

ARTICLE SELECTION

Wines M.((2014, Feb 27)."Fertilizer limits sought near Lake Erie to fight spread of algae".Thespec.com. retrieved from: <http://www.thespec.com/news-story/4387290-fertilizer-limits-sought-near-lake-erie-to-fight-spread-of-algae/>

This article chosen is concerned with the impact of environmental pollution from damage to the natural environment to Lake Erie. Although the article asserts that agricultural production is mainly responsible for this type of damage to the environment, something less obvious may have a significant impact on fresh water pollution in this and other cases. Pollution of resources which are necessary for sustaining human life are extremely difficult to deal with (Robbins, 2013 The lawn...). When cases with pollution like these occur, the resultant initiatives impose on human activities through things like regulations and limitations as is apparent in this article. In the study that follows, water pollution is highly implemented into one aspect of North American culture. The topic of concern for this study is lawn care. Although much environmental pollution may be a result of intensive agricultural production as is suggested in this article, what may be less obvious are the seemingly harmless activities people partake in under social conditions. Green turfgrass is the most irrigated crop in North America (Robbins, 2014). Lawn care is endemic to North America and the reason for its emergence is quite different from its relevance today. Lawn care today, does not function to do anything that physically benefits the environment, and the reasons for this activity may be entirely social. The following study is aimed at exploring dominant underlying reasons that North American population masses would be partaking in this activity considering its history and environmental implications.

Grass is the most irrigated crop in North America(Robbins, 2014). This is problematic from an ecological perspective considering factors like leaching, lack of biodiversity or pollution of the water table through fertilizers. As large populations partake in these activities collectively, they can be severely damaging to the environment. From the exterior, green, cut grass, seems to be a symbol of well-being and communal value. This conflict between values and function will serve a focus of this research.

Green, cut grass has an interesting history in North America and it is concerning that while it is wholly implemented into North American societal values, many people who engage in this activity may be unaware of its historical emergence and its environmental and health implications. For further context, I will provide a short history of the North American lawn.

HISTORY

Paul Robbins(2014) attributes the lawn in North America as emergent in the 1950s. After World War 2 in the 1950's, the United States saw a boom in suburban development in the prairies (Robbins, 2014). New housing developments were situated on land that was previously rural (Robbins 2014). Houses would thus be situated within areas of empty land in the front and back (Robbins, 2014). Real estate was

emerging during these times and With this new emergent business real estate agents would manicure the vegetation at the front and back of these homes so that the houses could be seen (Robbins, 2014). These areas around houses were replaced by turfgrass shortly as it was preferable to other vegetation (Robbins, 2014).

The industry for chemicals, technology and the automobile also changed the way the urban landscape operated (Robbins, 2014). And after the 1950s, business in lawn care products became an opportunity to make profit (Robbins 2014). Today, many businesses support this activity and it is now implemented into North American culture as a representation of well-being of the home owner (Robbins, 2014). The lawns that are present today are what Robbins(2014) calls “an artifact of a change in the way cities were settled and real estate was plotted, marketed, and sold in North America.”

THE PRESENT

The cause of lawn-care implementation into society could be attributed contemporaneously to businesses who enforce these common behaviours or conversely to consumers who decide to take part in these activities (Robbins, 2003 The Lawn...). It may be difficult to determine what is ultimately responsible for its continued practice now that lawn care is largely established into the body of today's North American societal cultural norms. Robbins and Sharp (2003 The Lawn...) assert that the lawn is a product of three factors; the agri-business, lawns as a symbol of family and hard work, and demand created by consumers. While this seems likely, a number of factors could also be facilitating these elements such as architecture, city planning, media stigma, or education. Normative societal cultural values have now become a driver for this activity.

As this is now a widely established cultural norm, efforts have been made to regulate and create policy to lessen the impacts of this form of environmental degradation (Cole, 2011). The nature of these regulation policies are within a frame that suggests that environmental damage can be resolved by reaching some technical middle grounds between conservation, social and economic needs (Baird 1991), however these policy initiatives may be less concerned with the behaviour of populations and cultural influences than they are with reaching some middle grounds between political views. The result ultimately has been continual widespread lawn care participation activities. While some strategies may prove to be useful in lessening the rate of impact on the environment, the environment continues to experience severe degradation in ways which are difficult to reverse for example pollution of fresh water (Wines, 2014;). This study therefore vests public opinion and population behaviour as the dominant power in this situation with the ability not to conform or to recreate new social standards.

The foundation for this research obviously has some bias in terms of perspective, as the approach asserts that lawn care is problematic and this is the reason for this exploratory research. For further context, here this bias will be explained explicitly. Simply put, while lawn care may be economically, socially and cosmetically beneficial, these are temporal effects. If people continue to take part in environmentally unpractical activities, it can be logically assumed that with a degraded environment these activities would ultimately put long term economic, and cosmetic benefits in jeopardy which rely on those environmental factors. The widespread practice of lawn care counters

efforts for sustainability and could also put resources at risk that are necessary for sustaining human life. Drinking water is one issue illustrated in the selected article.

RESEARCH HYPOTHESIS:

Grass and lawn care are primarily a North American phenomenon. A study has found that being informed about the dangers of lawn care chemicals statistically correlated with using destructive lawn care products (Robbins 2003). Another study done on the same topic found that concern for the environment and environmentally concerned behaviour were somewhat correlated (Keesling, 2003). This study seeks to test the findings of these studies under the condition that the sample population are people who are new to North America. The findings from this research are expected to provide evidence that education and information will have a positive impact on environmentally conscious activities and also to explore factors that could be utilized for future considerations on this topic.

RESEARCH QUESTION(s)

What are the reasons why people partake in lawn care activities? How effective is brief information on long term environmentally conscious lawn care?

METHODS AND DESIGN

The proposed research will employ both qualitative and quantitative methods to ensure an optimal level of triangulation. A mix of classic experimental, case study and longitudinal design will be utilized. Since lawn care is primarily North American, to find more prominent justifications for lawn care activities, the ideal population for this study is recent (within the past 20 years) North American Foreign immigrants who have adopted lawn care as this population would likely have felt more of a social contrast in participating in these activities as compared to social settings in their home countries.

After the pilot study has taken place and sample information has been retrieved. The sample of 100 will be divided into two groups who act as a control and experimental group. The experimental group will be assessed in the initial meeting after they are provided with information. 6 months later the experimental group will be assessed again. The control group will also be assessed on the same two occasions but no historical/ environmental information will be provided to this group. These results will then be analyzed and compared with each other.

Interviews will be conducted based on structured multiple choice questionnaires with a section for additional suggestions other than the multiple choice answers proposed. Additionally, open questions will also be asked to participants. Closed questions (multiple choice) will address topics related to lawn care that are expected to be most prevalent, while open questions will seek to explore potential areas which haven't been addressed in the answers suggested in the multiple choice section.

Questions will be structured as follows; Firstly, questions about lawn care will be asked regarding information such as time and money spent per week on lawns, and lawn products that are used ; The second set of questions will seek out a prominent reasoning for taking part in lawn care activities, such

as neighbors opinion, estate value, or hobby; A third set of questions will be open and part of the discussion after the history/ environmental implication information has been provided to the participants and will address people's opinions. The control group will not be addressed with these questions. Lastly, a form will be provided to profile residents for categorization when analyzed. Attributes such as ethnicity, religion, place of birth and age will be documented however these are not primary research findings and rather, serve to open areas for future research. In addition, this form will address logistics such as respondent privacy, commitment to being surveyed after 6 months, as well as informing the respondent of both the organization and intention of the researcher. It should be noted here that the logistics will be addressed last to ensure that responses are free from distortion. This should ensure uniformity in coding as well as allow answers to go beyond any limitation's that this method of research may have.

After the 6 month period, lawns will be assessed for changes based on Cheng(2008)'s criteria and homeowners will be surveyed for any self reported changes in lawn maintenance after the initial information session. Control group participants lawns will also be assessed to compare rates of change between control and experimental group to confirm statistical validity in the probability of findings.

SAMPLING:

The goal will be to conduct 100 semi structured interviews with subjects from different municipalities within the GTA which have experienced a recent immigration boom(Mississauga, Brampton, Markham, Toronto) from diverse homes(house, townhouse, mansion) and economic backgrounds who are immigrants and evidently take care of their lawns based on a criteria based on Cheng(2008)'s study. The ideal respondent base will be as diverse as possible and taken from different areas in the selected municipalities. The sampling frame is homeowners who confirm themselves as immigrants that have immigrated within the past 20 years who maintain their front lawns and aren't within a private neighborhood in the GTA. The entire population would be home owners who take care of lawns (Trying to infer something about all people who partake in lawn care, but gathering inference from an exclusively immigrant population). The areas selected are newly established and likely have a significant immigrant contributions to their entire population. Homeowners who's lawns fall under the particular descriptive criteria will be approached door to door and assessed to determine if they qualify for this study. Snowball sampling will also be applied to sampling in this study as we can expect that not all of the people that are approached door to door will be immigrants and this may be a time saving strategy for gathering samples. To gather interest in potential respondents a \$40 gift certificate will be offered with a 1 in 10 chance of winning under the condition that respondents fully participate in the study without providing the researcher with distorted results.

STRENGTHS WEAKNESSES

Open and closed questions should allow for efficient coding as well as allow efficient . Since there is one researcher, coding should not have inconsistencies. As time might also influence inconsistency in data collection from the researcher , the pilot study should help this .

A possible weakness in this design is representativeness. Since a sample size of 100 would be quite small proportional to what could be expected of the entire population of immigrant homeowners who maintain their front lawns, the sample may have some degree of error and thus representativeness may be distorted to some degree. Since this is a potential issue, the research has been bounded to the Greater Toronto Area and diversity in respondent base is primary to this study.

With regards to sampling, snowballing presents two issues. The first is that this method could potentially result in sampling bias errors. For example, by snowballing, subjects may end up being primarily Indian, Chinese, or Italian however, immigrant populations may be difficult to reach and with no probable database that could be accessed without having confidentiality issues, this may be the only way to reach these immigrant populations. The other issue presented by snowballing is that it may not guarantee that samples will be able to be acquired. Without a method of snowballing (a strategic method for creating rapport for example) people may not wish to refer peers who may be of use to this study. These access issues will be addressed in the pilot study and if there is any general working strategy for gaining access it will also be noted in the final report.

The potential for mortality could be another weakness. Since respondents are assessed on two occasions six months apart, commitment is essential for the study to follow through effectively. To mitigate for this, the consent form will include a commitment form. Additionally, although participants will not be informed explicitly about the way they are being studied, making participants feel accommodated and as if they are a part of the research will be an incorporated element, generating interest in being part of this project. Further interest for participants should be gained with the small gift certificate incentive.

One last suggestion could be made that 6 months is too short for any changes to happen. Unfortunately this study is limited to 6 month maximum however the study will take place between months in which lawn care is common from April to September.

TIME+ BUDGET

The only major research costs in this study will be for transportation which will be done by public transit, the forms which data will be recorded on and pamphlets with the general information delivered in each session. In total, a maximum of \$100.00 or less will be spent on research costs. The remaining \$400.00 will be utilized for 10 40\$ gift certificates which will be distributed among those selected randomly from the 100 participants.

The entire study will take place over six months and time will be budgeted as follows; The pilot study should take approximately two five-day weeks, after this period, the goal will be to reach 100

participants within four five-day weeks, aiming to gather at least 5 respondents per day considering there are twenty days in a business month. If more than 100 respondents are acquired in this process, additional respondents will not be discarded but rather, participants better suited for this study will be selected from the acquired number of participants. In the sixth month, the final assessment will be initiated and shortly after, winners will be randomly selected and prizes will be given out.

EXPECTATIONS

Briefly, here I will provide a brief list to simplify the information that should be acquired from this research which will be subject to further analysis after the study;

- a. Physical evidence of lawn care behaviour
- b. Respondent lawn care behaviour profiles
- c. Two data sets from control and experimental groups to confirm any behavioural changes
- d. Additional suggestions from participants

RESEARCH ETHICS

Although this study is aimed at acquiring information about incentives behind general lawn care activities, since this research will potentially be representative of immigrant populations which could be considered as vulnerable it is necessary that this study is presented to a research ethics board before this research is conducted. Additionally since the research intends to assess lawn care to gather participants initially without consent this could also be a concern, however considering lawns are open to be seen in public this should not be a primary concern in terms of ethics. Information about researchers, consent and confidentiality forms are also provided after information is acquired in the first session in this study to ensure that survey responses are not distorted which could also be a concern with regards to ethics. One more possibility for conflict with ethics are people who participate and opt out of this study in the middle of the survey and not get the opportunity to sign the confidentiality or consent form. These results will simply be discarded. The study will be sent in to U of Ts research ethics board before any research takes place. This is primary to the study as we want to ensure that no harm is done to participants or populations that may be represented by participants.

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- Bylaws or ordinances implemented through education and enforcement are a viable policy option