

**Capturing Urban Public Space Experiences And In-Situ
Mental Wellbeing For Individuals Living With Mental Illness**

by

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Bachelor of Arts in Urban Studies and Human Geography, University of Toronto, 2020

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Author's Declaration

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Abstract

Capturing Urban Public Space Experiences And In-Situ Mental Wellbeing For Individuals Living With Mental Illness

Brittany Livingston, Master of Planning in Urban Development, 2022, Ryerson University

It has become increasingly vital to promote positive mental wellbeing in cities worldwide as scholars have begun to determine that urban residency is associated with poor mental health, linking urban public space characteristics and usage to mental wellbeing. Participants (Toronto residents aged 18-30 with diagnosed mental illness) used the EthicaData smartphone application to capture in-situ *experiential* understandings of their everyday experiences in public spaces over two weeks. The research objectives are to 1) understand how public spaces meet (or do not) the specific needs of young Torontonians living with mental illness; and 2) understand how participants' perceptions of public space as offering connection to nature, promoting physical activity, and facilitating social interaction impacts their mental wellbeing. As a frequently marginalized subpopulation, capturing everyday experiences of individuals living with mental illness in public spaces offers insight into building truly inclusive public spaces for the entire population.

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Introduction

With most of the global population residing in urban centres, cities can advance social and economic prosperity through employment opportunities, cultural amenities, and social exchange. Yet, many of these enriching aspects of everyday urban life have deteriorated in the face of COVID-19, leaving urbanites emotionally and physically isolated (Canadian Association of Mental Health, 2020). While research has long recognized that urban living can detrimentally impact physical health (Duhl & Sanchez, 1999; Galea & Vlahov, 2005), scholars have only recently begun to identify the link between urban residency and poor mental wellbeing (Sundquist, Frank, & Sundquist, 2018). The Centre for Urban Design and Mental Health (2019) estimates that city dwellers have a 29% higher risk of depression, 20% higher risk of anxiety, and double the risk of schizophrenia than those living in rural areas. Moreover, those that live in Toronto are particularly at risk – according to many national surveys, Toronto has the lowest or among the lowest life satisfaction of not only major cities but for all cities nationwide (Chaohui, Schellenberg; Hall et al., 2018; Hou, & Helliwell, 2015; Statistics Canada, 2020). The 2018 Toronto Social Capital Study found much lower levels of life satisfaction among youth aged 18 to 29 years old, especially those who are low-income and renters (Enviroics Institute for Survey Research, 2018), indicating a pertinent need for further research into how urban dwelling may shape mental wellbeing.

Planning, psychological, and public health research has begun to study the ways in which the urban environment may influence the mental wellbeing of the population, looking to the socio-spatial characteristics of public space as an indicator of the broader natural and built form. Such existing research has found that high-quality neighbourhood public spaces in urban settings can support psychological health and wellbeing (Corcoran & Marshall, 2018; Loftland, 2017). When examining public open space through a social-ecological lens, it has been found to enhance mental health by facilitating contact with nature and socialization (Francis et al., 2012). Francis et al. (2012) found that residing in neighbourhoods with high-quality public open space is linked to having lower psychosocial distress, irrespective of whether residents visit them personally. While the links between mental health and public spaces continue to be documented, it is often for the general population, and limited attention has been given to the mental wellbeing impacts on urban dwellers living with mental illness. This research aims to address this gap by exploring real-time experiences in urban public spaces, focusing on how socio-spatial features of neighbourhood public spaces affect the wellbeing of people with mental illness (who are at a greater risk for decreased wellbeing). Specifically, this research captures in-the-moment experiences of young adult

Torontonians living with mental illness in public spaces, asking questions about three main themes already identified by the literature linking public space and mental wellbeing - spaces that offer (1) connection to nature; (2) promote physical activity; and (3) facilitate social interaction.

This study contributes to better understanding the associations between urban neighbourhood public space and residential mental wellbeing, by providing in-situ *experiential* understandings of public space characteristics (green, active, and social) that influence the mental wellbeing of young adults living with mental illness in Toronto. This study offers new information regarding the need for urban public space that supports mental wellbeing within young adult populations with mental illness to enhance our academic understanding and the known value of such spaces. Finally, this research aims to help urban planners and municipalities understand how to build public spaces that improve the mental wellbeing of all residents by focusing on how public space usage and experience influence the mental wellbeing of young residents with mental illness.

Literature Review

This literature review will explore the existing academic research on the relationship between public space and mental wellbeing, as well as the inclusion of mental wellbeing in Toronto's multi-scalar planning and public health policy framework, as per the following sections:

- 1) Connection to nature
- 2) Opportunities for physical activity
- 3) Social connectedness
- 4) Knowledge gaps in existing research
- 5) Inclusion of mental wellbeing in planning and public health policies

The existing research focuses on how mental wellbeing is positively impacted by access to public space. Specifically, it suggests that public spaces enhance mental wellbeing when they feature greenspace, provide opportunities for physical activity, and enable social interaction (Centre for Urban Design and Mental Health, 2016). However, many of these studies focus on a single public space characteristic (greenspace tends to be the most prevalent) while incorporating other attributes, such as social cohesion and active amenities, as mediating variables. The majority of the existing research is focused on: (1) the general mental wellbeing of the population related to greenspace (Annerstedt et al., 2012; Astell-Burt et al., 2014; Meredith et al., 2020; van den Berg & al., 2006; White, Alcock,

Wheeler, & Depledge, 2013; Wood, Hooper, Foster, & Bull, 2017); or (2) the prevalence of mental illness in cities/places with greenspace (Astell-Burt, Feng, & Kolt, 2013; Dzhambov et al., 2019; Foster & Bull, 2017; Gascon et al., 2015; Soga et al., 2020; Zhang, Zhang, & Rhodes, 2021). In contrast, this study makes a specific contribution to understanding the experiences of people with mental illness in greenspace. Public spaces as *physical entities* are most often analyzed as a unit of analysis in such research, establishing associations between the quality and quantity of public spaces in neighbourhoods and mental wellbeing, with limited analysis conducted on the *experiences* of public space visits as units of analysis.

Connection to nature

Studies have shown that natural public spaces, especially those that provide visitors with a connection to nature, can help alleviate psychological distress and improve mental wellbeing for the general population and among individuals with mental illness. Public spaces characterized by open greenspace have been shown to promote the mental wellbeing of visitors, with nearby nature having a protective effect on improving mental wellbeing and reducing depression during the COVID-19 pandemic (Soga et al., 2020). Wood, Hooper, Foster, and Bull (2017) find a significant positive association between the number of green parks within walking distance to one's home and greater mental wellbeing based on a dose-response relationship. Exploring the relationship between time spent in green spaces by purposeful visits and perceived mental health and vitality across four European cities, van den Berg and colleagues (2006) find a similar significant positive relationship between time spent visiting green spaces and mental vitality. Other research has confirmed that residing closer to a park is correlated with fewer days of anxiety and depression (Astell-Burt, Feng, & Kolt, 2013; Gascon et al., 2015). A subsequent cross-sectional study similarly found neighbourhood greenspace exposure to be negatively associated with anxiety and depression symptoms, reporting perceived greenness, the restorative character of the neighbourhood, dispositional mindfulness, rumination, and resilience to stress as mediating variables (Dzhambov et al., 2019).

A recent meta-analysis of the literature identified a direct effect of greenspace exposure on the prevalence of mental illness, particularly depression and anxiety disorder, identifying the three pathways of psychological restoration, mitigation of air pollution and noise, and the encouragement of health-promoting behaviours, such as physical activity (Zhang, Zhang, & Rhodes, 2021). These findings correlate with those of studies in the United Kingdom and the United States, which found that participants residing in urban neighbourhoods with more green space are associated with having lower rates of psychological distress and higher

rates of subjective wellbeing for both the general population (White, Alcock, Wheeler, & Depledge, 2013) and for people with mental illness (Gascon et al., 2015). Likewise, a meta-analysis of the literature regarding the defined “dose” of time in nature that could be prescribed to college-age individuals (aged 15-30 years old), as a supportive mental health intervention revealed that spending 10-50 minutes of sitting or walking in a natural setting has significant positive impacts on key psychological markers when contrasted with equal durations spent in urban settings (Meredith et al., 2020).

Some researchers have found that demographic characteristics, such as gender, age, and level of education, can differently impact the positive relationship between neighbourhood green public space and mental wellbeing (Annerstedt et al., 2012; Astell-Burt et al., 2014; van den Berg et al. (2016). Annerstedt et al. (2012) found an association between urban green public space exposure and improved psychological wellbeing in women in Sweden, while an Australian study by Astell-Burt et al. (2014) found that such mental wellbeing benefits from green public space use were limited to men and also varied by age. Further insight into the particular experiences of individuals living with mental illness in green public space and its association with short-term mental wellbeing is vital to understanding how to plan mentally healthy public spaces. This study will assist in filling this knowledge gap through its *in-situ* engagement with Toronto residents experiencing mental illness, a population group often left out of critical conversations around public space planning and whose mental wellbeing may particularly benefit from such targeted public space improvements.

Opportunities for physical activity

Existing research has demonstrated that public places with opportunities for physical activity through active amenities and/or a culture of sports and recreation play an essential role in enhancing the mental wellbeing of their visitors, especially if they also offer a connection to nature. Frequenting public spaces characterized by recreational and sporting activity has also been shown to have positive mental health associations (Liu, Li, & Li, 2021; Wood, Hooper, Foster, & Bull, 2017). The restorative and cognitive benefits of engaging in physical activity are further enhanced when such movement practices are combined with exposure to natural outdoor environments and social interaction, such as group fitness or walking groups (Cooley, Robertson, Jones, & Scordellis, 2021). According to further studies, combining exercise and nature restoration confers diverse physiological and psychosocial benefits (Mitchell, 2013), suggesting that exercising in blue spaces¹ and large natural areas offers

¹ Kajosaari and Pasanen (2021) define *blue space* as any location within 50 metres of a sea, river, or lake.

more restorative benefits than exercise undertaken in built outdoor environments (Kajosaari & Pasanen, 2021).

Proximity to public open spaces like parks, plazas, and green spaces has numerous health benefits and people are more likely to use public spaces for physical activity if those spaces are high quality (Seaman, Jones, & Ellaway, 2010). In this study, public open spaces are deemed "high quality" if they include green space, footpaths, support spontaneous and programmed activities, and adequate lighting (Seaman, Jones, & Ellaway, 2010). As such, the degree to which users of public spaces feel comfortable engaging in physical activity there may be shaped by both the availability of infrastructural amenities that support sports and recreation, such as running tracks, basketball courts, open fields, and outdoor gym equipment, and the perceived social permission to use the space in this way.

Research by Astell-Burt, Feng, and Kolt (2013) has found that receiving the mental health benefits of time spent in neighbourhood green space appears to be contingent upon having an active lifestyle. Likewise, a strong positive correlation between park exercise frequency and reduced severity of depression and anxiety for the general population was limited to those without safety concerns while exercising in the park (Orstad et al., 2020).

Consequently, explorations of the relationship between elements of urban public space and wellbeing also need to address why people may or may not feel comfortable using them to engage in physical activity.

Social connectedness

The capacity of active public places to enable planned and spontaneous social interactions has been recognized by existing research as a key mechanism in the improved mental wellbeing of their visitors by fostering a sense of belonging, community connection, and social inclusion. According to a 2019 study published by Toronto Public Health and the Wellesley Institute, there are various pathways by which social inclusion can benefit mental wellbeing, including enhanced self-esteem and self-efficacy, as well as improved psychological response to stress (Mamatis, Sanford, Ansara, & Roche, 2019). Studies have shown that public space's promotion of mental wellbeing depends on having active stewardship and placemaking strategies that facilitate a sense of inclusivity and security (Sepe, 2017).

The literature has found both the frequency of public space use and the socio-spatial characteristics of the public spaces visited can shape one's feelings of social connectedness. Well-kept spaces attract use and indicate the neighbourhood population is valued, strengthening community cohesion and a sense of belongingness in a neighbourhood (Francis et al., 2012). In contrast, unkempt spaces that feel uninviting or threatening may deter use, impeding the associated potential mental health benefits and possibly causing wellbeing detriments (Loftland, 2017).

Frequenting public spaces has been shown to foster feelings of community attachment and social cohesion (Plunkett, Fulthorp, & Paris, 2019). Such findings coincide with the research of Bornioli, Parkhurst, and Morgan's (2018), suggesting that urban park use may facilitate neighbourhood place attachment, which positively correlates with mental wellbeing. Similarly, positive interactions in green public spaces have been found to nurture social inclusion, build social capital, and inspire health-promoting behaviours that may benefit psychological wellbeing (Jennings & Bamkole, 2019). Public spaces designed with structured recreation and socialization opportunities may more significantly encourage neighbourhood social ties and cohesion (Jennings & Bamkole, 2019), with positive effects on community connectedness and mental wellbeing (Corcoran & Marshall, 2018; Francis, Giles-Corti, Wood, & Knuiman, 2012).

Characteristics of the natural environment of urban public spaces have been found to be associated with social cohesion (Fan, Das, & Chen, 2011), including an open park design to encourage recreational activities and shaded areas to support relaxation (Peters, Elands, Buijs, 2010). As sites where informal social interactions can foster a sense of community at the neighbourhood level (Talen, 2000), users' perceptions of urban public space as safe and familiar may encourage intercultural social interactions (Peters, Elands, & Buijs, 2010). These social interactions can provide opportunities to bond with others and promote a sense of belonging (Cattell, Dines, Gesler, & Curtis, 2008).

However, as less than two-thirds of young people living in Toronto have a strong sense of belonging in their community (EnviroNics Institute for Survey Research, 2018), more insight is needed to meaningfully explore how those most at risk of experiencing social disconnection may feel connected to others when sharing public space. Additional examination of how subpopulations who tend to experience social-spatial isolation and loneliness (such as individuals with mental illness) feel a sense of belonging and social connection within public spaces may provide further insight into the mental wellbeing benefits that public space use may provide.

Knowledge gaps in existing research

While existing research has explored the connection between the physical attributes of local public spaces and the mental wellbeing of those who visit them, most of such studies have tended to look at the objective physical qualities of neighbourhoods and/or resident demographics in the form of mass surveys/questionnaires. There has been a tendency in current scholarship to look at the intersectional characteristics of public space as independent variables, with research studies often isolating one feature at a time, the most common being the relationship between greenspace and mental wellbeing. Less is known about how the effects of place may differently affect particular subpopulations, such as individuals experiencing mental illness, in a manner that may further entrench inequalities of public space accessibility and its psychosocial benefits. Collectively, this research seems to present a 'universal' checklist of targeted urban design features to support mental wellbeing for the population at large, thus, neglecting the specific needs of particular groups. Yet, an environment of planning research that is largely "failing to capture diversity in ages and abilities...has potentially resulted in data-informed practices and guidelines that perpetuate the exclusion of spatially marginalized groups" (Stafford & Baldwin, 2018, 25). A question remains regarding the relationship between public space usage and the mental wellbeing of those who may be most at risk of experiencing lower mental wellbeing (individuals living with mental illness). This subpopulation also happens to be a group that may especially benefit from a targeted understanding of the wellness impacts of frequenting public spaces.

Inclusion of mental wellbeing in planning and public health policies

Understanding the degree to which mental wellbeing is included or excluded in Toronto's multi-scalar planning and public health policy framework provides further insights into how mental wellbeing is considered within the development and maintenance of public spaces. While mental wellbeing is largely omitted from planning policies and standards of practice in Toronto, Ontario, and Canada, public health policy at the international, national, and municipal scales more thoroughly incorporates mental wellbeing considerations into its policies and practices.

Mental wellbeing is largely omitted from planning policies and practice, without mention in the Canadian and Ontarian professional standards of practice. Neither the Ontario Professional Planners Institute (OPPI) Code of Ethics nor the Canadian Institute of Planning (CIP) Code of Practice consider mental wellbeing within professional planning practices. This exclusion indicates that the mental wellbeing impacts of the communities and individuals for

which Ontarian and Canadian urban planners are representing are not a professional priority.

The inclusion of mental wellbeing in Ontario's Provincial Policy Statement, 2020 is limited to a generalized statement included in the preamble of Part IV: Vision for Ontario's Land Use Planning System, which states a provincial priority in planning "strong, liveable and healthy communities promote and enhance human health and social wellbeing..." (Ministry of Municipal Affairs and Housing, 2020, 5). While its inclusion signals some focus on incorporating mental wellbeing into Ontario's planning policy, such a high-level statement does little to address how mental wellbeing can be tangibly addressed within planning practices and decisions on the ground. Moreover, it does not provide the level of detail required to offer the directive guidance needed to stipulate or advocate for the advancement of mental wellbeing within planning policy or practices in Ontarian municipalities.

While Toronto's Official Plan alludes to the importance of planning to support the mental wellbeing of its residents in its Section 3.1.1 preamble of the public realm as "playing an important role in supporting the health, liveability, social equity, and overall quality of life," its inability to explicitly mention it signals that it is not a planning objective for the City (City of Toronto, 2010). As such, those with mental illness seem to be largely excluded from the discussion of planning communities, at a time of COVID-19 when mental health has become intrinsically linked with quality access to the public realm.

The field of global public health mentions access to green space in supporting mental wellbeing, yet does not go so far as to recommend access to quality public space as a preventative health intervention. The findings of the *WHO Social Determinants of Mental Health Report* suggest that spatial relationships to mental health and wellbeing primarily revolve around access to adequate housing and social supports with little attention paid to the planning of the public realm (World Health Organization and Calouste Gulbenkian Foundation, 2014). The report briefly mentions access to the natural environment and outdoor spaces as an important factor for good mental health within a much larger section on the impact of the built environment.

Compared to planning policies and practices, public health in both the Canadian and Toronto contexts places much greater emphasis on mental wellbeing. *The Chief Public Health Officer's Report on the State of Public Health in Canada 2017 – Designing Healthy Living* discusses mental health and the built environment, explores research that relates to how we can build communities that promote mental wellness and social connectedness, advocating

for the use of green space, noise reduction, and public art as potential mediators (Public Health Agency of Canada, 2018). Similarly, the *Healthy Toronto by Design Report* briefly discusses how living near greenspace has been found to benefit mental health in its overview of the ways in which the urban environment can encompass various determinants of health, including housing, transportation, neighbourhoods, and the natural environment (Toronto Public Health, 2011). Encouraging more dialogue across the many disciplines involved in planning and health promotion is vital, so that neighbourhood design considers and promotes mental wellbeing as a foundational aspect of vibrant and healthy communities.

Research Design

Employing a social-ecological approach (Francis et al., 2012; Stokols, 1996), this study recognizes the intersectional relationship between individuals and their social and spatial environments, shaping peoples' unique perceptions of and experiences within public space. This mixed-methods study aims to analyze how the quality of public spaces (defined as parks, parkettes, plazas, recreation trails, seating areas, and benches) affect the wellbeing of young adults with mental illness in Toronto through the three previously identified themes. The research objectives are: 1) understand how participants' perceptions of a public space as being green, active, or social impacts their mental wellbeing; and 2) understand how public spaces meet (or do not meet) the specific needs of young Torontonians living with mental illness. By generating these qualitative analyses at the neighbourhood level, identified as a critical area for future research (Corcoran & Marshall, 2019), this study offers insights for further research into targeted public space initiatives to enhance overall mental wellbeing.

Study participants and recruitment

The study sought participants who were Toronto residents between the ages of 18 and 30 with self-documented diagnosed mental illnesses. By recruiting participants from throughout Toronto and across the full spectrum of this age range, this study represents the experiences of a gender and racially diverse group of Torontonians living with mental illness. While not a major statistical study on correlations between different natural and built environmental features and wellbeing, it provides insight into the experiences of this particular population and thus provides analytic generalizability, which can be used to inform planning practitioners and further academic research (Biglieri, 2021; Biglieri & Dean, 2021).

Participants were recruited through several mechanisms, including social media postings and leveraging Ryerson University's existing urban planning and mental health-related networks, as well as those of the Toronto community at large. A recruitment tweet was shared via the study supervisor Dr. Samantha Biglieri's (@s_biglieri) and the School of Urban and Regional Planning's (@RYSURP) Twitter accounts, which was successively reposted by several planning and mental health professionals and organizations. Additionally, a recruitment email was sent to local public space and mental health organizations (8-80 Cities, CMHC, Park People, Skylark, Stella's Place, Youth Link) requesting that they share the research study with their respective listservs and professional networks to help garner participants. This recruitment email was also sent to Ryerson University administrators at the School of Urban and Regional Planning, Faculty of Community Services, and Faculty of Communication and Design, who shared the study with their student listservs and intra-faculty colleagues. 8-80 Cities, the Faculty of Community Services, and the Faculty of Communication and Design offered to share the study's request for participants in their monthly newsletters, with the Faculty of Community Services going so far as to write a web article about the study's call for participants. In total, 13 Torontonians living with mental illness completed the study.

Methods

This study used experience sampling methods (ESM), a reliable data collection method that allows research and observation to take place in real-time within natural settings without the potential interfering presence of the researcher. While many studies aiming to document the wellbeing benefits of public space rely on generalized self-reports following engagement in the spatial environment, this study follows similar methods to Doherty and colleagues (2014). They used ESM via a smartphone application to analyze the perceived wellbeing impacts of contact with nature. Doherty et al. (2014) developed a custom smartphone application to prompt subjects to complete an ESM survey at regular intervals throughout their visit to a provincial park in Ontario, Canada and passively tracked participants' GPS data via embedded sensors in smartphones. ESM was selected as the primary method as it offers an opportunity to accurately study human subjects during everyday life by capturing real-time self-reports of experiences as they occur *in-situ*, reducing potential researcher bias and need for participant recall, which may be especially important in studying the public space experiences of young adults with mental illness. Participants were instructed to take photos of their everyday lives, which unexpectedly then became a motivator for them to get outside at all.

Participants were instructed to use a smartphone application created by the researcher using a program from Canadian technology company Ethica Data.² This was to document their real-time experiences in public spaces in the city over a two-week period between September and October 2021. See Appendices B-D for outlines of the questions for each survey described below.

- 1) Participants first used the Ethica Data application to answer a 7-minute Entry Survey with questions about their demographics, public space use, and self-rated wellbeing.
- 2) Participants were then asked to repeatedly answer the same 15-minute *In-Situ* Public Space Survey in each public space they visited within a two-week period to indicate how they used each public space and how it may have improved or detracted from their wellbeing.³
- 3) At the end of the two-week period, participants filled out a 15-minute Exit Survey with open-ended questions about how they experienced the study and the same perceived wellbeing questions from the Entry Survey.

The participants engaged in ESM research in public spaces within the City of Toronto in their neighbourhoods and conducted the surveys independently without the researcher present at any time. Participants did not have to interact with the researcher, which might be preferable for someone with mental illness who may experience social anxiety or withdrawal. While engaging in a potentially triggering topic of participant mental wellbeing, the study was non-invasive in opting to ask more general questions about overall participant wellbeing and the *in-situ* emotions that respondents felt in a public space.

To ensure the psychological safety and confidentiality of participants, there was no formal verification by the researcher to ensure that only potential participants who met all of the inclusion criteria of the study (18-30 years old, Toronto residency, formal mental illness diagnosis) were able to participate. However, there were several strategies used to ensure participants met the inclusion criteria, like stating the inclusion criteria in the Consent Preamble on the Ethica Data smartphone application (which participants must read and consent to before beginning the study) and having the Entry Survey explicitly ask participants to enter their age and postal code. The researcher (BL) did not ask for documentation regarding participants' mental illness diagnosis to not further marginalize this vulnerable population, which may reduce the study's accuracy in the inclusion of data

² Ethica Data developed an online platform and smartphone application that provides the coding framework for researchers to create closed-link surveys to conduct experience sampling research.

³ The researcher (BL) intended for a GPS function within the smartphone application to passively record the public space location in which each in-situ survey was conducted. However, the GPS functionality was not consistently operational for all of the survey submissions, making the geographic data unusable for aggregate analysis.

from individuals without a formal diagnosis. However, the researcher believes that minimizing participant psychological risk in accessing their medical records takes precedence.

Omitted phase 2 of the study

A Phase 2 was planned for the study yet never came to fruition due to a lack of participant interest. In Phase 2 of the study, an optional one-hour semi-structured interview over Zoom or telephone would have provided a participant with the opportunity to discuss their experiences in public space further. A participant would have been asked a series of open-ended questions based on the photos and videos that they captured via the Ethica Data smartphone application in Phase 1 of the study. The researcher (BL) would have asked a participant to further elaborate on their feelings and experiences in a public space captured in their photos and videos and why they are important to them. This step would have been audio-recorded to help the researcher (BL) with transcription. This is perhaps an indication that the non-invasive ESM methodology is a preferred method of interaction for this participant group. It could also indicate that by using this method, this study reached participants who would not have participated in this kind of public space and mental wellbeing research through traditional sit-down interviews.

Analysis

The study employed a phenomenological approach, meaning that the participants' thoughts, perceptions of events, and allocation of attention are the primary objects of study (Seamon & Gill, 2016). Multiple analysis methodologies were employed at various stages to synthesize and parse through the data collected, including descriptive statistics, the framework method, thematic analysis, and association analysis.

- 1) Descriptive statistics of the participant pool were first used to establish the validity of the sample, including measures of variation (range), measures of central tendency (median and mode), and measures of frequency (count and percent).
- 2) The survey data was then organized using a framework analysis as it lends itself well to answering direct research questions by pre-determining coding categories based on existing literature (Gale et al., 2013). Following deep engagement with the literature on the ways in which public space use might impact an individual's mental wellbeing, especially those living with mental illness, the researcher (BL) developed an overall

coding framework based on the thematic categories of social connectedness, opportunities for physical activity, and connection to nature.

The researcher (BL) organized the data through open, axial and theoretical coding using NVivo 11 (Charmaz, 2014). Open coding involved examining each open-ended response and summarizing it using active gerund-based phrases like “Feels comfortable engaging in physical activity,” an active stance approach that propels the data forward (Charmaz & Keller, 2016). Using detailed action codes was vital to capture nuance in participants’ thoughts and perceptions (Charmaz, 2000). Through immersion in the over 390 gerund-based action codes, researcher BL began to organize them into categories (axial coding). The research supervisor (SB) then checked and tested this categorization to ensure methodological rigour. During the theoretical coding phase, researcher BL tested the categories on the remainder of the data, re-examining each open code to ensure it was in the correct category and examining and re-examining the relationships between different themes. This was again checked by SB to ensure methodological rigour.

The researcher (BL) pulled out relevant quotes and photographs from the survey responses that spoke to the higher-order theme. Within each of the themes, the data was organized into additional sub-themes (as seen in table 1 below).

Table 1: Thematic code diagram

Social connectedness		Opportunities for physical activity		Greenspace	
Positive affect	Negative affect	Positive affect	Negative affect	Positive affect	Negative affect
Feeling a sense of community	Lacking a sense of community	Feeling confident taking up space	Feeling fearful of drawing unwanted attention	Feeling safe and comforted	Lacking a sense of belonging
Feeling a sense of belonging	Lacking a sense of belonging	Feeling connected to the body	Feeling self-conscious	Feeling relaxed and peaceful	Feeling uncomfortable
Co-existing with strangers	Feeling lonely and disconnected	Space having an existing culture of sports or recreation	Feeling out of place	Feeling a sense of escape or refuge	Feeling ignored or unwelcomed
Energized by surroundings	Feeling isolated and alone	Presence of active amenities or infrastructure	Lack of active amenities or infrastructure	Providing perspective on life’s problems	
Connecting with friends or family	Feeling forgotten or left behind	Connecting with friends or family			

- 3) Descriptive statistics was utilized to further investigate the In-Situ Surveys as a unit of analysis and make associations between different thematic categories. Similar to the analytical methodology used to describe the participant pool, the descriptive statistics included measures of variation (range), measures of central tendency (median and mode), and measures of frequency (count and percent).
- 4) Association analysis between the diverse categories was then conducted, as association analysis is useful for uncovering interesting relationships between variables in large data sets (Han, Kamber, & Pei, 2012). The researcher (BL) is aware that this study does not have a large enough sample to produce statistically significant analyses. As such, the association analysis was instead used to bolster the findings from the three themes through the employment of methodological triangulation (Flick, 2018).

Ethics

Consent

The participants provided informed consent at the beginning of the study through a consent preamble, which functioned as a landing page for the research within the Ethica Data smartphone application. The Consent Preamble outlines potential participants' rights, clearly stating that participation in the research is entirely voluntary and participants can withdraw their consent at any point during the two-week study period (from the date that they complete the Entry Survey). It also states that participants are free to decline to answer any questions they do not wish to answer or may stop participating at any time by closing the smartphone application. The application will also allow participants to skip questions that they do not feel comfortable answering.

Participants were automatically taken to this page when they visited the study's Ethica Data platform and had to click the submit button at the bottom of the consent preamble to provide the informed consent required to begin the study and access the required surveys. As participants could complete their two-week period on a rolling basis anytime during the September to October 2021 data collection period, they had the opportunity to independently review the Consent Preamble with adequate time before deciding whether or not they would like to participate in the study. The consent preamble remained on the Ethica Data smartphone application for the duration of the two-week period to allow participants to revisit the consent preamble at their convenience.

Right to withdraw from the study

Participants were informed of their right to withdraw voluntarily from participation or parts of participation in the study through informed consent. If they closed the Ethica Data smartphone application before getting to the end of a survey, their information collected until that point would not be used. However, as the survey is anonymous, the Consent Preamble (see Appendix A) stated that once the two-week study period is over and the data collected via the Ethica Data smartphone application is transferred from the participant's device to the secure server, the researcher would be unable to determine which survey responses belonged to each participant.

Privacy and confidentiality

The data collected via the Ethica Data mobile smartphone application was anonymous and could only be accessed by explicitly designated logins. Data was first recorded on the phone, encrypted and saved to a file, then uploaded to Ethica Data's highly secure server system in Canada at the conclusion of the study. Building on many previous successful research studies across North American universities, Ethica Data provides a robust ethical basis for conducting studies with high-fidelity cross-linked sensor data that relies upon technical strategies for anonymization and data protection, strong informed consent of the participants, and participant control of data collection through the pause functionality.

Electronic files containing study data have been password-protected and stored in the secure Ryerson Google Drive, to which only the researcher (BL) and research supervisor (SB) have access. Transcriptions and data files will remain anonymous. An identification number has been used to organize the data, with each participant assigned an identification number. Research data will be stored for up to five years and will be erased from the secure Ryerson Google Drive. The data will be kept for this long to ensure that the researcher is able to publish the findings, as it depends on the often lengthy publication process.

There are no conditions under which the confidentiality of data cannot be guaranteed. In manuscripts for publication, individuals will not be named while explaining the study results, and any quotations used will be given pseudonyms to protect participants. The data will be stripped of any personal identifiers by giving people pseudonyms and obscuring any personal identifiers in visual representations. With the permission of participants, anonymous quotations may be used in the following way(s): 1) in teaching and demonstration materials; 2) in scholarly papers, articles and other publications; and 3) in presentations at academic and policy conferences.

Incentives

The participants were entered into a draw to receive one of three \$100 gift cards upon completion of the study. The research team delivered a package with the gift card through a contactless drop-off in the mailbox or a place of convenience for the participants.

Positionality

A critical factor in self-reflective scholarship is acknowledging the inherent biases and perceptions based on an individual's worldview that may inform how a researcher approaches research and perceives a study's findings. As a cisgender woman of southeastern European descent who grew up in a household of relative wealth, the researcher (BL) recognizes their privileges and the subsequent biases that such intersectionality may garner. The researcher's (BL) positionality as someone within the mental illness community provides a deeper understanding of and empathy for the experiences of the study participants living with mental illness, designing a research protocol that minimizes potential barriers to participation and seeks to mitigate potential in-situ psychological distress.

Findings

Participant sample demographics

As an 'indicator' subpopulation, individuals living with mental illness may offer a particularly poignant look at how particular public space characteristics may influence mental wellbeing. Such findings may provide insight into how to plan for the population at large. The Intro Survey included a short demographic questionnaire, with its results indicating that the study's participant sample was representative of Toronto's demographics by gender and ethnicity (Statistics Canada, 2017), as well as the housing type, household composition, and housing tenure for Torontonians in young adulthood (Petramala & Clayton, 2018).

Thirteen participants living with mental illness in Toronto were recruited, ranging in age from 18 to 28, with a median participant age of 23 years old. The study was conducted with participants of different genders, including six people who identify as female, five as male, and two as non-binary. Individuals of different ethnicities participated in the research study, including three Black participants, four participants who identified as people of colour (not Black), and six white participants. Two-thirds of the participants were relatively new to Toronto, having lived in the city for less than five years, and were renting their living accommodation at the time of the study. Approximately half of the participants were

working from home at the time of this research study, with the other half commuting to their workplace outside of the home.

The vast majority of the individuals partaking in the study lived with other people, such as friends, family members, or roommates, with only two of the thirteen participants living alone. Approximately half of the participants lived in an apartment building with five or more stories, while the remaining participants were residing in a detached or semi-detached house. Three-quarters of the participants indicated that they have access to a space to relax at home; however, it appears that five of the participants were under-housed and lived in homes where their household size exceeded the number of bedrooms in their homes.

Table 2: Participant demographic and wellbeing characteristics

Participant	Age	Gender	Ethnicity	Living arrangement		Work arrangement	WHO-5 score
A	18	Male	Person of colour	Family	5+ storey apartment	Commuting	32
B	22	Female	Person of colour	Partner	Single-family home	Commuting	40
C	25	Male	Caucasian	Friends	5+ storey apartment	Remote	52
D	21	Female	Person of colour	Family	Single-family home	Commuting	24
E	28	Female	Black	Live alone	5+ storey apartment	Remote	56
F	24	Non-binary	Caucasian	Live alone	Basement apartment	Remote	44
G	21	Non-binary	Person of colour	Roommates	5+ storey apartment	Commuting	64
H	19	Female	Caucasian	Family	Single-family home	Commuting	68
J	25	Female	Person of colour	Friends	5+ storey apartment	Remote	20
K	28	Female	Caucasian	Partner	5+ storey apartment	Remote	48
L	27	Male	Caucasian	Roommates	Single-family home	Remote	44
M	23	Male	Black	Roommates	5+ storey apartment	Remote	52
N	20	Male	Caucasian	Roommates	Single-family home	Commuting	64

The Intro Survey also included a short questionnaire on mental wellbeing, utilizing the World Health Organization Five Wellbeing Index (WHO-5). Introduced in 1998, the WHO-5 asks five non-invasive questions on a 6-point Likert scale and is among the most widely used questionnaires assessing subjective psychological wellbeing (Topp, et al., 2015). The WHO-5

is a brief psychometrically sound measure (Sischka, et al., 2020), basing the subjective quality of life of respondents on positive mood (good spirits, relaxation), vitality (being active and waking up fresh and rested), and general interest (being interested in things). Higher scores indicate better overall wellbeing, while a score below 52 indicates poor wellbeing that requires further evaluation for depression and anxiety (Topp, et al., 2015).

Figure 1: Instructions and scoring principle for the WHO-5 Wellbeing Index

The WHO-5 Wellbeing Index						
<u>Instructions:</u> Please indicate for each of the 5 statements which is closest to how you have been feeling over the past 2 weeks.						
Over the past 2 weeks...	At no time	Some of the time	Less than half of the time	More than half of the time	Most of the time	All of the time
...I have felt cheerful and in good spirits.	0	1	2	3	4	5
...I have felt calm and relaxed.	0	1	2	3	4	5
...I have felt active and vigorous.	0	1	2	3	4	5
...I woke up feeling fresh and rested.	0	1	2	3	4	5
...My daily life has been filled with things that interest me.	0	1	2	3	4	5
<u>Scoring principle:</u> The raw score ranging from 0 to 25 is multiplied by 4 to give a final score from 0 (representing the worst imaginable wellbeing) to 100 (representing the best imaginable wellbeing).						

Participants had a median WHO-5 score of 48 out of 100, with a range of scores from 20 to 68. As this score falls below 52, per Topp et al (2015), the study participants appear to have poor subjective mental wellbeing based on their entry survey submissions. This finding further cements the participant sample as being representative of individuals experiencing mental illness.

Participant relationship to private and public outdoor space

Despite two-thirds of the participants having access to private outdoor space in their homes, including balconies, patios, front yards, and backyards, with patios being the most common, the vast majority of participants stated that they have spent more time in public spaces since the onset of the COVID-19 pandemic. At the onset of the study, two-thirds of the participants cited that they spend time in public spaces three to six times a week. Participants reported that they visited such public spaces as parks, parkettes, seating areas, plazas, and recreational trails on a weekly basis, among which parks and seating areas were notably the most frequented.

Table 3: Participant relationship to private and public outdoor space

Participant	Access to private outdoor space	Weekly time spent in public space	Frequented public spaces	Time spent in public space since COVID-19
A	Balcony	1-2 times/week	Parks, plazas	Equal time spent
B	Front yard	3-4 times/week	Parks, seating areas, plazas	Equal time spent
C	N/A	1-2 times/week	Parks, seating areas	Less time spent
D	Patio, front yard, backyard	1-2 times/week	Parks, plazas	Less time spent
E	N/A	3-4 times/week	Parks, trails	More time spent
F	Patio	3-4 times/week	Parks, seating areas, plazas, trails	More time spent
G	N/A	3-4 times/week	Parks, plazas	More time spent
H	Patio, backyard	3-4 times/week	Parks, seating areas, plazas, trails	More time spent
J	Balcony	5-6 times/week	Parks, plazas, trails	More time spent
K	N/A	5-6 times/week	Parks, seating areas, trails	More time spent
L	Patio, backyard	5-6 times/week	Parks, seating areas, plazas, trails	More time spent
M	Balcony	Daily	Parks, seating areas, plazas	More time spent
N	Patio, backyard	Daily	Parks, seating areas, trails	More time spent

Capturing real-time experiences in public space

Participants were prompted to complete the In-Situ Survey each time they visited a public space within their two-week study period. Most of the In-Situ Surveys (66 of the 78 total submissions) took between 5 and 8 minutes for participants to complete, with outliers taking 4 minutes and 10 minutes. This time commitment was consistent with the study's consent landing page hosted on the Ethica Data application which stated that the In-Situ Survey would take approximately 5 to 7 minutes to complete.

The median number of in-situ submissions was 6 surveys per participant, with a total range of 3 to 10 submissions per participant over the two-week study period (approximately 1 to 5 submissions per week). In contrast to the majority of participants' approximation in the Entry Survey that they spend time in public spaces three to six times a week, participants may have overestimated the time that they typically spend in public spaces on a weekly basis.

Mirroring the types of public spaces that participants reported frequenting in the Entry Survey, participants visited parks, parkettes, seating areas, plazas, and recreational trails during their two-week study periods. Likewise, parks and seating areas were the most frequently visited public spaces amongst participants, in addition to plazas. Participants most frequently visited public spaces characterized by a natural landscape (roughly two-thirds of the in-situ submissions). The diversity in the environmental-spatial characteristics of the places visited is further detailed in table 4 below, denoting the frequency of the selected built and natural landscape features.

Table 4: The selected built and natural landscape features of the public spaces visited (by frequency)

Landscape feature	Frequency in public spaces visited
Trees	84.6%
Open fields/grass areas	53.8%
Gardens/plants	37.2%
Mostly concrete	37.2%
Forests	10.3%

In the majority of public space visits captured in the study, participants spent their visits with other people that they know (57.7%), in contrast to the minority of in-situ submissions when participants spent time in public space by themselves (42.3%). For roughly three-quarters of the submissions, participants predicted that they would be spending up to two hours in that public space. Moreover, the findings suggest there is a positive association between visiting public space with others and a higher expected length of time for each visit.

A slightly higher number of the In-Situ Surveys were conducted in the afternoon and evening in comparison to those completed in the morning, indicating that visiting public spaces later in the day may be preferable or more accessible to the study’s participants (70.5%). Further, study participants cited various reasons for visiting the public space as highlighted in table 5 below. Spending time with family members or friends was the most popular reason for a public visit cited by participants, followed closely in prevalence by taking a break and seeking relaxation. Conversely, enjoying nature and engaging in exercise/fitness activities were the two least common reasons for visiting.

Table 5: Reasons given by participants for visiting a public space during in-situ surveys (by frequency)

Reason for visiting public space	Number of surveys
Spend time with family/friends	37 (47.4%)
Take a break	34 (43.3%)
Relaxation	28 (35.9%)
Enjoy nature	16 (20.5%)
Exercise/fitness	15 (19.2%)

Notable improvement between pre-visit and in-situ mental wellbeing amongst participants

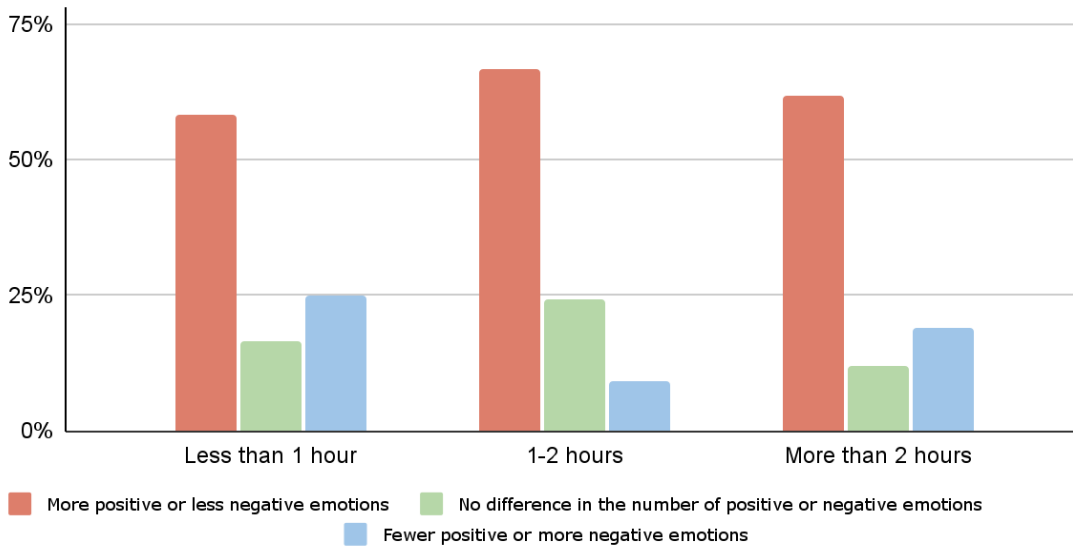
Spending time in public space appears to have enhanced the subjective mental wellbeing of the individuals who partook in the study. Measured as the difference between the positive nature of emotions that participants documented feeling before and during their public space visits, this positive relationship was repeatedly found irrespective of the thematic site-specific considerations. However, whether one is accompanied by a companion or companions during their visit, as well as the expected length of their visit may divergently influence the emotional outcomes of the public space visit. Further, visiting public spaces with others and expecting to stay in the public space for 1-2 hours appear to most significantly correlate with enhanced mental wellbeing.

The results of the In-Situ Surveys suggest that there may be a more significant positive association between spending time in public space with people that you know and the improvement in your immediate mental wellbeing versus spending time in public space by yourself. Approximately three-quarters of visits with friends, family members, or roommates were associated with participants experiencing more positive emotions or fewer negative emotions during their visits in comparison to how they felt before their visits. In contrast, there was only a slight positive association (51.5%) between participants going on solo public space visits and reporting a subjective improvement in their mental wellbeing during their visit.

Similarly, expecting to stay in the public space for 1-2 hours appears to be the length of visit that most significantly associates with the enhanced mental wellbeing of participants. Based on the in-situ surveys for each public space visit, participants that anticipated staying in a public space for 1-2 hours were most likely to maintain or enhance their pre-visit emotional state, in comparison to visits for less than 1 hour or more than 2 hours. See figure 2 for more information.

Figure 2: Positive relationship between the expected length of public space visit and the number of positive emotions felt during visit

Relationship between the expected length of public space visit and the difference in emotions felt before and during visit



Thematic public space characteristics and mental wellbeing

Informed by a framework analysis of the literature, the In-Situ Survey responses were explored through the three public space themes of connection to nature, opportunities for physical activity, and social connectedness. Of the three themes explored in the In-Situ Surveys, spending time in a public space that fosters a sense of social connection appears to have had the most significant impact on enhancing the mental wellbeing outcomes of young adult Toronto residents living with mental illness. Offering similar yet less significant impacts, visiting a public space in which participants felt comfortable engaging in physical activity, closely followed by visiting a public space that participants identified as having “green” landscape attributes, associated with improving participants’ mental wellbeing. The particular details of the above associations are highlighted below in table 6.

Various participants alluded to the intersectional nature of the identified themes in shaping their subjective experience within a public space. Participants recurrently spoke of individual thematic public space characteristics in questions pertaining to one of the other themes, often reflecting on the space as a whole. As such, it is vital to investigate the collective and complementary influences of the selected socio-spatial dimensions of public spaces to gain a fuller understanding of their relationship to maintaining and improving mental wellbeing.

Table 6: Positive associations between thematic public space characteristics and maintaining and improving participants' mental wellbeing (organized from most to least impactful)

Thematic socio-spatial characteristics of public spaces visited	Participants maintaining pre-visit mental wellbeing	Participants improving pre-visit mental wellbeing
Social connectedness Public spaces in which participants feel connected to others	14.8% (8 out of 54 surveys)	74.1% (40 out of 54 surveys)
Opportunities for physical activity Public spaces in which participants feel comfortable being physically active	16.7% (7 out of 42 surveys)	71.4% (30 out of 42 surveys)
Connection to nature Public spaces participants identified as having <i>open fields/grass areas; trees; gardens/plants; and forests</i>	18.4% (9 out of 49 surveys)	69.4% (34 out of 49 surveys)

For each theme (social connectedness, opportunities for physical activity, and connection to nature), the survey asked the participant a closed-ended or open-ended question.

1. The survey asked an open-ended question about social connectedness ("Does the space make you feel connected to others?").
2. The survey asked an open-ended question about opportunities for physical activity ("Do you or would you feel comfortable being physically active in this space?").
3. The survey asked a closed-ended question about connection to nature ("Is the space green? Select all built and natural environment landscape features that apply.") and listed the following selectable features: *mostly concrete, open fields/grass areas; trees; gardens/plants; forests.*

The survey also asked photo capture prompts and open-ended questions about their favourite and least favourite part of the space and how it makes them feel.

1. The survey presented a photo/video capture prompt about the least favourite part of the space ("Please take a photo or record a video of your favourite part of the space.") and asked an open-ended question for elaboration ("Why is it your favourite part of the space and how does it make you feel?").
2. The survey presented a photo/video capture prompt about the least favourite part of the space ("Please take a photo or record a video of your least favourite part of the space.") and asked an open-ended question for elaboration ("Why is it your least favourite part of the space and how does it make you feel?").



The next sections are a thematic analysis of their qualitative answers in aggregate, based on the themes of social connectedness, opportunities for physical activity, and connection to nature, in addition to a thematic analysis of their photos and qualitative answers based on their favourite and least favourite parts of the public spaces.

Social connectedness

The results of the in-situ surveys suggest that individuals with mental illness may experience consistent or improved mental wellbeing outcomes while spending time in public spaces in which they feel connected to others. The vast majority of participants reported maintaining or improving their pre-visit mental wellbeing during their time in places where they felt socially connected to their companions with whom they visited and/or the strangers sharing the space. This feeling of social-connectedness was notably cited in multiple visits as a participant's favourite part of a space (see table 7).

Several participants felt a sense of community and camaraderie during their visits, describing their experiences cohabiting public space as being "a part of something bigger" (Participant G), "a smaller part of a whole" (Participant C), and "a tiny puzzle piece within the bigger mosaic of this city" (Participant B). When sharing the space with strangers, participants frequently noted their socio-spatial connection to others occupying and moving through the site, as well as the city of Toronto as a whole. Visiting "active," "animated," and "vibrant" public spaces garnered participants a sense of belonging as they co-exist and "share physical and emotional space" with "all kinds of people moving through their days." As Participant A noted, "even though I'm not directly interacting with the other people in the park, just feeling the energy from them and sharing this space together makes me feel like I belong and that I am infinitely connected to this moment."

Table 7: Participant entries highlighting an abundance of social connectedness as the favourite part of a public space

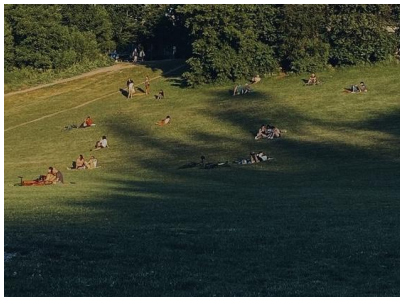

Participant	Quote	Photo
H	<p>"Being around other people in a public space makes me feel a part of the community. I'm reminded of how big and bright the world can be, recognizing that I don't always feel as connected to the world around me."</p>	
E	<p>"This guy playing guitar shows how open this space is to whatever you want to bring into to. I love seeing people be themselves like that and sharing their talents"</p>	


Moreover, the act of visiting public spaces may provide individuals living with mental illness with the opportunity to garner distance and perspective from their thoughts and internal challenges. Multiple participants remarked that occupying the outdoor realm reminded them of how "big" and "beautiful" the world outside their minds may be. Participant 42219 noted that "being around other people relaxing and enjoying the outdoors reminded [them] that good things are out in the world." Further, exposure to the public realm allowed them to shift their mood and disposition in the short term. According to Participant F, the "happy

vibrancy in the air [was] infectious," while Participant K observed that being in a busy area gave them energy and allowed them to relax by matching their baseline anxious state.

In contrast to the feeling of external connectivity fostered by some public spaces, Participant D noted that the secluded nature of the plaza that they visited allowed them to disconnect from the external noise around them as they took refuge in a "secret sanctuary from the rest of the world." However, other participants noted that the segmented design and use of a public space led them to feel lonely and distant both socially and spatially from others. A lack of interaction between the different groups and individuals occupying the public realm made some participants feel more secluded and isolated from others. This sentiment of social disconnectedness was felt so strongly during some visits that it was cited as a participant's least favourite part of a space (see table 8).

Table 8: Participant entries highlighting a lack of social connectedness as the least favourite part of a public space

Participant	Quote	Photo
B	"I do feel a bit lonely having come here by myself. I'm glad other people are enjoying the space with their friends and family but it almost makes me feel more alone seeing all of this social activity around me."	
F	"Seeing so many people just walk through the space makes me feel like they're in a rush off to do bigger and better things, which makes me feel stressed and small because I'm sitting here"	

K	<p>"Despite being around all these people, I still feel isolated and alone. It almost feels worse than be[ing] lonely when I'm by myself because then your emotions match up with your surroundings."</p>	
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The absence of a sense of community in an intentionally communal space left several participants feeling disconnected from the people and places around them. While Participant E emphasized this feeling was a consequence of them being the only person in the space by themselves, Participants J and M stated that the constant flow of people passing through the space made them feel aimless and as if they were being left behind. Such external movement also led Participant H to feel further disconnected from others as they felt "like [they were] surrounded by constant motion but remain[ed] at a standstill in their head[s]."

Public spaces in which participants felt a sense of social connection appeared to have had the most significant impact on enhancing mental wellbeing outcomes. Even when participants did not directly interact with others simultaneously inhabiting the same public space, they expressed feeling a sense of community and camaraderie. In contrast, the absence of a sense of community in a public space left several participants feeling disconnected from the people and places around them. A lack of interaction between the different groups and individuals occupying the public realm made some participants feel more secluded and isolated from others than they had felt before inhabiting the space. Interestingly enough, some of the public spaces in which participants experienced social disconnect shared the same socio-spatial characteristics of the places that the same participant or others respondents experienced social connectedness.


In brief, feeling a sense of social inclusion and connection to individuals sharing public space, both strangers and people that may already know each other, may be significantly associated with enhancing the short-term mental wellbeing of individuals with mental illness. In lively or quiet places, places that engender a sense of place and belonging, and spaces that foster passive or active socialization, participants are more likely to feel connected to others.




Opportunities for physical activity


The results of the In-Situ Surveys suggest that individuals with mental illness may experience consistent or improved mental wellbeing outcomes while spending time in public spaces that they identify as being places in which they feel comfortable being physically active. The vast majority of participants reported maintaining or improving their pre-visit mental wellbeing during their time in such places. The presence of active amenities or seeing other people being active was cited in multiple visits as a participant's favourite part of a space (see table 9).

There appears to be a strong social component to how comfortable participants may feel being physically active in the public spaces that they visited. Participants frequently referenced an increased level of comfort associated with being physically active in a public space with friends, family members, or as part of a structured fitness class or activity. Participant C noted that being with friends "makes [them] feel more confident taking up space," while Participants 42219 and M expressed that they would only feel comfortable being active with a group and would feel prohibitively self-conscious otherwise. This sentiment of belonging extended to the presence of other people in the public spaces harmoniously engaging in a range of activities, which may have included organized or casual sports and recreation, helping to normalize being physically active as a socially-acceptable behaviour during their visit.

Table 9: Participant entries highlighting active amenities or seeing others being active as a favourite part of a public space

Participant	Quote	Photo
L	"I love coming to these tennis courts to play sometimes with friends. Seeing them now makes me think of all the good memories that I've made here."	

D	<p>“It makes me happy to see people being active again. This sense of playfulness has felt gone for so much of COVID.”</p>	
J	<p>“Having such a big space to move around in is so valuable. I feel much less self-conscious knowing that we can work out without getting in anyone's way.”</p>	
A	<p>“There's this one big tree that I always stretch under after I workout. It makes me feel safe.”</p>	

F	<p>"I love how safe and calm I usually feel when I'm here. I feel like a little kid again running around and using the playground equipment to workout."</p>	
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Participants felt more comfortable with the idea of being physically active in public spaces where there was already established socio-spatial culture of being active in the space, reinforced through either being a known fitness destination or having prominent active infrastructure amenities, such as sports fields, running tracks or outdoor workout equipment. Likewise, other participants stated that they would feel particularly self-conscious engaging in physical activity in public spaces where being active would "feel out of place" and feared that they would attract unwelcome attention from others sharing the space. Participant A commented that being active in a very busy area with lots of traffic and people walking by would make them feel as if they were "under a microscope," and that they "would worry about taking up too much space."

Moreover, the physical activity that participants were doing or were considering doing at the time of the survey further influenced their comfort level in doing so. Multiple participants observed that they would feel comfortable being active in the space if their physical activity was limited to playing a lawn game, such as bocce ball, or casually tossing a football or frisbee with a friend, but would not feel comfortable participating in a more structured activity that may have drawn more attention to them. Participant C shared that while doing yoga in the park it was "easy to focus on what [they are] doing and [to] let go of any discomfort." In the same lens, other participants noted that being active in a public space made them feel connected to their body and pushed them to be in the moment and disentangle from ruminating thought patterns.


Overall, it was found that being comfortable in a public space or the projected perception that they would feel comfortable in a public space if given the chance to exercise was associated with enhancing the short-term mental wellbeing of individuals with mental illness. Participants are more likely to feel comfortable participating in physical activity in places that provide active amenities, promote a culture of sports and recreation, and are spending time with people they already know.




Connection to nature


The results of the in-situ surveys suggest that individuals with mental illness may experience consistent or improved mental wellbeing outcomes while spending time in public spaces that they subjectively characterize as being “green”. The majority of study participants reported maintaining or improving their pre-visit mental wellbeing during their time in each public space, with several participants identifying green landscape features as their favourite parts of the public spaces they visited. Table 10 further details select participant photos of such natural public space characteristics with the accompanying quote in response to an open-ended question about the photo (“Why is it your least favourite part of the space and how does it make you feel?”).

Several participants identified the presence of trees as their favourite part of the spaces they visited, commenting on how they created a relaxing and comforting environment. Participants emphasized the ease and security that they felt while spending time under tree canopies, with Participant N noting that walking on a forested trail made them feel “cocooned within the trees like [they were] coming home to [themselves].” Likewise, looking at the trees around them made Participants J and B feel calm and protected in their presence. As one participant put it, hearing leaves rustle in the breeze served as a “nature soundtrack” that fostered a feeling of peace and calm.

Table 10: Participant entries highlighting nature as the favourite part of a public space

Participant	Quote	Photo
L	“The tall trees make you feel like you're no longer in the middle of downtown Toronto. It's like going on a day trip without ever leaving the city.”	

<p>C</p>	<p>"Love love love walking on this path. So relaxing and peaceful to be surrounded by trees like this."</p>	
<p>N</p>	<p>"My favourite part of this space is that I get a dose of nature while still staying connected to the rest of the city. It's secluded, but I can still see the skyscrapers around me which reminds me I'm home"</p>	
<p>M</p>	<p>"The vibrant and varied colours of the trees are so comforting and joyful. Looking at them feels like reading a good book beside a warm fire"</p>	

G	<p>"Seeing this makes me happy and reminds me that my problems may be smaller than I think."</p>	
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For some participants, being in a public space surrounded by trees made them feel as if they had stepped into another world. Participant A offered that they felt “tucked away in [their] own world,” and that it was an “almost transcendent” experience. Similarly, the tranquillity and coverage offered by trees bordering a pond helped Participant J feel as if they had been “transported into another place.” In contrast, the visibility and presence of tall buildings and skyscrapers from the vicinity of a public space provided Participant E with perspective and a reminder of the relative insignificance of their personal problems. Recognizing the value of both natural and built environments, Participant N explained that their favourite part of the public space that they visited was that they could “get a dose of nature while still staying connected to the rest of the city. It’s secluded, but [they] can still see the skyscrapers around [them] to [remind them they are] home.”

Interestingly, several participants emphasized the beautiful green landscape and wide-open fields in the public spaces they spent time in as a key contributing factor to why they would feel comfortable being physically active there. Multiple in-situ submissions referred to the remarkable views from a lookout point as a strong motivation and worthwhile tradeoff of embarking on a lengthy walk or strenuous hike. The changing colours of the leaves during the autumn season appeared to be a part of the appeal of such views, as evidenced in the associated EMS photo submissions.

In addition to exemplary green space contributing to the positive public space experiences of participants, the absence of sufficient green space was also cited by multiple participants as their least favourite part of the spaces they visited. Public spaces with concrete

landscaping made participants feel “forgotten,” “transient,” and “devoid of warmth and a sense of belonging.” Participant G stated that an “abundance of concrete [made] the space feel cold and unwelcoming.” Imagining the potential that a public space could have with some creative landscaping, Participant B stressed that the “lack of greenery takes away from how beautiful and welcoming the space could be.”

The presence or lack of natural amenities and greenspace in the places that they visited impacted the ways in which participants felt safe or cared for within the space. The presence of nature appeared to provide restorative benefits to participants, encouraging feelings of relaxation and calmness, while the perceived absence of nature was more often associated with feelings of stress.

Unexpected benefits of study participation

Notably, the act of participating in the research study itself appeared to have improved the short-term mental wellbeing of these Toronto residents living with mental illness. Multiple participants noted that their feelings of contentment, energy levels, and mood were higher at the conclusion of the two-week study period, during which they visited public spaces at an elevated frequency compared to their typical usage. Several participants even noted that participating in the study gave them a reason to leave the house when they did not have anything else planned. More subjective anecdotal measurements of the mental wellbeing impacts of participating in the study were voiced by participants. Notably, Participant N stated that participating in this study has “helped [them] feel less self-conscious taking up space in [the] public [realm],” helping them to realize that they “don’t need to make [themselves] smaller anymore to feel safe.” Such a sentiment may represent the value of designing a research protocol that extends the study’s documentation of the typical public space usage of participants to a wellbeing intervention that actively encourages public space usage.

Discussion

Reflecting upon the relationships between the existing literature and the findings of the research study, synthesizing the intersections of participant experiences across the three themes of social-connectedness, opportunities for physical activity, and connection to nature may offer further insight. As such, key cross-sectional patterns within the data will also be explored, taking collective learnings from each of the themes.

Social connectedness

Public spaces in which participants felt a sense of social connection appeared to have had the most significant impact on enhancing mental wellbeing outcomes. While this finding diverges from some of the cross-sectional literature which suggests that exposure to greenspace may be the most impactful mediating variable (Toma, Hamer, & Shankar, 2015; Zhang, Zhang, & Rhodes, 2021), it does correlate with the literature on reducing the severity of mental illness symptoms. The Canadian Mental Health Association (2020) maintains that fostering social connection is a key management strategy for mitigating the social isolation impacts of mental illnesses, such as depression and anxiety, assisting with emotional regulation and increasing self-esteem and empathy.

Even when participants did not directly interact with others simultaneously inhabiting the same public space, they expressed feeling a sense of community and camaraderie. When sharing the space with strangers, participants frequently noted feeling connected to others occupying and moving through the space. What is known as passive socializing, such as eye contact, listening to others, and spending time near them without directly interacting, can foster social connection and reduce social isolation (Jennings & Bamkole, 2019). This co-habitation of public spaces can garner social connection and an underlying sense of belonging (Cattell, Dines, Gesler, & Curtis, 2008). As an intermediate opportunity to maintain one's solitude while spending time near others, individuals who experience feelings of anxiety in direct social settings may receive the psychosocial benefits of social interaction that comes from sharing spaces with strangers.

In contrast, the absence of a sense of community in a public space left several participants feeling disconnected from the people and places around them. A lack of interaction between the different groups and individuals occupying the public realm made some participants feel more secluded and isolated from others than they had felt before inhabiting the space. Interestingly enough, some of the public spaces in which participants experienced social disconnect shared the same socio-spatial characteristics of the places that the same participant or others respondents experienced social connectedness. This finding points to the idea that one's experience of socialization in a space may be more dependent on the emotional state of the visitor than of the space itself (Corcoran & Marshall, 2018; Toma, Hamer, & Shankar, 2015). Participants that felt "sociable" or visited a space for the predetermined purposes of socializing with a friend or family member typically cited feelings of social connectedness much more often than those who did not, suggesting that the

intention of visiting a space to "interact with the outside world" may predispose individuals to enjoy the company of others (Cattell, Dines, Gesler, & Curtis, 2008).

Opportunities for physical activity

Many participants cited the normalizing influence of active amenities and other people exercising in the space on their perceived acceptability of exercising there. This finding concurs with previous research, which echoes the importance of structured recreation opportunities (Jennings & Bamkole, 2019) and open green spaces (Fan, Das, & Chen, 2011) for exercise as a mediator of mental wellbeing. Participants felt more comfortable with the idea of being physically active in public spaces where there was already established socio-spatial culture of being active in the space and stated that they would feel particularly self-conscious engaging in physical activity in public spaces where being active would attract unwelcome attention from others sharing the space.

Several participants used the phrase "taking up too much space" to describe their discomfort with being active in the public realm. This sentiment brings up questions as to why they felt uncomfortable using the space in a dissimilar way to those around them. In a city filled with multi-story residences that frequently lack sufficient private outdoor spaces, Toronto's outdoor public spaces have come to function as de facto extensions of the private realm. Yet, in lieu of the relative freedom and privacy inherent to the private sphere, spending time in public spaces comes with the implicit caveat of abiding by informal social norms and expectations. The comfort of spending time in public spaces is essential for those who may already experience discomfort in occupying the public realm.

Those who were active in a public space felt more connected with their body and were less bothered by ruminating thoughts, particularly those who exercised in natural settings. Such findings correlate with the literature examining the restorative and cognitive benefits of engaging in physical activity in public spaces (Liu, Li, & Li, 2021; Wood, Hooper, Foster, & Bull, 2017), with particular consideration for the additional cumulative physiological benefits of being active in open greenspace (Fan, Das, & Chen, 2011; Mitchell, 2013; Kajosaari & Pasanen, 2021).

Connection to nature

Several participants expressed their appreciation for the presence of trees in the spaces they visited, noting that they provided a relaxing and comforting environment. Exposure to nature in the public realm has been aptly framed by the literature as a vital mechanism

through which mental wellbeing can be protected and enhanced (Berg et al., 2006; Soga et al., 2020; Wood, Hooper, Foster, & Bull, 2017) with neighbourhood green space negatively associated with anxiety and depression symptoms (Dzhambov et al., 2019). The sense of ease and security felt by participants while spending time under tree canopies corresponds with the previous research's examination of the physical restorative impacts of greenspace exposure (Zhang, Zhang, & Rhodes, 2021).

The intersectional influence of the natural environment, physical activity, and mental wellbeing was further emphasized by several participants noting how the presence of an open field, lookout point, or changing leaves in a public space was a key contributing factor as to why they would feel comfortable being physically active there. Mirroring the literature's understanding of the value of open green spaces and recreational fields in encouraging physical activity to enhance mental wellbeing (Fan, Das, & Chen, 2011, Peters, Elands, & Buijs, 2010), this study affirms that public spaces that both incorporate greenspace and support opportunities for physical activity may collectively enhance visitor mental wellbeing much more than they would be able to as independent variables.

The absence of ample greenspace was also cited by multiple participants as their least favourite part of the spaces they visited, evoking a lack of community or sense of belonging. While there has not been much research regarding the influence of concrete or "grey" spaces on mental wellbeing, there has been a large body of research on the social and psychological benefits of greenspace exposure (Berg et al., 2006; Dzhambov et al., 2019; Soga et al., 2020; Wood, Hooper, Foster, & Bull, 2017; Zhang, Zhang, & Rhodes, 2021). As such, it may be appropriate to infer the inverse relationship in which a lack of greenspace or the abundance of concrete may be negatively associated with improving mental wellbeing.

While the existing research that investigated the differential impact of gender and age on the positive relationship between neighbourhood green public space and mental wellbeing (Annerstedt et al., 2012; Astell-Burt et al., 2014; van den Berg et al., 2016), there did not appear to be any significant demographic differences in participants' mental wellbeing outcomes.

Public space exposure as a strategy for managing mental illness symptoms

Participants noted the psychosocial benefits that they experienced as a result of their participation in the research study, describing their increased motivation to spend time outside and make plans with friends and family in public spaces. They referred to some of

the public spaces that they visited as places of emotional refuge from the rest of the world, granting them distance and perspective from their thoughts and internal challenges. Relating to the academic conception of the public realm as “places of escape” (Cattel et al., 2008), greenspace exposure has been explored in previous research as a catalyst for positively influencing one’s mood and disposition in the short-term (Berg et al., 2006; Wood, Hooper, Foster, & Bull, 2017; Dzhambov et al., 2019; Soga et al, 2020; Zhang, Zhang, & Rhodes, 2021). Further, the reminder that diversity of lived experiences is happening around us may help offer a reprieve from our personal circumstances in preventing thought rumination (Mamatis, Sanford, Ansara, & Roche, 2019) and fostering a sense of community and belonging (Corcoran & Marshall, 2018; Plunkett, Fulthorp, & Paris, 2019).

Additionally, public space visits in which participants expected to stay there for a maximum of 2 hours were associated with the most significant improvement in short-term mental wellbeing. This finding relates to the idea of the concept of the ideal prescribed access to nature, wherein scholars have found that spending up to 50 minutes sitting or walking in a natural setting has significant positive impacts as a supportive mental health intervention (Meredith et al., 2020).

Limitations

The greatest limitation of this research study was the sample size and the location, preventing the study from making claims beyond the experiences of participants who are in young adulthood and living in similar urban Canadian neighbourhoods. Individuals not diagnosed with a mental illness by a health professional, yet may be experiencing similar symptoms, were not included within the research study as participants. While designed to help ensure greater validity of the findings, this exclusion may have led to the omission of additional and potentially divergent information. Moreover, this study aimed to understand the everyday public space experiences of Toronto residents living with mental illness, yet only examined their experiences during Ontario's autumn seasons and did not reflect their experiences during the spring or winter months, times when public space usage presents unique challenges. Lastly, as one of the prerequisites for this study was being able to spend time in outdoor public spaces, the study did not investigate the experiences of those who faced mental health barriers that prevented them from leaving their homes.

Conclusion

This research shows the interplay between the socio-spatial features of neighbourhood public spaces and the in-situ mental wellbeing that individuals experience within them. By extending the analysis of public spaces beyond their physical characteristics to include the levels of social connection and comfort in being active, alongside their connection to nature, this study has contributed to a better understanding of everyday life in urban public spaces for individuals living with mental illness. Within a planning research landscape lacking diverse participants of different ages and abilities that perpetuates the exclusion of spatially marginalized groups (Stafford & Baldwin, 2018), this study contributed to a more comprehensive understanding of how different subpopulations experience and navigate public spaces through its inclusion of young Torontonians with mental illness. This study empirically adds to the existing literature on mental wellbeing for the general population in public spaces by offering insight into the lived experiences of a frequently marginalized group – people living with mental illness. These insights offer planning practitioners tangible ways of actualizing inclusion in public space design and programming.

Such insights may include the following recommendations to guide the planning, design, and management of public spaces towards the consideration to support public spaces that engender social connection, physical activity, and connection to nature:

1. Public space planners and actors may engage better with young people with mental illness through further experience sampling and collaborative approaches to design that centre on the needs and perspectives of the end-user within all stages of the planning and design processes. Such a collaborative approach may involve focus groups and ongoing co-creation design workshops that extend beyond the often brief and narrow method used in typical public engagement processes to better reflect the needs of young people with mental illness in public spaces.
2. Designing public spaces to facilitate social connection in a way that enhances mental wellbeing may include: a variety of comfortable seating arrangements that have options in both secluded and areas with high foot traffic; recreational programming and cultural events that promote active and passive socialization; and adequate lighting that extends the time horizon of its safe and comfortable usage.
3. Designing public spaces to promote physical activity in a way that enhances mental wellbeing may emphasize: the inclusion of active amenities (i.e. running tracks,

outdoor gym equipment, tennis courts, basketball courts, soccer fields, etc.) for both casual and programmed use; sports and recreation drop-in and intramural programming; and signage signalling that physical activity is an encouraged and permitted use within a public space.

4. Designing public spaces to support connection to nature in a way that enhances mental wellbeing may include: natural landscape features, especially trees and open fields; concrete alternatives to create walking paths; water features; natural viewpoints; and community environment-related programming and educational opportunities (on topics such as gardening, environmental conservation, bird watching, etc.).

Future research could extend this study's exploration of the everyday public space experiences of Toronto residents living with mental illness into the spring and winter months to get an even deeper understanding of how individuals experience and use public space in less accessible weather conditions. Additionally, further studies could employ a direct intervention protocol in participants' public space exposure, having respondents complete the WHO-5 Wellbeing Index both before and after the intervention to examine the wellbeing impacts of such an intervention.

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Appendix A: Consent Preamble

Functioning as a landing page within the Ethica Data smartphone applications, participants provide their informed consent by agreeing to a Consent Preamble before being able to participate in the study. Participants were encouraged to take a screenshot of the Consent Preamble for their own reference, in addition to the Consent Preamble being accessible via the Ethica Data smartphone application for the duration of each participant's two-week study period.

<p>Consent to Participate in Research</p> <p>Study Name: The relationship between urban public space and mental wellbeing for young Torontonians with mental illness</p> <p>INTRODUCTION AND PURPOSE</p> <p>Hello, my name is Brittany Livingston. I am a Master of Planning student at Ryerson University working with my faculty supervisor, Dr. Samantha Biglieri in the School of Urban and Regional Planning. This research study is funded and is being carried out in partial fulfillment of my master's degree. I would like to invite you to take part in Phase 1 of my research study, which concerns your experiences in public space as a young person living with mental illness. The purpose of the study is to understand what social and built environment elements of your neighbourhood's public space influence your mental wellbeing. Public space can be parks, parkettes, plazas, recreation trails, seating areas, and benches.</p> <p>A total number of 25 participants are being sought for this study.</p> <p>In order to participate in this study, you must be someone diagnosed by a health professional with mental illness between the ages of 18 and 30, currently living in Toronto, with regular access to a smartphone.</p> <p><input type="button" value="CANCEL"/> <input type="button" value="REGISTER"/></p>	<p>WHAT YOU ARE BEING ASKED TO DO</p> <p>You are being asked to voluntarily use this mobile smartphone application to first answer a 7-minute entry survey with questions about your demographics, public space use, and wellbeing. After submitting the entry survey, you will then repeatedly answer a 5- to 10-minute public space survey on the mobile smartphone application with photo and video capture prompts to document your experiences in each public space that you visit over a time period of two weeks (dated 14 days from the date the entry survey is completed). You are encouraged to move around as you normally do in regards to visiting public space in Toronto. You will be conducting the surveys on your own, without the researcher present at any time. A GPS function within the mobile smartphone application will be used to locate in which public space the surveys were taken (which will be anonymized and protected as per all data collected by Ethica Data). At the end of the two-week period, you will be asked to fill out a 15-minute exit survey with open-ended questions about how you experienced the study and the same wellbeing questions from the entry survey. In order for all of your answers to be collected, you must go to the end of each survey and click the 'submit survey' button.</p> <p>POTENTIAL BENEFITS</p> <p>We cannot guarantee any direct benefits from</p> <p><input type="button" value="CANCEL"/> <input type="button" value="REGISTER"/></p>	<p>participation. However, with this study, I hope to understand from your perspective what urban planners could do to make you feel more independent, comfortable, safe, and supported in accessing public space. Every day, planners and municipalities make decisions about how to design and manage public spaces, including decisions about social programming and policies. Through this study, we hope to understand what could be changed about public space to make it more accessible and supportive to you, as a person living with mental illness, and hopefully influence city planning in the future.</p> <p>WHAT ARE THE POTENTIAL RISKS TO YOU</p> <p>There are minimal risks associated with this study. Some of the survey questions may make you uncomfortable or upset, or you may simply wish not to answer some questions. You are free to decline to answer any questions you do not wish to answer by selecting the skip button for that question within the survey, or to stop participating at any time by closing the Ethica Data smartphone application. If you close the Ethica Data smartphone application before getting to the end of a survey, your information collected up to that point will not be used. The survey will also begin with a preamble with instructions and mental health resources for participants if they or someone they know is feeling in distress.</p> <p>You might be embarrassed to be taking the survey</p> <p><input type="button" value="CANCEL"/> <input type="button" value="REGISTER"/></p>
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<p>and/or documenting your experiences in public space. To mitigate potential embarrassment, you can decide whether you would like to participate in the survey depending on your comfort level in that particular space.</p> <p>The in-situ public space survey(s) will require you to take photographs and videos of public spaces in your neighbourhood with your smartphone. If you are already comfortable taking photographs and videos, we don't expect this to bother you. We will remind you to only take photographs/videos when at a safe vantage point (for example, not from the middle of a street or while driving). If you are uncomfortable taking photographs or videos, the researcher is happy to help you get comfortable by working with you over the telephone or Zoom. The Ethica Data app will also remind you that you do not have to take any photographs and/or videos if you do not feel comfortable and may type descriptive answers within the survey instead.</p> <p>There is a risk that you may end up taking photos or videos with people in them. The app will provide instructions about taking photos and videos in public to encourage participants to take images and videos only of public spaces and their experiences within them, and not of other people, which means there are minimal risks with taking photographs/videos with people in them. In the event that participants submit any photos and/or videos with other individuals, the photos will be used as part of the study for analysis</p> <p style="text-align: center;"> CANCEL REGISTER </p>	<p>but will only be seen by the research team and will not be used in any publications.</p> <p>There is a very small risk that you may have your data linked to your identity. To mitigate this risk, all data collected in Phase 1 of the study by the Ethica Data smartphone application is anonymized. Ethica Data has a highly secure server system in a private location in Canada. Data for the study can only be accessed by explicitly designated logins. Data is first recorded on the phone, encrypted and saved to a file, then uploaded to the server at the conclusion of the study. To ensure the confidentiality of participants, no personal or identifying information will be attached to the participants' responses within the data storage (they will be identified as an identification number). Transcriptions and data files will remain anonymous. An identification number will be used to organize the data, with each participant will be assigned an identification number. In manuscripts for publication, the data will be stripped of any personal identifiers by giving people pseudonyms and obscuring any personal identifiers in visual representations.</p> <p>Your participation is completely voluntary, and you may withdraw at any time during the course of the study. The research team will maintain a password-protected coded list linking participants' personal information to their research data for data withdrawal purposes, which will be securely stored on the Ryerson Google Drive. Participants can withdraw at any time until the data is fully anonymized (after the</p> <p style="text-align: center;"> CANCEL REGISTER </p>	<p>study is completed). After the data is data anonymized we cannot know which participant ID corresponds to the participant, and therefore cannot delete the corresponding data. If contacted prior to the destruction of the contact list, participant withdrawal can by request result in deletion of all participant data. Withdrawal from the study will not influence future relations with the researchers or Ryerson University. The final date to withdraw participant data is October 31, 2021.</p> <p>YOUR IDENTITY WILL BE CONFIDENTIAL</p> <p>All data collected via the Ethica Data mobile smartphone application will be anonymized, including the geographical responses captured via the GPS function to locate where the surveys were taken. Questionnaires and data files will remain anonymized such that no names will be associated with the data.</p> <p>Participants who choose to participate in the gift card draw will enter their names and email addresses in a Google form included as an embedded link at the end of the Phase 1 exit survey. As such, participants' identities and data will be confidential if they choose to enter the gift card draw.</p> <p>Each participant will be assigned an identification number, which will be used to organize the data. The link between your identity and the research data will be kept confidential, and your name will not appear on any published data. Instead, with your permission,</p> <p style="text-align: center;"> CANCEL REGISTER </p>
<p>anonymous quotations may be used in the following way(s):</p> <ul style="list-style-type: none"> • in teaching and demonstration materials • in scholarly papers, articles and other publications, and • in presentations at academic, healthcare conferences <p>In the event that the research team believes that there is a credible threat of your imminent personal physical or psychological harm, they have a duty to report your information to the authorities. Per Ontario's "duty to consult," the research team is required by law to report suspected cases of child abuse or neglect to a children's aid society.</p> <p>HOW YOUR INFORMATION WILL BE PROTECTED AND STORED</p> <p>The mobile smartphone application used in the research study designed by Ethica Data has a highly secure server system in a private location in Canada. Data for the study can only be accessed by explicitly designated logins. Data is first recorded on the phone, encrypted and saved to a file, then uploaded to the server at the conclusion of the rolling two-week data collection period for each participant. Participant data will be deleted from Ethica Data's servers once the entire study's participant data is downloaded by the research team and uploaded as password-protected</p> <p style="text-align: center;"> CANCEL REGISTER </p>	<p>electronic files to the secure Ryerson Google Drive. Building on many previous successful research studies across North American universities, Ethica Data provides a robust ethical basis for conducting studies with high-fidelity cross-linked sensor data that relies upon technical strategies for anonymization and data protection, strong informed consent of the participants, and participant control of data collection through the pause functionality.</p> <p>Electronic files containing study data will be password-protected, stored in the secure Ryerson Google Drive, and will be destroyed after 5 years. Transcriptions and data files will remain confidential. An identification number will be used to organize the data, with each participant will be assigned an identification number. There are no conditions under which the confidentiality of data cannot be guaranteed. In manuscripts for publication, individuals will not be named while explaining the study results, and any quotations used will be given pseudonyms to protect participants. Audio recordings will be kept, along with transcriptions, for a period of 5 years. This is to ensure that the recordings are available for data analysis.</p> <p>INCENTIVE FOR PARTICIPATION</p> <p>Upon completion of Phase 1 of the study, you will have the opportunity to receive one entry into a draw to receive one of three \$100 online Mastercard gift cards. If you also participate in Phase 2 of the study, you will receive an additional entry into the draw for a</p> <p style="text-align: center;"> CANCEL REGISTER </p>	<p>The probability of winning the draw is dependent upon the number of participants who choose to participate in the optional Phase 2 follow-up interview, which offers an additional entry into the draw. The winner of the three \$100 online Mastercard gift cards will be notified via email.</p> <p>YOUR RIGHTS AS A RESEARCH PARTICIPANT</p> <p>Participation in research is completely voluntary and you can withdraw your consent at any point during the two-week study period (from the date that you complete the entry survey). However, because the survey is anonymized, once your two-week study period is over and the data collected via the Ethica Data smartphone application is transferred from your device to the secure server, we will not be able to determine which survey answers belong to you as the data, and so we cannot withdraw your information from our study once your two-week study period is over. Please note that by clicking the 'submit' button at the end of this form you are providing your consent for participation. By consenting to participate you are not waiving any of your legal rights as a research participant.</p> <p>In the exit survey, you will be able to indicate via an embedded confidential Google Form if you would like to be contacted in the future to receive a plain language summary of the study results and have the</p> <p style="text-align: center;"> CANCEL REGISTER </p>

option to provide your email. If you do not want to be contacted in the future, you may indicate this preference without penalty. You may access the study's findings at your own discretion through the Ryerson University Library Digital Repository here: <https://digital.library.ryerson.ca> by searching for the Researcher's name (Brittany Livingston). It will be posted in Summer 2022.

QUESTIONS

If you have questions about the research or about your role in the study, please feel free to contact the Researcher Brittany Livingston anytime at brittany.livingston@ryerson.ca. You may also contact her supervisor, Dr. Samantha Biglieri by phone at 416.979.5000 ext. 544770 or by email at samantha.biglieri@ryerson.ca.

This study has been reviewed and approved by the Ryerson University Research Ethics Board [REB 2021-253].

If you have questions regarding your rights as a participant in this study, please contact:

Research Ethics Board

c/o Office of the Vice President, Research and Innovation

Ryerson University

CANCEL

REGISTER

350 Victoria Street
Toronto, ON M5B 2K3

416-979-5042 rebchair@ryerson.ca

Please print a copy or take a screenshot of the consent form for your own records.

CANCEL



REGISTER

Appendix B: Entry Survey

After providing consent via the Consent Preamble (see Appendix A) in the Ethica Data smartphone application, participants were prompted by the application to complete the following Entry Survey, after which the 14-day study period began.

The image displays three sequential screenshots of a survey application interface. Each screen features a close button (X) and a 'SKIP' option in the top right corner. The first screen asks 'How old are you?' with radio button options for ages 18 through 25. The second screen asks 'Please specify your gender.' with a large, empty rectangular input field. The third screen asks 'What do you identify as? Select all that apply.' with checkboxes for 'Black', 'Indigenous', 'A person of colour', 'White', 'Other (please specify)', and 'Prefer not to answer'. At the bottom of each screen is a dark navigation bar with 'PREVIOUS' and 'NEXT' buttons, each accompanied by a circular arrow icon.

<p>✕ SKIP</p> <p>Please specify the cultural ethnicity or ethnicities you identify as.</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <p>PREVIOUS NEXT</p>	<p>✕ SKIP</p> <p>What is your postal code? E.g. M4E 2Y1.</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <p>PREVIOUS NEXT</p>	<p>✕ SKIP</p> <p>What is your income?</p> <ul style="list-style-type: none"> <input type="radio"/> Under \$20,000 <input type="radio"/> \$20,000-\$50,000 <input type="radio"/> \$50,000 -100,000 <input type="radio"/> \$100,000 - \$150,000 <input type="radio"/> Over \$150,000 <input type="radio"/> I'm not sure <input type="radio"/> Prefer not to answer <p>PREVIOUS NEXT</p>
<p>✕ SKIP</p> <p>How long have you lived in Toronto?</p> <ul style="list-style-type: none"> <input type="radio"/> Less than 1 year <input type="radio"/> 1-2 years <input type="radio"/> 3-5 years <input type="radio"/> 5-9 years <input type="radio"/> 10 or more years <p>PREVIOUS NEXT</p>	<p>✕ SKIP</p> <p>How many people do you live with (including yourself)?</p> <div style="text-align: center;"> <p>+</p> <p>1</p> <p>-</p> </div> <p>PREVIOUS NEXT</p>	<p>✕ SKIP</p> <p>What is your relationship to the people you live with?</p> <ul style="list-style-type: none"> <input type="radio"/> Friends <input type="radio"/> Roommates <input type="radio"/> Family <input type="radio"/> Not applicable (I live alone) <p>PREVIOUS NEXT</p>

<p>×</p> <p style="text-align: right;">SKIP</p> <p>What type of home do you live in?</p> <ul style="list-style-type: none"> <input type="radio"/> Apartment under 5 storeys <input type="radio"/> Apartment 5 storeys and over <input type="radio"/> Detached/semi-detached home <input type="radio"/> Laneway/secondary suite <input type="radio"/> Basement apartment <input type="radio"/> Other (Please specify) <p style="text-align: center;"> <input type="button" value="PREVIOUS"/> <input checked="" type="button" value="NEXT"/> </p>	<p>×</p> <p style="text-align: right;">SKIP</p> <p>How many bedrooms are in your home? (Studio = 1, one-bedroom = 1, two-bedrooms = 2, etc.)</p> <p style="text-align: center;">  1  </p> <p style="text-align: center;"> <input type="button" value="PREVIOUS"/> <input checked="" type="button" value="NEXT"/> </p>	<p>×</p> <p style="text-align: right;">SKIP</p> <p>Do you feel like you have your own space to relax by yourself where you live?</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <p style="text-align: center;"> <input type="button" value="PREVIOUS"/> <input checked="" type="button" value="NEXT"/> </p>
<p>×</p> <p style="text-align: right;">SKIP</p> <p>Do you have access to private outdoor space within your home?</p> <ul style="list-style-type: none"> <input type="radio"/> Yes <input type="radio"/> No <p style="text-align: center;"> <input type="button" value="PREVIOUS"/> <input checked="" type="button" value="NEXT"/> </p>	<p>×</p> <p style="text-align: right;">SKIP</p> <p>Do you rent or own your home?</p> <ul style="list-style-type: none"> <input type="radio"/> Rent <input type="radio"/> Own <p style="text-align: center;"> <input type="button" value="PREVIOUS"/> <input checked="" type="button" value="NEXT"/> </p>	<p>×</p> <p style="text-align: right;">SKIP</p> <p>If you are working right now, are you working from home or outside of your home?</p> <ul style="list-style-type: none"> <input type="radio"/> Working from home <input type="radio"/> Working outside of the home <p style="text-align: center;"> <input type="button" value="PREVIOUS"/> <input checked="" type="button" value="NEXT"/> </p>

<p style="text-align: right;">X SKIP</p> <p>Which of the following public spaces do you visit on a weekly basis? Select all that apply.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Parks/parkettes <input type="checkbox"/> Seating areas <input type="checkbox"/> Plazas <input type="checkbox"/> Recreation trails <input type="checkbox"/> Ravines <input type="checkbox"/> Other (Please specify) <div style="text-align: center; background-color: #444; color: white; padding: 5px;"> ⬅ PREVIOUS ⬆ NEXT ➡ </div>	<p style="text-align: right;">X SKIP</p> <p>How often do you typically visit, spend time in, and/or walk through these types of spaces right now?</p> <ul style="list-style-type: none"> <input type="radio"/> Less than once a week <input type="radio"/> 1-2 times a week <input type="radio"/> 3-4 times a week <input type="radio"/> 5-6 times a week <input type="radio"/> Daily <div style="text-align: center; background-color: #444; color: white; padding: 5px;"> ⬅ PREVIOUS ⬆ NEXT ➡ </div>	<p style="text-align: right;">X SKIP</p> <p>Has this increased, stayed the same, or decreased since before COVID-19?</p> <ul style="list-style-type: none"> <input type="radio"/> Increased <input type="radio"/> Stayed the same <input type="radio"/> Decreased <div style="text-align: center; background-color: #444; color: white; padding: 5px;"> ⬅ PREVIOUS ⬆ NEXT ➡ </div>
<p style="text-align: right;">X SKIP</p> <p>Please rate the following statement on a scale from 0-5 based on how you have felt over the past two weeks.</p> <p>Statement #1: I have felt cheerful and in good spirits.</p> <ul style="list-style-type: none"> <input type="radio"/> 0 (None of the time) <input type="radio"/> 1 (Some of the time) <input type="radio"/> 2 (Less than half of the time) <input type="radio"/> 3 (More than half of the time) <input type="radio"/> 4 (Most of the time) <input type="radio"/> 5 (All of the time) <div style="text-align: center; background-color: #444; color: white; padding: 5px;"> ⬅ PREVIOUS ⬆ NEXT ➡ </div>	<p style="text-align: right;">X SKIP</p> <p>Please rate the following statement on a scale from 0-5 based on how you have felt over the past two weeks.</p> <p>Statement #2: I have felt calm and relaxed.</p> <ul style="list-style-type: none"> <input type="radio"/> 0 (None of the time) <input type="radio"/> 1 (Some of the time) <input type="radio"/> 2 (Less than half of the time) <input type="radio"/> 3 (More than half of the time) <input type="radio"/> 4 (Most of the time) <input type="radio"/> 5 (All of the time) <div style="text-align: center; background-color: #444; color: white; padding: 5px;"> ⬅ PREVIOUS ⬆ NEXT ➡ </div>	<p style="text-align: right;">X SKIP</p> <p>Please rate the following statement on a scale from 0-5 based on how you have felt over the past two weeks.</p> <p>Statement #3: I have felt active and vigorous.</p> <ul style="list-style-type: none"> <input type="radio"/> 0 (None of the time) <input type="radio"/> 1 (Some of the time) <input type="radio"/> 2 (Less than half of the time) <input type="radio"/> 3 (More than half of the time) <input type="radio"/> 4 (Most of the time) <input type="radio"/> 5 (All of the time) <div style="text-align: center; background-color: #444; color: white; padding: 5px;"> ⬅ PREVIOUS ⬆ NEXT ➡ </div>

<p style="text-align: right;">X SKIP</p> <hr/> <p>Please rate the following statement on a scale from 0-5 based on how you have felt over the past two weeks.</p> <p>Statement #4: I have woken up feeling fresh and rested.</p> <ul style="list-style-type: none"><input type="radio"/> 0 (None of the time)<input type="radio"/> 1 (Some of the time)<input type="radio"/> 2 (Less than half of the time)<input type="radio"/> 3 (More than half of the time)<input type="radio"/> 4 (Most of the time)<input type="radio"/> 5 (All of the time) <div style="display: flex; justify-content: space-between;">↑ PREVIOUS↑ NEXT</div>	<p style="text-align: right;">X SKIP</p> <hr/> <p>Please rate the following statement on a scale from 0-5 based on how you have felt over the past two weeks.</p> <p>Statement #5: My daily life has been filled with things that interest me.</p> <ul style="list-style-type: none"><input type="radio"/> 0 (None of the time)<input type="radio"/> 1 (Some of the time)<input type="radio"/> 2 (Less than half of the time)<input type="radio"/> 3 (More than half of the time)<input type="radio"/> 4 (Most of the time)<input type="radio"/> 5 (All of the time) <div style="display: flex; justify-content: space-between;">↑ PREVIOUS✓ SUBMIT</div>	
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Appendix C: In-Situ Public Space Survey

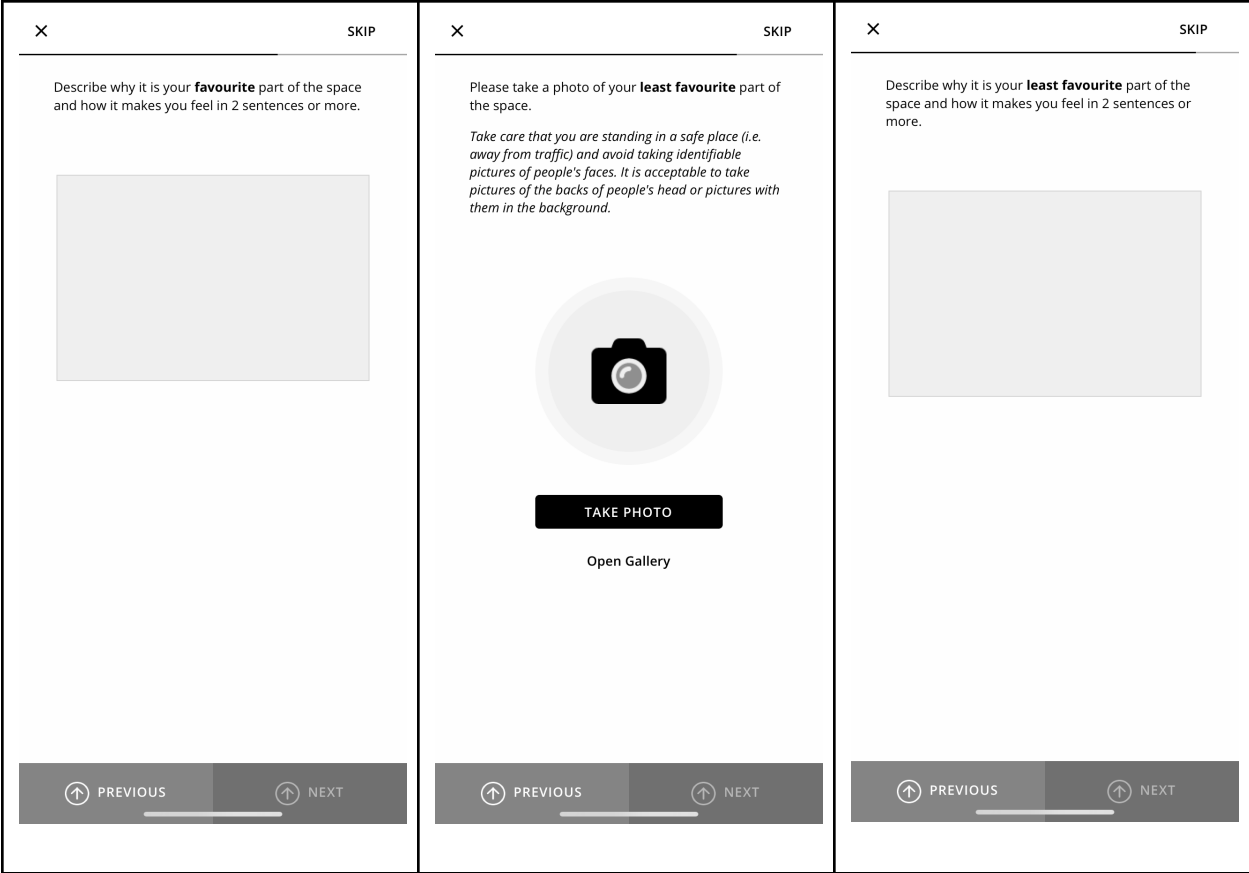
After providing consent via the Consent Preamble (see Appendix A) and completing the Entry Survey (see Appendix B), participants were prompted by the application to complete the following in-situ public space survey at daily intervals during the two week period in the Ethica Data smartphone application.

To mitigate potential participant psychological risk, participants had the option to skip any questions that they did not feel comfortable answering. The survey also began with a preamble with instructions and mental health resources for participants if they or someone they know were feeling in distress.

The image displays three sequential screenshots of a mobile application survey interface. Each screen has a close button (X) and a skip button (SKIP) in the top right corner.

- Screen 1:** A preamble titled "If you or someone you know is feeling in distress and requires emergency assistance:". It lists two options: 1) "Visit your local emergency department, or call 911" and 2) "Contact one of the Crisis Response Programs serving Toronto below:". It also provides contact information for Kids Help Phone (1-800-668-6868), Good2Talk (866-925-5454), Anishnawbe 24/7 Mental Health Crisis Management Service (416-891-8606), and Distress Centre (416-408-HELP (4357)). The bottom navigation bar shows a "PREVIOUS" button with a downward arrow and a "NEXT" button with an upward arrow.
- Screen 2:** A question: "Are you outside right now and in Toronto?". Below the question are two buttons: "Yes" and "No". The bottom navigation bar shows "PREVIOUS" and "NEXT" buttons, both with upward arrows.
- Screen 3:** A question: "What is your reason for visiting this space? Select all that apply.". Below the question is a list of seven options, each with a checkbox: "Exercise/fitness", "Organized sports", "Relaxation", "Enjoy nature", "Walk your dog", "Spend time with friends/family", "Take a break", and "Other (please specify)". The bottom navigation bar shows "PREVIOUS" and "NEXT" buttons, both with upward arrows.

<p>✕ SKIP</p> <p>How long do you plan to stay in the public space for?</p> <ul style="list-style-type: none"> <input type="radio"/> Less than 1 hour <input type="radio"/> 1-2 hours <input type="radio"/> 2 or more hours <p style="text-align: center;"> ⬅️ PREVIOUS NEXT ➡️ </p>	<p>✕ SKIP</p> <p>Are you by yourself or with other people?</p> <ul style="list-style-type: none"> <input type="radio"/> By yourself <input type="radio"/> With other people that you know <p style="text-align: center;"> ⬅️ PREVIOUS NEXT ➡️ </p>	<p>✕ SKIP</p> <p>Is the space green? Select all that apply.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Open field/grass area <input type="checkbox"/> Trees <input type="checkbox"/> Forest <input type="checkbox"/> Gardens/plants <input type="checkbox"/> Mostly concrete <p style="text-align: center;"> ⬅️ PREVIOUS NEXT ➡️ </p>
<p>✕ SKIP</p> <p>Do you or would you feel comfortable being physically active in this space? Please explain why or why not in 2 sentences or more.</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <p style="text-align: center;"> ⬅️ PREVIOUS NEXT ➡️ </p>	<p>✕ SKIP</p> <p>Does the space make you feel connected to others? Please explain why or why not in 2 sentences or more.</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <p style="text-align: center;"> ⬅️ PREVIOUS NEXT ➡️ </p>	<p>✕ SKIP</p> <p>Please take a photo of your favorite part of the space.</p> <p><i>Take care that you are standing in a safe place (i.e. away from traffic) and avoid taking identifiable pictures of people's faces. It is acceptable to take pictures of the backs of people's head or pictures with them in the background.</i></p> <div style="text-align: center;">  </div> <p style="text-align: center; background-color: black; color: white; padding: 5px;">TAKE PHOTO</p> <p style="text-align: center;">Open Gallery</p> <p style="text-align: center;"> ⬅️ PREVIOUS NEXT ➡️ </p>



<p>×</p> <p style="text-align: right;">SKIP</p> <hr/> <p>Select all of the moods or emotions that best describe how you felt before spending time in this public space.</p> <p>Happy Sad Excited Bored</p> <p>Comfortable Uncomfortable Cheerful</p> <p>Irritable Sociable Unsociable Confident</p> <p>Worried Relaxed Stressed Involved</p> <p>Detached Calm Frustrated</p> <p>↑ PREVIOUS ↑ NEXT</p>	<p>×</p> <p style="text-align: right;">SKIP</p> <hr/> <p>Select all of the moods or emotions that best describe how you feel while you are spending time in this public space.</p> <p>Happy Sad Excited Bored</p> <p>Comfortable Uncomfortable Cheerful</p> <p>Irritable Sociable Unsociable Confident</p> <p>Worried Relaxed Stressed Involved</p> <p>Detached Calm Frustrated</p> <p>↑ PREVIOUS ✓ SUBMIT</p>	
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⁴ The in-situ survey prompted participants to select all of the emotions that they felt both before and while they visited a public space, adapted from an experience sampling study by Doherty et al. (2014).


Appendix D: Exit Survey

At the conclusion of the two-week study period from the date that participants completed the Entry Survey (Appendix B), participants were prompted by the application to complete the following Exit Survey. The final three survey questions took participants to a Google Poll link, whereby participants could provide their name and email address if they wished to participate in the optional Phase 2 of the study (which did not have any participant interest), be entered into a draw to win one of three \$100 online Mastercard gift cards, or receive a summary of the study results.

X SKIP	X SKIP	X SKIP
<p>Please rate the following statement on a scale from 0-5 based on how you have felt over the past two weeks.</p> <p>Statement #1: I have felt cheerful and in good spirits.</p> <ul style="list-style-type: none"><input type="radio"/> 0 (None of the time)<input type="radio"/> 1 (Some of the time)<input type="radio"/> 2 (Less than half of the time)<input type="radio"/> 3 (More than half of the time)<input type="radio"/> 4 (Most of the time)<input type="radio"/> 5 (All of the time)	<p>Please rate the following statement on a scale from 0-5 based on how you have felt over the past two weeks.</p> <p>Statement #2: I have felt calm and relaxed.</p> <ul style="list-style-type: none"><input type="radio"/> 0 (None of the time)<input type="radio"/> 1 (Some of the time)<input type="radio"/> 2 (Less than half of the time)<input type="radio"/> 3 (More than half of the time)<input type="radio"/> 4 (Most of the time)<input type="radio"/> 5 (All of the time)	<p>Please rate the following statement on a scale from 0-5 based on how you have felt over the past two weeks.</p> <p>Statement #3: I have felt active and vigorous.</p> <ul style="list-style-type: none"><input type="radio"/> 0 (None of the time)<input type="radio"/> 1 (Some of the time)<input type="radio"/> 2 (Less than half of the time)<input type="radio"/> 3 (More than half of the time)<input type="radio"/> 4 (Most of the time)<input type="radio"/> 5 (All of the time)
<p>PREVIOUS NEXT</p>	<p>PREVIOUS NEXT</p>	<p>PREVIOUS NEXT</p>

<p>×</p> <p style="text-align: right;">SKIP</p> <hr/> <p>Please rate the following statement on a scale from 0-5 based on how you have felt over the past two weeks.</p> <p>Statement #4: I have woken up feeling fresh and rested.</p> <ul style="list-style-type: none"> <input type="radio"/> 0 (None of the time) <input type="radio"/> 1 (Some of the time) <input type="radio"/> 2 (Less than half of the time) <input type="radio"/> 3 (More than half of the time) <input type="radio"/> 4 (Most of the time) <input type="radio"/> 5 (All of the time) <p style="text-align: center;"> <input type="button" value="↑ PREVIOUS"/> <input type="button" value="NEXT ↑"/> </p>	<p>×</p> <p style="text-align: right;">SKIP</p> <hr/> <p>Please rate the following statement on a scale from 0-5 based on how you have felt over the past two weeks.</p> <p>Statement #5: My daily life has been filled with things that interest me.</p> <ul style="list-style-type: none"> <input type="radio"/> 0 (None of the time) <input type="radio"/> 1 (Some of the time) <input type="radio"/> 2 (Less than half of the time) <input type="radio"/> 3 (More than half of the time) <input type="radio"/> 4 (Most of the time) <input type="radio"/> 5 (All of the time) <p style="text-align: center;"> <input type="button" value="↑ PREVIOUS"/> <input type="button" value="NEXT ↑"/> </p>	<p>×</p> <p style="text-align: right;">SKIP</p> <hr/> <p>How did spending time in public space over the past 14 days make you feel?</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <p style="text-align: center;"> <input type="button" value="↑ PREVIOUS"/> <input type="button" value="NEXT ↑"/> </p>
<p>×</p> <p style="text-align: right;">SKIP</p> <hr/> <p>How do you think being outside is related to your wellbeing and experiences with mental illness?</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <p style="text-align: center;"> <input type="button" value="↑ PREVIOUS"/> <input type="button" value="NEXT ↑"/> </p>	<p>×</p> <p style="text-align: right;">SKIP</p> <hr/> <p>Is there anything about public spaces that should be changed to benefit mental wellbeing?</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <p style="text-align: center;"> <input type="button" value="↑ PREVIOUS"/> <input type="button" value="NEXT ↑"/> </p>	<p>×</p> <p style="text-align: right;">SKIP</p> <hr/> <p>Do you think that you captured every time that you visited a public space during the last two weeks by taking the public space survey on this app?</p> <ul style="list-style-type: none"> <input type="radio"/> Yes <input type="radio"/> No <p style="text-align: center;"> <input type="button" value="↑ PREVIOUS"/> <input type="button" value="NEXT ↑"/> </p>

<p>×</p> <p style="text-align: right;">SKIP</p> <p>If not, approximately how many visits to public spaces over the last two weeks do you think that you missed?</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> ↑ PREVIOUS ↑ NEXT </div>	<p>×</p> <p style="text-align: right;">SKIP</p> <p>What public spaces did you visit on those trips and if you can, tell us about how you felt during them?</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> ↑ PREVIOUS ↑ NEXT </div>	<p>×</p> <p style="text-align: right;">SKIP</p> <p>Is there anything else you would like to tell the research team?</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> ↑ PREVIOUS ↑ NEXT </div>
<p>×</p> <p style="text-align: right;">SKIP</p> <p>Phase 2 of the study, which consists of an optional follow-up interview over Zoom to provide you with the opportunity to further explain your experiences in public space based on the photos and videos that you captured in Phase 1.</p> <p>If you would like to participate in Phase 2 of the study please complete the following confidential Google Form with your name and email: https://forms.gle/jhNT7Co8keWzkfaZ8</p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> ↑ PREVIOUS ↑ NEXT </div>	<p>×</p> <p style="text-align: right;">SKIP</p> <p>In appreciation of your time, you will have the opportunity to be entered into a draw with all participants for a \$100 online Mastercard gift card. If you participate in Phase 1, you will receive 1 entry into the draw, and if you participate in Phase 1 and Phase 2, you will receive 2 entries. The draw will take place after all of the Phase 2 interviews have been conducted and the winner will be announced via email.</p> <p>If you would like to be entered to participate in the \$100 online Mastercard gift card draw, please complete the following confidential Google Form with your name and email: https://forms.gle/jhNT7Co8keWzkfaZ8</p> <p>*(Please note that this is the same Google Form as above in question 6. You only need to complete it once)*</p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> ↑ PREVIOUS ↑ NEXT </div>	<p>×</p> <p style="text-align: right;">SKIP</p> <p>When this study is completed, we will write a summary of the results. If you do not want to be contacted in the future, you may indicate this preference without penalty.</p> <p>If you would be interested in receiving a copy via email please complete the following confidential Google form with your name and email: https://forms.gle/jhNT7Co8keWzkfaZ8</p> <p>*(Please note that this is the same Google Form as above in questions 6 and 7. You only need to complete it once)*</p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> ↑ PREVIOUS ✓ SUBMIT </div>

<p>Participate in Phase 2 of the Study (optional follow-up interview)</p> <p>Phase 2 of the study, which consists of an optional follow-up interview over Zoom to provide you with the opportunity to further explain your experiences in public space based on the photos and videos that you captured in Phase 1.</p> <p>If you would like to participate in Phase 2 of the study and/or learn more about it, please enter your name and email below.</p> <p>Please enter your name.</p> <p>Your answer _____</p> <p>Please enter your email.</p> <p>Your answer _____</p> <p>Back Next Clear form</p> <p>Never submit passwords through Google Forms.</p> <p>This form was created inside of Ryerson University. Report Abuse</p>	<p>Enter \$100 Online Mastercard Gift Card Draw</p> <p>In appreciation of your time, you will have the opportunity to be entered into a draw with all participants for a \$100 online Mastercard gift card. If you participate in Phase 1, you will receive 1 entry into the draw, and if you participate in Phase 1 and Phase 2, you will receive 2 entries. The draw will take place after all of the Phase 2 interviews have been conducted and the winner will be announced via email.</p> <p>If you would like to be entered to participate in the \$100 online Mastercard gift card draw, please enter your name and email below.</p> <p>Please enter your name.</p> <p>Your answer _____</p> <p>Please enter your email.</p> <p>Your answer _____</p> <p>Back Next Clear form</p>	<p>Receive Study Results Summary</p> <p>When this study is completed, we will write a summary of the results. If you do not want to be contacted in the future, you may indicate this preference without penalty.</p> <p>To receive a copy of the results via email please enter your name and email below.</p> <p>Please enter your name.</p> <p>Your answer _____</p> <p>Please enter your email.</p> <p>Your answer _____</p> <p>Back Submit Clear form</p> <p>Never submit passwords through Google Forms.</p> <p>This form was created inside of Ryerson University. Report Abuse</p> <p>Google Forms </p>
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