open space and environmentally sensitive areas
2. Maximize opportunities to access and engage with the natural environment
3. Expand natural elements across the landscape