In Vogue? Mapping the Spatial Evolution of the Second-Hand Clothing Market in the Montreal Area

By

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A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of B.A in Geography Honours

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April 2024

ACKNOWLEDGEMENTS

I must first express my utmost gratitude and appreciation for my supervisor, Prof. Sébastien Breau, for his insights and collaboration throughout the process of writing this thesis. It is with his trust, knowledge, and continued support that I was able to see my ideas into fruition. I would also like to thank Dr. Tim Elrick for agreeing to be my reader and providing insightful feedback. I also thank Dr. Norma Rantisi for her recommendations for my literature review and whose research in Montreal's fashion industry has greatly inspired this thesis.

Finally, I thank my honours cohort. From the start of GEOG 381 to seeing our theses come to life, I am most grateful to have gone through this process with such a brilliant and encouraging group of people. To every library and GIC session, I cannot imagine having written this thesis without them.

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ABSTRACT

So-called fast fashion companies that rapidly mass produce trendy and seasonal clothing have increasingly raised issues on ethical consumption and the social and environmental impacts of garment life cycles. In response, increased consumer awareness of the social and environmental impacts calls for a reform in production and consumption standards. This thesis seeks to map the expansion of thrift and vintage stores in the Montreal area to look at how the second-hand clothing market has evolved in Montreal and analyze if there is a locational pattern between this expansion and the income and socio-demographic profiles of the respective neighbourhoods in which they appear. To study this relationship, an inventory of thrift and vintage stores is collected and analyzed with Census data to investigate at the tract level the evolution of the industry through a buffer and spatial autocorrelation analysis.

Keywords: second-hand clothing, sustainability, consumer motivation, fast fashion, spatial

CHAPTER 1: INTRODUCTION

A popular notion from "The True Cost," a 2015 documentary by Andrew Morgan, explores how the true cost of fast fashion is not the prices you pay for the clothing. Instead, it is the social and environmental cost of the textile industry, from human rights abuses to the extensive waste the fast fashion industry produces (Meyer and Höbermann, 2021). So-called fast fashion companies that rapidly mass produce trendy and seasonal clothing have increasingly raised issues on ethical consumption and the environmental impacts of garment life cycles. In response, increased consumer awareness of the social and environmental impacts calls for a reform in production and consumption standards. An increase in consumers' ethical and environmental values has shifted consumption standards towards second-hand clothing and changed consumer motivations in favour of more sustainable options (Laitala & Klepp, 2018).

The North American Industry Classification System (NAICS) designates second-hand clothing stores as part of the NAICS code 453310, used merchandise stores. The definition for used merchandise stores defined by Statistics Canada is the "industry compris[ing] establishments primarily engaged in retailing used merchandise" (Statistics Canada, 2018: online). Bearing this broad NAICS definition in mind, my analysis will consider second-hand clothing as defined more specifically by two main actors. This thesis will argue that within the second-hand clothing market, there are two key retail actors: thrift and vintage stores. A preliminary distinction between thrift and vintage stores is based on the assumption that consumers seek out thrift stores for bargains and vintage stores for clothing with an assumed value or a certain cachet (Cervellon et al., 2012).

While focusing on these two key actors, the thesis seeks to inventory and map the expansion of thrift and vintage stores in the Montreal area in order to explore how the second-hand clothing market has evolved in the city and shed light on whether or not there are specific locational patterns between this expansion and the income and socio-demographic characteristics of the respective neighbourhoods in which they appear. In this regard, my thesis seeks to answer two main questions:

1. How has the second-hand clothing market evolved over the last 15 years in the Montreal Area?

2. Is there a pattern in the location of second-hand stores and the income and socio-demographic profiles of Montreal neighbourhoods?

I hypothesize the expansion of thrift and vintage stores is representative of a change in the consumer market towards second-hand clothing, one which may also present a spatial relationship between store locations and neighbourhood income and demographic profiles. Along those lines, I expect there has been an exponential increase since 2020 of vintage stores in the Montreal area, perhaps due to the COVID-19 pandemic and/or unemployment trends. This thesis further intends to explore the importance of differentiating thrift versus vintage stores in the discourse of the second-hand clothing market. I expect that within my identified thrift stores there is a difference between the for-profit and non-profit organizations that influence the pricing, accessibility and their consumer profiles. Further, if the relationship of vintage stores as for-profit actors in the discourse of sustainable fashion influences the second-hand clothing market.

My methodological approach is threefold: first, I rely on company websites and annual reports to create an inventory of thrift and vintage stores in the city (to the best of my knowledge, this is the first such inventory of such stores in Montreal); second, store addresses are geocoded using ArcMap to create a series of maps tracking their locational evolution over time; finally, Census data are used at the tract level to investigate how the location of thrift and vintage stores correlates with neighbourhood incomes and other socio-demographic variables.

The remainder of the thesis is structured as follows. Chapter two provides a comprehensive literature review of previous academic literature on key actors and the environmental and social impacts of garment production and consumption cycles. This chapter further defines the current state of the second-hand clothing market, explaining Montreal as the case study of this thesis, reviewing critiques of the industry, and presenting alternatives to the fast fashion model. In chapter three, I explain my methodological approach to compiling my dataset and the statistical and spatial processes used to analyze the dataset with Census data. Chapter four presents the descriptive results and the exploratory spatial analysis to examine if

there is an observed spatial relationship between second-hand clothing store locations and Montreal's neighbourhood income and socio-demographic profiles. Chapter five details the spatial data results comparing 2006 and 2021 mapped income census data with the buffer zones for nearby neighbourhoods and their local indicators of spatial autocorrelation analysis. In chapter six, I conclude my research with a discussion of key findings, some of its limitations as well as possible areas of future research.

CHAPTER 2: LITERATURE REVIEW

This chapter draws on previous literature to understand the social and environmental impacts of the fast fashion industry. By exploring the garment life cycle from production to consumption, the chapter provides an overview of the issues of waste management in the clothing industry and the growing importance of the second-hand clothing market. By identifying and defining the main actors in fast fashion and its alternatives, and by presenting critiques of the second-hand clothing market, the chapter also looks at why Montreal is an interesting case study to explore some of the dynamics of this rapidly evolving industry.

2.1 Who are the main actors? Defining fast fashion, thrift and vintage stores

For the purposes of this thesis, it is important to begin by defining a few key concepts and distinguishing between fast fashion, thrift stores, and vintage stores. Scholarship characterizes fast fashion by its "'speed to market' approach" that emphasizes rapid market responses to consumer preferences (Bhardwaj & Fairhurst, 2010). The fast fashion industry also relies on the mass production of clothing at low cost and low-quality materials, which are the hallmarks of some of the best-known fashion retailers such as Zara, H&M, and Shein. In contrast, according to Merriam-Webster, a thrift store sells second-hand clothing, usually donated by the public the proceeds of which typically goes to charitable institutions. In the case of Montreal, the main thrift store actors found locally are Value Village, Renaissance, and Salvation Army. Independent thrift stores can also be identified, specifically in Montreal, in stores named "*friperies"* or as classified by the store owner on Google. Finally, a vintage store is different to thrift stores in that vintage stores offer a curated selection of second-hand clothing. Vintage stores will offer clothes at a premium price for selecting certain styles and items of clothing of an expected value. To conceptualize this, vintage stores shop from thrift stores and second-hand wholesalers, then curators select what people expect to search for and value those clothing items at a premium price.

2.2 Understanding garment life cycles

There is increased attention in literature and research on consumer behaviour surrounding topics of garment life cycles and the negative impacts of mass-consuming fast fashion (see, for instance, the spate of recent articles appearing on the subject in The Guardian, Business of Fashion, and the UNEP to name a few). Joy et al. (2015) address the disconnect between the concern of environmental issues and the consumption patterns inherent to fast fashion consumers, detailing the unsustainable practices of the fast fashion industry. The low monetary cost and convenience of shopping fast fashion attracts consumers and justifies a disregard for the high environmental costs, as fast fashion remains the prominent retail choice for average consumers. However, retailers have increasingly faced criticism with awareness of the harmful working conditions and landfill waste produced by the fast fashion business model (Sorensen & Johnson Jorgensen, 2019). Additionally, consumer attitudes are changing as environmental and ethical beliefs increasingly influence purchasing decisions towards second-hand clothing (Seo & Kim, 2019).

Laitala & Klepp (2018) examined the motivations for shopping second-hand and presented their findings using a taxonomy for legitimization. This taxonomy considered the economic, environmental, quality, social aspects and more as arguments either for or against the motivations of second-hand shopping. In terms of their analysis, the dominant narratives in consumer preferences that emerged for motivations in support of second-hand shopping included cheaper prices, non-wasteful practices, higher quality materials, and a reflection of personal consumption values. Arguments against these motivations were due to the expensive nature of second-hand clothing, lack of production-related information, its used aspect, and a certain stigma tied to the assumption of lower socio-economic class. Similar research was done by Sorensen & Johnson Jorgensen (2019) on participant viewpoints of fast fashion and second-hand clothing. The latter separated their viewpoint based on four factors: trend shoppers, quality seekers, environmental enthusiasts, and ethical believers. These four factors presented a similar taxonomy to Laitala & Klepp (2018), as much of the participants' preferences depended on their perceptions of second-hand clothing and how these perceptions influenced their willingness to shop second-hand (Sorensen & Johnson Jorgensen, 2019).

The second-hand clothing market is not a new phenomenon, as literature has reported the shift in growth of the industry dating back to the 1990s and has long benefited consumers to access cheaper clothing, most notably in developing countries (Baden and Barber, 2005).

However, the second-hand clothing market has gained in popularity among consumers in a more recent shift given these motivations and has demonstrated significant growth in the market. The second-hand market globally was valued at $96 billion in 2021 and is expected to more than double in size to $218 billion by 2026 (Yan et al., 2023). Online buying and selling marketplaces, such as Depop and Vinted, further contribute to the accessibility and growth of second-hand sales with both platforms having sales growth of 51% and 8% in 2023, respectively (Butler, 2023). Additionally, Depop analytics show that 90% of active users are under the age of 26 (Cochrane, 2023). Additional research shows that Generation Z (Gen Z) is driving the turn to second-hand clothing with 31% of consumers saying they are likely to shop second-hand (Cochrane, 2023). With the second-hand market predicted to grow 11 times faster than retail, independent online resellers are opening their own storefronts, as seen with the rise of vintage stores (Cochrane, 2023; Yan et al., 2023).

To some degree, the term vintage has brought a sense of confusion in the fashion community as before the rise in vintage stores, the term was specifically used to refer to garments produced between 1920 and 1990 typically associated with higher quality and value (Yan et al., 2023). Over time, there has been a change in discourse as vintage now assumes a value to the clothing determined by the curator and not necessarily by the age or quality of the garment. This shift has created a new narrative in the second-hand clothing community as independent resellers and storefronts claim they sell vintage clothing, although the definition for this distinction is unclear. Each vintage store has its own method to retrieve products, whether that be its local thrift store selecting products themselves or receiving wholesale bales from around the world (Tardieu, 2023). In recent years, the need to sort and collect donated garments has additionally led to new business opportunities, while also providing a greater perspective on the waste generation of the fashion industry (Yan et al., 2023).

Thrift stores rely on community donations however, and not all second-hand clothing can be resold. Unsold items from the Global North usually make their way to developing countries either sold to overseas markets or dumped in landfills (Yan et al., 2023). Overseas traders will buy bundles of exported garments without knowing the quality of the clothing, often buying into a loss and left with garments to discard (Yan et al., 2023). A notable case of the Global North's waste reaching overseas markets and landfills is in Ghana (see Figure 1.1). Ghana is the world's largest importer of second-hand clothing, receiving 15 million items every week and

accumulating a total value of $214 million of used clothing in 2021 (Johnson, 2023). Kantamanto Market, which is located in Ghana's capital, is one of the largest second-hand clothing markets in the world where many depend on their livelihoods from stalls selling clothing received in bales from the Global North (Johnson, 2023). The market has noted a decline in the quality of goods received, leading to 40% of the market's clothing ending up as waste (Johnson, 2023). An informal settlement not far from the market that was once a vibrant community and home to 80,000 people has become an unsanctioned dump for clothing waste, affecting the lagoons that many depend on for their livelihoods (Johnson, 2023). The case of Ghana demonstrates the tale of many developing countries who are faced with the burden of other countries' clothing waste. Even as second-hand clothing is resold within the Global North, the majority still finds its way to landfills in the Global South.

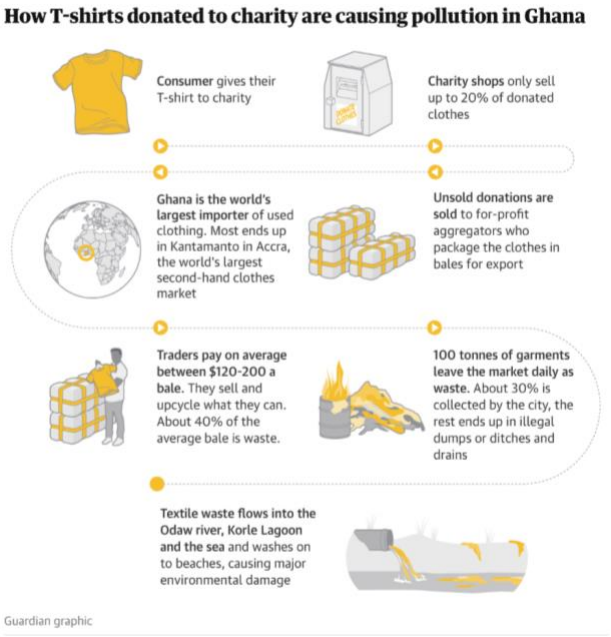

Figure 2.1. International life cycle of donated clothing in the Ghana market. (Source: https://www.theguardian.com/global-development/2023/jun/05/yvette-yaa-konadu-tetteh-how-ghana-became-fast-fashions-dumping-ground)

2.3 Slow vs. fast fashion

Where fast fashion is characterized for its speed to market and ready-wear garments made with low-cost labour, cheap materials, and high volumes of production, a new vision for the fashion sector's sustainability emerges as slow fashion (Fletcher, 2010). Slow fashion can be characterized as durable pieces made through traditional production techniques and trend-less designs (Fletcher, 2010). Further, slow fashion prioritizes the ethics of production to focus on sustainability and the longevity of garments to offer a new angle for change in the fashion industry. Slow fashion models arose from the Slow Food Movement that countered the McDonald's fast-food model argued to have homogenized eating. The Slow Food Movement reveals a deeper issue on behavioural values of economic priorities and business practices in terms of consumption and production that mimics that of the fashion industry with concerns of low-cost and mass quantity production (Fletcher, 2010). The slow culture of slow fashion calls on the industry to rethink what growth means, where current business models prioritize economic growth. Additionally, this slow culture discourages mass consumption in favour of fewer and higher quality garments in opposition to the fast fashion model. Slow culture questions economic growth in the face of a larger system of values to consider the societal and environmental impacts and calls for a remodelling of the current business model in the globalized production chain (Fletcher, 2010).

Another shift that slow fashion counters from the globalized production chain is back to a local level with production by independent designers (Leslie et al., 2014). Leslie et al. (2014) explores how Toronto's fashion design cluster works towards preserving the local industry through the slow fashion model emphasizing sustainability and regional manufacturing. While second to Montreal as Canada's fashion centre, Toronto's cluster employs 50,000 workers and is home to 550 manufacturers. As the story of many historical Global North manufacturing cities, removed trade barriers and tariffs lead to fashion companies shifting production offshore and led to a 55 percent decline in Toronto's fashion manufacturing between 2002 to 2012. Toronto independent designers are challenging the fast fashion model to encourage consumers to have a greater awareness and concern on their consumption habits. Independent designers use premium materials, greater quality of stitching, and create investment pieces for an upscale market of consumers centered on quality and value produced locally. However, in terms of sustainable

fashion options, slow fashion is criticized for creating an elitist niche market. The fast fashion model has altered consumers' perception of what the price of garments should be, without considering that cheaper clothing is possible due to low-cost labour and low-quality materials. Toronto's designers quote their struggles with such allegations due to their pricing, calling on consumers to consider the difference in production and materials that contribute to the higher-priced goods produced from slow fashion.

2.4 Why focus on Montreal as a case study?

While much of the attention on second-hand clothing activities has focused on the kind of global supply line issues mentioned above, the dynamics of second-hand clothing markets at the local level are also gaining attention. In this thesis, the selection of Montreal as our case study is in large part tied to the city's long history as the leading industrial fashion hub of Canada. When it comes to the apparel industry's workforce, Montreal is ranked third in North America with 85 percent of Canada's apparel industry being employed in Montreal (Rantisi, 2010).

In the last several decades, the apparel sector has seen a global restructuring of manufacturing production in the face of globalization (Klein et al., 2010). Montreal garment factories, like those of many other Global North cities, have seen much production withdrawn to developing countries in order to access cheaper sources of labour and benefit from minimal protection laws (Klein et al., 2010). While garment production continues to be outsourced, Montreal has developed cluster strategies to support the local fashion industry in shifting from goods-based production to a knowledge-based economy (Tremblay, 2015). These cluster strategies, financed at various government levels and supported by local organizations, such as the Creative Lab and Mmode, focus on the commercialization of the creative economy of local designers (Klein et al., 2010; Tremblay, 2015). The Creative Lab is a resource for local designers and provides services to reduce costs during the production process to facilitate innovation (Klein et al., 2010). Mmode is also a non-profit organization that builds community networks in Montreal to bring together industry players and promote the city as a fashion hub (Mmode). Montreal is also locally advantageous for independent retailers, given the relatively affordable rents in comparison to other metropolitan cities in Canada (Rantisi, 2011). Inspired by Montreal's

design industry cluster strategy, we can explore how the history of garment production and the influence of designers have contributed to the growth of the second-hand clothing market.

2.5 Profit vs non-profit pricing

To further explore the dynamics of Montreal's clothing industry we can turn to dynamics of profit and non-profit organizations within the second-hand clothing market. The role of different pricing strategies between profit and non-profit second-hand clothing stores can help us understand the distinction between thrift and vintage stores in terms of consumer motivations to shop second-hand. A motivation associated with shopping second-hand is the affordability in comparison to typical ready-to-wear garments. However, rising inflation on consumer goods has not only driven a rise to buying second-hand but has also affected market pricing for both thrift and vintage stores. Value Village, a for-profit organization, has had news outlets and community shoppers concerned and outraged over notable increases in the pricing of their items (Burman, 2022). Thrifting has become "trendy", with social media platforms further encouraging second-hand shopping for style and pushing consumer awareness on sustainable lifestyle shifts in response to the global environmental crisis to contribute to the circular economy of consumption (Laitala & Klepp, 2018; Burman, 2022). Among the fashion community, many believe the rise in the resale and curated vintage store market also could be a factor leading to rising prices in thrift stores. The curation of second-hand clothing attaches a value that thrift stores were indifferent to, that instead of promoting a cheaper or more sustainable alternative to fast fashion now has an added profit value. Value Villages pricing has been quoted at times to match the pricing of new items, taking away the bargain value that has long encouraged second-hand shopping and raising concerns about turning away consumers (Burman, 2022).

In Quebec, Renaissance has additionally quoted rent, taxes, and salary increases as contributing factors to rising prices given the inflation rate (The Canadian Press, 2023). Renaissance is a non-profit organization that further prioritizes integrating people in the labour market. With an increased cost of labour coupled with their administrative increases, Renaissance must work to balance the average second-hand clothing prices with keeping their employees above the poverty line (The Canadian Press, 2023). The rising concerns of second-hand clothing prices have drawn attention to new markets with diverging interests. Those who

seek affordability are now in competition with the vintage curators or value hunters and the market that prioritizes the environmental interests of a more circular economy (Burman, 2022).

2.6 Research gaps

Current research has tackled the environmental and social impacts of fast fashion as well as motivations for consumers to choose second-hand clothing. Literature on fast fashion is most often written from a global perspective, calling on the harmful production processes of fast fashion companies for the rapid production of low-quality garments. And on the consumer side, how mass consumption of fast fashion motivated by trend cycles contributes to excessive waste and speeds up the cycle of consumption. Additionally, research on the second-hand clothing market, beyond income limitations, focuses on preventing waste production and is a reflection of personal ethics (Laitala & Klepp, 2018). From an analysis perspective, current literature and research has not explored local dynamics from a spatial perspective. Rather the interplay of global supply chains effect on local contexts, namely in developing countries. Therefore, the gap I have identified and will focus on in this thesis lies between the existing research and how the dynamics of the second-hand clothing market can be observed and studied spatially at the more local scale. My research questions first assess the location of thrift and vintage stores in response to evolution of the industry over the last 15 years to demonstrate a spatial representation of a change in the consumer market towards second-hand clothing. Second, by analyzing Census data, my research will investigate if there is a relationship between the store locations and the income and socio-demographic profiles of the respective neighbourhoods in which they appear.

CHAPTER 3: METHODOLOGY

The research carried out in this thesis examines (i) the spatial relationship between thrift and vintage store locations and (ii) the income and socio-demographic characteristics of the neighbourhoods in which they are located. Using Montreal as a case study, this section describes the methods and data sources used to explore the hypothesized relationship. I begin this section by discussing how I collect my data sources before moving on to a discussion of the descriptive and exploratory spatial data methods that are used to analyze the data.

3.1 Research design

This thesis explores the growth and spatial evolution of the second-hand clothing market in Montreal. The analysis relies on two key sources of information: (i) an inventory of thrift and vintage stores across neighbourhoods in the Greater Montreal Area and (ii) data drawn from the 2021 Canadian Census. My methodological approach is threefold: first, I rely on the *Registraire des enterprise Quebec* (REQC), company websites and annual reports to create an inventory of thrift and vintage stores in the city; second, store addresses are geocoded using ArcMap to create a series of map tracking their evolution over time; finally, Census data are used at the tract level to investigate how the location of thrift and vintage stores correlates with neighbourhood incomes and other socio-demographic variables.

3.2 Data collection

The data collected for this thesis revolve around the opening years and store addresses of all thrift and vintage store locations in the Greater Montreal Area. An Excel sheet details the store name, store address, opening year, date accessed, and sources of information to create the data inventory of these locations and research their opening years. The initial point of research was web-based, using the Google search engine for the store names and a record of their opening year. The inventory of stores was collected by searching thrift and vintage stores near Montreal, QC or the Greater Montreal as keywords in the search engine. From there, a record of the store names was implemented in an Excel spreadsheet and designated as thrift or vintage based on two

determining factors; (i) the designation by the Google search engine as a thrift store, used clothing store, or vintage clothing store, (ii) and confirmation of this information based on each store's corporate or commercial website. New stores were recorded in the dataset up until the end of August 2023.

To collect information on the opening years of the store locations a multi-step research and verification process was done. Initial dates were collected from news articles or publications from company websites that had announcements of the opening of certain locations. For the case of vintage stores, newer stores had social media posts for announcing their openings that required scrolling on their media pages. For Montreal's main thrift stores, a year-by-year analysis was conducted using published annual reports from the company websites to find announcements of new locations. This method was primarily successful in the case of Renaissance locations that had yearly maps with opening dates of new locations. The second point of reference to finding location opening years was the *Registraire des enterprise Quebec* (REQC). Using the REQC, independent store locations were matched to the name, address, date of status change and/or initial date with Quebec enterprise number (NEQ). This method relied on matching the store name and address to the year of application to the business registry, therefore assuming the opening year would match the registry year. A final point of reference to determining the opening years was the Google Maps historical imagery archives. Looking at the address of the store location, each year of archival imagery available was referenced to view what year the store appeared in the archive. This assumption was based on the year between the store not appearing on the archive and the year it does appear, such that between those years was the opening date of the location given the artifact of the data available.

Due to the REQC and Google Maps Historical Imagery methods relying to some extent on assumptions (more on this below in Section 3.4), each method of data collection was used for locations where an exact date was not explicitly published. Therefore, conclusions drawn were backed up with a minimum of two sources of information to determine the opening year per location.

3.3 Spatial data

To map the expansion of thrift and vintage stores to understand the evolution of the second-hand clothing market, GIS ArcMap was used to geocode store addresses. I first joined Census data with the digital boundary shapefiles obtained from the University of Toronto's Computing in the Humanities and Social Sciences (CHASS) data centre. Using the CHASS Census data and Census metropolitan area boundary shapefiles, the joined files are used to map out the income and other socio-demographic profiles of the Montreal neighbourhoods defined by Statistics Canada Census tracts. The chosen variables for analysis were income, education (bachelor's degree or higher), indigenous and visible minorities, immigration, age groups (15-29 and 65+), and one-parent family households.

Income is the main variable of analysis for this thesis due to the hypothesized relationship between the economic motivations of shopping second-hand and their spatial presence in Montreal. Along those lines, the variables of education, indigenous and visible minorities, immigration, and one-parent family households were chosen to analyze the socio-demographic profiles of residents to consider the cultural and economic incentives that might factor into consumer decisions to shop second-hand. Age was analyzed based on the research that Gen Z is the leading age group of second-hand clothing consumers (Cochrane, 2023). While Gen Z is a disputed term in social sciences and problematic due to various age range definitions in literature, the term is often referenced in literature and research as the consumer profile driving growth in the second-hand clothing market (Cochrane, 2023; Savers Value Village, 2023; thredUp Inc., 2023). For this thesis, the age range is based on Thred Up's annual research reports of the clothing resale market that define Gen Z in the age range of 18-26 and Dolot (2008) comprehensive literature review that Gen Z was born in or later than 1990 (thredUp Inc., 2024). Due to pre-determined age brackets provided by CHASS, the chosen ranges combined were 15-19, 20-24, and 25-29, to closest fit the defined ranges based on previous research. The age group 65+ was then chosen as a variable of comparison, as 82% of the age group prefer to shop second-hand in brick-and-mortar stores over online and are most likely to shop for bargains and the "thrill of the hunt" (thredUp Inc., 2024: online).

All variables apart from income, were then divided by the 2021 population data provided by CHASS to standardize between variables to perform the comparative analysis. Thereby,

creating a percentage proportional to the total population of each census tract. Simple quantile maps of the chosen neighbourhood characteristics are then created to look at their spatial distribution across the Montreal area. The primary symbology was changed to graduated colours and the field chosen was based on the Census data by variable. Additionally, the colour scheme displayed is a burgundy progression, with the darkest shades representing the highest values for groups whereas the lightest shades represent the lowest values of data by neighbourhood.

The mapped Census was used to conduct two forms of analysis. First, the store locations from the Excel dataset were geocoded using two time periods. The chosen time periods are 2007 and 2023 to conduct a spatial analysis of the expansion of the second-hand clothing market in Montreal and the neighbourhoods they appear in. These periods are reflective of the earliest and most recent point comparisons accessible from the inventory of locations to observe a variation in the expansion of the industry. To geocode the store addresses, the thrift and vintage stores are identified by a single square and circle symbology, respectively. The thrift stores are further delineated according to Montreal's main location chains (Renaissance, Value Village and Salvation Army) in contrast to the independently owned stores. The symbology for the thrift locations was a dark to light blue progression and the vintage stores as simply black. Second, a buffer analysis was conducted based on the Census data and the geocoded thrift and vintage store locations. With the geocoded locations of stores, the buffer tool was used to create a 1000m buffer around these locations based on research in Minnesota that urban residents' mean travel perception to retail destinations is within 1000 m (Horning et al, 2008). The 1000m buffers and the Census data shapefiles are then combined with the intersect tool to merge the variable data (i.e., each socio-economic characteristic of interest) within the buffer for analysis. With the merged intersect layers for each thrift and vintage stores, the summary statistics tool was used to retrieve the mean and standard deviation of each variable by store type to conduct a *t*-test (more on this below).

Following Breau et al. (2023), a *t*-test table was created to analyze the difference in means of the thrift and vintage store buffers against the non-buffered Census tracts using the summary statistics retrieved from the buffer analysis. This table is accordingly separated as buffered, thrift and vintage stores, against the non-buffered Census tracts. Taking the *n* average of Census tracts defined within the buffer, for thrift and vintage stores, as well as the *n* average of non-buffered Census tracts, a two-sample unpaired *t*-test was conducted for each variable by

store type. To acquire the data for the non-buffered Census tracts, a select by location was done on the Census data shapefile and intersected with the geocoded dataset to find an inverse spatial relationship. Of the 544 non-buffered census tracts, the summary statistics was conducted on the shapefile layer with the joined Census data.

Next, a spatial autocorrelation analysis was performed in Geoda to test for both the Global Moran's *I* and Local Indicators of Spatial Association (LISA) of income, as it was the main variable of my predicated findings. To do this, I first exported the shapefile of the joined income Census data and metropolitan dissemination areas from ArcMap into Geoda. A spatial weight matrix was then created using the weights manager tool to select an ID variable. A *k*-nearest neighbour was selected for the distance weight and changed from the default to six nearest neighbours (which is the median number of neighbours across tracted areas in Montreal). The Univariate Moran's *I* tool was selected by the ID variable, of median total income, to create a Moran's *I* scatter plot and LISAs for the cluster map defining pockets of high-high and low-low income census tracts.

For a further quantitative analysis of the distribution of location opening years, the data was graphed in Excel to provide a simple histogram showing the distribution of the number of location openings per year for both thrift and vintage stores. To do so, each opening year was entered into an Excel sheet and then graphed per year to demonstrate a distribution between 2007 to 2023. This analysis was done to look at any patterns by year and store type as well as provide a quantitative analysis of the expansion of second-hand clothing market storefronts in Montreal.

3.4 Limitations

The initial method of data collection, specifically with thrift store locations, was to contact companies directly with the assumption they kept the record of the location opening years as well as detailed annual reports. While the main thrift locations had published annual reports, the earliest available Renaissance reports dated back to 2017, Salvation Army to 2012, and Value Village only to the most recent year in question. Moreover, in the case of Salvation Army and Value Village, opening years were not recorded in the annual reports. The initial points of contact for all three thrift chains had failed, using various email correspondence, phone numbers, and website contact us pages with no response. Due to this limitation, assumptions on the year of

opening were based on REQC and Google Maps Historical Imagery. The use of the REQC was limited to independent storefronts, as addresses for chains, such as Renaissance and Value Village, showed the address of a registered headquarter instead of the matched store location. In the case of Google Maps Historical Imagery, earliest recordings in the archives dated to 2007. This led to the earliest comparison to be drawn when comparing store locations being 2007, as it is the earliest record of the opening years of certain locations where exact dates could not be found.

CHAPTER 4: DESCRIPTIVE RESULTS AND ANALYSIS

This chapter presents the results of the geocoded thrift and vintage store locations through descriptive visual analysis. Additionally, this chapter analyzes histogram results to look at the quantitative growth of second-hand clothing stores in the Montreal Area over a 15-year period.

4.1 Descriptive visual analysis

The results of the data collection found an inventory of 56 thrift stores and 60 vintage stores locations in the Montreal Area. The inventory of thrift and vintage locations was then geocoded between two time points, 2007 (see Figure 4.1) and 2023 (see Figure 4.2) to observe two snapshots in time. These time points were chosen for two reasons: (i) the limitation to collect the opening years of stores dated before 2007 on Google Historical Imagery and (ii) the nearest Census data collection years being 2006 and 2021 to later compare for spatial analysis.

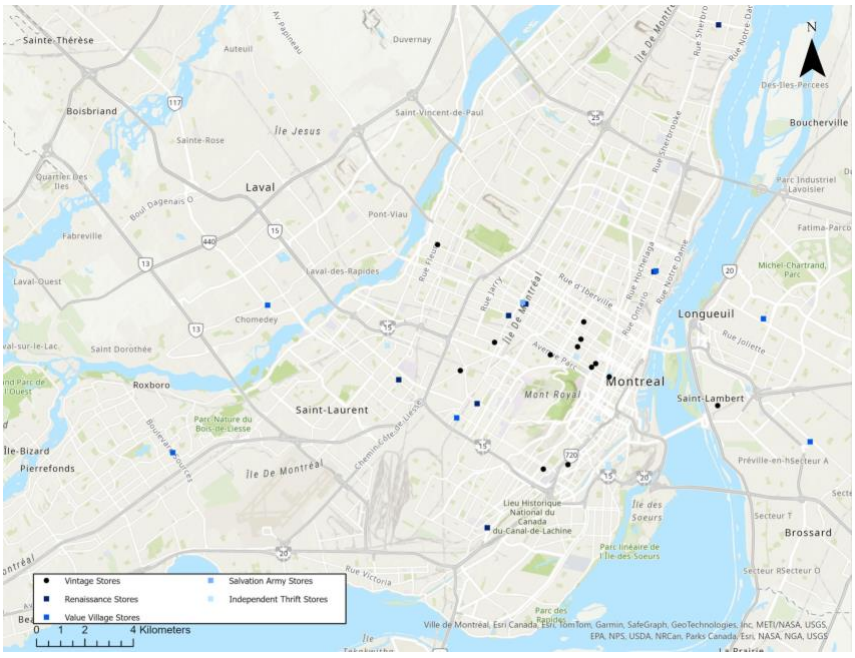

Figure 4.1. Snapshot of thrift and vintage store locations in the Montreal Area, 2007.

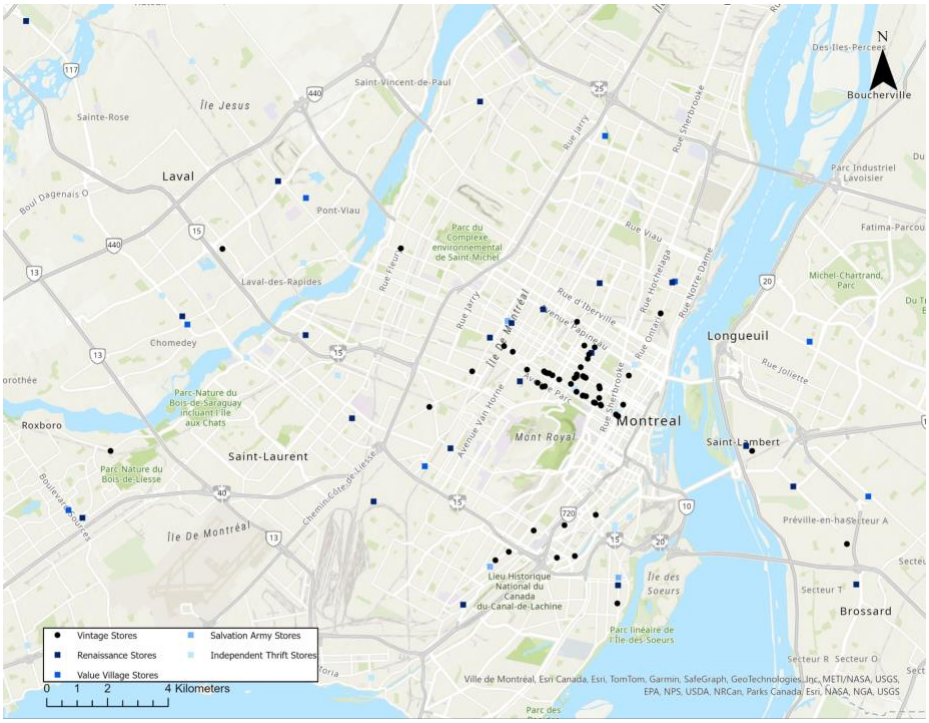

Figure 4.2. Snapshot of thrift and vintage store locations in the Montreal Area, 2023.

An initial visual analysis of the two maps shows there has been growth in terms of store locations around Montreal. While Figure 4.1 shows a concentration of locations on the island of Montreal, upon first analysis it does not seem to have any evident spatial pattern. Compared to 2007, Figure 4.2 demonstrates a more evident clustering of vintage store locations in one neighbourhood versus the dispersal of thrift stores in the outer regions of Montreal. A closer look at the 2023 map shows the concentration of vintage store locations to be on Rue Saint-Denis and Saint-Laurent, in the Plateau neighbourhood. Figures 4.1 and 4.2 present a rough impression that there has been a change in the presence of the second-hand clothing market in Montreal. To analyze this spatial relationship, a buffer analysis is conducted in section 5.1. Considering this visual comparison, a series of histograms were produced to analyze the quantitative expansion of the second-hand clothing market over the chosen periods.

4.2 Descriptive statistics

From collecting an inventory of the opening years of second-hand clothing stores in Montreal, Figures 4.3 and 4.4 represent the growth of thrift and vintage stores over a 15-year period. While acknowledging the limitation of recorded opening years before 2007, there is still an interesting story to observe between the growth in the number of thrift and vintage post-2007.

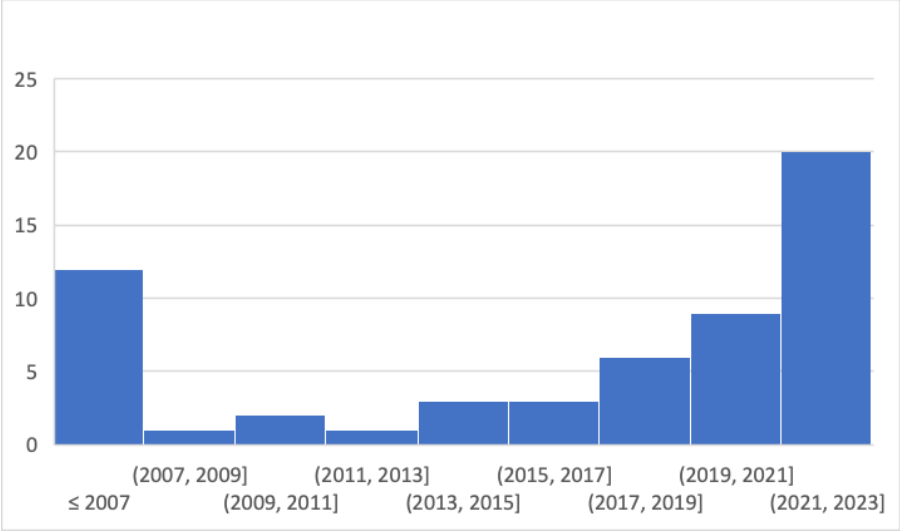

Figure 4.3. A history of thrift store openings in Montreal, 2007-2023.

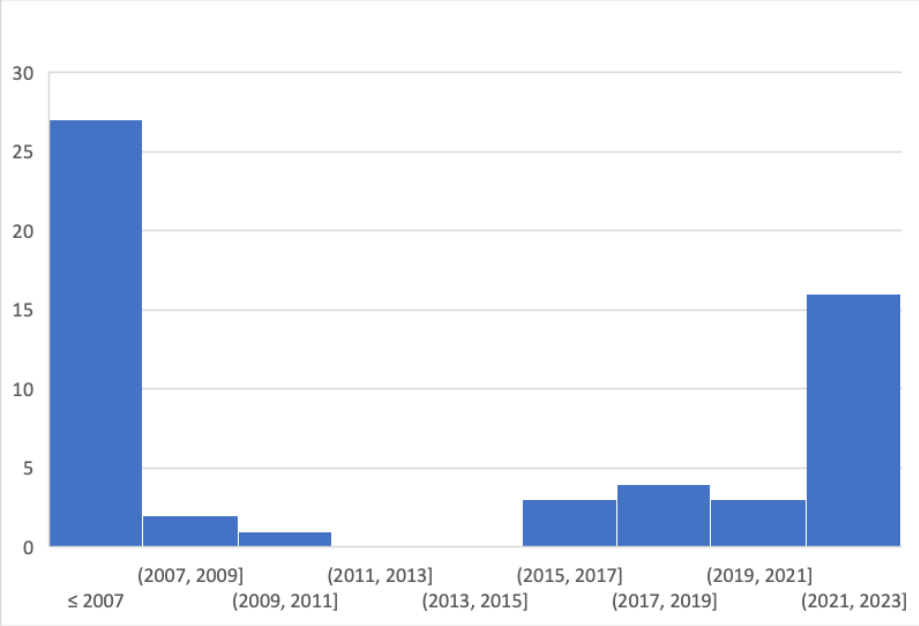

Figure 4.4. A history of vintage store openings in Montreal, 2007-2023.

Upon first observations, there has been a growing number of both thrift and vintage stores in the last 15 years. In regard to thrift stores, the period between 2011 to 2015 showed no increase in store locations (the slow economic recovery following the Great Recession of 2008-09 may have played a role in explaining the lack of activity in store openings during this time). This changed post-2015 when an average of three locations opened every two years in Montreal between 2015 to 2021, before seeing tremendous growth from 2021 to 2023. In the last two years alone, 16 new thrift store locations opened in the Montreal area, compared to only 10 stores in the 10 years prior.

In comparison, vintage stores have experienced a more exponential increase post-2007 as demonstrated in Figure 4.4. There was a stagnant growth between 2007 to 2015 with an average of one vintage store opening per year. In contrast, from 2015 to 2021, there was a steady growth with an increase of three additional vintage stores every two years. Similar to thrift stores, the period of 2021 to 2023 saw the most significant growth with an additional 20 vintage store locations appearing in the Montreal area.

An interesting trend from the resulting graphs is the significant growth of both thrift and vintage stores in the last two years. These findings contribute to my overall research question in regard to a change in the consumer market's attitudes towards second-hand clothing, as the period of 2021-2023 has seen the most changes in the store locations than the prior 10-year period. In Canada, the 2022 Value Village Impact Report found that 71% of consumers who shop second-hand prefer traditional brick-and-mortar stores compared to online alternatives, whose market has also grown substantially. At the global level, the value of the second-hand clothing market grew from $138 to $211 billion between 2021 and 2023 (ThredUp, 2023; Sparkman, 2024). What happened in the last two years that could have led to such a drastic shift? I first explore this question when considering the COVID-19 pandemic. In light of the economic uncertainty the 2020 pandemic caused, with rising levels of unemployment and job insecurity, brought forward the notion of the post-pandemic consumer. In Quebec, the unemployment rate rose around 5% in 2020 due to the COVID-19 pandemic with nearly 210,000 people losing their jobs (Institut de la statistique du Québec, 2021). The post-pandemic consumer considers sustainability, value for their clothing, higher quality garments and avoiding waste, in ecological and economic terms, as the demand for second-hand clothing doubled in comparison to fast

fashion (thredUp Inc., 2021). Consumer shifts during the pandemic were amplified by public awareness of the environmental and social impacts of production practices coupled with an increase in brand awareness (Amed et al., 2021).

The results of the histograms go against one of my initial hypotheses of this research, assuming from my observations that vintage stores were experiencing exponential growth compared to thrift stores which would have a stagnant or slow growth in comparison. From the aforementioned analysis, Figure 4.5 demonstrates this dual growth of both thrift and vintage stores. This signifies an overall shift in the second-hand clothing market at the spatial level in Montreal where both store types have been opening more locations compared to previous years.

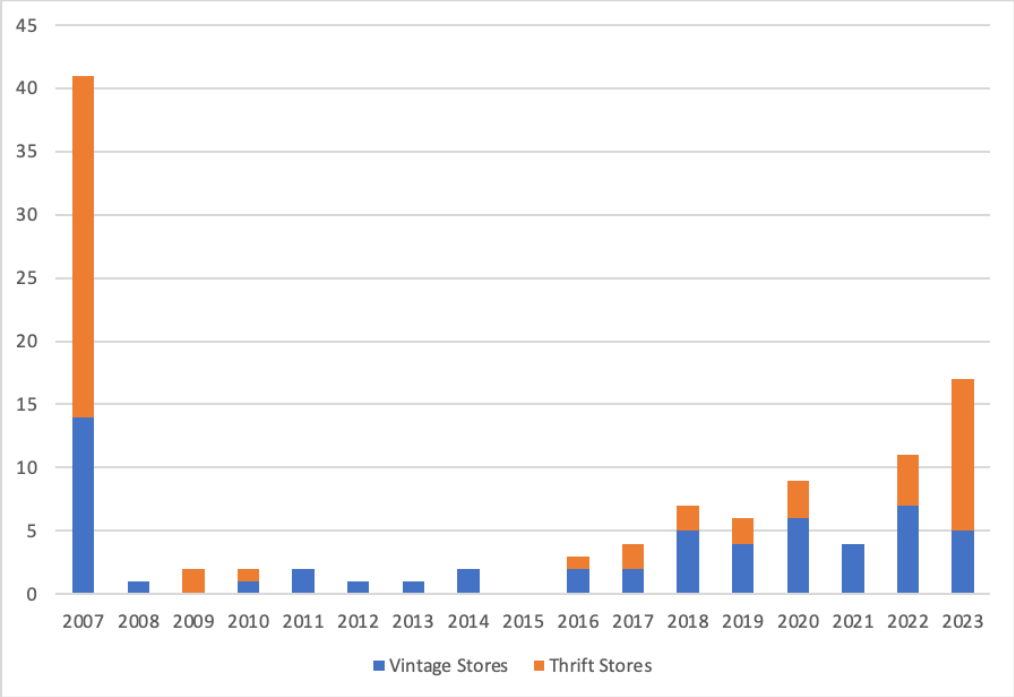

Figure 4.5. Combined thrift and vintage store openings in Montreal, 2007-2023.

Each bar represents the number of store locations opened in the given year, apart from 2007, to compare side-by-side thrift and vintage store openings. As mentioned in the previous analysis, vintage stores did present more location openings over the course of the chosen time periods. However, looking at the past year, in 2023 thrift stores surpassed vintage stores in terms of store openings, with 12 compared to 5 respectively. These dynamics support the overall trend

of a rising demand to shop second-hand clothing and present the possibility of competition between thrift and vintage stores in terms of profit and non-profit actors. As explored in the literature review, profit vs non-profit is a critical dynamic to consider when shopping second-hand and is a potential factor for its spatial growth. Vintage stores are inherently for-profit actors as they offer premium pricing for second-hand clothing designated by an additional actor in the garment life cycle. This additional actor is normally a local vendor or store owner, and while intentions to shop second-hand can prioritize price and the environment, will still assume a value to their chosen second-hand items aligned with their shop aesthetic or values. For this reason, the rise of vintage stores has been criticized by consumers for making second-hand clothing inaccessible with the up-charged price and has raised concerns about increasing prices in thrift stores. These concerns are most notable with Value Village, as many news outlets and consumers have criticized the recent rise in prices across their locations (Burman, 2022). This dynamic is interesting when comparing thrift stores, as Value Village is for-profit whereas the other major chain in Quebec, Renaissance, is non-profit. This competition is also observed spatially in Montreal, where a Value Village and Renaissance can often be found in close proximity to each other in numerous locations. A closer look at Figure 4.2 shows this relationship where some locations are as close as across the street from each other. This spatial relationship could indicate a sense of competition between the thrift store chains, although, from a visual analysis, I am unable to determine if this is a conclusive finding.

CHAPTER 5: SPATIAL DATA RESULTS AND ANALYSIS

This chapter explores the results of the *t*-test and interprets the buffer analysis to address the hypothesized spatial relationship between store location and neighbourhood income and demographic profiles. Given the statistical findings of the variable "income" in chapter four, income census data was further analyzed using the Global Moran's *I* and Local Indicators of Spatial Association (LISA). Looking at the spatial expansion of the second-hand clothing market in the Montreal area, the mapped comparison seeks to answer if there is a spatial pattern in terms of the growth of thrift and vintage stores.

5.1 T-test table

To explore the spatial relationship between second-hand clothing stores and neighbourhood socio-demographic profiles, Table 5.1 displays the findings of the 1000m buffer analysis. The results are organized by the average number (*n*) of census tracts observed in each thrift and vintage store 1000m buffer analysis and average number (*n*) and mean results of census tracts in the non-buffered observations by socio-demographic variable. A difference in means *t*-test was conducted to then compare each thrift and vintage store buffer results against the non-buffered census tracts with a significance level of .05.

Table 5.1. CTs within 1000m around thrift and vintage stores.

	Buffer (Mean Values*)		Non-buffered (Mean Values)	Results	
	Thrift (n**= 11.6)	Vintage (n= 23.2)	(n=544)	Thrift Results	Vintage Results
Income ($)	67907.5	69402.1	87939.8	p=0.0138	p=0.0016
Education (Bachelor +)	35.4	50.5	19.5	p=0.0001	p=0.0001
Age (15-29)	21.8	28.4	16.6	p=0.0001	p=0.0001
Age (65+)	15.7	14.2	18.2	p=0.2421	p=0.0084
Visible Minority	29.2	21.1	22.4	p=0.1887	p=0.7246
Immigration	27.8	25.9	20.1	p=0.0687	p=0.0510
One-parent family	3.8	2.8	4.1	p=0.5840	p=0.0001

Note: * Apart from income, each variable is a percentage proportional of the total population
** n is the average number of tracts within the designated buffer

Source: 2021 Canadian Census of Population

Of the reported findings, the variables of income, education (bachelor and above), and age (15-29) presented statistically significant results among both thrift and vintage stores. The variable of age (65+) and one-parent family households demonstrated statistically significant findings in terms of vintage against non-buffered census tracts, where thrift stores had no statistical significance. In terms of immigration and indigenous and visible minority variables, the buffer analysis proved no statistical significance. The significance of these results aligns with my hypothesis that there is a spatial relationship between the locational pattern of second-hand clothing stores and the income and socio-demographic profiles of Montrealers.

5.2 ArcMap Results

While current literature has not examined the spatial pattern of income and socio-demographic variables in terms of the evolution of the second-hand clothing market, a case study conducted in Chicago, Illinois by Parker and Weber (2013) took on a similar methodology by mapping second-hand stores by census tract median household income. Parker and Weber (2013) sought to study the geographical clustering of second-hand markets to question if the growing presence of online second-hand marketplaces, most notably eBay at the time, would replace the brick-and-mortar retail experience. The study presented interesting findings in terms of the spatial practices of second-hand markets, revealing second-hand stores exhibit trends of segmentation. Second-hand stores focus on targeting consumer preferences in order to "mobilize location and place in ways to convey a sense of status, authenticity, and cool" (Parker and Weber, 2013: 1112). The case of Chicago also found that second-hand stores rely on localized networks and neighbourhoods often tied to past or present processes of gentrification. In terms of analysis with the income census data, the study exploration was limited and focused their conclusions primarily based on surveys with retailers. The study's findings briefly discussed that second-hand clothing stores clustered in census tracts with higher-than-average median income and average sales were four times higher in Chicago's north-side clusters compared to those in the south side (Parker and Weber, 2013). Taking inspiration from this case study and applying it to my findings in Montreal, we can further explore the notion of second-hand stores trends of segmentation in terms of vintage stores in the Plateau and looking further to Montreal's median income in connection with the findings of the buffer analysis.

i. Income

The recorded mean income of the buffered census tract for thrift stores was $67907.5 and $69402.1 for vintage stores (Figure 5.1). Between thrift and vintage stores, the mean income averages are rather similar. However, the non-buffered census tracts had a mean income of $87939.8. The statistical results of the *t*-test show that there is a locational pattern between thrift and vintage locations and the income profile of the neighbourhoods in which they appear. Considering the mean incomes, second-hand clothing stores are typically located in lower-income neighbourhoods, opposite to the findings of Parker and Weber (2013) in Chicago. As previous literature suggests, economic motivations for consumers are the cheaper price points characteristic of second-hand clothing stores (Laitala & Klepp, 2018). The Value Village 2022 Canada Thrift Report found that 80% of consumers will choose to shop second-hand for better prices and 71% view second-hand shopping as an outlook to afford clothing they otherwise would not be able to (Savers Value Village, 2023).

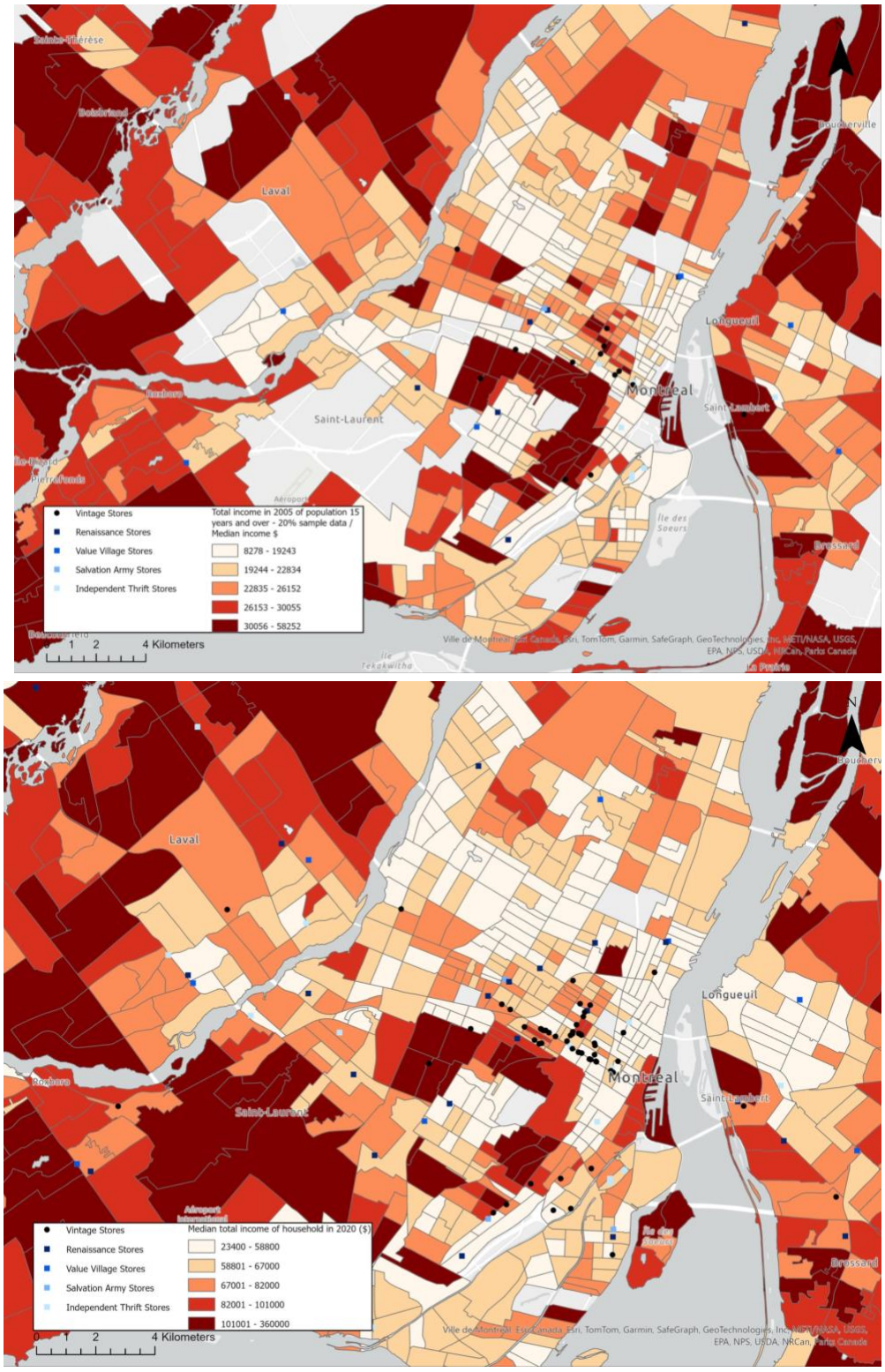

Figure 5.1. Montreal thrift and vintage store location maps of median total income based on 2006 (top) and 2021 (bottom) Census data.

Further, the report quotes that “price is a driving force leading consumers to experience the joy of thrift, which provides a lower cost way to enhance their wardrobes” as the shift in consumer mindset views thrifting to “prioritize sustainability & value over trends” (Savers Value Village, 2023: online). Given the curated aspect of vintage stores, leading to premium pricing, I hypothesized that vintage stores would be located in higher-income neighbourhoods compared to thrift stores. While proven incorrect, the observed spatial clustering of vintage stores (see Figure 5.4 later on) aligns historically with the motivations of independent storefronts in Montreal to locate in the Plateau and Mile End (Rantisi, 2011). Montreal is locally advantageous in rent compared to other metropolitan Canadian cities that facilitate local actors to be able to afford storefronts (Rantisi, 2010). These dynamics will be further explored when considering spatial clustering in section 5.3.

When first making the distinction between thrift and vintage stores, I referenced the assumption that consumers shopping at thrift stores prioritize the cheaper pricing of second-hand clothing. Whereas vintage stores curate second-hand clothing at a premium pricing assuming a value to selected pieces based on different consumer preferences. Considering these dynamics and the significant findings in the spatial data used, there is further evidence that a distinction between thrift and vintage stores is targeting different consumer profiles. Cervellon et al. (2012) explore the motivational drivers of consumers who shop vintage and second-hand based on economic, environmental, and nostalgic assumptions. Their findings concluded that consumer profiles and motivations were different among vintage and second-hand clothing consumers (Cervellon et al., 2012). In terms of economic motives, consumers who shopped vintage fashion have an emotional influence in terms of hunting for a certain article of clothing as opposed to hunting for a bargain price (Cervellon et al., 2012). Cervellon et al. (2012) environmental findings are in direct contrast to a significant amount of research, whereby shopping second-hand is an eco-conscious decision to contribute to sustainable consumption, arguing that economics and style were prioritized over environmental motivations. In terms of nostalgia, the study's research suggests that vintage shopping was influenced by consumers' fashion involvement, in terms of trends or uniqueness and treasure hunting (Cervellon et al., 2012). In Montreal, there is a distinction in vintage stores by different aesthetics and image based on specific stores and vendors who personally curate the items sold. These findings align with my assumption that

vintage store consumers are motivated by pieces with some perceived value, thereby catering to a specific consumer profile.

ii. Education (bachelor's degree or higher)

The results of the buffer analysis show the mean percentage of the population with a bachelor's degree or higher in the thrift store buffered Census tracts was 35.4% and 50.5 % for vintage stores (Figure 5.2). This is in stark contrast to the mean number of non-buffered Census tracts with an average of 19.5% of the population having obtained higher education.

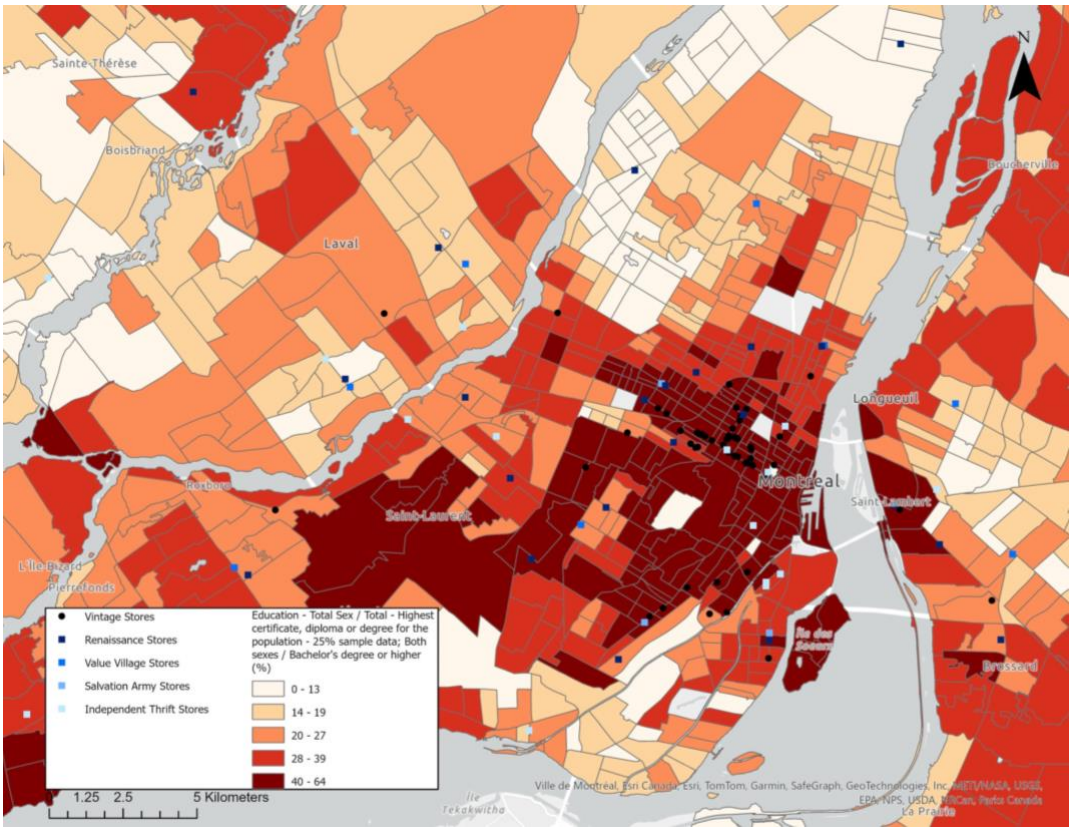

Figure 5.2. Montreal thrift and vintage store locations mapped based on education obtained (bachelor's degree or higher) as a % of the total population of 2021 Census data.

The variable of education was chosen to explore the profile of consumers that might prioritize shopping second-hand clothing based on previous research on consumer motivation. A possible conclusion of a larger percentage of the population in the buffered census tracts having

obtained higher education could be that consumers are more educated on the environmental impact of fast fashion and therefore prioritize a sustainable alternative. As explored from the research of Sorensen & Johnson Jorgensen (2019) and Laitala & Klepp (2018), shopping second-hand is a non-wasteful alternative for consumers where sustainability drives their purchasing decisions. Sustainability and environmental awareness of the various impacts of the production and consumption cycles of garments come from consumers educated on these issues as one of the key consumer motivations to shop second-hand. The significant findings of the buffer analysis therefore present this motivation from a spatial perspective, where the locational pattern of thrift and vintage store locations caters to the profile of a second-hand clothing consumer with higher education.

iii. Age (15 to 29)

The *t*-test buffer analysis also showed the statistical significance of the variable of age (15-29), with the mean percentage of the population in the buffered census tracts of thrift stores being 21.8% and 28.4% for vintage stores, with the non-buffered census tracts having a mean percentage of the population of 16.6%. These results indicate the spatial expansion of thrift and vintage stores in Montreal is aligned with the preconception of second-hand consumers that Gen Z is quoted as a key player in driving the growth of the second-hand clothing market. By examining the census tracts and store locations (Figure 5.3), the concentration of thrift and vintage stores on the island of Montreal has a higher percentage of the population ages 15 to 29. Locations in Laval and Brossard where the predominant storefronts are thrift stores show a low percentage of the age group by comparison.

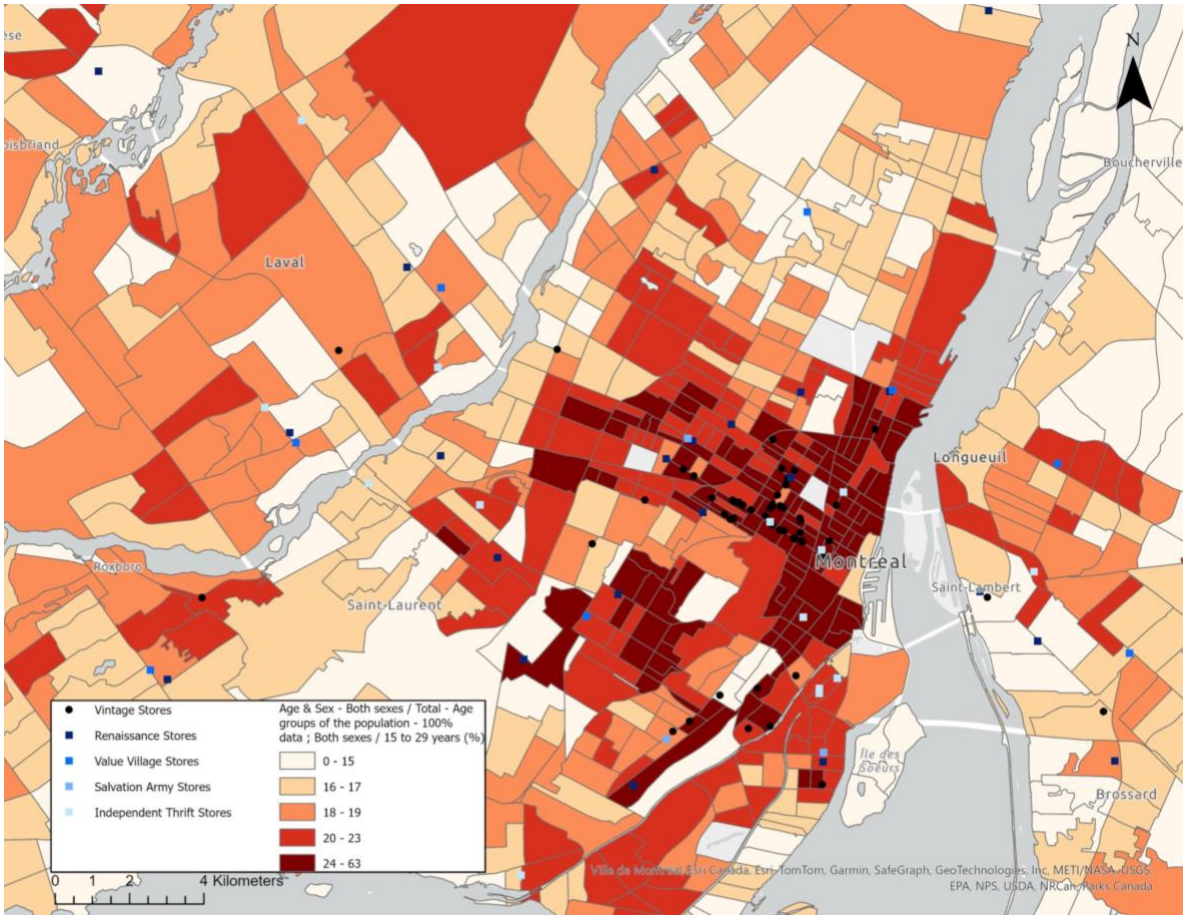

Figure 5.3. Montreal thrift and vintage store locations mapped based on age 15 to 29 as a % of the total population of 2021 Census data.

In Thred Up's 2020 Resale Report, Gen Z was responsible for growing the second-hand market and adopting second-hand fashion the most in comparison to any other age group. In 2023, Thred Up's Resale Report found that 83% of Gen Z consumers in the U.S. are open to shopping second-hand over other means. Looking at the Canadian context, Value Village reported that one in three Gen Z consumers have shopped second-hand in 2022, as the younger generation is seen to be leading the observed shift in the market (Savers Value Village, 2023). The findings of this buffer analysis have demonstrated a spatial significance that the consumer profile of age is a determinant of the locational pattern of the second-hand clothing market.

iv. Age (65+) and one-parent family household

The buffer analysis of the variables age (65+) and one-parent family household presented statistically significant data in terms of vintage store locations, although not for thrift stores. The mean percentage of the population aged 65+ in the buffered vintage store census tracts was 14.2%, whereas the non-buffered tracts had a result of 18.2%. Looking at Figure 5.4, the cluster of vintage stores is most present in the low percentage census tracts. A possible reason for this is that the older generation is quoted for enjoying second-hand shopping for bargain hunting and might not be interested in the curated element of vintage stores. This finding could indicate that the consumer profile vintage stores aim to attract is the Gen Z crowd, as discussed in the findings of age (15-29).

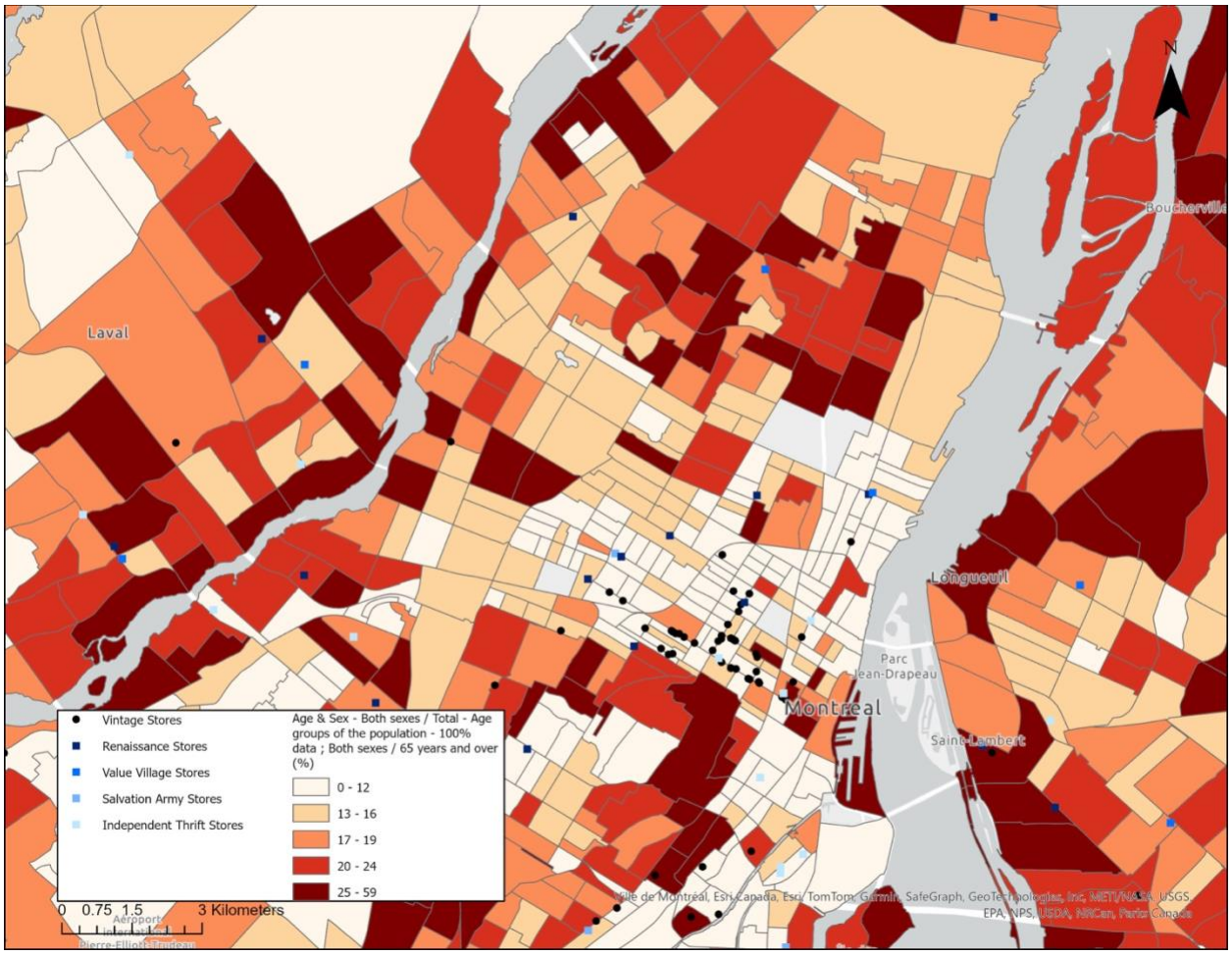

Figure 5.4. Montreal thrift and vintage store locations mapped based on age 65+ as a % of the total population of 2021 Census data.

In terms of one-parent family households, the results of the buffer analysis found that the mean percentage of the population in the buffered vintage tracts was 2.8%, compared to 4.1% of the non-buffered tracts. The data presented in the quantile map were of similar levels, without any drastic differences between the layers. A look at Figure 5.5 displays these findings, which unlike the previous maps does not seem to present an evident difference in the vintage store cluster in the Plateau. The variable of one-parent family households was chosen in consideration of the economic motivation to shop second-hand, as an affordable alternative, that might benefit one-parent families. However, the findings of this analysis have not proven conclusive in this case.

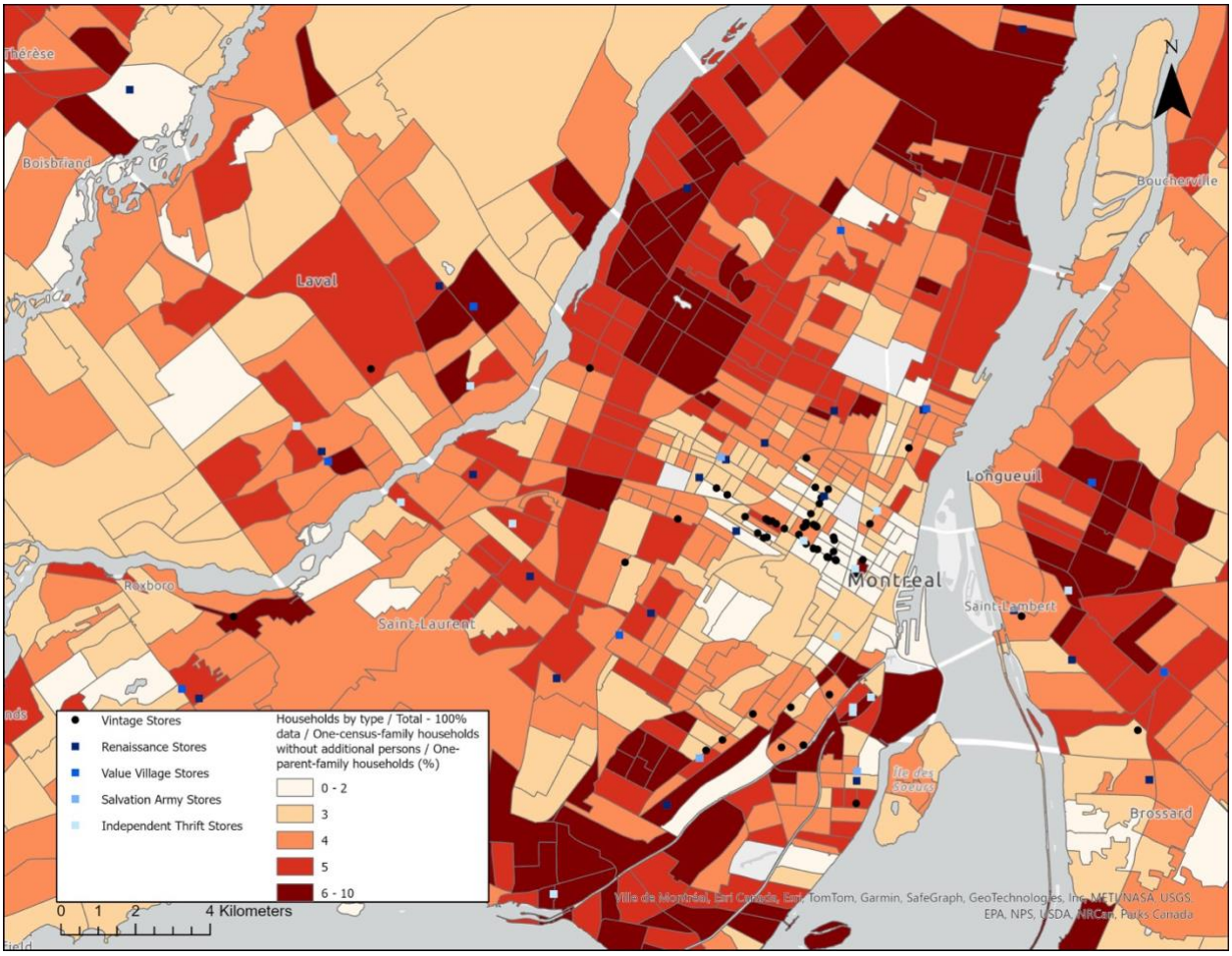

Figure 5.5. Montreal thrift and vintage store locations mapped based on one-parent family households as a % of the total population of 2021 Census data.

5.3 Spatial autocorrelation analysis of store locations and neighbourhood income profiles

A spatial autocorrelation analysis was used to examine the spatial pattern of income over time using directional LISAs. Anselin (1995) defines the LISA statistic as interpreting significant spatial cluster dynamics around observations with similar values and an assessment of all observations proportional to a global statistic. The Global Moran's *I* statistic is used to identify the local clusters based on a spatial weight to determine a positive or negative spatial autocorrelation. A positive spatial autocorrelation demonstrates a spatial clustering of high and of similar values, whereas negative spatial autocorrelation identifies the spatial clustering of low and dissimilar values (Anselin, 1995). The use of directional LISAs is based on the work developed by Rey et al. (2011) and inspired for this analysis by Breau et al. (2023) to analyze the changes of neighbourhood income across census tracts. The focus of this analysis is the spatial association of neighbouring census tracts and average median incomes signified by the spatial morphology of high-high (HH) and low-low (LL) income clusters (Breau et al., 2023). Where HH clusters represent higher median income tracts surrounded by similar higher median tracts and LL clusters represent lower median income tracts surrounded by similar lower median income tracts.

By examining the Moran's *I* scatterplots of median total income from the 2006 and 2021 income Census data (Figure 5.6), both values present statistically significant findings. These results indicate there is positive spatial autocorrelation in how incomes are distributed across neighbourhoods in Montreal which is in line with previous findings by Breau et al. (2023). Looking at the local cluster maps, there are changes in the spatial morphology of (HH) and (LL) clusters over the two observed periods.

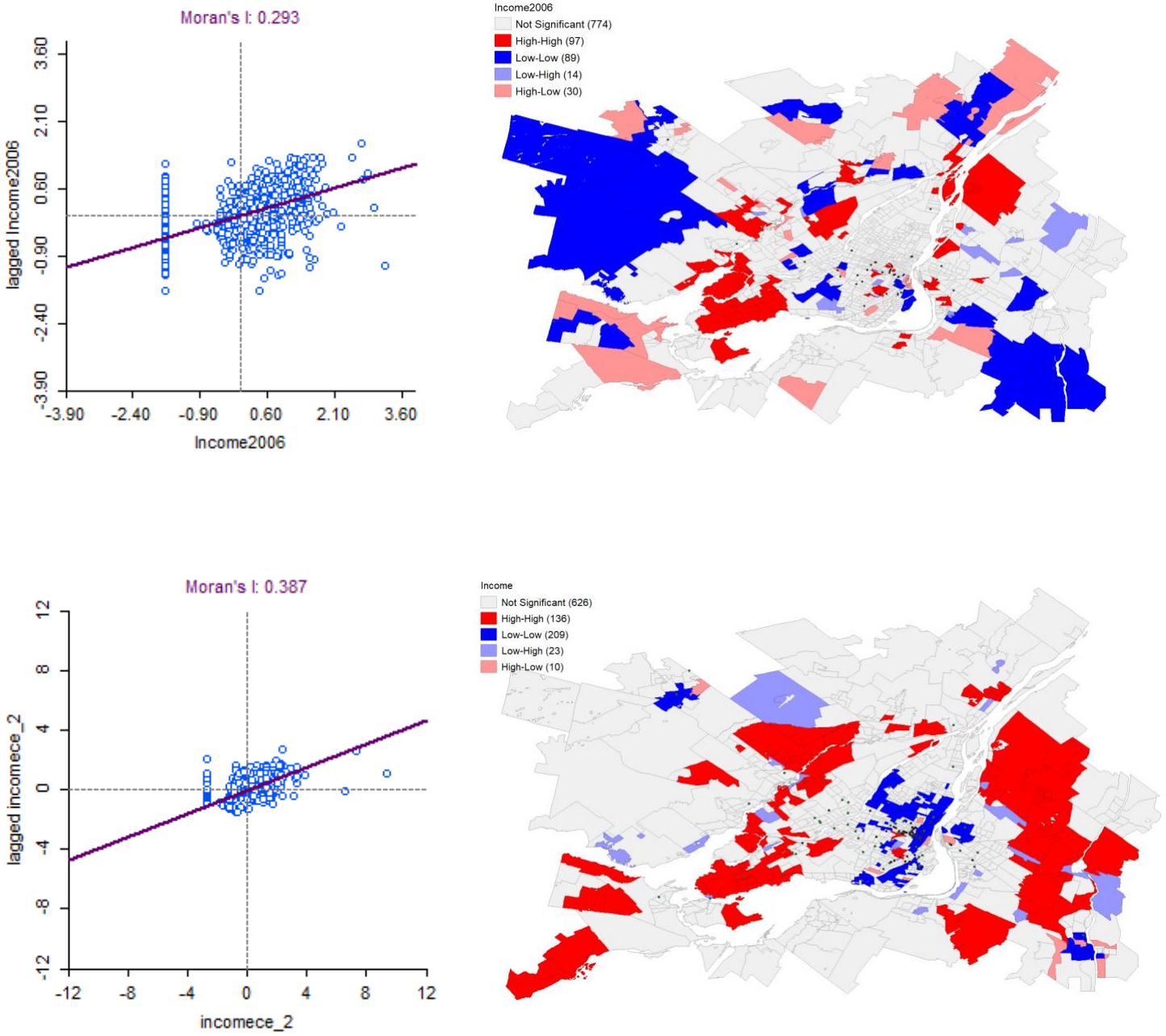

Figure 5.6. Moran's I and Local Indicators of Spatial Association (LISA) maps of median total income 2006 (top) and 2021 (bottom).

Source: 2006 and 2021 Canadian Census of the Population

A closer look at the 2021 local cluster maps and 2023 thrift and vintage store locations shows a geographic concentration in LL income clusters. In comparison to the 2006 data, there seemed to be no evident relationship between the clusters of HH or LL in terms of the second-hand clothing store locations. By 2023, as more locations appeared in Montreal, looking at the clusters of HH and LL income there seems to be a more intentional spatial pattern between the location and neighbourhood income. These findings support the previously explored descriptive and spatial results indicating there is a spatial pattern of income neighbourhood profiles and the location of thrift and vintage stores in the Montreal Area.

Aligned with one of my initial hypotheses, Montreal has seen an exponential increase in vintage stores compared to thrift stores. As previously mentioned, the accessibility of affordable rents in Montreal could be a contributing factor associated with the rise of independent storefronts, namely in the Plateau. Considering this growth from an outlook beyond the previously explored income variable, we can analyze this trend in regard to Montreal's historical significance as a fashion hub of Canada. Drawing on the work of Florida's creative class thesis, Leslie and Rantisi (2008: 1) argue that 'quality of life' draws the fashion industry to Montreal's Mile End neighbourhood as a "productive contribution to creativity". This attraction is in part due to the waves of new immigrants to the Mile End since the early 20th century and having served as a garment district until the 1980s as industrial activities moved overseas. Florida (2002) defines the creative class as highly skilled individuals who add surplus value through the knowledge they are generating and organize themselves based on social and cultural preferences. Florida's main thesis further argues that a shift from an information to a knowledge-based economy, where creative class workers are central, will also lead to a shift in productivity and eventually to further economic growth (Florida, 2002). By attracting creative class workers to cities with certain desirable amenities, industries will locate where the creative class goes and generate economic growth in those cities (Florida, 2002). While Florida's creative class thesis has faced much criticism, given the lack of discussion of inequality and weak methodology, Leslie and Rantisi (2008) take influence from his work to consider how 'quality of life' lures creativity to cultivate social and spatial dimensions of public space.

The increase of vintage stores in Montreal has primarily been focused on the Plateau neighbourhood. Considering the work of Leslie and Rantisi (2008), I believe this location-based attraction of the Mile End and the design industry mimics a similar pattern to the Plateau and

vintage stores. While the Mile End is part of the Plateau borough, it is considered more on the north end. The presence of vintage stores extends along the Plateau borough, with most storefronts present on Boulevard Saint-Laurent and Rue Saint-Denis. Considering the dynamics of the creative class, the Mile End and the extended Plateau are notable in Montreal for their social and cultural diversity seen as one of the premier spaces for the city's creatives. The low-rents and cultural aspect distinct from this neighbourhood could be a possible factor that has drawn the increase of vintage stores in the area. Creatives and entrepreneurs have the opportunity to open storefronts, given the cheap rents, and the location-based concentration in the Plateau could be a sign supporting Florida's thesis that the creative class will locate in cities or neighbourhoods where there are amenities of interest.

Leslie and Rantisi's (2008) research design focused on interviews with designers in the Mile End to explore how localized attributes such as affordable rents make the neighbourhood appealing for creatives to thrive. The cultural and socio-economic characteristics of the Mile End provide the space for diversity in terms of production, distribution, and consumption for Montreal's designers (Leslie and Rantisi, 2008). The Mile End is appealing for its vibrant spaces, retail scene, architecture and diverse cultures that characterize the neighbourhood as a "bohemian quarter" contributing to designers' creative processes (Leslie and Rantisi, 2008). The article concludes that attraction to the Mile End emphasizing the area's low-rents and sustaining the 'quality of life' for the creative class is one thing that distinguishes this quarter of the city for its social and cultural resources (Leslie and Rantisi, 2008).

Second-hand clothing stores contribute to the diversity of neighbourhoods and are seen as vibrant and unique characteristics that are localized to certain areas (Parker and Weber, 2013). Namely vintage stores, they are often locally owned and rely on the location to benefit from a target consumer base. These dynamics can be analyzed in the Plateau neighbourhood that from a spatial observation has seen the most growth in second-hand clothing stores. A closer look at Figure 5.6 shows that vintage stores are the predominant storefront in the area which is aligned with previous research by Leslie and Rantisi (2008) and Parker and Weber (2013) that suggest a variety of socio-economic factors lead to the geographical clustering of second-hand clothing stores to attract a certain consumer, such as the creative class.

CHAPTER 6: CONCLUSION

This research attempted to analyze the locational pattern between the evolution of the second-hand clothing market and income and other socio-demographic variables in the Montreal area. As a result, this study introduces the first significant findings between the spatial pattern of the second-hand clothing market and neighbourhoods according to their income, higher education, and age (15-29) in Montreal. To carry out this research, I first collected an inventory of second-hand clothing stores in Montreal, separately identified by thrift and vintage stores, and collected the store opening years. With the data set obtained from the opening years, histograms were created to compare the evolution in the number of thrift and vintage stores in Montreal from 2007 to 2023. I then utilized 2006 and 2021 Canadian Census data to conduct a spatial data analysis with ArcMap to perform a buffer analysis. The findings of the buffer analysis were then used to conduct a *t*-test to interpret the statistical results. Given these findings, I conducted a spatial autocorrelation analysis to test for the Global Moran's *I* and LISA of income.

6.1 Discussion of findings

The results of the histogram (see Figures 4.3 and 4.4) show a significant increase in the number of thrift and vintage stores from 2021 to 2023. In comparison to the previous 10-year period, thrift stores showed little to no expansion in Montreal whereas vintage stores saw a steady increase. The rapid growth in the last two years can reflect a shift in the consumer market from a spatial perspective towards second-hand clothing, as the market has grown at a global scale since the COVID-19 pandemic. From a local perspective, Montreal as the case study of interest shows how dynamics such as the creative class thesis and the history of the fashion design sector have influenced the interest in independent storefronts. This is observed through a cluster dynamic in the Plateau neighbourhood with a concentration of vintage stores. Additionally, within the last year, there has been a greater amount of thrift store openings compared to vintage stores. However, there is no clear pattern or evidence to draw a conclusion from this finding.

The results of the buffer analysis showed a statistically significant result in the spatial relationship between thrift and vintage store locations and the Census data variables of income,

higher education, and age (15-29). The findings for income show a clear spatial pattern between neighbourhood income and store locations, where the price of second-hand clothing is predicted to be the influential factor for this relationship. The results of the education and age findings imply a targeted consumer profile, differentiated among thrift and vintage stores. The analysis of education explored how awareness of environmental influences of the garment production and consumption cycles can influence consumers to prioritize shopping second-hand clothing. The significant results of the variable age (15-29) demonstrated a higher percentage of the population in that age group present in the census tracts of thrift and vintage store locations. This finding presents a spatial inference aligned with current research and literature that Gen Z is the leading age group turning to the second–hand clothing market for their purchasing decisions.

The results of the Moran's *I* scatterplots of median total income in 2006 and 2021 present statistically significant findings and indicate there is a positive spatial autocorrelation between income and neighbours. These findings further align with my initial hypothesis of vintage stores experiencing principles of clustering, as observed in the LL cluster. A review of the work of Leslie and Rantisi (2008) also indicates how cultural and socio-economic characteristics can contribute to the observed cluster dynamic to attract a certain consumer profile.

6.2 Limitations of study

As previously explored in the methodology, there was a limitation to gathering the opening years of the thrift and vintage stores in Montreal. The initial methodology of this research relied on reaching out to companies to provide the opening years. However, I had received no response from Value Village or Renaissance and the Salvation Army responded saying they did not have those records. In this case, assumptions had to be drawn for stores whose opening years were not traceable through a web-based search or the REQC and relied on the Google Maps Historical Imagery features. Having been successful in reaching the exact years, it would have made for an interesting analysis to see if there was any significance of the second-hand market before 2007. However, when comparing that data from 2007 and 2023, the most interesting findings in terms of my research questions were observed in the last 10 years.

Another limitation that could be explored for further research is different statistical and spatial methods to study the pattern and evolution of the second-hand market. The methodology

of current literature often relies on surveys and interviews to gather data on consumer outlooks of the industry. As I have explored in this thesis, the spatial patterns and relationship of the second-hand clothing market provide an interesting outlook on the change in consumer preferences towards environmental and economically sustainable alternatives to fast fashion retail stores.

6.3 Future research

For future research, scholars should further explore the findings of the spatial pattern between second-hand clothing store locations and neighbourhood income and socio-demographic variables. Additionally, the presented division between thrift and vintage stores has shown that consumer preferences and motivation differ by store type and influence their neighbourhood location. This division could play an important role in the growth of the second-hand clothing market at the spatial level, as such dynamics affect the main consumer motivations as low-cost and accessible alternatives to retail fast-fashion options. Further, how this spatial experience might differ in other major metropolitan cities, looking at different variables and historical contexts that might affect the success or failure of second-hand clothing stores.

As the second-hand clothing market is predicted to outgrow retail in the coming decade, future research can observe how different second-hand outlets and competitors might influence the spatial presence of the industry (thredUp Inc., 2023). Parker and Weber (2013) underwent a spatial analysis of the second-hand market when the rise of eBay as an online marketplace presented an alternative to traditional brick-and-mortar storefronts. Today, there are a multitude of online marketplaces with the online resale market expected to make up half of all second-hand shopping by 2025 (thredUp Inc., 2024). While the findings of this research conclude the growth of second-hand clothing stores is present at the spatial level, future research could study if the influence of online marketplaces will impact brick-and-mortar stores. Finally, if the second-hand clothing market will outgrow retail, will this affect fast fashion companies' storefronts from a spatial perspective? Future research can study potential spatial competition dynamics in fast fashion-dominated centres, such as downtown centres and malls.

This thesis has proven the growth of the second-hand clothing market can be observed spatially due to income and various socio-demographic factors. These findings can inspire future

research to consider the consumer profiles at the local level to continue driving the growth of the second-hand clothing market. This shift in consumer preferences to second-hand clothing will be crucial to the future sustainability of the fashion industry in the face of the global environmental crisis. Scholars should consider local dynamics when continuing research on the second-hand clothing market, as the global circularity of clothing starts with a local consumer.

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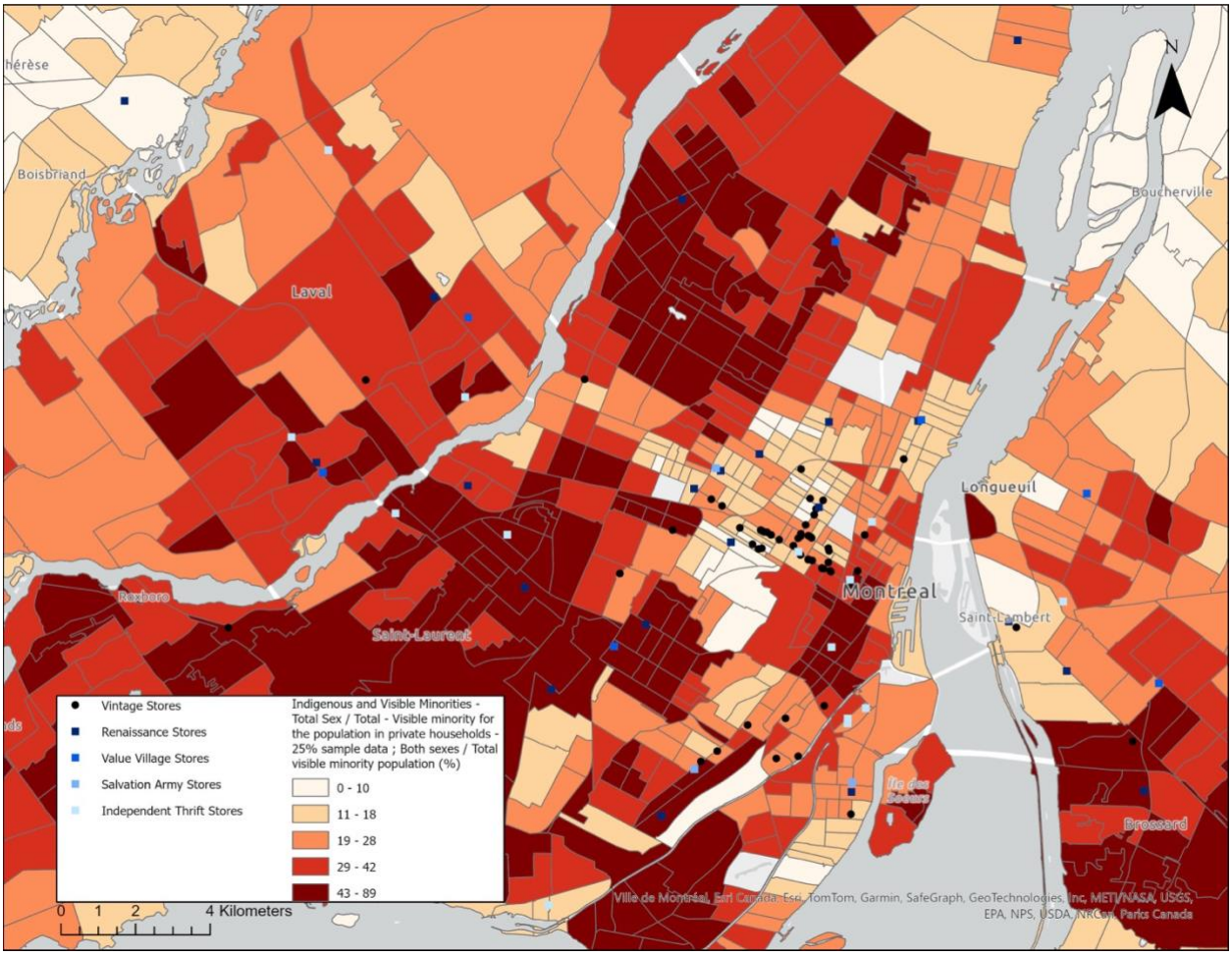
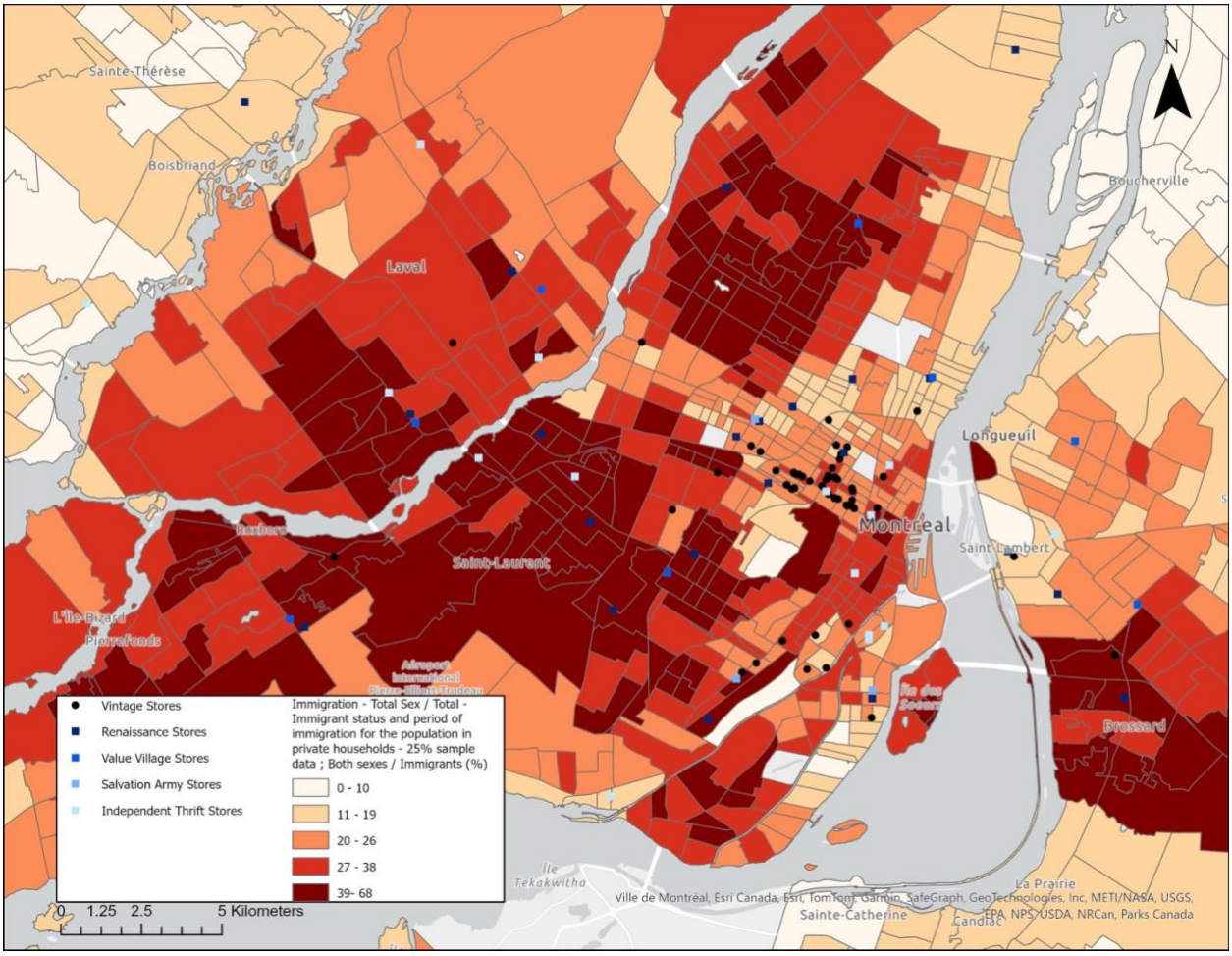
APPENDIX A: NON-STATISTICALLY SIGNIFICANT FINDINGS



Appendix A.1. Montreal thrift and vintage store locations mapped based on indigenous and visible minorities as a % of the total population of 2021 Census data.



Appendix A.2. Montreal thrift and vintage store locations mapped based on immigration as a % of the total population of 2021 Census data.