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CONTENTS

- 57 Lived Experience of Senior Citizens on Plant-Human Relationship: A Phenomenological Study of Therapeutic Wellbeing in Urban Nepal
Gita Khadka & Megh Dangal
- 67 A Quantitative Inquiry into South African Undergraduate University Students' Perceptions of Religiously Sanctioned Homophobia
Tshepo B. Maake



Lived Experience of Senior Citizens on Plant-Human Relationship: A Phenomenological Study of Therapeutic Wellbeing in Urban Nepal

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Abstract

Ageing is a natural phenomenon, and it is inevitable. Everyone eventually grows, and this growth brings weakness and decline in the individual's physical, mental, and overall well-being. There have been many studies done regarding identifying the possible link between the plant-human relationship and its impact on the well-being of humans. This phenomenological study has provided the perspective of elderly people/senior citizens concerning their experience with plant-related activities. The foundation of this study is based on five key primary questions in the thematic area of "plant-health relationship for subjective wellbeing in later life of retirees". This study involved fifteen participants: four women and eleven men aged 60-80 years who were retired from 20 to 40 years of service in governmental, semi-, and non-governmental organizations. They were living with their families and had fairly similar physical and cognitive abilities. The interviews were recorded, transcribed, coded, and analyzed using the descriptive phenomenological method. Retired professionals from different sectors (education, police force, banking, agriculture, Army, engineering, nursing, community development, etc.) were found to be active, having a good understanding of plants and their relationship to human wellbeing. Most of them spent more than three hours daily in their horticultural activities (like kitchen gardening, rooftop gardening, terrace gardening, lawn or indoor plants). They utilized their competence and experiences gained from parents and ancestors, keeping themselves busy and productive after retirement. The narrative presented in this study directs towards a strong link between plant-human relationships and wellbeing.

Keywords: senior citizens, well-being, plant-human relationship, Nepal.

1. Introduction

The biological and demographic phenomenon of ageing is leading to an increase in the elderly population almost all around the world, making elderly health and wellbeing a major concern today. The gradual process of ageing is a universal and multidimensional phenomenon, leading all individuals through life in its course from birth to death. Those at the age of sixty and above in the process of ageing are referred to as "Senior Citizens." Fineschi and Loreto (2020) identified that human lead ecosystems in the current situation, particularly in urban areas bring

positive and negative relationships between plants as well as between plants and the human being, and other living organisms. In urban areas, there are natural as well as artificial elements in existence that act as a catalyst for maintaining plant-human relationships.

For older people who are living in their own homes, it is extremely important to understand how to help them continue to live happy and fulfilling healthy lives (Khadka & Dangal, 2021). There is some link that can be used to draw some inference that the relationship between plants and human have an impact on their overall well-being. Plants minimize carbon dioxides, greenhouse gases, and pollutants, reducing urban heat and acting as a natural cooling agent (Fineschi & Loreto, 2020; Chonody et al., 2014).

The World Health Organization (WHO) has defined healthy ageing as a process of maintaining functional ability to enable wellbeing in older age. The time frame between 2020 and 2030 has also been named “The Decade of Healthy Ageing” (WHO, 2020). According to a demographic projection, the number of people aged 60 years and older will be 34% higher by the end of this decade, increasing from 1 billion to 1.4 billion. By 2050, the global population of older people will have more than doubled to 2.1 billion (WHO, 2020). Similarly, in developing countries, the number of people aged 60 years and older will increase most rapidly from 652 million in 2017 to 1.7 billion in 2050 (WHO, 2020). Along with other nations, Nepal is experiencing a demographic shift towards an ageing population, presenting a challenging situation in the context of the wellbeing of senior citizens (Chalise, 2006). In the next few years, the sixty-and-over population is predicted to reach 10 percent of the overall population, congruent with global changes in the elderly population (Kandel, 2018).

During ageing or life after retirement, people tend to gravitate towards hobbies like playing card games, gardening, reading, traveling, social work, social gatherings, etc. to cope with retirement or reduce loneliness. According to Khadka and Dangal (2020), among these activities, the retirees who get involved with plants or in gardening do so out of pure interest without understanding the range of social-health benefits for their later life. Moreover, in developing countries like Nepal, limited recreational spaces at homes, lack of public facilities like parks, and the unavailability of elderly people-focused recreation centers for exercise and interaction with community members in urban areas have caused retired people to turn towards gardening activities like roof-top gardening, kitchen gardening, terrace gardening, lawn, and indoor plants at their homes as a pastime (Khadka & Dangal, 2021).

Plants have been present in history since the beginning of life on this planet and play a very crucial role in the life of every human being (Pouya, 2018). The reciprocal relationship between humans and plants through gardening can knowingly and unknowingly serve therapeutic benefits to promote wellbeing, especially hedonic and eudemonic wellbeing (Rae, 2013). Additionally, many studies have also found that a physically active lifestyle reduces the risk of developing cardiovascular disease, obesity, osteoporosis, dementia, several forms of cancer, and depression in health-conscious people who are residing in urban areas. Hence, Rappe (2015) highlighted the importance of finding ways to keep people physically active even after retirement.

With their colors, structures, aromas, tastes, forms, and occasionally, sounds, plants can provide stimulation of all five senses. Sensory stimulation is vital for dementia patients, helping their memory and enhancing their orientation. Plants have been shown to have positive effects on pain perception as well as health status perception. Ornamental plants have been shown to improve pain tolerance in laboratory tests. Subjects’ pain tolerance time, pain severity, and pain distress all improved when they were exposed to flowering plants (Rappe, 2005).

Reviewing the existing studies, available data, and information, it is observed that most retired people suffer mental stress immediately after retirement because they are used to active working lives and have no other way to engage themselves without their jobs. This is especially the case in the retired male population because most males in Nepalese societies are not

habituated or interested in doing household work. Therefore, this study aims to explore the lived experiences of Senior Citizens on plant-human relationships for the therapeutic wellbeing of retirees in urban areas of Nepal.

2. Research methods

2.1 *Study area*

As this is a phenomenological study to explore the experiences/practices of senior citizens on plant-related activities for their wellbeing after retirement, the researcher has collected the list of retirees from different sources. The participants are a fairly homogeneous group with a good understanding and experience of the phenomenon in question. The study is based in three districts of Bagmati State of Nepal, purposively selected for their representation as major cities of the country, where people are highly educated and conscious about their health and well-being in their retired life.

2.2 *Sampling*

Purposive sampling was conducted with 15 participants who have retired from their organizations (government organizations, NGOs, private companies, etc.). Out of the 15, 4 nos. i.e., significance percent (30%) female participants have been interviewed. The age range of participants falls in the 60-to-80-year category and all fifteen participants were living with family, possessing fairly similar physical and cognitive abilities.

2.3 *Research design and tools*

This study is a part of a larger qualitative research study that explores retirees' experiences of plant-human relationships from a well-being perspective. In the phenomenological interviews, we had one opening question, inviting the participants to describe a situation after retirement where he or she had experienced a sense of wellbeing (Bauger & Bongaardt, 2016). The research design consisted of open-ended and in-depth interviews, as well as field observations.

As the study was phenomenological, we originally prepared for face-to-face interviews but due to the COVID-19 pandemic, most of the participants were not open to meeting for an in-person interview. As per their request, we developed semi-structured questionnaires and sent them online. For the rest of the willing participants, face-to-face interviews were held after the lockdown of the second wave of the pandemic. The interview was conducted from April-December 2021, with the average duration of an interview being one hour for direct interviews. Similarly, live observations were made on their planting work during the interviews, and notes were taken after each interview.

2.4 *Data analysis and interpretation*

Data was collected using a themed interview. After completing data collection and field study, voice recordings through Viber and digitally recorded face-to-face interview, data were transcribed, coded, and organized thematically.

2.5 *Ethical considerations*

Firstly, to clear any doubts regarding the intent and reasons for this research, participants were informed about the study in writing and orally incomprehensible language before the interviews. Also, in the Nepalese context, most senior citizens still live with their spouses and children's families. Addressing their lived experiences may include personal details

of family life they may not like to share. For this reason, participants were allowed to choose or refuse to answer any questions that they may not be comfortable with.

Finally, all ethical principles should be based on esteem for human beings and their experiences which reduce harmful research (Hostetler, 2005). Also, high-quality research should be conducted in a way that will offer benefits and advantages to the research respondents and the wider area (Creswell, 2003).

3. Results

As the research method was qualitative, we separated information into two parts. In the first segment, demographic characteristics of the participants (*age, gender, caste/ethnicity, education level, family size, marital status, duration of work, position and field of experience and consumption of medicine, etc.*) were collected to help the researcher study the situation of the participants. The second portion consisted of semi-structured questionnaires based on five themes concerning the perception, knowledge, and practical experience of the senior citizens on plant-related activities including plants-human relationship, human health and wellbeing, the role of plants for elderly individuals in urban life, plants for therapeutic treatment and knowledge and experiences of plants in COVID-19 pandemic.

3.1 *The demographic characteristics of elderly who retired from different organizations*

Demographics are characteristics of the population of every study. In this research study, basic characteristics such as age, gender, ethnicity, education, profession, marital status, job duration, health status, etc. give clear information on the background of our research participants. All participants are senior citizens who have been purposively selected from the retirees' circle and are actively involved in plants or horticulture activities at the household level. Out of the 15 participants, 4 are female and almost all participants are living with spouse and son/daughter-in-law. All of the participants' education level ranges from minimum graduation level to PhD.

Traditionally, Nepalese society had joint and extended family structure and the society had norms and values of showing respect and looking after the elderly parents or grandparents of their family. In this study, we found that most of the participants had nuclear families and only a few were living in joint families. The participants also come from diversified professions such as Education, Agriculture, Police, Army, Banking (Governmental and Agriculture Banks), among others. Another very important characteristic of the participants is the fact that they have all served their organizations for 20 to 40 years. When asked about their health conditions, most of them suffer from blood pressure, thyroid problems, and diabetes.

3.2 *Perceptions of elderly on plants-human relationships*

People-plant interactions are defined as “the wide array of human responses (mental, physical and social) that occur as a result of both active and passive participation with plants” (Rappe, 2005). The participants are highly educated and have much experience in their profession, and are now engaging in plant-related activities after retirement. They have good knowledge about plants and their relationship with human beings. The participants have said that plants are an integral part of human life: plants cannot survive without human beings or bear good fruit without human intervention. During field observation and interviews, they presented their

plants in rooftop gardens, kitchen gardens, and terrace gardens that have been grown with enthusiasm and dedication in their day-to-day life.

In this regard, Mr. Wagley said: *“No plants – No human life. This relationship exists immediately from birth to death. Plants provide all basic needs for the survival of human beings. Human beings depend upon plants for life-supporting basic needs like food, fiber, water, timber, woods, leaves, shelter, and clean air, among others. Similarly, plants need support from human beings for their survival, growth, and care.”*

In today’s world where children are increasingly moving from village to city and from city to abroad in search of education or work, it is important to remain active, since only the elderly remain at home after retirement. In often cases elderly become lonely and have no one to interact with. In terms of the relationship between plants and human beings, Mrs. KC, 62, said: *“Both are living beings and there are some kinds of connection. Sometimes I talk with plants and I feel good. The relationship between plant and human is so close that our failure to respond to the plant needs in extreme circumstances such as moisture stress, waterlogging, heavy insect pest infestation, and the like leads to the death of a plant. Hence, regular observations on plant growth and change make us relate the plant life cycle to human life. It teaches us how sensitive our lives are.”*

The closer you get to plants, the more you learn new things and the more positive thoughts you gain from them. Another participant, Mr. Shah said: *“Playing in the soil is very beneficial to the body, which also disappears in the soil after death. Also, greenery seems to be of great help in keeping one’s eyes healthy as well as the body disease-free.”*

3.3 Plants for elderly’s health and wellbeing in urban environment

Logistically, a home garden provides easy day-to-day access to fresh vegetables, fruits, spices, ornamental (indoor & outdoor plants), and herbal plants. In the context of Nepal, home gardens have always been an integrated part of the landscape and culture for centuries. Unfortunately, the limited land and busy schedules in the life of urban people in recent years have limited the scope of the home garden to only leisure activity. At this time, home gardening has an increased significance as a way to support household food security, utilize time, ensure and enhance family bonds, contribute to mental health, health safety, and the overall contribution to the well-being of the people while creating green and healthy spaces (Dissanayake & Dilini, 2020).

In the interview, Mr. Paudyal stated: *“Due to increased urbanization and desire for purely organic food and desire for healthy and beautiful living, the urban gardening practice is on a high rise and getting popular day by day. However, certain difficulties such as no planned housing based on gardening features and weak house infrastructure have made rooftop gardening a challenge. Provision for assured good quality seed, manure, and other items have also made gardening difficult. The availability of water for irrigation is also at times not accessible.”*

In our life, most of the necessities in the kitchen are met by plants or kitchen gardens, therefore the cost of vegetables, spices, fruits, etc. has been reduced. In this regard, Mr. Nepal explained: *“Even though urban setting does not provide enough space for farming at commercial scale, production of vegetables and fruits for domestic use is possible. Some people produce sufficient for their consumption; my production so far is only supplementary.”*

Most elderly people express their desire to die in peace before having to depend fully on the next generation for minor issues and daily life requirements, expectations that form a part of “functionally able” ageing. Hence, functional stability and independence form core criteria of happy and healthy ageing (Chalise, 2006). In the urban areas, people do not have big farms due

to which they get less physical exercise, so gardening helps people remain engaged while being physically active.

For happy and healthy ageing, the participant (Mr. Shrestha) expressed the following about his experience while working with plants after retirement. The participant said: *“Avenue planting adds greenery, makes the environment beautiful, and reduces sound, dust, and air pollution. Roof-top and Pot-gardening supplements food in the kitchen, reduces stress, improves home surroundings, provides the best use of leisure time, and makes family members physically and mentally fit. Flower planting makes surroundings pleasant and beautiful, supports religious activities like worship by offering flowers to deities, reduces stress, makes the best use of leisure, and makes family members happy and healthy. Due to limited land area, only a few families have land for kitchen gardens. In such cases, it supplements food in the kitchen, reduces kitchen expenses, supplies safe and healthy food.”*

3.4 Role of plants in the urban life of elderly

Urbanization is also a major challenge faced by the ageing population. These challenges are because of the limited urban facilities, services, and unfavorable infrastructure for elderly people. The physical function of retired people is a major priority for people immediately following their retirement because they are conscious of their increasing health issues during the ageing process. In regards to human health, plants can have a positive impact on the functional and cognitive development of an individual.

One of the participants highlighted: *“Not only in human health but also in the health of Mother Earth, plants play a highly important role. Plants offer an environment for better growth via protection of soil, manures, moisture, and humidity, and the overall climate change process, a concern of the present time, can be minimized. From the urban perspective, the negative effects of carbon emissions can be minimized by planting trees and crops. The beautification and air cleansing process gets enhanced if every household takes care to keep some greenery and plantation around. In civic societies, greenery is symbolic of civilization as creativity gets enriched due to the green environment and there is the consumption of better-quality home-grown vegetables, fruits, and herbs. Under perfect conditions, even the environment for honey production can be established.”*

“Homegrown plants provide healthy and fresh plant-based nutrients which is very important, especially to urban dwellers.”

Environmental effects on health have been recognized in health promotion since the Ottawa Charter for Health Promotion in 1986 for which one main proposal was the creation of healthy environments (WHO, 2004). Likewise, plants and nature are also associated with better pain control. Improved pain tolerance when seeing plants or natural landscapes may derive from the strong attention-holding capacity of nature (Rappe, 2005).

One of the participants highlights the relation of plants with their health: *“From the very beginning of my retirement, I have been passionate about plants and I firmly believe that it helps maintain a clean environment, having a very positive impact on human health.”* Similarly, another participant points out the relation of plants with “focus” and “concentration”: *“I am physically active with gardening and it helps me with focus and concentration.”*

Likewise, this information can be associated with the argument made by Rappe (2005) regarding pain control and the power of a green environment. *“In my opinion, the urban population should try horticulture in kitchen gardens, rooftops, and plant pots for maintaining a green environment in their surroundings. People can relax watching the plants grow and they can pass their time with plants in a tension-free environment for pleasure and fun.”*

Furthermore, the participants draw the inference of how the role of plants has been understood in urban life and its growing popularity. *“Plants have positive impacts on both the physical and mental health of human beings. With the expansion of a concrete jungle in urban areas and the growing misuse of pesticides in crops, the importance of gardening and tree planting is increasing among urban dwellers. Hence, avenue planting, roof-top gardening, pot planting, and kitchen gardening is increasingly gaining popularity in city areas.”*

At the same time, the limitation and challenges are carefully mentioned by one of the participants: *“The importance is recognized by people but there is no such policy which promotes environment without pollution.”*

3.5 Experiences of plants in term of therapeutic treatment

The therapeutic garden environment has been documented since ancient times. According to the American Horticultural Therapy Association-AHTA, the first person to document the use of horticulture as therapy was Dr. Benjamin Rush who is also recognized as the “Father of American Psychiatry”. He reported the positive effects of gardening for individuals with mental illnesses. Later, in the 1940s and 1950s from the treatment of different types of diagnoses, the practice was used in the rehabilitation of war veterans (AHTA, 2020).

Mr. Paudyal, 68 years old retiree said: *“Movement of different joints and body parts is essential for food and oxygen circulation in different body parts. Any condition to provide such movement is a precondition for longevity and good physical and mental health. Yoga and related exercises offer that, but without producing vegetables, fruits, herbs, and greeneries, such outputs may be missed. Equipment such as exercise chairs, artificial walking, and running machines or bicycles can be other means to gain exercise. But all these methods cost money. In a poor country where they are to be imported, substantial money is required. These alternatives also do not lead to crop production. So, offering training and encouragement to grow plants in small urban spaces is highly desirable for engaging in physical exercise. Any support in this direction so far has been too little.”*

In ageing life, there is an increase in mental stress and physical illness. To reduce this and stay healthy and happy for longer periods, people need to change their lifestyles. Since the busy and healthy social lives of their working years tend to dissipate after retirement, many retirees are attracted to plants as they can plant them in their immediate surroundings and take advantage of them. This can also be supported by the experience shared by one of the participants: *“It can contribute substantially towards reducing stress, keeping people physically and mentally fit, arousing a sense of dignity of work, and improving the overall quality of life.”*

Most of them reported working in the garden both morning and evening, while some engaged only in the morning and the others only in the evening. They all agreed that it helps keep the body healthy. Mr. Ghimire said: *“Playing with plants feels akin to playing other sports in terms of gaining physical health benefits.”*

Horticulture is not a new therapeutic tool. Before psychiatry became a science, work in the garden was prescribed as a curative for the ills of the mind and nervous system. In 1768, Benjamin Rush maintained that digging in the soil had a curative effect on the mentally ill (Relf, 1973).

Relf (1973)’s argument was supported in the study where one participant mentioned: *“In some places within urban areas, it is understood that natural therapy also exists, but if I spend only one hour per day on plants and their nurture, it makes it much easier for me to get a good night’s sleep, improve appetite and stay energetic and healthy.”*

The traditional healers and elderly people were well experienced in the traditional method of using medicinal plants but they were worried about the negligence of people towards such traditional use of valuable medicinal plants (Thapa et al., 2013). But the study reflected that still, many older people value plants for medicinal purposes. One of the participants mentioned: *“Many plants have medicinal value. Growing some of them in the home garden will help promote good health and well-being of the people.”*

At the time of the interview, one of the participants focused on certain plant species, explained the benefits of the specific species, and pointed out how its blossoms provide relaxation. *“In urban life, for good health and human welfare after retirement, plants are used for therapy. If we use warm Titepati (Artemisia vulgaris) in our body, it reduces body pain and helps the runny nose. Uric acid is cured by drinking juice using the outer skin of guava, or by soaking fenugreek seeds and chewing it.”*

Most plant-related activities and gardening like digging, weeding, watering, fertilizing, training to prune, transplanting seedling, preparing seedbed and harvesting, etc. make it easier to spend excess free time. Mr. Dahal said: *“I become delighted seeing the flowering plants and some plants like basil are also used for treatment purposes.”*

3.6 Knowledge and experiences of senior citizens on plants and horticultural activities during COVID-19 pandemic

Connecting with nature is part of the human development process and, in times of social isolation, limiting access to green areas tends to aggravate the damage to people's physical and mental health (Reis et al., 2020). During the interview, one of the participants shared their experiences accordingly: *“Due to the COVID-19 pandemic, people are locked in their houses. Horticulture can help them remain physically and mentally fit by getting involved in kitchen or rooftop gardening. Some horticultural plants such as ginger and turmeric have medicinal value in the preventive treatment of COVID-19 patients. Growing indoor plants can also help them in these aspects.”*

For elderly people suffering from stress, plants can stimulate all five senses through colors, structures, scents, tastes forms, and sometimes by sounds which can lead to improved health (Haas et al., 2005). During the pandemic, when most people are in isolation, the elderly are an especially vulnerable group. In this situation, most of the elderly have started to plant in pots (indoor/outdoor), and manage gardens on their rooftops or terrace. Most of the research participants talked of gardening practice during the pandemic.

Another participant said: *“I think both mental and physical fitness has been achieved due to kitchen/rooftop gardening. A sense of pride and satisfaction is established. Food support in terms of vegetables is very high and the necessity to seek out small bits of herbs such as pudina (Mint) and flowers for worship or table decoration from the market has been minimized. The time saved from these market runs is used also for gardening. Kids are happy and so are we!”*

The COVID-19 pandemic has brought drastic changes to the routines of the world's population. Social isolation, one of the recommended practices to curb the spread of the disease, can lead to the development of several problems, such as depression, stress, apathy, and loneliness (Reis et al., 2020). As a result, people have tried to engage in productive activities like kitchen and rooftop gardening to push the mind towards positive thinking. One participant expressed: *“During the time of home isolation and home confinement, gardening helps people stay engaged in a better way, preventing negative and unnecessary thinking when we can focus on it.”*

Social isolation refers to the lack of physical contact with or separation from family, friends, and social networks as well as the lack of involvement in outside activities. During the

COVID-19 pandemic, where there are many social restrictions applied especially to elderly people, gardening can be a safe and extremely beneficial activity for them to stay engaged (Dangal & Maharjan, 2021). In connection with this reference, an experience of participant Mr. Ghimire: *“People are confined at home due to Corona scourge. We do not need to go into crowded green spaces when we have our own garden. The air is healthy. It has helped me to overcome the feeling of boredom.”*

Likewise, another participant said: *“As plants provide Oxygen and absorb Carbon Dioxide, they help Corona patients with good inhalation as well as mental peace.”*

WHO Regional Committee for the South-east Asia Region accepted the vital role of traditional medicine in the health care system and the meeting of the WHO Executive Board in 2009 aimed to promote the potential of herbal medicines in the national health system in the Region (WHO, 2009). This practice can also be seen in Nepal. One of the participants explained: *“In my experience, knowledge of horticulture has been of great help during the treatment of Covid-19. For example, Timur (Sichuan pepper), Jwano (Thyme seed), Clove, Turmeric, Ginger, Black Pepper, Cinnamon and salt are also cooked and drunk three times a day (in the morning, evening, and afternoon) while hot leaves of Titepati (Artemisia Vulgaris) and Narhari Buti (Epazote) is also useful during the corona pandemic.”*

4. Discussion and conclusion

The health and wellbeing of senior citizens are prominent concerns in the ageing process of a person's life, relevant to people all around the world. In this article, we have focused on senior citizens who are engaged in plants or horticulture-related activities and explored the phenomenon of wellbeing through their experiences in retirement. The main theme is separated into five sub-themes and framed around discussions of first-hand experiences from retirees. We observed several similarities and interlinks between these five sub-themes and the perceptions on plants-human wellbeing that individuals have based on their life experiences.

Moreover, this study helps to understand the knowledge and experiences of senior citizens in connection with their active involvement, and its effect on overall wellbeing in the context of therapeutic treatment. The strength of our article is in its inclusion of the feelings and experiences of people who are engaged in plant-related activities in their later life, and their knowledge and experiences are highly valuable for all age groups. Such experiential knowledge should be acknowledged by the family, society, and nation for greater mass awareness and applications.

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A Quantitative Inquiry into South African Undergraduate University Students' Perceptions of Religiously Sanctioned Homophobia

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Abstract

The paper investigates the factors that inform university undergraduate students' perceptions of religiously sanctioned homophobia. Data was drawn from a quantitative survey conducted in 2017 on students' perceptions of social norms, heteronormativity, and homophobia at a South African urban-based university. A total of 330 undergraduate students completed the survey. The study found statistically significant correlations between the factors of sex, degree of religiosity and family socialization and the undergraduate students' perceptions of religiously sanctioned homophobia. Male students demonstrated more support for religiously sanctioned homophobia than did female students. Students with a higher degree of religiosity were more likely to support statements that enforced homophobia than did students with a lower degree of religiosity. Students who had been socialized in homophobic families were more likely to support religiously sanctioned homophobia than were students who had grown up in more tolerant families. The study did not find statistically significant correlations between the factors of frequency of exposure to religious services and place of origin and the undergraduate students' perceptions of religiously sanctioned homophobia. The paper makes a substantive contribution to the limited South African studies that focus on the broader student population's perceptions of religiously sanctioned homophobia.

Keywords: homophobia, heteronormativity, religion, gender, South Africa.

1. Introduction

On 22 January 2017, a homophobic incident occurred at Grace Bible Church in Soweto township, where a Ghanaian bishop, Dag Heward-Mills, made homophobic comments during a sermon (Singh, 2017). In his sermon, the bishop said, "That's nature. Dogs, cats, leopards. Which animal has one partner? It's just like homosexuality, you don't have male and male. You don't find two male dogs, two male lions, two male impalas [*sic*], two male lizards. You don't find that in nature. That is unnatural. There is nothing like that in nature" (Singh, 2017). A famous openly gay South African artist, Somizi Mhlongo, a member of the church, felt offended by the sermon and stormed out of the church service. He expressed his frustrations on social media platforms, where he tweeted, "This is who I am. I am a gay man. Get it into your skull. My soul is alright with my God. Let me deal with my God and my soul. Don't tell me" (Singh, 2017). Social media participants reacted with mixed emotions to the above incident, with some supporting the pastor and others supporting Mhlongo. This incident has become one of the most popular reports on homophobia

in South African places of worship. It led to the lesbian, gay, bisexual, transgender and intersex (LGBTI) community picketing outside the Grace Bible Church to defend LGBTIQ+ rights (Pitjeng, 2017). The group held that the Church needs to stop perpetuating homophobia. They argued that homophobic sermons extend to hate crimes in South African townships (Pitjeng, 2017). Before this incident, *News24* reported that the openly homosexual priest Mpho Tutu van Furth was barred from preaching in the Anglican Church, where she was serving (Huisman, 2016). The church bishops also decided that they would not sanction the blessing of same-sex unions (Huisman, 2016). These newspaper reports support the notion that religious institutions inform homophobia in some South African communities.

A variety of factors inform homophobia in South Africa, including intolerant African cultural traditions, heteronormative gender socialization and beliefs about reproduction; however, research suggests that religion is the major contributing factor (Graziano, 2005; Maake, 2019; Mavhandu-Mudzusi et al. 2015; Nkosi & Masson, 2017; Smuts et al. 2015; Vincent & Howell, 2014). Religious arguments are often used in African communities to justify punitive policies that advocate for intolerance of sexual identities that are non-heteronormative (Epprecht, 2013; Msibi, 2011). Sanjakdar (2011) argues that religions such as Judaism, Christianity and Islam form a united front against homosexuality, which is categorized as fornication within these religious traditions. A similar argument is held by Rebecca Davis (2017), a writer for the *Daily Maverick* newspaper, who maintains that religiously sanctioned homophobia is the greatest obstacle to full acceptance of LGBTIQ+ people in Southern Africa.

This paper explores the factors that influence perceptions that university undergraduate students hold concerning religiously sanctioned homophobia. While some research has been done on homophobia in South African universities (Kiguwa & Langa, 2017; Lesch et al. 2017; Mavhandu-Mudzusi, 2017; Mayeza, 2021), much of the research is qualitative, and it usually focuses on the experiences of LGBTIQ+ students, without paying attention to the perceptions of the broader student community. This study seeks to provide a quantitative account of undergraduate university students' perceptions of religiously sanctioned homophobia. The research is significant, as it sheds light on some of the important factors influencing undergraduate students' perceptions of religiously sanctioned homophobia. An understanding and analysis of the perceptions that undergraduate students hold concerning homophobia and a discussion of the influence of religion will be provided. The factors that influence these perceptions will be explored. This research seeks to answer the question: "*What factors influence university undergraduate students' perceptions of religiously sanctioned homophobia?*"

2. Literature review

2.1 *Heteronormativity and homophobia in universities*

Homosexuality is a controversial subject in many religious traditions, and it has many arguments against it (Minwalla et al., 2005). The Bible (the holy book of Christianity) and the Qur'an (the holy book of Islam), among others, contain interpretations that condemn homosexuality and embrace heterosexuality as the only correct sexuality. Some of these homophobic interpretations are openly shared through religious teachings on television, social media and radio stations. The teachings are mainly homophobic and portray homosexuality as unnatural and immoral. As an example, Islamic teachings in the Qur'an (the central religious text of Islam), the Hadith and Sharia law are intolerant of any sexuality which falls outside heterosexual marriage (Sanjakdar, 2011). These homophobic teachings have led to the creation of a persisting dominant heteronormative discourse on homosexuality, which holds that it is unnatural and is irreverent to God (Epprecht, 2013; Vincent & Howell, 2014). Therefore, religiously sanctioned homophobia in this paper refers to homophobia legitimized through

religious arguments and teachings that enforce heterosexuality and reject the possibility of alternative sexual identities.

Heteronormativity is a concept that has been widely employed in gender and sexuality studies to develop nuanced understandings and knowledge of the complexities of the social construction of gender and gender-nonconforming identities (Munyuki & Vincent, 2018; Nduna et al., 2017; Peake, 2017). Heteronormativity can be defined as “a powerful but often unmarked set of assumptions, practices and beliefs that constantly reinforce the normalness and naturalness of heterosexuality as the only normal, natural form of sexuality” (Bell, 2009: 115). Within heteronormativity, sex, sexuality and gendered masculinity and femininity are normatively aligned to specific bodies, where male- and female-sex bodies are expected to align with either masculine or feminine gender categories and there is gendered sexual desire for the opposite sex (Butler, 1993). Thus, heteronormativity can further be described as a social and cultural institution where heterosexuality is learnt and reinforced in daily gender-normative socialization practices and ideologies (Bell, 2009). The concept has allowed scholars across the globe to interrogate social issues related to sexual identity discrimination, homophobia and gender normativity (Adikaram & Liyanage, 2017). The literature demonstrates that heteronormative ideologies often shape these social issues and justify excluding sexual minority identities from the natural discourses. Heteronormativity is deeply rooted in religious doctrines that seek to erase the idea of sexual diversity and confine sexuality to the boundaries of heterosexual marriage.

Research shows that heteronormativity is evident at some universities, and that it often perpetuates stigma, prejudice and homophobia against LGBTIQ+ students, who are often socially excluded (Kiguwa & Langa, 2017; Mavhandu-Mudzusi, 2017; Mavhandu-Mudzusi et al., 2015; Nduna et al., 2017; Smuts et al., 2015). In a quantitative study conducted by Smuts et al. (2015) at a South African university, it was found that homophobia amongst students is often informed by earlier heteronormative socialization, which was backed up by religious teachings that the students grew up under. Similarly, in a qualitative study by Kiguwa and Langa (2017), university male residences were found to be heteronormative and homophobic spaces that embodied dominant heterosexual masculinity. Homophobic violence in the male residences instilled fear amongst gay students, who were subjected to daily violent assertions of heterosexuality (Kiguwa & Langa 2017). In another qualitative study, which sought to investigate students' access to sexual health at a South African rural university, Mayeza (2021) found that LGBTIQ+ students who visited on-campus clinics experienced discomfort and embarrassment because of the heteronormative culture of the institution. Students in the study were asked intrusive questions about their sexual identities whenever they sought sexual health services from the clinic.

2.2 Sex differences in perceptions of homophobia

Moskowitz et al. (2010) conducted a quantitative study on heterosexual undergraduate students' attitudes towards same-sex marriage, and they found that male students were more likely than female students to hold negative attitudes towards gay male marriage. It was also found that male students were more homophobic towards gays and lesbians than were their female counterparts (Moskowitz et al., 2010). Similarly, in their study of homophobic behavior in US adolescents, Birkett and Espelage (2015) found that females were less likely to use homophobic name-calling than males. Females also scored significantly lower on homophobic victimization compared to males. Some of the research done in South African studies found that males are more homophobic than females (Graziano, 2005; Reygan & Lynette, 2014; Smuts et al., 2015).

Drawing their sample from the population of KwaZulu-Natal (KZN) province, Reygan and Lynette (2014) found that males were more likely to use homophobic name-calling than were

females. Furthermore, most homophobic assaults on gay men and women in KZN were perpetrated by males (Reygan & Lynette, 2014). An explanation for this is provided by Msibi's (2009) argument that men view homosexuality as a threat to normative constructions of masculinity and see it necessary to punish those who do not conform. Smuts et al.'s (2015) research at a South African university found that male students showed more homophobic attitudes than their female counterparts. The number of male students who agreed that they avoid contact with homosexuals was always higher than that of females across male-dominated and female-dominated faculties. When asked if same-sex relationships should be portrayed positively on campus, most male students felt strongly against it, while most female students agreed (Smuts et al., 2015). Male students were more likely than female students to be homophobic. These findings suggest that sex significantly determines students' perceptions of homophobia. This therefore deserves research attention.

2.3 Homophobia in rural and urban spaces

A significant body of literature has established that geographical location has implications for people's perceptions of homosexuality, and that it informs the degree of homophobia in various spaces of socialization (Butterfield, 2018; Msibi, 2009; Rickard & Yancey, 2018; Whiting et al., 2012; Wienke & Hill, 2013). Comparative studies on urban and rural spaces regarding homophobia have found that intolerance of and discrimination against LGBTIQ+ individuals is evident in both spaces. However, most studies have found that discrimination and violence against LGBTIQ+ people are more intense in rural than in urban communities. It is argued that rural spaces embody cultures that emphasize normative, traditional gender roles, fundamental religiosity, conservatism, heteronormative family values and patriarchy (Barefoot et al., 2015; Butterfield, 2018; Dwyer et al., 2015; Msibi, 2009; Rickard & Yancey, 2018). Thus, sexual diversity is not tolerated in rural communities, and the lack of conformity to gender-normative expectations by sexual-minority individuals is often used to initiate violence against them. For example, in a quantitative study conducted by Palmer et al. (2012) in American rural schools, participants reported repeated experiences of violence and discrimination.

Similarly, Butterfield (2018) undertook a qualitative study to explore the levels of discrimination in urban and rural spaces in Croatia and found that hostility towards sexual minorities was more intense in rural spaces, because community members know each other and can easily identify gay people, unlike the case in urban areas, which offer a higher degree of anonymity. In a South African study conducted by Mavhandu-Mudzusi and Sandy (2015) on religion-related stigma and discrimination in a rural-based university, it was found that lesbian, gay, bisexual and transgender students were stigmatized and discriminated against by the university community. Some students and university staff labelled LGBTIQ+ students as sinners and Satanists, and they were viewed as "demon-possessed" (Mavhandu-Mudzusi et al., 2015). The aforementioned research serves as evidence that geographical locations that people live in influence the extent of homophobia and discrimination towards LGBTIQ+ individuals.

2.4 Degree of religiosity, family socialization and homophobia

International and South African research demonstrates that religiosity and family socialization contribute to students' hostile view of homosexuality (Graziano, 2005; Smuts et al., 2015). While the US has made significant progress in developing laws that protect the rights of LGBTI people, homophobia remains a problem in many US communities, fueled by religious traditions (Brown, 2008; Negy & Eisenman, 2005; Subhrajit, 2014). Doebler's (2015) quantitative study found that in half of Europe, more than 50% of the population find homosexuality unjustifiable, and in a third of the countries, 50% of the population reported that they would not

like to have homosexuals as their neighbors. The results revealed that religiously committed respondents were more likely to express homonegative attitudes than non-religious respondents (Doebler, 2015). In contrast, Magrath et al (2015) conducted a qualitative study in the United Kingdom (UK) and found that most of the participants in the study showed positive and inclusive attitudes towards sexual minorities. It is, however, necessary to note that Magrath's qualitative study consisted of a small sample size of 22 participants from one country, while Doebler's quantitative study consisted of a large sample drawn from multiple countries in Europe. Practically speaking, Doebler (2015) found that Europeans who attend religious services are more likely to have homonegative attitudes than those who do not attend religious services.

A study conducted by Graziano (2005) found that homosexual Stellenbosch University students cited religion as the family value that hindered them the most from disclosing their sexuality to family members. Some participants argued that they remained in the closet because of the strong religious beliefs of their family, especially among families that attend church (Graziano, 2005). Similarly, Smuts et al. (2015) found that the religious convictions of the students in their study significantly influenced their perceptions of homophobia. The students further reported that their perceptions of sexuality and gendered roles are informed more by traditional agents of socialization than by social media and friends (Smuts et al., 2015). The findings highlight the critical role that family socialization plays in producing and reproducing heteronormative understandings of gender and sexuality. Vincent and Howell (2014) argue that abnormality, Christian irrelevance and 'non-African' stereotypes are the strategies used in post-apartheid South Africa to delegitimize the idea of sexual equality. The argument of abnormality is used in relation to children and child-rearing and is associated with the non-procreational nature of same-sex unions. The argument of Christian irrelevance emphasizes the 'unnatural' nature of same-sex unions, and 'non-African' stereotypes frame homosexuality as foreign to African culture (Vincent & Howell 2014).

3. Research methodology

This paper is based on data collected from an undergraduate survey that considered factors that influence students' perceptions of social norms related to gender, sexuality and religion. The questionnaire was developed by a group of 12 postgraduate students whose research themes were related to undergraduate students' perceptions of particular social norms, and it consisted of 26 closed-ended questions. The first section of the questionnaire asked demographic questions, while the second half of the questionnaire focused on undergraduate students' perceptions. The response options for the questions were arranged on a Likert scale to establish the extent to which factors such as sex, family socialization, place of origin and degree of religiosity informed the students' perceptions of gender, sexuality and religious social norms. Data was collected through the group administration of questionnaires in tutorial classes of undergraduate students. The researcher waited in the tutorial venue while the respondents completed the questionnaires. Over 300 questionnaires were printed for the selected tutorial groups across the different study levels, and 330 survey questionnaires were completed and captured on the Statistical Package for the Social Sciences (SPSS) software during April 2017. Ethical clearance was provided by the Faculty of Humanities Research Ethics Committee (FHREC) of the university under study.

The data from the survey provided me with demographic background information on the factors that the study sought to test, as well as responses to statements that measured the extent of students' perceptions of religiously sanctioned homophobia. Demographic questions asked the students to specify their sex, by choosing either "male" or "female". Students were asked to indicate their frequency of exposure to religious services, and they could choose either "more than once a week", "once a week", "2 to 3 times a month", "once a month", "2 or 3 times a year" or

“every 2 to 3 months” or “only during special events, such as weddings and funerals, or only on special religious occasions”. To determine the students’ place of origin, they were asked to indicate an area where they grew up, and they could choose “suburb of a town or city”, “city center or town center”, “urban area (suburb of a town or city, city center or town center)”, “township of an urban area (township located near a city)”, “rural area or rural town (township in a rural area, rural village or a town in a rural area)” or “farm or agricultural holding”. To determine family socialization, the following statement was posed to the students: “My family is accepting of homosexuals”. To establish the degree of religiosity, students were asked to what extent they agreed with the statement “I am a religious person”. Response options to the questions on family socialization and degree of religiosity were arranged on a Likert scale with five options: “strongly disagree”, “disagree”, “neither agree nor disagree”, “strongly agree” and “agree”. Statements that were used to measure the students’ perceptions of religiously sanctioned homophobia were the following:

Homosexuals should be welcomed in places of worship.

Homosexuality is immoral.

The legalization of gay marriage is positive for society.

I avoid contact with homosexuals.

Homosexuals should be allowed to lead in religious activities.

Students were then asked to put a cross on the Likert scale response option that reflected the extent to which they agreed with the statement. The data was analyzed using the SPSS, and two tests, namely the chi-squared test and Fisher’s exact test, were used to test the hypotheses.

The research hypotheses for the study are as follows:

H1: There is a statistically significant correlation between undergraduate students’ sex and their perceptions of religiously sanctioned homophobia.

H2: There is a statistically significant correlation between undergraduate students’ frequency of exposure to religious services and their perceptions of religiously sanctioned homophobia.

H3: There is a statistically significant correlation between undergraduate students’ family socialization and their perceptions of religiously sanctioned homophobia.

H4: There is a statistically significant correlation between undergraduate students’ place of origin and their perceptions of religiously sanctioned homophobia.

H5: There is a statistically significant correlation between undergraduate students’ degree of religiosity and their perceptions of religiously sanctioned homophobia.

4. Description of sample

The study sample consisted of 330 undergraduate students (31.21% male and 68.79% female) across different undergraduate study levels. The participants were thus not evenly distributed in terms of sex. The sample represents the female section of the population more than the male section. However, the difference between the sample and the population is not significant, and the sample can therefore be considered representative. The mean age was 20.26

years, which indicates that the majority of the sample was in their late teens and early 20s. The youngest participant was 17, while the oldest participant was 27. Many of the respondents were aged between 17 and 22, which is the typical age for undergraduate students who are doing their first degrees. Consequently, the sample reflects the expected age range for undergraduate students. A small group was aged between 23 and 27, which represents approximately 11% of the sample. A considerable majority of the sample is part of the urban population, since a large percentage of students grew up in either a township of an urban area (41.5%) or a suburb or city center (31.8%). Only 18.5% of the sample grew up in a rural area, while just 5.8% were raised in a rural town. A small minority of 2.4% had grown up on farms or agricultural holdings. This distribution represents the general population, since most of the undergraduate students are from areas close to the university, which is primarily urban. Most of the students engage in religious practices, with 24.92% responding that they engage in religious practices more than once a week, and 27.96% answering that they engage in religious practices at least once a week. Of the sample, 13.68% responded that they engage in religious practices two to three times a month. Only 5.6% of the sample answered that they never engage in religious practices, while the remainder said that they do sometimes engage in religious practices. The majority of the sample considered themselves religious, with 34.3% responding “strongly agree” and 39.1% responding “agree” to the question “Do you consider yourself religious?” A small percentage of 16.5% neither agreed nor disagreed. Only a small part of the sample considered themselves not religious, with 6.1% disagreeing and 4% strongly disagreeing. A large part of the sample came from religious families, with 55.7% strongly agreeing and 27.9% agreeing with the statement “Religious beliefs are important to my family”. About 10% of the respondents were undecided and responded, “neither agree nor disagree”, while a small percentage disagreed (4.6%) and strongly disagreed (1.9%) with the statement. Thus, a considerable majority of the undergraduate students had grown up in religious families.

In the following section, I provide a detailed statistical overview of the responses to the demographic background questions that the students were asked.

5. Results

H1: There is a statistically significant correlation between undergraduate students' sex and their perceptions of religiously sanctioned homophobia.

This hypothesis was tested using Fisher's exact test.

Null hypothesis (H₀): There is no statistically significant correlation between undergraduate students' sex and their perceptions of religiously sanctioned homophobia.

Alternative hypothesis (H₁): There is a statistically significant correlation between undergraduate students' sex and their perceptions of religiously sanctioned homophobia.

The cross-tabulation in Table 1 indicates the responses of male students and of female students to a question relating to religiously sanctioned homophobia. The question aimed to establish the extent to which students agree or disagree with the statement that homosexuals should be welcomed in places of worship. Furthermore, it aims to measure the sex differences in the responses. The majority of the respondents accepted the statement (Agree = 27.1%, Strongly agree = 42.2%). This means that regardless of their sex, the students are generally accepting of gay people. In terms of sex, female students (Agree = 27.8%, Strongly agree = 48.5%) agreed with the statement more than did male students (Agree = 25.5%, Strongly agree = 28.4%). This difference demonstrates that female students' perceptions differ from those of male students. Furthermore, it indicates a greater degree of acceptance of homosexuals amongst females. This indicates that

female students, according to the sample, are more accepting of homosexuals than male students are.

Table 1. Cross-tabulation: Sex

Sex * Homosexuals should be welcomed in places of worship Crosstabulation

		Homosexuals should be welcomed in places of worship					Total	
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree		
Sex	Male	Count	14	7	26	26	29	102
		% within Sex	13.7%	6.9%	25.5%	25.5%	28.4%	100.0%
	Female	Count	16	13	25	63	110	227
		% within Sex	7.0%	5.7%	11.0%	27.8%	48.5%	100.0%
Total		Count	30	20	51	89	139	329
		% within Sex	9.1%	6.1%	15.5%	27.1%	42.2%	100.0%

The p-value for Fisher’s exact test is 0.001 (< 0.05). Therefore, the null hypothesis is **rejected**, as the p-value is less than 0.05. Thus, it is concluded that there is a statistically significant correlation between the students’ sex and their perceptions of religiously sanctioned homophobia, as female students showed more acceptance of homosexuals than did male students.

Table 2. Chi-squared test: Sex

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	19.919 ^a	4	.001	.000		
Likelihood Ratio	19.453	4	.001	.001		
Fisher's Exact Test	19.595			.001		
Linear-by-Linear Association	13.933 ^b	1	.000	.000	.000	.000
N of Valid Cases	329					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.20.

b. The standardized statistic is 3.733.

H2: There is a statistically significant correlation between undergraduate students’ frequency of exposure to religious services and their perceptions of religiously sanctioned homophobia.

This hypothesis was tested using the chi-squared test of independence.

Null hypothesis (H₀): There is no statistically significant correlation between undergraduate students’ frequency of exposure to religious services and their perceptions of religiously sanctioned homophobia.

Alternative hypothesis (H₁): There is a statistically significant correlation between undergraduate students’ frequency of exposure to religious services and their perceptions of religiously sanctioned homophobia.

The cross-tabulation in Table 3 demonstrates that most students who participate in religious activities more than once a week did not support the statement that homosexuality is immoral. This is indicated by the fact that 19.8% (n = 16) strongly disagreed and 18.5% (n = 15) disagreed. This result also applies to those that take part in religious practices once a week, where the majority (strongly disagree = 33% (n = 30), disagree = 22% (n = 20)) believe that

homosexuality is not immoral. Those who never participate in religious practices also indicated positive attitudes, since 52.9% (n = 9) strongly disagreed and 17.6% (n = 3) disagreed with the statement. The results indicate no difference in perceptions of religiously sanctioned homophobia between those who participate often, those who participate seldom and those who never take part in religious practices, since the majority of all the groups believe that homosexuality is not immoral.

Table 3. Cross-tabulation: Frequency of exposure to religious services

Religious practices * Homosexuality is immoral Crosstabulation

		Homosexuality is immoral				Total	
		Strongly disagree	Disagree	Neither agree nor disagree	Strongly agree and Agree		
Religious practices	More than once a week	Count	16	15	26	24	81
		% within Religious practices	19.8%	18.5%	32.1%	29.6%	100.0%
	Once a week	Count	30	20	21	20	91
		% within Religious practices	33.0%	22.0%	23.1%	22.0%	100.0%
	2 to 3 times a month	Count	18	8	11	8	45
		% within Religious practices	40.0%	17.8%	24.4%	17.8%	100.0%
	Once a month	Count	6	5	8	3	22
		% within Religious practices	27.3%	22.7%	36.4%	13.6%	100.0%
	2 or 3 times a year or every 2 to 3 months	Count	9	6	7	10	32
		% within Religious practices	28.1%	18.8%	21.9%	31.3%	100.0%
	Only with special events such as weddings and funerals or only on special religious occasions	Count	16	12	7	4	39
		% within Religious practices	41.0%	30.8%	17.9%	10.3%	100.0%
	Never	Count	9	3	2	3	17
		% within Religious practices	52.9%	17.6%	11.8%	17.6%	100.0%
Total	Count		104	69	82	72	327
		% within Religious practices	31.8%	21.1%	25.1%	22.0%	100.0%

Table 4 demonstrates that the p-value for the chi-squared test of independence is 0.195 (> 0.05). Therefore, the null hypothesis is **not rejected**, because the p-value is greater than 0.05. It is concluded that there is no statistically significant correlation between the students' frequency of exposure to religious activities and their perceptions of religiously sanctioned homophobia, since the students, irrespective of their exposure to religious activities, showed acceptance of homosexuals.

Table 4. Chi-squared test: Frequency of exposure to religious services

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.879 ^a	18	.195
Likelihood Ratio	23.260	18	.181
Linear-by-Linear Association	7.267	1	.007
N of Valid Cases	327		

a. 5 cells (17.9%) have expected count less than 5. The minimum expected count is 3.59.

H3: There is a statistically significant correlation between undergraduate students’ family socialization and their perceptions of religiously sanctioned homophobia.

This hypothesis was tested using the chi-squared test of independence

Null hypothesis (H₀): There is no statistically significant correlation between undergraduate students’ family socialization and their perceptions of religiously sanctioned homophobia.

Alternative hypothesis (H₁): There is a statistically significant correlation between undergraduate students’ family socialization and their perceptions of religiously sanctioned homophobia.

Most students who strongly disagreed with the statement that their family members are accepting of homosexuals showed less acceptance of homosexuals, with 51.7% (n = 30) disagreeing strongly and 12.1% (n = 7) disagreeing with the statement “The legalization of gay marriage is positive for society”. This was also the case with those who disagreed that their families are accepting of homosexuals (strongly disagree = 12.7% (n = 7), disagree = 21.8% (n = 12)). However, it should be noted that a large part of this group remained neutral (neither agree nor disagree = 32.7% (n = 18)). Those who agreed or strongly agreed with the first statement were more positive in their responses to the statement on the legalization of gay marriage. For instance, the majority of the students who agreed that their families are accepting of homosexuals also agreed (33% (n = 30)) or strongly agreed (29.7% (n = 27)) with the statement that the legalization of gay marriage is positive for society. This means that there is a difference in perceptions between students from homophobic family backgrounds and those from non-homophobic family backgrounds.

Table 5. Cross-tabulation: Family socialization

My family is accepting of homosexuals * The legalisation of gay marriage is positive for society Crosstabulation

			The legalisation of gay marriage is positive for society					
			Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Total
My family is accepting of homosexuals	Strongly disagree	Count	30	7	10	5	6	58
		% within My family is accepting of homosexuals	51.7%	12.1%	17.2%	8.6%	10.3%	100.0%
	Disagree	Count	7	12	18	11	7	55
		% within My family is accepting of homosexuals	12.7%	21.8%	32.7%	20.0%	12.7%	100.0%
	Neither agree nor disagree	Count	6	11	45	17	16	95
		% within My family is accepting of homosexuals	6.3%	11.6%	47.4%	17.9%	16.8%	100.0%
	Agree	Count	3	6	25	30	27	91
		% within My family is accepting of homosexuals	3.3%	6.6%	27.5%	33.0%	29.7%	100.0%
	Strongly agree	Count	0	2	3	3	19	27
		% within My family is accepting of homosexuals	0.0%	7.4%	11.1%	11.1%	70.4%	100.0%
Total	Count	46	38	101	66	75	326	
	% within My family is accepting of homosexuals	14.1%	11.7%	31.0%	20.2%	23.0%	100.0%	

The p-value for the chi-squared test of independence is 0.000 (< 0.5), which indicates that the null hypothesis is **rejected**, as the p-value is less than 0.05. It is concluded that there is a statistically significant correlation between the students’ family socialization and their perceptions of religiously sanctioned homophobia, since those students from homophobic family

backgrounds viewed homosexuality more negatively than those from non-homophobic backgrounds.

Table 6. Chi-squared test: Family socialization

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	145.337 ^a	16	.000
Likelihood Ratio	122.174	16	.000
Linear-by-Linear Association	78.991	1	.000
N of Valid Cases	326		

a. 2 cells (8.0%) have expected count less than 5. The minimum expected count is 3.15.

H4: There is a statistically significant correlation between undergraduate students' place of origin and their perceptions of religiously sanctioned homophobia.

This hypothesis was tested using Fisher's exact test.

Null hypothesis (H0): There is no statistically significant correlation between undergraduate students' place of origin and their perceptions of religiously sanctioned homophobia.

Alternative hypothesis (H1): There is a statistically significant correlation between undergraduate students' place of origin and their perceptions of religiously sanctioned homophobia.

The cross-tabulation indicates that the majority of students from urban areas (73.3% (n = 77)) do not avoid contact with homosexuals. Similarly, students from rural areas and rural towns also demonstrated positive attitudes towards homosexuals, since most of them strongly disagreed or disagreed (71.3% (n = 57)) with the statement that they avoid contact with homosexuals. This means that students generally do not avoid contact with homosexuals, regardless of the area where they grew up. Furthermore, there is no difference in behavior between students who grew up in an urban area, a township of an urban area, a rural area, a rural town and a farm, since the majority in all groups indicated that they do not avoid contact with homosexuals.

Table 7. Cross-tabulation: Place of origin

Area you grew up in * I avoid contact with homosexuals Crosstabulation

			I avoid contact with homosexuals			Total
			Strongly disagree or Disagree	Neither agree nor disagree	Strongly agree or agree	
Area you grew up in	Urban area(sururb of a town or city; city centre or town centre)	Count	77	17	11	105
		% within Area you grew up in	73.3%	16.2%	10.5%	100.0%
	Township of an urban area(township located near a city)	Count	108	19	9	136
		% within Area you grew up in	79.4%	14.0%	6.6%	100.0%
	Rural area(township in a rural area; rural village) or Rural town(a town in a rural area)	Count	57	9	14	80
		% within Area you grew up in	71.3%	11.3%	17.5%	100.0%
	Farm or agricultural holding	Count	5	0	3	8
		% within Area you grew up in	62.5%	0.0%	37.5%	100.0%
Total		Count	247	45	37	329
		% within Area you grew up in	75.1%	13.7%	11.2%	100.0%

The p-value for Fisher’s exact test is 0.062 (> 0.05), which indicates that the null hypothesis is **not rejected**. It is concluded that there is no statistically significant correlation between students’ place of origin and their perceptions of religiously sanctioned homophobia. This is due to the fact that students, regardless of their place of origin, were positive in terms of their behavior towards homosexuals.

Table 8. Fisher’s exact test: Place of origin

Chi-Square Tests						
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	12.971 ^a	6	.043	.045		
Likelihood Ratio	12.237	6	.057	.061		
Fisher's Exact Test	11.290			.062		
Linear-by-Linear Association	3.895 ^b	1	.048	.048	.028	.003
N of Valid Cases	329					

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is .90.

b. The standardized statistic is 1.973.

H5: There is a statistically significant correlation between undergraduate students’ degree of religiosity and their perceptions of religiously sanctioned homophobia.

This hypothesis was tested using the chi-squared test of independence.

Null hypothesis (H₀): There is no statistically significant correlation between undergraduate students’ degree of religiosity and their perceptions of religiously sanctioned homophobia.

Alternative hypothesis (H₁): There is a statistically significant correlation between undergraduate students’ degree of religiosity and their perceptions of religiously sanctioned homophobia.

The cross-tabulation indicates that the majority of students who strongly agreed that they are religious either agreed (19.6% (n = 22)) or strongly agreed (21.4% (n = 24)) that homosexuals should be allowed to lead in religious activities. The same applies to students who agreed that they are religious, where 24.6% agreed and 22.2% strongly agreed with the statement. Students who strongly disagreed or disagreed that they are religious showed strong support for the statement. A total of 15.2% (n = 5) agreed and 45.8% (n = 16) strongly agreed with the statement. This means that there is little difference in perceptions between religious students and those who are not religious, since small parts of each group did not support the statement. Overall, students, irrespective of their degree of religiosity, supported the statement that homosexuals should be allowed to lead in religious activities.

Table 9. Cross-tabulation: Degree of religiosity

Religious person * Homosexuals should be allowed to lead in religious activities Crosstabulation

			Homosexuals should be allowed to lead in religious activities					
			Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Total
Religious person	Strongly agree	Count	18	18	30	22	24	112
		% within Religious person	16.1%	16.1%	26.8%	19.6%	21.4%	100.0%
	Agree	Count	16	20	31	31	28	126
		% within Religious person	12.7%	15.9%	24.6%	24.6%	22.2%	100.0%
	Neither agree nor disagree	Count	6	6	6	10	26	54
		% within Religious person	11.1%	11.1%	11.1%	18.5%	48.1%	100.0%
	Strongly disagree or Disagree	Count	3	3	6	5	16	33
		% within Religious person	9.1%	9.1%	18.2%	15.2%	48.5%	100.0%
	Total	Count	43	47	73	68	94	325
		% within Religious person	13.2%	14.5%	22.5%	20.9%	28.9%	100.0%

The p-value for the chi-squared test of independence is 0.018 (< 0.05), which indicates that the null hypothesis is **rejected**, since the p-value is less than 0.05. It is concluded that there is a statistically significant correlation between the students’ degree of religiosity and their perceptions of religiously sanctioned homophobia, since the students who are less religious supported the statement “Homosexuals should be allowed to lead in religious activities” while the majority of those who are more religious did not support the statement.

Table 10. Chi-squared test: Degree of religiosity

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	24.304 ^a	12	.018
Likelihood Ratio	23.622	12	.023
Linear-by-Linear Association	10.687	1	.001
N of Valid Cases	325		

a. 2 cells (10.0%) have expected count less than 5. The minimum expected count is 4.37.

6. Discussion

The findings indicate that the sex of the undergraduate students influences their perceptions of religiously sanctioned homophobia. In line with previous research (Birkett & Espelage, 2015; Graziano, 2005; Smuts et al., 2015), which has found that males are more likely than females to show homophobic attitudes, the results of this study show that female university students are less homophobic than male students. Thus, the findings from these previous studies are applicable to the undergraduate students in this stud since female students showed less homophobic attitudes than males.

Regarding frequency of exposure to religious services, the study found no statistically significant correlation between the undergraduate students’ frequency of exposure to religious

services and their perceptions of religiously sanctioned homophobia. This means that the undergraduate students' frequency of exposure to religious services has no impact on their perceptions of religiously sanctioned homophobia. This finding contradicts Doebler's (2015) and Graziano's (2005) findings that individuals who attend religious services are more likely to have homophobic attitudes than those who do not attend religious services. The results prove that this is not the case with these undergraduate students in the university under study. The difference in findings could be due to the fact that the students in this study are in constant contact with LGBTIQ+ students on campus and do not see the relevance of hate in an environment that allows people of different sexualities to study in one place.

Regarding degree of religiosity, the study found that there is a statistically significant correlation between undergraduate students' degree of religiosity and their perceptions of religiously sanctioned homophobia. Thus, the null hypothesis was rejected. This means that the students' religious beliefs influence their perceptions of religiously sanctioned homophobia. The results are congruent with research findings (Graziano, 2005; Smuts et al., 2015; Vincent & Howell, 2014) cited in the literature review, which collectively assert that religious people are more homophobic than non-religious people. While the results were generally positive, very religious students demonstrated more intolerance than students who are less religious or not religious. The difference in the effect of the above-mentioned two independent variables might be due to the fact that degree of religiosity has to do with religious beliefs, while frequency of exposure to religious services is not directly related to beliefs. Thus, the students' frequent exposure to religious services does not translate to stronger religious beliefs.

The findings on family socialization show a statistically significant correlation between the students' family socialization and their perceptions of religiously sanctioned homophobia, which indicates that family socialization is a contributing factor to the students' perceptions of religiously sanctioned homophobia. The findings cited in the literature review are consistent with the findings of this study, as both Graziano (2005) and Smuts et al. (2015) indicate that the family's solid religious beliefs significantly influence the students' perceptions of LGBTIQ+ identities. Furthermore, Smuts et al. (2015) found that students value their family members' views more than those of other socialization agents, which further highlights the unavoidable influence of the family. Indeed, this is evident in the undergraduate students' perceptions, since those who grew up in families that accept homosexuals showed more positive attitudes towards homosexuals than those from families that do not accept homosexuals.

It is evident from the findings that the students' perceptions are not dependent on their place of origin, since the results indicate that there is no statistically significant correlation between the undergraduate students' place of origin and their perceptions of religiously sanctioned homophobia. This finding is not in line with other studies (Barefoot et al., 2015; Butterfield, 2018; Msibi, 2009; Wienke & Hill, 2013), which have found higher degrees of homophobia in rural than in urban communities. The students in this study demonstrated similar perceptions of religiously sanctioned homophobia, irrespective of their place of origin.

Overall, the study shows that factors influencing the undergraduate students' perceptions of religiously sanctioned homophobia are sex, family socialization and degree of religiosity. Furthermore, the study proves that frequency of exposure to religious services and place of origin do not affect the students' perceptions of religiously sanctioned homophobia. The study further highlights the importance of a qualitative research methodology to obtain a deeper understanding of the student population's perceptions of homophobia in certain social spaces, and it complements qualitative research studies conducted on LGBTIQ+ students' experiences in institutions of higher learning and other social spaces.

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