MULTISCALAR TOXICITIES: MAPPING ENVIRONMENTAL INJUSTICE IN AND BEYOND THE NAIL SALON

Reena Shadaan

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ABSTRACT

The dissertation attends to the entanglement of toxicities at multiple temporal and spatial scales – from bodies to workplaces to homes to communities as well as across generations. This work centers the nail salon – a site of potential environmental and occupational health harms due to routine exposure to toxicants, labour exploitation, and verbal and other abuses. These hazards are rooted in structural inequities that position immigrant-settler women of colour in precarious and dangerous work environments as well as have broader roots in global structures of extraction. The dissertation employs multiple methods grounded in feminist methodologies, centering the experiential and embodied knowledges of 37 Toronto-based nail technicians through occupational health mapping – a worker-centered visual method that maps workplace hazards and potential solutions. While there is growing scholarship on occupational harm in the nail salon context, this work differs in that it positions the nail salon in relation to broader structural violences. This is in contrast to framings of harm that are body-bound, body-centric, or a result of our individual "choices."

This analysis reveals that dangerous workplace conditions – rooted in the racialized and gendered manifestations of capitalist exploitation – are embedded in/on workers' bodies and impact their abilities to enact relations of care with kin. The toxicants that harm nail technicians' health find their material and symbolic roots in the colonial, gendered, and environmental violence of petroleum extraction and petrochemical production. These processes manifest corporeal-level and community-wide intergenerational harm. To approach and link these multiple scales of violence, this work puts forth an expanded conception of environmental justice (EJ) – one that conceptually and methodologically rejects the politics of borders, such as between bodies, work, and home; between those deemed "unwelcome" and those welcomed,

and; between nodes in the commodity chain. Following Pellow's (2018) Critical Environmental Justice approach, to limit manifestations of environmental racism, sexism, and violence to certain "sacrifice zones" conceals the extent and reach of the violence; it perpetuates erasure. Embodied and local manifestations of harm in the nail salon are one node in a broad and interrelated web of gendered violences fueled by extractive logics. While centering workers' voices and the nail salon environment, this dissertation traces the interrelations of different spatial and temporal scales of violence, demonstrating that environmental harms are expansive, interconnected, and warrant broadened solidarities. As violence is multiscalar, so is resistance. While liberal environmental health campaigns tout body-centric "solutions," nail technicians' resistance to racial and gendered manifestations of capitalist exploitation occur at multiple scales – the molecular, the interpersonal, and the collective. To look beyond the nail salon demands broadened relations of solidarity – ones that transcend both space and time.

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FOREWORD

The Rise of the Nail Salon: A Hollywood-esque Story

Painting and decorating the nails is an ancient practice. Various natural materials have been used to stain or paint the nails for aesthetic, spiritual, battle-related, social status, and other purposes. In 3500 BCE, Babylonian warriors used kohl, a mineral-based powder, to stain their nails in preparation for battle (Zambito, 2018). Inca and Aztec warriors applied nail art also in preparation for battle (Prokop, 2018). In China, in 3000 BCE, beeswax, dyes, egg whites, and other materials were used to paint nails. Across North and East Africa, South Asia, and the Middle East, henna was used to stain the hands, including the nails and fingertips (Zambito, 2018; Shapiro, 2014). In some contexts, painted nails marked class distinctions. In the Zhou Dynasty (1046 - 256 BCE), monarchs used golds and silvers on their nails (Zambito, 2018; Toedt et al., 2005). Further, historical interpretations of ancient Babylon and Egypt note the use of certain nail colours for certain social classes (Becker, 2016; Prokop, 2018). In short, nail adornment is an ancient practice aligned, at times, with class distinctions.

This foreword discusses a more recent phenomenon which, too, is entwined in class relations – the rise of affordable nail salons.[1] Nail salons are not new; Mary Cobb opened the first United States-based nail salon in 1878 (Shapiro, 2014). However, in general, professional nail care was out of reach to most of the population, particularly the working classes. With the rise of Vietnamese and Korean owned and operated nail salons in the United States and Canada, this changed. Their nail salons introduced broader sections of the population to in-salon nail care and, as a result, led to the proliferation of affordable nail salons. This, in turn, sparked the normalization of professional nail care. While these nail salons facilitated newfound access,

[1] Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons" includes further discussion on the modern-day class dynamics associated with the nail salon.

relations between nail technicians, bosses, and clients did not fundamentally change. Well prior to the rise of affordable nail salons, nail technicians contended with conditions of exploitation and general disrespect rooted in the devaluation of their skillsets (Willett, 2005).[2] These uneven class relations are a crucial aspect of the nail salon; however, it is not the only story. Care, comradery, and resilience also mark the nail salon environment.

In mainstream accounts, Vietnamese women's entrance to the nail care sector is traced to Tippi Hedren, a well-established Hollywood actor. In 1975, in the aftermath of the Vietnam War, Hedren, as a volunteer for a Christian non-profit, visited Vietnamese refugees in "Hope Village" (Sacramento, California). Hedren facilitated various career development opportunities for residents of Hope Village, including typist, seamstress, and manicurist training (Pham, 2015). As the story goes, the women at Hope Village admired Hedren's fingernails (Pham, 2015) and Hedren was "… [a]llegedly impressed with the women's hand dexterity" (Eckstein & Nguyen, 2011, p. 651) – an observation that, intentional or not, evokes the stereotype of "nimble-fingered" Asian women. In the context of the nail salon "nimble fingers" connote the construction of Vietnamese and Korean nail technicians' talents as "natural" per racial-gendered essentialism (Kang, 2010; Willett, 2005). This undermines the association of nail care with skilled work, contributing to labour exploitation in the sector. "Nimble-fingers" are "… taken as a genetic given for which [the worker] is not valued or paid" (Das Gupta, 1996, p. 28).

Hedren recruited her manicurist to train 19 Vietnamese women and one Cambodian woman at Hope Village. (Pham, 2015). While initially unsure of the income-generation potential, the women soon enrolled in the Citrus Heights Beauty School to earn their manicurist licenses (Pham, 2014; Phan, 2013). Many of these early nail technicians moved on to other occupations;

[2] This sentiment is discussed in more depth in Chapter 1, "The Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons."

however, their foundational labour, in part, spurred the widespread growth of the nail salon sector. While Hedren is often cited as the spark that prompted the nail salon sector in the United States, it is crucial to question the implications and resonance of this Hollywood-esque narrative – '*Migrants escape communism and achieve the American dream – with a little help from a Hollywood star!*' Hedren is without question a key figure in the development of the sector. However, the Hollywood origin story simplifies the multiple factors that spurred waves of migration out of Vietnam (political, economic, and otherwise), obscures the various drivers that maintain nail services as an ethnic niche, and reproduces the model minority myth – a discourse that constructs people of Asian descent as "naturally" hard-working, apolitical, and docile. The myth homogenizes a multitude of Asian communities and positions Asians (broadly) in comparison to other racialized communities. The myth is rooted in neoliberal responsibilization; Asians are denied access to supports due to a perceived (and incorrect) lack of need while other racialized communities are denied access to supports due to their "not working hard enough."

The geographic expansion of affordable nail salons is not well-documented. However, there are known historical moments that have contributed to the development of nail salons, particularly in the 1990s and onwards. The Advance Beauty College (ABC) in Southern California is a notable example. Founded by Vietnamese refugees in 1987, ABC offered manicurist training and other aesthetics training. ABC was an attractive institution for Vietnamese newcomers as it offered classes in the Vietnamese language, had shorter training periods, was located in the Vietnamese enclave, "Little Saigon," and, due to state subsidies, Vietnamese refugees had discounted tuition rates (Eckstein & Nguyen, 2011). In New York, Korean-owned and operated salons were on the rise, spurred, in part, by on-the-job training opportunities, kinship ties that channeled Korean newcomers to the nail salon sector, Korean-run

nail training opportunities, and *kye,* a Korean rotating credit and savings association (ROSCA) that facilitated small business development (Kang, 2010). In Toronto, nail salons increased as well. As in California, the sector was spurred, in large part, by Vietnamese migrants (Marlin, 2009; "The rise of nail salons," n.d.). Eckstein and Nguyen (2011) refer to this growth as the "transnationalization… of the nail-care niche" (p. 640).

While the Hollywood-esque origin story is used to explain Vietnamese women's entrance to and dominance of the nail care sector, there are a host of factors that spur Asian (broadly) women's entry, leadership, and participation in nail care services. The sector is accessible, as there are fewer training requirements in comparison to other aesthetic services. Further, there are no formal licensing requirements for Ontario-based nail technicians – a factor that is also true in various other jurisdictions. Moreover, kin and personal ties facilitate salon-based employment for newcomers. The pull of the nail care sector must be read next to the exclusion of newcomer women from other sectors of the labour market. Discrimination, limited English language proficiency (for some), non-recognition of non-Canadian credentials, lack of access to formal education, and a lack of non-familial professional networks are noted employment barriers (David, 2014; Eckstein & Nguyen, 2011; Kang, 2010; Nguyen, 2019; Oh, 2007; Premji & Shakya, 2017; Quach et al., 2013). In addition, aesthetic standards pertaining to nail care, the rise of mainstream "self-care" culture, innovative in-salon services (nail art), and technological advancements that allow quicker service (electric file, wider nail polish brushes, acrylics) fuel the rise of Asian-owned and operated nail salons (Eckstein & Nguyen, 2011; Kang, 2010).

Multiscalar Toxicities: Mapping Environmental Injustice in and Beyond the Nail Salon tells the story of the nail salon from a different perspective – one that embraces the complexities that are absent in the Hollywood-esque narrative. Occupational harm in the nail salon is detailed

from the perspective of the corporeal via nail technicians' experiential and embodied knowledge and is situated in the ebbs and flows of the commodity chain, where nail products meet petrocapitalism – a love story. This is not a tragic tale; resilience, resistance, and survival further mark the nail salon context – a resistance that, too, spans multiple scales.

INTRODUCTION

Multiple meanings, associations, and emotions can be attached to the same place. To some consumers of nail care services, the nail salon is a space to relax, unwind, and engage in self-care. To others, it is a space of potential harm. To workers, the nail salon can be a contentious environment, where workers are subject to labour exploitation and abuse. It can further be felt as a social space where nail technicians find connection and fulfillment. The connotations attached to space shift over time, from person-to-person, and are dependent on the wider context. This work attends to these multiple spatial associations but focuses on the experiential and embodied knowledges – derived from the senses – of nail technicians. This decision is deliberate; much of the popular literature on toxicity and personal care adopts a consumer-centric lens. The consumer-centric approach erases impacted workers and frontline communities who bear the brunt of heightened levels of exposure to toxicants, including at the point of production (Shadaan & Murphy, 2020).[3]

Multiscalar Toxicities: Mapping Environmental Injustice in and Beyond the Nail Salon reveals the gendered violence associated with the nail care sector using a multiscalar environmental justice (EJ) lens. Attending to macro-scales exposes the historical and structural conditions that produce localized and interconnected manifestations of harm – such as on/in bodies, workplaces, homes, and communities. This is consistent with recent critical approaches to EJ, which uncover structural violences rather than focus on damaged bodies and damaged environments relegated to "sacrifice zones" (Pellow, 2021; 2018; Pulido, 2016; 2016a; Scott, 2015). This approach is distinct to but owes theoretical debt to Indigenous conceptualizations of EJ which have long rooted environmental violence in settler colonialism and the disruption to

[3] This is discussed in more depth in Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions" and Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon."

expansive relations with land and life (Carmen & Waghiyi, 2012; Hoover et al., 2012; Kimmerer, 2013; McGregor, 2018; 2009; Native Youth Sexual Health Network and Women's Earth Alliance, 2016; Whyte, 2021; 2016). In turn, attending to micro-scales can facilitate a deepened understanding of structural violences, recognizing their material implications (Agard-Jones, 2013). As Agard-Jones (2013) contends, a "... scale inwards, recognizing the multiple levels at which our material entanglements—be they cellular, chemical, or commercial—might be connected to global politics" (p. 192).

This dissertation aims to traverse the boundaries of space and time – mapping bodies in relationship with environments in relationship with power. This work situates the nail salon and its associated occupational/environmental injustices in the context of multiscalarity – attending to the interrelations of various spatial and temporal scales of violence. This is in response to David Naguib Pellow's (2018) influential *Critical Environmental Justice* (CEJ) framework. As the author observes,

> While there are numerous excellent local case studies, regional analysis, and national and even transnational studies of environmental inequality, the scholarly work that brings these multiple spatial scales together with attention to the body as a site of EJ struggle is impressive but rare. Moreover… few scholars have linked historical work with multiscalar spatial approaches." (Pellow, 2018, p. 150).

Pellow (2018) reflects on the use of "sacrifice zones" in traditional EJ work which highlights particular bodies and localities but does not extend analysis to structures of power and exploitation that mark certain broad communities as expendable. *Multiscalar Toxicities: Mapping Environmental Injustice in and Beyond the Nail Salon* aims to answer Pellow's (2018) call for a multiscalar approach in EJ. To do so, this work puts forth an expanded approach to EJ – one that conceptually and methodologically rejects the politics of bordering. In the following section, I outline this approach.

2.1. Multiscalar Environmental Justice: Conceptualizing Border-Crossings

In January 2019, I accompanied several colleagues in the Healthy Nail Salon Network and the Nail Technicians' Network to California for a 2-day International Nail Salon Worker Convening. The event included nail technicians' organizations from across the United States as well as public health professionals, researchers, and occupational health and safety representatives. As we travelled through Toronto's Pearson Airport, I – a Brown, youthful-appearing woman on account of my petite stature – was stopped three times. The first time, I was asked to present my hand luggage which was swabbed for potential drug content. The second time, I was stopped for a far-less mysterious reason: My hand luggage contained liquid over the 100ml limit. At the third stop, United States' border agents in Pearson Airport escorted me to a more secluded area for additional questioning – the purpose of my travel to the United States, the length of my stay, my occupation, and other questions. This reminded me of another incident several years ago in which a Canadian agent stopped me at Pearson Airport after I collected my luggage and was headed to the exit. This agent asked for my passport, inquired where I was travelling from, requested the details of my occupation and questioned, "… where did you get the money to travel?" These experiences evoke the theme of borders – the physical and social barriers erected to separate "undesirable" from "desirable" bodies and material, a process that intersects racial, gendered, and class connotations.

"Borders" are not new to EJ. Much of the existing EJ literature uses the explicit language of "borders" to connote the transfer of toxicants and other harmful material across national borders, to frame the transnational crimes of major global polluters, and to discuss transnational EJ movements. Often, these relations are articulated as consumption in the West fueled by exploitation and depletion in the Global South. These inequities also manifest within national

borders as poor, racialized, and Indigenous communities endure the disproportionate burden of industrial pollution. *Multiscalar Toxicities: Mapping Environmental Injustice in and Beyond the Nail Salon* puts forth an expanded conception of EJ – one that conceptually and methodologically rejects the politics of borders, such as between bodies, work, and home; between those deemed "unwelcome" and those welcomed, and; between nodes in the commodity chain. This is not a new approach. Indigenous EJ has, since time immemorial, affirmed the practice of border-crossing via a relational approach (LaDuke, 1999; McGregor, 2009, 2018; Whyte 2021). In Indigenous epistemologies and ontologies, all life has responsibilities to maintain "collective continuance" (as per Whyte, 2014) and "mutual flourishing" (as per Kimmerer, 2013). Further, as a field, EJ traverses borders in multiple ways. This is partly due to its formation as a confluence of multiple distinct approaches – environmental, labour, civil rights, and other grassroots movements. When EJ emerged as a field of inquiry, it rearticulated dominant discourse – what counts as the environment, who counts as an environmental actor, and what counts as an environmentally-oriented action. EJ challenged the raced and classed borders embedded in former conceptions of "the environment." Further, EJ drew more widespread attention to borders within cities and other localities, where social barriers are drawn between the beneficiaries and casualties of environmental harm.

Recent scholarship further attends to border-crossings at various scales. As will be discussed in the dissertation's broader theoretical approach as well as in Chapter 2 ("Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians"), feminist materialist approaches affirm corporeal enmeshment in not just physical environments and its associated toxicities, but also in political, cultural, social, and economic environments (see Agard-Jones, 2013; Alaimo, 2010; 2016; Gabrielson & Parady, 2010; Nash, 2006; Scott, 2015; Shotwell,

2016; Sze, 2017; 2018; Tuana, 2008). Moreover, Pellow's (2018) CEJ approach affirms a multiscalar lens that necessitates both spatial and temporal border-crossings – including intergenerational harms, which have both corporeal and cultural repercussions (see Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon"). Julie Sze (2006) uses the explicit language of traversing borders in framing exposure to harmful pollutants in utero – not just in the sense of crossing the placental barrier but in the creation of "hybrid" bodies altered by technological interventions, pharmaceuticals, and polluting industries.

These aforementioned approaches do not call for toxic-free bodies or "purity politics" (Shotwell, 2016) as evoked in notions of "toxic trespass," which connotes toxicants breaching an assumed corporeal border. Such an approach reflects neoliberal logics where corporeal and national borders are framed as – with appropriate guards – impenetrable. In this rhetoric, bodies can be protected from toxicities through appropriate "choices" (see Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions"). However, both corporeal and national borders are porous. This "leakiness" is not a deficit-state. As will be shown, porosity and interconnection – not bounded bodies – are integral to collective resistance.

The concept of border-crossing is then not new to EJ. This work does not aim to retheorize borders. Rather, it uses various conceptions of borders-crossings in the context of EJ to frame a multiscalar approach – one that is both spatial and temporal. This work attends to multiple types of borders: Geopolitical borders, spatial borders such as between work and home, the borders that separate "citizens" from those deemed unwelcome, the social barriers that prevent access to safe, stable, and well-compensated employment (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons"), neoliberal ideations of corporeal boundaries, including in relation to toxicities, (see Chapter 2, "Beyond the

Bounded Body: Occupational Health Mapping with Nail Technicians" and Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions"), and the multiple moments between extraction and disposal relevant to nail products in the commodity chain – including the theft and privatization (i.e. bordering) of land that gave rise to these industrial processes (see Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon"). Thinking through and across these aforementioned border-crossings evokes a broadened conception of cumulative harm – one that exceeds current definitions of harm as reduced to concurrent exposure to multiple toxicants. Various types of harm are interrelated and interconnected at multiple scales. In turn, to expand EJ beyond "sacrifice zones" allows for expanded conceptualizations of justice – beyond localized models to forms of protection and justice-seeking that attend space in its expansive form.

In the following sections, I detail how this dissertation emerged and evolved. This includes my involvement with Toronto's nail salon campaigns and the specific motivations that led to and underlie this work.

2.2. Toronto's Campaigns

In April 2016, I approached Anne Rochon Ford to discuss the research needs of Toronto's Healthy Nail Salon Network. Ford is a leading figure in the network, co-lead of the Nail Salon Workers Project, and a long-time advocate who works at the intersections of gender and environmental health in the Canadian context. Informed of the dearth in Toronto-specific literature on the experiences of nail technicians, I decided to reorient my dissertation to focus on the occupational health experiences of nail technicians in the Greater Toronto Area. This led to my involvement in the Healthy Nail Salon Network and, later, the nail technician-led Nail Technicians' Network.

2.2.1. The Healthy Nail Salon Network

Toronto-based campaigns to address nail technicians' labour rights are a recent phenomenon. These campaigns can be traced to 2013 when staff at Parkdale Queen West Community Health Centre (Parkdale Queen West CHC) noticed that nail technicians were presenting with similar respiratory and dermal health concerns. This moment echoes the formation of other nail salon-focused campaigns in the United States. Staff in California's Asian Health Services (AHS) established the Healthy Nail Salon Collaborative in 2005 after observing that nail technicians had similar health issues – asthma, rashes, and miscarriages ("About Us," n.d.). In 2007, the Collaborative co-founded the National Healthy Nail Salon Alliance in partnership with the National Asian Pacific American Women's Forum (NAPAWF) and Women's Voices for the Earth. Like AHS, NAPAWF was drawn to the issue "… after receiving phone calls from distraught workers who experienced spontaneous miscarriages and had trouble conceiving" (Willman, 2012, p. 6). To formulate their response to occupational health in the nail salon context, Parkdale Queen West CHC partnered with the National Network on Environments and Women's Health (NNEWH). NNEWH had previously worked on automotive workers' heightened risk of breast cancer and, in general, recognized the dearth in literature on women's occupational health (Ford, 2016). NNEWH had experience in policy-oriented work while Parkdale Queen West CHC had frontline expertise (Ford, 2020).

QW-CTCHC's and NNEWH's collaborative efforts led to the formation of the Healthy Nail Salon Network in 2015. The network's central aim is to, "Protect the overall health of nail salon workers by decreasing the risk of exposure to harmful toxic chemicals." Members advocate for improved public and occupational health regulation and enforcement at the municipal and provincial levels. At the federal level, members advocate for improved toxics regulation. In

addition, the network supports research on the nail salon context and has conducted a series of in-salon occupational health workshops specific to nail technicians' health (see Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions").

In 2018 members identified five primary aims to guide the Healthy Nail Salon Network's future work, which, in part, guide the aims of this dissertation. This includes:

- Regulatory improvements, such as better toxics management and enforcement at the federal and provincial levels;
- Advocacy and capacity building to increase nail technicians' leadership in the network;
- Research to grow an evidence base to support regulatory interventions;
- Engaging with nail salon owners to improve workplace health and safety, and;
- Increasing public awareness.

In addition, network members suggested advocacy for improved labour conditions, media outreach, and further in-salon outreach as important overall aims.

2.2.2. The Nail Technicians' Network

The Nail Technicians' Network was first imagined in 2014 by Monica Fu, a nail technician then affiliated with the Healthy Nail Salon Network. Fu shared, "We need a nail technician association because one person, the voice [is] very weak, and if more nail technicians join the association… we are a more powerful voice" (David & Gordon, 2014). In 2017, the Nail Technicians' Network became an official association with support from Parkdale Queen West CHC and the Chinese and Southeast Asian Legal Clinic. Like the Healthy Nail Salon Network, the Nail Technicians' Network first focused on mitigating exposure to harmful toxicants in the workplace. However, the extent of labour violations in the sector soon became apparent. This realization coupled with access to labour rights-related funding prompted a shift in focus to workplace rights.

The Nail Technicians' Network conducts a range of work – from nail design workshops to social events and English for the workplace conversation sessions. All of the network's sessions aim to include information on labour rights, even if not stated explicitly. To illustrate, a parenting workshop incorporated information on workers rights in relation to hours of work.[4] The Nail Technicians' Network has also partnered with settlement agencies to conduct training workshops on nail care skills and occupational health in the nail salon environment. In addition, amidst COVID-19, the network has led mutual aid efforts for nail technicians in the Greater Toronto Area (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons"). While it takes time to build trust, the Nail Technicians' Network has been successful in growing its membership. At the network's 2019 Christmas Party, thirty nail technicians joined in the festivities (Jackie Liang and Toronto Community Health Worker, personal communication, July 15, 2020).

2.3. Motivations

In addition to the need for Greater Toronto Area-focused research to support nail technicians' occupational health and the dearth in Canadian EJ scholarship from racialized immigrant-settler perspectives, this dissertation addresses three troubling gaps in the scholarship. These include:

- The overall absence of labour considerations in EJ scholarship;
- The understudied topic of women's occupational ill-health, and;
- The underrepresentation of Asian communities in EJ scholarship.

[4] In Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons," I detail how nail technicians' long work hours are an impediment to their childcare responsibilities.

2.3.1. The Labour-Environment Divide

Labour environmentalism is not a new phenomenon.[5] The United Farmworkers advocated to ban dichlorodiphenyltrichloroethane (DDT) and other dangerous pesticides in the 1960s (Cole & Foster, 2000), while, well before the Bhopal Gas Disaster, the workers' union in Union Carbide's Bhopal plant circulated flyers in the adjacent communities, warning: "Lives of thousands of workers and citizens in danger because of poisonous gas" (International Confederation of Free Trade Unions et al., 1985). However, labour's role in EJ's history is underacknowledged. Josiah Rector (2018), who writes about Detroit's labour-environment-civil rights coalitions in the 1970s, observes:

> … many influential interpretations of the decade have ignored these efforts, repeating a "post-material" interpretation of environmentalism inherited from older social science literature on "new social movements"…. Both rank-and-file auto workers and [United Auto Workers] leaders in this era understood that reducing industrial pollution served the material interests of working-class people, particularly people of color segregated in the most toxic occupations and neighborhoods…. Indeed, the concepts of "environmental justice" and "environmental racism" first entered social movement discourse in the context of such coalition efforts. Narratives of the environmental justice movement, written by academics as well as activists, too frequently omit this history. (p. 46).

This underacknowledged history fuels the labour-environment divide, already perpetuated by industries responsible for pollution. Using the "job blackmail," these industries construct improved environmental regulation as the cause of lay-offs and termination. This positions workers' livelihoods in opposition to environmental interests – threats that serve to produce and reproduce the problematic notion that stable livelihoods are inconsistent with environmental interests.

[5] Labour environmentalism refers to the environmental aims of workers, unions, and other workers' organizations.

This dissertation's approach to the nail salon in situated in the broader field of environmental labour studies, which spans the intersections of labour and EJ. Proposed by Räthzel and Uzzell (2013), environmental labour studies "… includes all research that analyses how workers in any kind of workplace and community are involved in environmental policies/practices and/or how they are affected by environmental degradation in the broadest sense" (Stevis et al., 2018, p. 440). Robertson and Westerman's (2015) *working-class ecology* is a pertinent approach that can be situated in environmental labour studies. Working-class ecology "… calls to attention the ways in which class structures, access to power in the workplace, the material conditions of work, and the more-than-human environment interact. A working-class ecology challenges industrial policies and practices that divide economic security from environmental health…." (Robertson and Westerman, 2015, p. 3). This work draws on these theoretical frames to traverse the boundaries of labour and the environment, both in scholarship and in practise.

2.3.2. Gendered Erasure in Occupational Health

Women and non-binary people are underrepresented in occupational health literature, which has historically centered men and male-dominated industrial settings (Betansedi et al., 2018; Hohenadel et al., 2015; Quinn & Smith, 2018). This erasure, in part, has roots in the perception that women-dominated fields are "easy," involve "light work," and draw on women's "natural" skills. Musculoskeletal and stress-related occupational harms, which have disproportionate impacts on women, are underacknowledged and in consequence understudied – one feeds the other. In addition, the underrepresentation of women in science as well as shrinking public funds for occupational health fuel the erasure (Lippel, 1999; Messing, 2018; 1998; Messing and Lippel, 2013; Messing et al., 2003). Because women's occupational health

concerns are understudied, they are underrepresented in regulation. Furthermore, while not specific to gendered forms of erasure in occupational health, limitations in toxics regulation serve to erase women's health at work (Smith & Stiver, 2015). This includes outdated threshold-based measures – such as occupational exposure limits – that do not account for low-level harms (Endocrine Disruptors Action Group, 2016).

In addition, gendered approaches to occupational health research are marred by the perception that women are "hysterical" and overrepresent health concerns – a dimension of environmental sexism that is commonplace in pollution-affected communities (Murphy, 2006; Shadaan, 2019). In fact, the focus on environmental sexism as a core analysis in general is a relatively recent phenomenon in EJ scholarship (MacGregor, 2021; Gaard, 2018). The dismissal is evident in a report released by the Nail Manufacturers Council (2006). In response to the question of whether or not nail technicians are safe at work, the authors respond: "YES. The amount of exposure from nail polish products for salon workers is very low and well below the levels recognized and legally established as safe…." (p. 8). The report continues, "The safety of cosmetics, including nail care products, has been an issue promoted by *several organizations making extreme claims based on little or no evidence in order to draw attention to themselves* [emphasis added]" (p. 8). Borrowing from Grandia (2020), this dismissal is a form of *toxic gaslighting* where offending parties "… deliberately dim the illumination of attention away from their environmental crimes and cast their critics as crazed" (p. 489). This dissertation pushes back against the practice of toxic gaslighting and other forms of occupational health erasure, centering nail technicians' experiential and embodied knowledge.

2.3.3. Asian Voices in Environmental Justice

The final scholarly motivation for this dissertation concerns the underrepresentation of Asian (broadly) experiences of environmental racism in Canada and the United States. In their discussion of Asian American EJ organizing, Chan (2018) laments the exclusion of Asian experiences, noting that little scholarly work has been done since Julie Sze's (2004) same observation fourteen years prior. Chan (2018) identifies the influence of falsehoods, such as the perception that Asian Americans are less impacted by toxic and polluting industries and the model minority myth, which paints Asians (broadly) as successful, docile, and apolitical. The albeit limited data available quashes these myths. The first U.S. based comprehensive study on environmental racism, *Toxic Wastes and Race in the United States*, found that approximately half of all Asian Americans live amidst toxic waste sites (United Church of Christ's Commission for Racial Justice, 1987). Three decades later, in their cross-sectional study of exposure to carcinogenic air pollutants in the United States, Grineski et al. (2017) find,

> Nationally, Chinese and Korean populations experience the greatest mean cancer risks due to HAPs [hazardous air pollutants], followed by the Black population…. It seems that the model minority myth has exerted power over inquiry within the environmental health and EJ research communities, as analytical attention has long been diverted away from Asian Americans (p. 12).

In addition, hazardous occupational exposures, such as in the electronics, garment, and nail salon sector, have disproportionate impacts on Asian workers (Chan, 2018; Sze, 2002).

Much of the available data is U.S. based. In Canada, there are no national-level datasets that point to patterns in hazard exposure and little scholarly work centers Asian experiences from a EJ lens. Nonetheless, there is relevant scholarship that concerns racialized immigrant-settler experiences of environmental racism (Amar & Teelucksingh, 2016; Gosine & Teelucksingh,

2004; Jafri, 2009; Keil et al., 2009; Teelucksingh, 2007), as well as literature on workplace hazards that have disproportionate effects on racialized communities, including Asians (Das Gupta, 1996; Ng et al., 2016; Premji, 2018; Premji et al., 2014; Premji & Lewchuk, 2014). This includes literature specific to the nail salon environment (Ford, 2020; 2014; Ford & Scott, 2017). This dissertation contributes to this scholarship. Nail technicians' occupational health experiences, which, in the Toronto context, disproportionately impact Chinese, Vietnamese, and Korean women, are a manifestation of environmental racism.

2.4. Theoretical Approach: Mapping Bodies in Relationship with Environments in Relationship with Power[6]

Multiscalar Toxicities: Mapping Environmental Injustice in and Beyond the Nail Salon affirms the body's enmeshment in and interconnectedness with material and immaterial environments – the physical world as well as the political, cultural, social, and economic (see Alaimo, 2010; 2016; Gabrielson & Parady, 2010; Nash, 2006; Tuana, 2008; Sze, 2017; 2018). Often cited as a part of the broader theoretical shift to 'the material' or new materialism, this approach owes theoretical debt to Indigenous Land/body knowledges,[7] draws from long-standing materialist approaches, such as in Marxist and material feminism, and reflects the tenets of political ecologies, which – drawing from Marxist political economy, feminist, and post-colonial studies – situates material harm in broader systems of social, economic, and political power (Bridge et al., 2015). Political ecology has long contended with the question of scale and advocates for a deepened analysis of environmental injustices – beyond distributary models that

[6] Each chapter incorporates its specific theoretical grounding. In this section, I discuss the broad theoretical underpinning

[7] See LaDuke, 2017; 1999; McGregor, 2009, 2018; Murphy, 2008; 2017; 2017a; Native Youth Sexual Health Network and Women's Earth Alliance, 2016

map patterns of injustice to the underlying processes that produce environmental harms (Blaikie & Brookfield, 1987; Holifield, 2015; Neumann, 2009; Zimmerer & Bassett, 2003).

While distinct, these theoretical approaches understand the corporeal as embedded, enmeshed, and inseparable from their environments. This enmeshment is not limited to the corporeal, nor is it a stagnant phenomenon; it reflects all the material and shifting relations to our environments. Occupational harms impact and alter bodies (see Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians"), workplace harms "leak" into workers' home lives (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons"), and toxicants move across space and time in bodies and in/on land (see Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon").

The contrasting view – that bodies are capable of separation from their environments – finds roots in neoliberal individualization. Szasz (2007) references the *inverted quarantine* in which boundaries were erected to separate the ruling and working classes – a practise that extends to environmental protection, as bodies are deemed capable of shielding themselves from environmental toxicants through consumption choices (also see MacKendrick, 2014; 2015; 2018). Referencing the enclosure of the commons, McNally (2011) likens the notion of corporeal separation to private property, where "… the bourgeois male self was constructed as a possessive individualist, owner of a demarcated, enclosed body and possessor of property…" In contrast, "… the body of the common people was feminised and animalised, treated as a deficient type, a leaky vessel inadequately separated, differentiated and defined" (p. 44). In this construction, corporeal enmeshment is perceived as a deficit state, attributed to "lower" classes. Leaky bodies become markers of subaltern status – a sentiment that is perhaps linked to the devaluation of gendered service work that involves interaction with bodily wastes (see Chapter 1, "Embodied

Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons"). In environmental politics, we find constructions of the enclosed body in Alaimo's (2016) *carbon heavy masculinities*. Carbon heavy masculinities connote "… masculine, impenetrable aggression" (p. 95) in which [white] bodies and nations must be bordered, armoured, and impenetrable. "Carbon heavy" alludes to pro-extractive politics and the rejection of Indigenous Land/body knowledges. Carbon heavy masculinities, in part, undergird racialized discourses of hygiene which serve to vilify and exclude racialized settler-immigrants – scapegoats in broader processes of neoliberal responsibilization (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons").

Rejecting the fallacy of enclosed bodies and environments, this work is guided by Dayna Nadine Scott's (2015) *feminist political economy of pollution*. The feminist political economy of pollution uses a gendered lens to examine "… systemic issues of power and ownership relating to the question of who profits from and exerts exploitative control over ecological resources, economic capital, and social labour… [and] how exploitative relationships between industrial actors and marginalized workers extend into peoples' everyday physical realities" (p. 5). The approach denotes the structural violences that produce disproportionately gendered material harms, such as concentration in undervalued and undercompensated care and service work, which, in the context of the nail salon, causes disproportionate exposure to harmful and, at times, prohibited toxicants.[8] Structural violences – settler colonialism, capitalist exploitation, and their associated manifestations of racial and gender oppression – are not abstract; they are enmeshed

[8] Kalenge at al. (2020) detected methyl methacrylate (MMA) in 28% of the nail products tested in eight Toronto-based nail salons. MMA is prohibited in nail products; however, it continues to be detected in nail salons and consumer items (see Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions")

in material environments and, in some contexts, are carried by toxicants across space – from oil extraction and petrochemical production to the nail salon (Scott, 2015).

Corporeal enmeshment, then, requires engagement with scale. Inspired by Agard-Jones (2013) who, in turn, draws inspiration from Trouillot's (1988) call for a village-scale analysis, I ask what the corporeal or micro-level teaches us about the broader environment (see Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians"). Inspired by Pellow's (2018) Critical Environmental Justice framework, which, in turn, draws inspiration from World Systems Theory, I ask what a macro-level teaches us about the corporeal and other localized sites, like the nail salon (see Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon").

2.5. Methodological Approach

The broader focus on border-crossings extends into the methodological approaches used in this dissertation. Generally, this work utilizes a mixed-methods approach. Each chapter utilizes distinct methods which span focus groups, occupational health mapping, and semi-structured interview in addition to ingredient, discourse, and pollution data analysis. The specific methods utilized are detailed in each relevant chapter. In general, these methods are approached from the perspective of feminist methodologies. Feminist methodologies "… capture women's lived experiences in a respectful manner that legitimates women's voices as a source of knowledge" (Campbell & Wasco, 2000, p. 783). As Sandra Harding (1987) writes in the foundational text, *Feminism and Methodology*, "Feminists have argued that traditional epistemologies… systematically exclude the possibilities that women could be "knowers" or *agents of knowledge*" (p. 3). This is of particular significance in the context of occupational health, where the voices of women and gender non-conforming people have faced systematic exclusion (Lippel, 1999;

Messing, 2018; 1998; Messing & Lippel, 2013; Messing et al., 2003; Murphy, 2006). In consequence, this project utilizes qualitative methods that emphasize voice – occupational health mapping, focus groups, and semi-structured interview.

Yet feminist methodologies that emphasize women's perspectives in general are not sufficient; the analysis must be intersectional as per Crenshaw's (1991) work and the foundational contributions of Black feminist scholarship in general. Intersectional approaches reveal and challenge broader structures of oppression and their intersections. Di Chiro (2021) affirms that the politics of intersectionality, which connote "… multiple and intermeshed oppressions," are fundamental to EJ as praxis. In an intersectional method, participants' experiential and embodied knowledges are centered and understood within the historical and environmental contexts of their lives (Choo & Ferree, 2010; Misra et al., 2020; Hillsburg, 2013; Lutz, 2015). This is consistent with a multi-temporal approach – reflected in the historicization of racialized discourses of hygiene in Chapter 1, ("Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons") and the tracing of nail products to petrocapitalism and settler colonialism in Chapter 4 ("Beyond the Salon: Oil, Petrochemicals, and the Nail Salon"). This work is not detached from the researcher's broader responsibilities: Part of an intersectional approach is to assist in building and strengthening coalitions via research (Di Chiro, 2021). This links to the importance of *useful* research – work that assists frontline communities in achieving their movement aims.

Aspects of this dissertation further draw on the aims and methods of Participatory Action Research (PAR). I do not claim PAR in its entirety; however, several tenets of PAR undergird this work. PAR challenges top-down approaches to research generation. As a research method, PAR rejects the notion of research "subjects," maintaining that those impacted must have voice

in the aims, methods, and outcomes of the research. PAR is further action-oriented, seeking to effect positive change. Change can occur at multiple scales, from a participant's consciousness of an issue, to improving everyday conditions in the workplace, and to policy-level intervention (Rutman et al., 2005).

My use of PAR is most apparent in the methods used in Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians," and Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions," where the aims were developed in conjunction with the Nail Technicians' Network. In addition, members of the Nail Technicians' Network co-facilitated the workshops. Consistent with PAR, the aims of Chapter 3 and 4 are two-fold and interconnected: To understand nail technicians' experiential knowledge of the workplace; and, to have worker-defined data to support interventions in the sector, including policy-level change.

While emphasizing voice is critical for workers who are, at present, underrepresented in the literature, it is, in addition, vital to consider the labour demanded of affected communities and groups, who are called to present their embodied knowledges and the associated traumas. While such work may have justice-seeking aims, the work nonetheless poses the burden of additional labour (and trauma), and – per Eve Tuck's (2009) call to refuse damage-centered work – can reproduce community- and body-centric narratives of harm, depletion, and deficit. While I utilize occupational health mapping to ascertain the hazards of the nail salon environment, I acknowledge the method's limitations and potential misreading – that the corporeal is a "damaged" site. Other methods used aim to shift the burden of demonstrating violence away from those harmed and to those responsible for the harm (Murphy et al., 2019; Murphy et al.,

2019a). This includes analysis of industry-reported pollution datasets and discourse analysis of post WWII chemical industry advertisements.

2.6. Overview

The four main chapters of this dissertation are written as independent works, but are interconnected. Chapter 1 discusses care work in nail salons, drawing from and building on materialist approaches, such as Marxist feminist writing on reproductive labour, the racialized-gendered division of care work, and body-centered labour theories. Chapter 1 draws on the perspectives of both nail technicians and nail salon consumers to frame the devaluation of nail technicians' care work, which occurs in the context of capitalist exploitation and racialized discourses of hygiene. This chapter finds that nail technicians' care work in the salon can come at the expense of their commitment to personal and familial care work. Chapter 1 ends with a discussion on mutual aid in the sector, a form of reciprocal care relations which emerged in response to the COVID-19 pandemic. Chapter 2 discusses the ergonomic, psychosocial, chemical, and biological hazards in the nail salon environment. This chapter uses the method of occupational health mapping in which nail technicians share the hazards of their worksites, the corporeal implications of these hazards, and their health concerns in relation to their work environments. Chapter 3 discusses short- and long-term solutions to the hazards identified in Chapter 2, centering nail technicians' perspectives. This chapter critiques the focus on voluntary consumer choice-based methods to secure healthier nail salons, arguing that collective-level and enforceable solutions – such as achieved through regulatory interventions – are the key to sector-wide improvements. Finally, Chapter 4 traces nail polish to its roots in petroleum extraction and petrochemical production. Chapter 4 illustrates that nail products are linked to broader scales of

gendered violence – far beyond the nail salon. Chapter 4 affirms that a structural and multiscalar approach is crucial to conceptualizing the harm associated with common nail products.

Nail technicians contend with labour exploitation, exposure to harmful toxicants, and verbal abuses in the workplace. As such, *Multiscalar Toxicities: Mapping Environmental Injustice in and Beyond the Nail Salon* attends to occupational health in the nail salon environment. However, the harm associated with the nail salon is not limited to the nail salon. This dissertation puts forth an expanded approach to EJ – one that conceptually and methodologically rejects the politics of bordering, including the neoliberal tendency to purport individualized and body-centric "solutions." This work attends to interactions at multiple scales (of place and time) and the permeation of structures of violence in/on the material. Embodied and local manifestations of harm are but one node in a broad and interrelated web of gendered violences. Dangerous workplace conditions – rooted in the racialized and gendered manifestations of capitalist exploitation – are embedded in/on workers' bodies. Workplace stressors "leak" into nail technicians' bodies and homelives and impact their abilities to enact relations of care with kin.

The toxicants that harm nail technicians' health find their roots in the environmental violence of petroleum extraction and petrochemical production, which are embedded in structures of petrocapitalism and settler colonialism. Toxicants further "leak" into our home environments in petrochemical-based products. In addition, certain toxic exposures carry intergenerational harm, crossing the placental barrier and persisting in the land. These interrelated processes are linked by extractive politics, where nail technicians labour and perform care work at the expense of their health and kin relationships and where oil is extracted at the expense of life. Linking these forms of extraction points to extractive politics as "… not an

activity, but a relation" that is contrary to reciprocal ways of being (Scott, 2021, p. 124). To limit manifestations of environmental racism, violence, and sexism to certain spaces hides the extent and reach of the violence; it perpetuates erasure.[9] Fueled by neoliberal individualization, harm is presented as body-bound and -centric – a repercussion of our individual "choices." This framework detaches harm from broader scales of violence and responsibility. Yet these harms are not without resistance. Nail technicians resist extractive and exploitative relations at multiple scales – the molecular, interpersonal, and collective. To frame violence as a multiscalar phenomenon necessitates resistance as a collective endeavour that is worker- and community-led – across space, across time.

[9] Environmental sexism is a lesser-discussed phenomenon. It connotes the gendered implications of environmental harm (Voyles, 2015).

CHAPTER ONE

Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons

"Just as the white lady began to talk about how much she hated her mother-in-law, Ma said, "Enjoy!" and expertly ushered the white lady to the drying chair. Ma switched the fan to maximum to drown out the end of the white lady's obnoxious story."

— From *Scarborough* by Catherine Hernandez (2017, p. 36)

A veneer of calm marks the atmosphere of the nail salon, but this can conceal a host of underlying tensions – between workers and clients, between workers and their colleagues, and between workers and their employers. This chapter focuses on the relationship between workers and clients and discusses nail technicians' engagement in care labour. The International Labour Organization (2018) defines care work as "… activities and relations involved in meeting the physical, psychological and emotional needs of adults and children, old and young, frail and able-bodied" (p. 6). Care work is both feminized and undervalued, in large part due to the association of care with women's so-called "natural" abilities to nurture. This conceals care work as skilled work and drives exploitation in the sector (International Labour Organization, 2018). Precarious sectors of care work are further racialized. This evokes questions on who is responsible for care, who is entitled to care, and how is care work valued. While beauty service work is not often defined as care work, nail technicians attend to clients emotional needs in the physical labour of nail care.

Despite nail technicians' labour, "self-care" is often used to explain the manicures and pedicures performed in nail salons. Self-care involves engaging in acts of care for oneself. It is a feminized phenomenon that is often espoused in the context of overwork in productive and social reproductive labour. However, as overburdened women are brought to the forefront, the worker – the enactor of care work – is erased or is vilified. In popular media, Asian nail technicians are

caricatured as blunt, rude, or are made invisible – serving as a backdrop to a main character's narrative. While some popular media depictions illustrate nail technicians and clients in a kin-like relationship, such depictions are often limited to non-Asian nail technicians. In the context of neoliberalism and its racialized occupational hierarchies, "care" becomes transactional, is individualized, and "self-care," in particular, is marketed as a solution to broader structural inequities. Care in this context is limited to the boundaries the self, represented as detached from the worker and broader structural inequities.

Drawing from and building on materialist approaches, such as Marxist feminist conceptualizations of reproductive labour, the racialized and gendered division of care work, and body-centered labour theories, this chapter contextualizes care work in nail salons. As Cohen and Wolkowitz (2018) write, "… by focusing on the materiality of paid body work the pressures to re-produce a gendered, as well as racialized and sexualized, labour force, are revealed" (p. 42). Further, this chapter incorporates care work perspectives from both nail technicians and clients as drawn from fieldwork conducted from 2019 - 2020.

Nail care work is skilled work, yet it is a devalued labour enacted by a devalued labour force, in part, due to *racialized discourses of hygiene* (see Nash, 2006) – a long-time phenomenon that takes on new life in the context of the COVID-19 pandemic. In sum, while nail technicians are tasked with care work for the benefit of their clients, their skilled and embodied labour is undervalued, made invisible, occurs at the expense of care for themselves and their own kin, and is at times met with hostility. This hostility is rooted in the intersections of technicians' gender, race, as well as the perpetual newcomer status allotted to them as racialized people. The chapter ends with a discussion on mutual aid in the sector – a form of reciprocal care relations that challenge extractive politics of care.

2.7. Theoretical Context: Between the Material and Affect

Marxist feminist scholar, Silvia Federici (2004) discusses the development of the sexual division of labour in Europe, which constructed women's unpaid and undervalued reproductive labour (social and biological) as part of a "natural" order. Federici writes, "… the body has been for women in capitalist society what the factory has been for male waged workers: the primary ground of their exploitation and resistance, as the female body has been appropriated by the state and men and forced to function as a means for the reproduction and accumulation of labour" (p. 16). Federici (2004; 2020) discusses the disciplining of women via witch trials and other methods and the resultant restructuration of women's bodies as machines in service to capitalist production – fundamental to both productive and reproductive labour. Drawing on Marx's concept of alienation, bodies are disciplined and transformed into machines of monotonous production and reproduction under capitalism; they are alienated from the products of their labour, one another, and their own bodies.

However, it is not just workers' bodies that are disciplined. Hochschild's (1983) foundational work on *emotional labour* is a pertinent example. Emotional labour refers to workers' regulation of their emotions for customer comfort, particularly in woman-dominated sectors (Hochschild, 1983). It "… requires one to induce or suppress feeling in order to sustain the outward countenance that produces the proper state of mind in others…. This kind of labor calls for a coordination of mind and feeling, and it sometimes draws on a source of self that we honor as deep and integral to our individuality" (Hochschild, 1983, p. 7). Just as workers are alienated from their own bodies via corporeal disciplining under the capitalist economic system, emotional labour represents an additional facet of alienation. Workers emotions are an integral aspect of their labour, yet their outward expressions of emotion may not reflect their true feelings

– hence alienation from the self. As Smith (2009) contends, "… feelings have been *industrialized*" (p. 300). Pabitra Dash, a New York-based nail technician affiliated with Adhikaar[10] shares,

> … we often confront customers who are abusive. They bring a lot of their personal problems into the salon…. For example, we ask our clients how they'd like their nails done and they answer us very abruptly, "Cut them here!" *We have to be cordial to our clients, and make pleasantries such as, "Hello, how are you?"* They sometimes respond, "I'm good. Why you are asking?" *I ask because that's my job. I have to ask.* Most of our clients treat us like we are not human beings…. At times, I tell my boss, *I'm not a counselor*, I'm a normal manicurist. Even though we try to excel at our job, and we try to give the best manicure pedicure, many clients are not satisfied, and they frequently address us with foul language. They'll use very harsh language, and I tried one time to speak up for myself, "Why do you use that language with me? I'm a human being." [emphasis added] (Chhetri, Dash, & Pottenger, 2018, p. 82).

Dash reflects on the hazards inherent to emotional labour-based occupations, where workers must calm, appease, and attend to client's emotional needs, often at the expense of their own mental health (Messing, 1998). A Greater Toronto Area-based nail technician notes the contradictions between the expectations of emotional labour, the material conditions of work, and their actual feelings:

> As a new nail salon worker, I was not treated fairly. I paid the nail salon since I didn't have the language skills and not familiar with the culture here…Typical day is 9 am to 7 pm with no fixed lunch breaks. Get paid $70 per day plus tips from customers. You are under constant pressure to work faster, to chat and make customers happy! When it's not busy, the boss will ask one of us to go home. No pay for the rest of the day. It's so upsetting when work is so insecure. (Ng et al., 2016, p. 17).

However, affective labour is not detached from the material. Miliann Kang's (2003; 2010; 2013) nail salon-focused work demonstrates this. In the influential text, *The Managed Hand: Race, Gender, and the Body in Beauty Service Work*, Kang (2010) terms *body labour*, which is defined

[10] For more details about Adhikaar, see Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions").

as "… commercialized exchanges in which service workers attend to the physical comfort and appearance of the customers, through direct contact with the body (such as touching, massaging, and manicuring), and by attending to the feelings involved with these practices" (p. 20). Based on fieldwork in New York in Korean-operated nail salons, Kang (2010) identifies three forms of body labour: Pampering body labour, done in service to wealthy or middle-class white clientele; Expressive body labour, done in service to working-class Black women, and; Routinized body labour, which serves a multiracial clientele. Pampering labour reinforces white wealthy and middle-class women's bodies as "… both special and normative, thereby upholding these women's racial and class privilege. Simultaneously, it disciplines Asian women's bodies to display deference and attentiveness in line with the controlling image of the Asian "model minority" (p. 9). Pampering body labour attends to more than the client's nails; it includes a more comprehensive practice of care work that incorporates corporeal and emotional care work.

Expressive body labour differs in its application and clientele; the practice involves artistic nail designs that serve as a mode of self-expression for Black working-class clientele. In contrast to pampering body labour, Kang (2010) contends that expressive body labour challenges real and perceived racial conflict between Korean workers and Black clientele. Routinized body labor refers to no-frills and low-cost nail care services. Service in these salons "… kindle fears of disease and contamination that resuscitate negative views of Asians as the "yellow peril" (Kang, 2010, p. 9) – a phenomena that will be revisited later in this chapter.

Kang's (2010) work extends the concept of emotional labour, identifying its corporeal elements as performed by nail technicians. That is, the physicality of emotional labour – bodily contact, touch, and its relation to affect (Kang, 2010). As such Kang (2010) references the "managed hand" in relation to Hochschild's (1983) "managed heart." As in other types of body

service work, the touch work performed by nail technicians is part and parcel of the emotional stimulation clients seek to attain.

Kang's (2010) emphasis on touch and bodily contact is theoretically distinct but akin to the concept of *body work*. In *Bodies at Work,* Carol Wolkowitz (2006) defines body work as "… a move towards conceptualising paid work that takes the body as its immediate site of labour, involving intimate, messy contact with the (frequently supine or naked) body, its orifices or products through touch or close proximity" (p. 8). Body work involves paid labour on other people's bodies and encompasses a range of labour categories, from dentists, sex workers, and hairdressers to embalmers and massage therapists (Twigg, 2000; Wolkowitz, 2006). Like body labour (Kang, 2010), body work emerged in response to Hochschild's (1983) emotional labour. It affirms the importance of materiality in customer service-oriented occupations, where bodies and emotions act in tandem. Body work is akin to touch work, and, in turn, touch work is feminized (Cohen & Wolkowitz, 2018). Per gendered stereotypes, the feminine touch is nurturing while the masculine touch is aggressive. This accounts for women's heightened representation in care-related touch work, but also underlies the devaluation of this work due to notions of women's care work as "natural" (Cohen & Wolkowitz, 2018; International Labour Organization, 2018). As aesthetic services tend to be both feminized and touch-dependent, the sector has historically served as an important source of employment for women (Kay, 2005; Shapiro, 2014).

Occupational hierarchical distinctions emerge in the "dirty" aspects of body work – an aspect of labour market segregation that it raced, gendered, and classed (Wolkowitz, 2000). Twigg (2000) references the nursing sector: "… as staff progress, they move away from the basic bodywork of bedpans and sponge baths towards high-tech, skilled interventions; progressing

from dirty work on bodies to clean work on machines" (p. 390). This logic is evident in other touch-related occupations. In hair salons, junior staff perform hair washes while in the dentist's office, dental assistants perform cleanings. Historically, in beauty salons, nail care was deemed the least skilled aesthetic service, perhaps due to associations with bodily hygiene, bodily wastes, and feet (see Willett, 2005). A nail technician shared, "… "you didn't tell people you did feet"… "[y]ou just said you did manicures…" (Willett, 2005, p. 65). For Korean nail technicians, foot-touch work, such as in pedicures, have been associated with feelings of humiliation (Kang, 2010).

Occupations that involve interaction with bodily wastes are deemed lower in status (Twigg, 2000). As Wolkowitz (2000) contends, "Higher-status occupations tend to see themselves dealing with a bounded body, partly through mapping it as a system, leaving lower-status ones to deal with what is rejected, left over, spills out and pollutes" (p. 153). However, there is need for nuance: "Dirty" work that is deemed masculine, professionalized, and unionized escapes some of the negative connotations attached to feminized, care-focused, and precarious forms of "dirty" work.[11] In addition, while not explicitly "dirty" work, the intersections of gender and race mean that some women's touch work is sexualized (Cohen and Wolkowitz, 2018) – a perception that rings true in the nail care sector (Kang, 2013; Willett, 2005).

3.2. Care as Extractive

Body labour, body work, and emotional labour are not just feminized; they are a racialized phenomenon. Part of Kang's (2010) expansion of Hochschild's (1983) emotional labour is the assertion that these labour market phenomena have disproportionate impacts on women of colour, particularly in the care sectors. In the influential text, "From Servitude to

[11] Plumbers are a relevant example.

Service Work: Historical Continuities in the Racial Division of Paid Reproductive Labor," Glenn (1992) discusses the historical trajectory of the racialization of paid care work in the United States – from servants in white households to widespread dominance in the domestic and service sectors. In Canada too, the care sectors are realms of paid social reproductive labour that are dominated by racialized women as per the racialized-gendered division of labour (Premji et al. 2014).

Though not in reference to nail salons per se, this phenomenon has been called the *global care chain* or nanny chain, which Hochschild (2000) defines as, "… a series of personal links between people across the globe based on the paid or unpaid work of caring" (p. 357). The global care chain includes all the ways in which care work is negotiated and organized, as women migrate to urban locales or across national borders to provide live-in childcare to wealthier families, leaving the care of their own families to older siblings, other kin, or other caregivers. This broader phenomenon is part of what Hochschild (2003a) calls the *commercialization of intimate life* under capitalism. That is, the commodification of care work, which is no longer limited to familial or kinship ties, and is, in fact, dependant on labour from the Global South – producing a racialized hierarchy of care work (Hochschild, 2003a). The commodification of care reflects our alienation from one another, as acts of care shift from love-based to profit-based – though the two are not mutually exclusive.

Care as an extractive and transactional phenomenon is further reflected in the mainstream concept of "self-care" – an emergent trend in wellness circles. Self-care is an old concept, historically used in medical practice in reference to a patient's abilities to cope with, maintain, and manage their health in the absence of a medical professional. While beauty work is not essential to social reproduction, the conflation of health with the generalized concept of

"wellness" means nail care work and other forms of aesthetic service are *beauty therapies* (Sharma and Black, 2001; Wolkowitz, 2000). Self-care has also been defined as a radical concept to survive and thrive amidst structural inequities, such as in Audre Lorde's use of the term as part of a politics of preservation (Lorde, 1988).

However, in mainstream rhetoric, self-care represents a different phenomenon. Various acts of personal indulgence are branded as self-care, from facials to hair care. In this context, care is a commodity that is transactional, individualized, and, per wellness rhetoric, marketed as a solution to broader inequities, such as women's disproportionate burden of unpaid social reproductive work. This is not to dismiss beauty therapy, particularly amidst the tiresome and gendered expectations of simultaneous reproductive, productive, and aesthetic labour. However, this latter conception of self-care is often linked to the market as purchasing goods and services becomes akin to caring for oneself. Getting your nails done is often touted as an element of this neoliberal-driven and individualized self-care practise – a sentiment that is apparent in consumer perceptions of nail care practices. While Lorde (1988) defines care as essential to maintaining the self in the context of structural inequities and, in various works, affirms the importance of mutual care, the commodification of self-care concerns individual acts of indulgence that are often dependent upon but indifferent to workers' exploitation. This is a form of care that is extractive. In part, this chapter asks: What would a collective and reciprocal politics of care look like in the nail salon context?

3.3. Method: Consumers' Experiences of the Nail Salon

On January 24th, 2020, participants were invited to attend a one-hour focus group on nail salon services. As the focus group was to be held at York University (Toronto, Ontario), participants were sought from the York University campus via on-campus flyering, online

advertisements in York University forums, and through outreach with various undergraduate and graduate clubs. The decision to hold the focus group at York University was entirely practical, as the campus offered free room rentals to graduate students. As a requirement of their participation, attendees had to be regular customers of nail salons, acquiring nail services at least once per month. The focus group explored participants perceptions of nail services and nail salons, including the reasons that underlie their commitment to routine in-salon nail care. In total, six participants attended the focus group. Five identified as female and one identified as male. Five of the participants were people of colour, and all participants ranged in age from 18 – 27. Most of the attendees were undergraduate students at York University and one identified as a graduate student. While the participant pool is small, the focus group provides some data on how nail care work is viewed and valued from the perspective of young consumers.

While this chapter interrogates consumer views on care in nail salons, the subsequent chapter, **"**Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians," centres the perspectives of nail technicians, including their views on customer interactions. I incorporate select aspects of the workshops to be discussed in Chapter 3, including findings from a life -mapping exercise conducted with a group of nine Korean nail technicians in February 2020. In life-mapping, participants collectively reflect on how their work conditions affect their lives outside of the workplace (D. Wigmore, personal communication, Feb. 12, 2019; Keith, 2004; Keith et al., 2001). As part of a broader counter-mapping method, life-mapping centers workers' perspectives on how their work lives leak into and impact their personal lives.

3.4. Care Work in Nail Salons: Looking Good, Feeling Good

The consumer participants reported getting their nails done once a month or more often. A few were regular customers of specific nail salons or specific nail technicians while others were

not tied to specific salons. Four had acquired nail care services for several years and two participants began routine in-salon nail care in the past year. The nail services consumer participants acquired vary from shellac and gel manicures to acrylics and basic nail clean-up. When asked why they access in-salon services rather than perform their own nail care, participants mentioned their lack of skillset, their lack of access to the tools and products that are available in-salon, their lack of time, and the ease in which they are able to access nail care in nail salons.

Focus group attendees identified in-salon nail care as a form of "self-care," which makes them feel renewed, confident, and composed. Participants defined self-care as relaxation, pampering, and the sense of betterment gained via professional nail care. Nail care was viewed as a means to meet their aesthetic standards, which facilitated happiness and self-confidence for the consumer participants – all of which reflect that nail technicians attend to customers' emotional needs via their body labour (Kang, 2010; Witz et al., 2003; Karlsson, 2012; Mears, 2014). When asked how participants feel when getting their nails done, they shared that the process is relaxing, therapeutic, allows time to reflect and contemplate, and – as a comment on nail technicians' skillset – is like watching art being created. These client perspectives are consistent with Sharma and Black's (2001) interviews with beauty therapists, which comprise a range of skill-sets, including – but not limited to – make-up application, hair removal, massage, and nail care. Beauty service workers centered the emotional impact of their labour – how they make clients feel. As one beauty therapist shared, "We are all trying to make people feel better. That is the common thing, I think, really, making people feel better, giving people confidence" (Sharma & Black, 2001, p. 918).

It was apparent that routine professional nail care was a priority for the consumer participants. As such, I asked, “How would you feel if you could not get your nails done prior to a major professional or social event?” In response, the participants speculated that their self-confidence would be lowered, they would experience a heightened sense of self-consciousness and embarrassment, and they would feel “naked.” Polished nails almost become a type of PPE in which clients are, in their perspectives, shielded from judgement.

The initial question led to an in-depth discussion on beauty standards. The participants agreed that manicured and pedicured nails are a beauty expectation for women. However, attendees maintained that the pressure to adhere to these standards depends on a variety of factors, including living in a major urban centre where there is more pressure to “look good” and what beauty standards individuals prioritize. Still the participants’ comments alludes to nail care as a form of corporeal discipline in which there is an expectation to uphold and exhibit femininity in aesthetic practice (see Little, 2013). This pressure to “look good” spills into women’s personal and professional lives. One participant shared that in her performance-based field, manicured nails are a must. This reflects the expectations of aesthetic labour, which requires a prescribed physical presentation in the workplace. As with body labour, the workers’ bodily presentation is meant to evoke a positive sensory or emotional reaction in clients (Kang, 2010; Witz et al., 2003; Karlsson, 2011; Mears, 2014).

This occupational expectation is true for beauty service workers, as well. McDowell (2009) writes, “[Beauty therapists] must… conform to acceptable versions of heterosexual attractiveness, wearing visible make up, for example, and having a neat but flattering hairstyle. They must continually work on their own bodies, as well as those of their clients, to meet these expectations” (McDowell, 2009, p. 188). A New York-based nail technician contends, “Nail

salons tend to hire younger women between the ages of eighteen and twenty-five…. They want to hire a young, slender girl. They like for you to be attractive, they don't like for you to be a little bit overweight. There is no preference given to older workers with more experience" (Chhetri et al., 2018, p. 81). While the nail technician participants in this work did not delve into detail on expectations of their aesthetic labour, they did identify the need to "look presentable" in the workplace. In addition, nail technicians shared that customers demand that they smile – a gesture that indicates the material/embodied aspects of emotional labour.

3.5. Care – At Whose Expense? Life-mapping with Nail Technicians

In February 2020, I led the facilitation of an occupational health mapping workshop with nine Korean nail technicians based in Toronto. The workshop was organized in partnership with the Healthy Nail Salon Network, which recently began outreach to Korean-owned and staffed nail salons in the Greater Toronto Area. In addition, the workshop was facilitated with support from members of the Healthy Nail Salon Network, including two Korean-speaking outreach workers who assisted with co-facilitation and translation. Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians," details the historical development of occupational health mapping, its various components, and its value as a worker-led counter-mapping tool. This section highlights the specific findings of a life-mapping exercise conducted during the workshop with Korean nail technicians. In life-mapping, participants are asked how, if at all, their work lives impact their personal lives. Following a group-based exercise comprised of body-mapping (mapping workplace-related harms on representations of the human body) and hazard-mapping (linking the corporeal harms identified to their sources in the nail salon), I asked: "How do the hurts affect your life outside of work?" Due to time constraints, the life-

mapping portion of the exercise was short.[12] However, participants shared a several adverse implications.

While flexibility in work hours has been cited as perk of the beauty service sector (Wainwright et al., 2010), the nail technician participants shared that their long work hours prevent them from spending time with and caring for their families. Consider that pre-COVID-19 business restrictions, nail salons tended to be busiest during non-standard work hours and holiday seasons, when other workers were off-the-clock. This spurred a discussion on childcare amongst the nail technician participants. They shared that it can be difficult to find a babysitter and the cost of childcare is a barrier to access. Concerning racialized and immigrant-settler women, there is a wealth of literature on paid care work as a barrier to their ability to care for their own kin. Premji (2018) found that immigrant workers had to limit the time and resources available to their families as a result of non-standard work hours and economic insecurity in general – a source of guilt for mothers, in particular, due to gendered expectations of familial care. In addition, the loss of kin networks via migration forced some parents to enroll their children in subpar childcare (Premji, 2018). These barriers have caused some nail technicians' organizations to advocate for better access to childcare (Chhetri et al., 2018).

Long hours also impacted workers' health. The nail technician participants shared that they often skip lunch, have to have a late dinner, and, as a result, sleep late. Long hours mean that nail technicians not only lack time for their families; they lack time for themselves. Further, a nail technician participant shared that, because salons are busy during holiday seasons, they are unable to take vacations. Participants further shared that they have problems sleeping due to the

[12] This is an inquiry I plan to revisit and expand on in future work.

aches and pains experienced as a result of a lack of ergonomic design in their workplaces.[13] In a study by Ng et al. (2018), a Greater Toronto Area-based nail technician shared how the back pain she experiences affects her life: "I started having back pain since taking this job. I take pain medication. I work even when I'm in pain because the customers have booked their appointments. After my childbirth, the pain has been aggravated by holding the baby. Now I can't even afford to go for physiotherapy" (p. 28). This testimony is consistent with experiences of the nail technician participants in this work, who noted that aches and pains are expensive; they necessitate spending money on body care services, such as massage therapy and other forms of medical care. None of the participants had workplace health benefits to cover such costs.

As will be discussed in Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians," a number of health implications result from nail technicians' working conditions. This includes the material implications of stress. The nail technician participants identified moodiness as a result of workplace stressors, and, in general, how the stressors of the workplace leak into their personal lives. As will be discussed in Chapter 3, these workplace stressors are rooted in negative interactions with customers and bosses, the uncertain impacts of toxic exposures via nail products, and labour exploitation in general. Another participant discussed the implications of skin allergies linked to exposure to hazardous toxicants in nail products. She shared that the itch associated with the allergies is bothersome, causes her to lose sleep, and, in general, negatively impacts her quality of life. Because occupational harm is embodied, nail technicians carry the burden of their work conditions throughout their lives. These harms do not begin and end with the workday.

[13] These health harms are detailed in more depth in Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians."

3.6. The "Discount" Nail Salon: Racialized Discourses of Hygiene

The workshop with York University-based consumers of nail services led to an unexpected finding – one that furthers the question of how care work is valued within the interwoven constructions of race, gender, and migration status. All six nail salon consumers maintained that they do not acquire nail services from "discount" nail salons, and, instead visit "middle-range" salons, which are not cheap but are also not deemed high-end. It is possible that peer pressure and fears of embarrassment in the small group underlie their collective assertion, as, for some, professional nail care is a class marker (Kang, 2010). I asked the focus group attendees how they defined "discount" nail salons and how this differed from the nail salons they visit. Some were of the opinion that "middle-range" salons require appointments, while others stated that walk-in services are available. As I continued to probe the question, a participant offered the example of the Salon Concepts Spa located at York Lanes in York University – although, based on my limited experience, the nail care prices in this salon are cheaper or on par with what participants might otherwise consider a discount nail salon. In general, participants seemed to define middle-range salons as those that have a quiet, spa-like ambiance but still offered affordable rates.

I asked participants why they choose not to obtain nail services in "discount" nail salons. One participant shared that it was a matter of their preferred salon's convenient location. However, others shared an array of assumptions concerning nail technicians' skillsets and cleanliness in nail salons. Some said that the application of polish was not as smooth or well-done and customer service skills were lacking in "discount" salons. One participant relayed a friend's experience in which the staff at the salon were rude and did not deliver the service the friend had asked for. The participants questioned the cleanliness in "discount" nail salons,

including assumptions that the tools were not properly disinfected. This perception is consistent with popular assertions in media and elsewhere that discount nail salons are sites of fungal infection due to a lack of cleanliness. It is notable that only two participants shared that they had in the past acquired nail services in "discount" nail salons. Others based their opinions on word-of-mouth.

The participants perceptions of "discount" nail salons reflect Kang's (2010) aforementioned conceptualization of *routinized body labour.* Kang (2010) defines routinized body labour as:

> The McDonald's of the nail industry… offer[ing] fast, inexpensive manicures and pedicures with no frills. However, no frills does not mean no work, as this form of service is not necessarily easier than that which prioritizes either pampering or artistic expression. Instead, it means that manicurists must work to counter negative stereotypes of Asians by providing adequate service under factory-like conditions for rock bottom prices. They have little time to pamper clients and instead concentrate on providing quick, safe manicures in contexts that are far from ideal. (p. 204).[14]

While it is problematic to transplant New York-based theorizations of nail salons to the Greater Toronto Area, there are commonalities between Kang's (2010) conceptualization of routinized body labour and the description of discount nail salons offered by the consumer focus group participants. In such nail salons, nail technicians are expected to perform emotional labour that involves keeping clients happy in the absence of pampering work such as massage and conversation. The anger that arises when nail technicians refuse these extra services can result in race-based stereotypes related to cleanliness and curtness, which detract from the structural conditions that produce the McDonald's-like quick service in the first place (Kang, 2010).

[14] Likewise, Eckstein and Nguyen (2011) refer to these salons as "McNails."

The consumer participants' views of "discount" nail salons and the staff therein reflects Kang's (2010) theorization, including assumptions of rude and unskilled nail technicians. However, I resist the language of "discount" nail salons. In addition to unclear differences between "discount" and "middle-range" salons, the term "discount" implies deficit and is, in popular frames, racially coded. The discount nail salon is always Asian (broadly) owned and operated, is unclean, and is an environment rife with harmful toxicants and labour violations. The "high-end" salon is understood in contrast and is thus viewed as free of hazards and other issues – an entirely unfounded assertion. The liberal use of the "discount" framing warrants pause; it reproduces age-old racist stereotypes in relation to East and South East Asian workers and their work environments. To illustrate, "discount" nail salons are routinely linked to consumer fears of unhygienic practices that result in fungal infections – an assumption rooted in racialized discourses of hygiene and disease.

These racist sentiments were expressed in a May 6, 2020 webinar conducted by Larry Gaynor, CEO of TNG Worldwide – a supplier of nail products and other cosmetic products. Gaynor asserted "… if you're in a nail business, the biggest enemy is the Vietnamese salon." Gaynor went on to spout racist rhetoric about Vietnamese nail technicians' customer service skills, sanitation practices in-salon, and technicians' use of the Vietnamese language to express themselves (Samson, 2020). According to Gaynor, when speaking in Vietnamese, nail technicians express rude sentiments about clients. Whether real or imagined, the expectation that nail technicians speak kindly and in English stem from clients' demands on workers' emotional labour. The act of speaking Vietnamese or speaking in another non-English language is, then, a mode of interpersonal resistance to the undue expectations placed upon nail technicians (Kang, 2010).

Gaynor's racist and xenophobic rhetoric is a contemporary manifestation of the long-time vilification of nail technicians. Willett (2005) traces this history and asserts, "… the manicurist, like the nail tech today, has struggled for autonomy and respect in popular culture and on the shop floor" (p. 59). Willett (2005) discusses cultural norms and newspaper headlines from the 1910s, which defined manicurists as unintelligent "gossipmongers" and associated them with sex work and thefts. Further, manicurists were seen as the least-skilled professionals in salons, as nail care was often the first work duty assigned (Willett, 2005). This perception continues. A beauty therapist interviewed by Sharma and Black (2001) shared, "We all have to deal with the 'oh, they just paint nails and do massage – nudge, nudge, wink, wink!' Men tend to regard it smuttily and women … tend to think we are all brainless bimbos" (p. 917). The association of nail technicians with sex work further manifests as *racialized sexualization* – a term used by Kang (2013) to denote labour, often touch work, which is nonsexual but is given a sexual connotation by clients. While none of the nail technician participants in this work shared concerns related to sexual violence, nail technicians in Kang's (2013) work revealed troubling sexual harassment, such as being propositioned, being subject to unwanted flirtation, and that "[Some men come to the nail salon] just because they want to hold a woman's hand" (Kang, 2013, p. 164). Thus care-related touch work can be constructed as "dirty" or sexualized, in part due to the gender and racial identities of carers.

The racialized sexualization of East and Southeast Asian nail technicians has roots in legacies of gendered racism, including anti-Chinese racism. Per colonial discourse in the nineteenth century West, Chinese women were deemed sexually immoral, labelled as sex workers, and viewed as carriers of disease (Das Gupta, 1996; Kang, 2010; 2013). Racialized sexualization is thus rooted in the broader notion of what Kang (2010) calls a "new yellow

peril," which denotes a "… collection of racial stereotypes of Asians… Asian Americans [and Asian Canadians] as dirty, alien, evil, and bent on invading or undermining Western civilization" (Kang, 2010, p. 203). Consider that, in the present-day, nail salons are, at times, framed as sites of sex trafficking (Kang, 2013) – an assertion that at once insinuates unwanted migration, constructs East and South East Asian people as predatory, and alludes to engagement in "immoral" sexual acts. Under the guise of support, these characterizations reproduce the openly racist depictions from the nineteenth century.

In addition, Gaynor's racist tirade is reminiscent of perceptions of Asian labour as "cheapening" labour standards – a misconception that erases Asian labour activism, histories of Asian exclusion from some labour unions, as well as the structural conditions that forced Asian labourers to accept lower wages, such as widespread labour market exclusion. This broader vilification of East and South East Asian communities has implications for worker-blame, too; illnesses and injuries on the job are deemed the fault of the individual as per their perceived "inferior" cultural practices (Kang, 2010; Premji, 2018). Per this logic, nail technicians do not bear the brunt of salon-based hazards; they are the perpetrators as their bodies are deemed a "polluting" presence.

3.7. COVID-19: Something Old, Something New

Beginning in March 2020 with the onset of the COVID-19 pandemic, racialized discourses of hygiene have began to take on a new life in which anti-East and South East Asian racist violence – broadly – and anti-Chinese racist violence – specifically – is heightened. Early on, COVID-19 was referred to as the "China virus" – language that evoked and perpetuated anti-Asian racist rhetoric related to disease and infection. From the onset of COVID-19 to September 2020, over 600 incidents of anti-Asian racism were reported in Canada, most of which targeted

women and involved verbal abuses, such name-calling, slurs, and threats. Close to 30% of the incidents reported involved physical violence, such as spitting, coughing, and assault (Chinese Canadian National Council Toronto Chapter et al., 2020). This rise has been linked to heightened levels of mental health concern in Chinese, Japanese, and Korean communities (Wu et al, 2020).

When, in June 2020, 37 COVID-19 cases were traced to two nail salons in Kingston, Ontario, I reviewed public comments left on the reporting of these events. I looked to both Facebook and Twitter, where the Canadian Broadcasting Corporation (CBC), CTV News, and Global News post their articles. In reviewing the comments, several themes emerged. Some commenters expressed support for the nail salons impacted, while others discussed the safety measures in place in their preferred nail salons. Some users blamed the "greedy" owners of these nail salons, while others blamed the provincial government's response. Many comments involved users berating patrons of nail salons as vain, selfish, and lazy. In addition, several commenters stated, in vulgar terms, that nail salons are unhygienic spaces, which a few explicitly linked to technicians being of Asian (broadly) descent. A few nail technicians chimed in to differentiate themselves, claiming that the problem-causers are "chop shops" – a derogatory term for inexpensive Asian-operated nail salons (Kang, 2010).

These aforementioned comments should be seen as part of a historical trajectory. In "When a disease is racialized," Edward Hon-Sing Wong (2020) traces the historic vilification and exclusion of Chinese communities – from, in 1890, the classification of Vancouver's Chinatown as more susceptible to cholera to, in 2003, boycotts of Asian-operated businesses amidst SARS, and in 2020, anti-Asian racism and violence as a result of COVID-19. These narratives underlie and validate border closures, from historical Asian exclusion laws to COVID-19-related travel bans from China (Kraut, 1994; Wong, 2020). However, much like the false perception that

bodily boundaries can prevent toxic exposures,[15] there is limited evidence that border closures are an effective measure to limit the spread of infection and disease (Errett et al., 2020). Targeted border closings, in particular, perpetuate fears of Asian bodies and are enacted as symbolic gestures to thwart and individualize blame, not as effective public health measures (Hoffman & Fafard, 2020; Liew, 2020). It is crucial to move beyond such individualistic, body-centric, and enclosing frames to a collective politics.

3.8. Towards Collective Politics of Care

In "The Virus is a Relation" and in reference to the COVID-19 pandemic, Alexis Shotwell (2020) advocates for a shift from policing and border closures to reciprocal relations of care. Shotwell (2020) writes, "The close-the-borders approach stabilizes structures of containment, social surveillance and control, and underlines a conception of some places and people as contaminated…" (para. 2). Shotwell (2020) advocates for an approach that transcends corporeal boundaries, which focus on self-protection and containment, to an approach that embraces our collective responsibilities to protect one another: "Community care is a better relationship to hold to than containment and boundary-protection" (Shotwell, 2020, para. 4).

This chapter has centered care work, which, in the nail salon and other precarious work environments, can involve exploitative relations between clients, bosses, and workers. However, amidst the COVID-19 pandemic, new models of reciprocal care relations have arisen. To be clear, nail technicians' practice both self- and mutual forms of care as everyday acts as well as part of more radical and long-term aims (see Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions"). However, COVID-19 has fostered additional

[15] This is detailed in Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians."

manifestations of mutual aid in the sector. These models respond to COVID-19's impact on nail technicians' livelihoods.

Already a precarious sector, nail salons have been hard-hit by COVID-19. Due to closures and other public health-related guidelines, many are faced with joblessness. In addition, nail technicians who can continue to work must contend with the additional threat of COVID-19 exposure. In response, nail technicians' organizations have initiated innovative formed of mutual aid. In the United States, there is assistance in submitting government financial support applications, access to emergency funds, such as the Nail Salon Worker Resilience Fund in New York, grocery shopping assistance, and online videos on workers' rights in the context of COVID-19 and beyond (National Healthy Nail and Beauty Salon Alliance, 2020). The crisis of COVID-19 has further prompted more systemic aims in the New York context. This includes free access to medical care, improved and accessible social safety nets, rent suspensions, a call to end the detention of immigrants and other vulnerable communities, and better protections for workers (New York Nail Salon Workers Association, 2020). In Toronto, the Nail Technicians' Network performs wellness calls to worker-members, assists with applications for Employment Insurance (EI) and the Canada Emergency Response Benefit (CERB) including translation services, and leads online workshops on workers' rights, COVID-19, and CERB aimed at both workers and nail salon owners (Jackie Liang, personal communication, July 15, 2020).

These diverse responses to COVID-19 manifest care as a politics of collective betterment in the nail salon sector.[16] Reflecting on the United States based efforts, Sharma (2020) writes, "These mutual aid networks reflect a collective care that [nail technicians' organizations] had long been practicing in their communities, not out of any obligation to charity but out of a

[16] For a discussion on the collective politics of care in the work of nail technicians' organizations, see Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions."

commitment to reimagining existing relations through organizing and support—that is, a commitment to survival" (p. 502). This reflects Lorde's (1988) framing of care as a politics of preservation. Mutual aid responds to exclusion and state inaction; it builds and models reciprocal relations of care, is collective-oriented, and thus ensures group-based survival (Sharma, 2020). This is in contrast to the mainstream, individualized, and transactional conceptions of self-care discussed earlier, which underlie exploitative and extractive nail technician-client relations.

Through worker-to-worker support efforts in the context of COVID-19, nail technicians care for one another's short-term survival. Through the long-term aims of improved working conditions, nail technicians further advocate for their own self-care, that of future workers in the sector, and of customers, as, with better work conditions, technicians would not be pressured to serve multiple clients in quick succession.[17] These long-term aims rightly put onus on the state as, while mutual aid is critical to survival, it is nonetheless labour. In sum, via mutual aid and long-term organizing, nail technicians' organizations, like Toronto's Nail Technicians' Network, model and advocate for a collective politics of care – one that transcends the boundaries of self, builds reciprocity, and is future-oriented.

3.9. Conclusion

Beauty therapy is care work that attends to clients' emotional and other needs – the touch that spurs relaxation, the newly manicured nails that renew clients' self confidence, and the labour of beautification necessary for clients to enact their own aesthetic labour in the workplace. Subsections of the care sector – those that are most undercompensated, undervalued, and involve "dirty" work and body labour – are dominated by racialized and immigrant-settler women. In the

[17] For more detailed information on nail technicians' work conditions, see Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians."

context of the nail salon, the transactional exchange of care between nail technicians and clients is an extractive relationship in which the personal costs of nail technicians' labour is erased. This includes sacrifices in their personal and familial care work as well as technicians' own self-care.

Subsequent to the erasure is hypervisibility. Per racialized discourses of hygiene that vilify East and South East Asian communities, "discount" salons are constructed as unhygienic and nail technicians are framed as rude and unskilled in both nail care and customer service – thus, perceived as lacking in their abilities to perform care work. In contrast to such extractive, exploitative, and undervalued relations of care, amidst COVID-19, new collective models of care have been enacted in nail technicians' organizations – models that are rooted in the practice of mutual aid. As will be discussed in depth in Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions," these models build upon nail technicians' existing demands for improved work conditions. Through their labour, workers affirm care as reciprocal; care as collective, and; care as a politics to survive and thrive.

The subsequent chapter contends with further dimensions of nail technicians' body labour – their exposure to multiple types of toxicities in the workplace, which include verbal abuses, labour exploitation, and conventional toxicants.

CHAPTER TWO

Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians

"Nobody wants to come to Canada to accept this, being exploited in nail salons. Pregnant, thinking you have to leave this job."

— Jackie Liang, Nail Technicians' Network[18]

In 2013, staff at Toronto's Parkdale Queen West Community Health Centre (Parkdale Queen West CHC) observed a disturbing trend. Nail technicians employed in nail salons were presenting with similar respiratory and dermal health concerns. These initial observations led to the founding of the Healthy Nail Salon Network and, later, the worker-led Nail Technicians' Network – both of which advocate for healthier and improved working conditions in Greater Toronto Area nail salons.[19] While nail salon-based health research is limited, in part, due to long-time gender biases in occupational health research that exclude women and gender variant people (Messing, 1998; Quinn & Smith, 2018), there is now increased attention to nail technicians' health due to toxics mitigation and labour rights campaigns that centre the nail salon environment. From musculoskeletal pain to headaches and reproductive health concerns, studies have found an array of health hazards in nail salon environments.[20] These health hazards are rooted in a lack of ergonomic design, harmful toxic exposures, and precarious work conditions that induce stress and manifest pain, illness, and other adverse health conditions.

[18] Jackie Liang is a leading figure in Toronto's Nail Technicians' Network and has worked as a nail technician for the last ten years. In addition, Liang is a peer outreach worker in the Nail Salon Workers Project. In recognition of her dedication to improving conditions in nail salons and other precarious worksites, Liang was awarded the Chinese Canadian Achievement Worker's Award (2018) by the Chinese Canadian National Council.

[19] For further discussion on the development and work of the Healthy Nail Salon Network and the Nail Technicians' Network, see "Introduction" and Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions."

[20] See, for example: Adhikaar for Human Rights and Social; Justice, 2015; California Healthy Nail Salon Collaborative, 2011; Broadwater & Chiu, 2019; Park et al., 2014; Harris-Roberts et al., 2011; Herdt-Losavio et al., 2009; John et al., 1994; Laslo-Baker et al., 2004; Ma et al., 2019; Meyer et al., 2008; Quach et al., 2008; 2011; 2015; Roelofs et al., 2008; Seo et al., 2019.

The detection of recurrent respiratory and dermal health concerns amongst nail technicians prompted Parkdale Queen West CHC to focus on occupational health in the nail salon environment. In the Greater Toronto Area, nail technicians are often newcomer or immigrant-settler women of Chinese, Vietnamese, or Korean ethnic origin. A lesser percentage are from Tibetan, Latin American, and Eastern European communities (Ford, 2020). In 2014, in partnership with the now-defunct National Network on Environments and Women's Health (NNEWH), Parkdale Queen West CHC held a focus group, "How training and employment conditions impact on Toronto nail technicians' ability to protect themselves at work" – the first such initiative in the Greater Toronto Area. Nail technician participants disclosed "… skin problems and irritations, allergies, upset stomachs, problems sleeping, tiredness, musculoskeletal issues, burning eyes and coughing." Participants also shared their reproductive health concerns due to workplace exposure to harmful toxicants (David, 2014, p. 7-8).

Workers' health concerns take place in the context of limited access to health and safety information, inadequate PPE provision, and fears of reprisal linked, in part, to precarious immigration status (Ahrens & David, 2018; Balkissoon, 2012; Chen et al., 2016; David, 2014). These barriers are consistent with broader occupational health trends specific to newcomer and immigrant-settler communities in the Canadian context (see Premji, 2018; Premji et al., 2010; Premji and Shakya, 2017). Further, they reflect a central concern: Newcomer workers are limited in their capacity to exercise *voice* in the workplace. This extends beyond health and safety considerations, as wage-related violations, verbal abuse, and misclassification as independent contractors have been identified as issues of concern in Toronto's nail salons (Ontario Ministry of Labour, 2014; Mojtehedzadeh, 2020; 2018). *Voice* is of central importance. When workers

can freely exercise voice without fear of retaliation, their work conditions improve (Stanford & Poon, 2021).

Nail salons, as a research site, offer insight to the relationship between precarious and hazardous work. While there are multiple definitions of precarious work, I draw on Vosko's (2006) framework: "... work involving limited social benefits and statutory entitlements, job insecurity, low wages, and risks of ill-health," which intersect with employment status and social location, such as gender, race, and immigration status (p. 3). Nail technicians' work conditions further reflect the racialized-gendered division of labour in which precarious, low-wage, and undervalued labour, including service and care work, is offloaded to newcomer women of colour (Premji et al. 2014; Ng, 1990). With the exception of studies conducted by Parkdale Queen West CHC and the Occupational Cancer Research Centre, studies on Toronto-based nail technicians' occupational health are limited. Most published data are United States based. While there are important parallels to be drawn, the experiences of nail technicians in Canada is distinct as it is rooted in a different historical, political, legal, social, and cultural context. United States based data provides guidance and affirmation of certain health-related findings but cannot be wholly transplanted to the Canadian context.

This chapter contributes to Canadian scholarship on nail technicians' health via occupational health mapping – a worker-led methodological tool to identify workplace hazards and their health outcomes, which, in the nail salon environment, are inclusive of ergonomic, chemical, biological, and psychosocial hazards.[21] Occupational health mapping is a useful tool to challenge workers' inability to meaningfully participate in the workplace, as the method: (1)

[21] Ergonomic hazards are caused by physical workplace conditions and expectations that produce musculoskeletal injury (e.g. repetitive tasks and associated movements, uncomfortable postures, etc.). Chemical hazards involve exposure to toxicants while biological hazards involve exposure to viruses, bacteria, mould, and other like materials. Psychosocial hazards impact workers' mental health (e.g. stress, verbal abuse, sexual harassment, etc.).

Contests top-down approaches that construct workers' bodies as research "subjects," such as in biomonitoring and toxicology, and affirms workers' knowledge of their bodies and workplaces, and; (2) Can facilitate group reflection, which – essential to non-unionized environments – prompts worker solidarities and collective action (Keith, 2004). As a visual method, occupational health mapping further contests the relative invisibilization of immigrant-settler women's occupational health. It serves as a testament to multiscalar and materialist approaches that affirm *bodies in relationship with environments in relationship with power*.

4.1. "Vulnerable" Workers

Newcomers and new immigrant-settlers have higher rates of workplace-related illness and injuries as compared to workers born in Canada (Premji, 2018a; Yanar et al., 2018). At the root, this is due to the stratification of labour in the Canadian context, where racialized newcomer women, in particular, are concentrated in precarious work due to "... racist ideologies that perpetuate stereotypes of [their labour]... as "natural" and "unskilled" and of their jobs as having low social and economic value, in order to maintain a cheap labour supply for the purposes of maximizing profit" (Premji, 2018a, p. 118; Das Gupta, 1996; Ng, 1990; Noack & Vosko, 2011). This ideology underlies the historic intersections of immigrant and racialized labour, precarity, and dangerous work (Premji, 2018a).

In general, in Canada, women are overrepresented in part-time and temporary work, marked by low-wages and little protection (Cranford et al., 2003; Vosko et al., 2009). This devaluation of women's labour is pronounced for racialized newcomer and immigrant-settler women, who, in addition, may face language barriers, discrimination, a lack of professional networks, problems accessing services, unrecognized credentials, lack of Canadian work experience, social isolation, disproportionate household responsibilities, and a lack of affordable

childcare – all of which intersect to impede access to good jobs (Das Gupta, 1996; Merolli, 2012; Ng et al., 2016; Noack & Vosko, 2011; Premji & Shakya, 2017; Premji et al., 2014; Vosko, 2000; Yanar et al., 2018). In turn, precarious work facilitates ill health – sleep disruptions due to non-standard work hours, lack of rest due to long commutes, workplace injuries due to inadequate PPE provision and training, and stress due to disrespect and abuse in the workplace (Premji, 2018; Premji & Lewchuk, 2014; Premji and Shakya, 2017; Premji et al., 2010; Yanar et al., 2018). Ng et al. (2016) refer to this phenomenon as a "public health crisis" (p. 3).

Nail technicians, in particular, have been described as "vulnerable" in the context of occupational health. Ontario's Ministry of Labour (2014) deems nail technicians "vulnerable workers" due to heightened risk of labour rights violations, while Canada's federal government deems nail technicians "vulnerable populations" due to their disproportionate occupational exposures to harmful toxicants (Government of Canada, 2019). Problematically, in the context of neoliberalism, all-too-common notions of vulnerability highlight demographic characteristics, which mark "vulnerable" groups as deficit and, thus, insinuate individual-level responsibility (Gilson, 2014). This is pertinent to immigrant-settler workers, who must contend with stereotypes of inadequate qualifications, poor health, and general carelessness at work – myths that blame newcomer and immigrant-settler workers for workplace-related illnesses and injuries, not the structural and infrastructural conditions of work (Premji, 2018a).

Rather than social location as a marker of vulnerability, Smith et al. (2015) propose the vulnerable workers' model, which identifies workplace conditions that influence the likelihood of hazardous labour: Increased exposure to workplace hazards in conjunction with a lack of workplace policies and procedures to mitigate potential hazards, a lack of awareness of hazards and occupational rights and responsibilities, and disempowerment or lack of *voice*, which

prevents workers from actively participating in hazard mitigation and injury prevention (see Figure 1). Recent Ontario-based studies demonstrate that newcomers experience these barriers, including the reluctance to voice their concerns due to fears of reprisal, beliefs that their concerns will not be heeded, and worries about relationship damage. Worries about relationship damage are a pertinent concern for newcomer workers, who, due to barriers in the labour market, may depend on kinship ties to secure gainful employment (Lay et al., 2016; 2018; Yanar et al., 2018).

Table 1: Vulnerable Workers' Model (Smith et al., 2015)			
		Table 1: Workplace Protections (Policies and Procedures, Awareness, Worker Empowerment)	
		Adequate	**Inadequate**
Exposure to Hazards	**No**	Least Vulnerable	Somewhat Vulnerable
	Yes	Somewhat Vulnerable	Most vulnerable

4.2. Counter-Mapping Workers' Health

Canadian occupational health researcher, Margaret Keith (2004) describes mapping as "… essentially a visual data gathering and reporting technique as well as a tool for developing collective analyses and action plans" (p. 162). The method can involve three distinct mapping strategies. This includes:

- Body-mapping, where participants attach workplace-related health harms to visual representations of human bodies or to their own bodies via "ouch stickers";
- Hazard-mapping, where occupational hazards are visually linked to representations of the layout of the worksite, and;

- Life-mapping, where participants reflect on how workplace hazards affect their lives outside of work (D. Wigmore, personal communication, Feb. 12, 2019; Keith, 2004; Keith et al., 2001).

Body-mapping is further used in other contexts of health and well-being, such as in HIV/AIDS activism, where, since the 1990s, it has been used an art therapy and storytelling tool used to map pain, emotions, and illness in addition to strength, visions of the future, and sources of support (AIDS and Society Research Unit, 2007; Morgan & Bambanani Women's Group, 2003; Solomon, 2002). While this method differs from traditional workplace health-related approaches, some have adopted arts-based methods in occupational health and wellness research, such as Gastaldo et al.'s (2012; 2018) use *body-map storytelling* in their work with undocumented workers in Ontario and Wilson et al.'s (2011) use of *World to Body Mapping* in their work with racialized communities in Toronto's Black Creek community, who face precarious employment and economic insecurities.

Occupational health mapping is used in trade unions and labour organizations worldwide but is commonly traced to the Italian Workers' Model in the 1960s, which incorporated questionnaires and "risk maps" where workers collectively identified workplace hazards and resultant health outcomes (Keith, 2004; Keith & Brophy, 2004; Loewenson et al., 1995). In the Global South, Participatory Action Research (PAR) was in development, guided by early PAR practitioners such as Marja-Lisa Swantz, Budd Hall, Francisco Vio Grossi, Orlando Fals Borda, Rajesh Tandon, and Paolo Freire. Freire's (1970) method influenced the Toronto-based GATT-Fly, a Christian multi-denominational economic justice-oriented collective, which used popular education to develop the "Ah-Hah" method – one of the first known uses of hazard-mapping and life-mapping in Canada (GATT-Fly, 1983; Keith, 2004; D. Wigmore, personal communication,

Feb. 12, 2019). As a community-led approach that contests top-down notions of expertise and aims to facilitate social transformation, PAR is fundamental to occupational health mapping.

Mapping is worker-driven, low-cost, accessible (in language and format), collaborative, and can affirm workers' experiences of ill-health (Keith, 2004). In addition, occupational health mapping can capture other hazards of the workplace, such as labour violations. The method further accounts for the broader context of the work environment, and – integral to non-unionized workplaces – can facilitate sharing and collective reflection, and, thus, solidarity and action (Keith, 2004). In fact, during a mapping workshop, one nail technician expressed her surprise upon learning that other nail technicians had similar work-related health experiences and concerns. Further, the workshops resulted in increased participation in the Nail Technicians' Network (Jackie Liang, personal communication, July 15, 2020).

Occupational health mapping methods respond to the need for worker-driven approaches that can stand-alone or supplement top-down interventions that construct workers bodies as research "subjects," such as in biomonitoring and toxicology (Keith, 2004; Nash, 2006). It is thus a form of *toxic autobiography* (Newman, 2012) or corporeal-level counter-mapping – a counter-narrative that asserts embodied experiences of toxicity and other occupational harms to challenge dominant, top-down constructions. This is pertinent to women workers, who have had their occupational health be dismissed in woman-dominated fields, which are falsely constructed as "easy," "light," or "natural," erased in male-dominated fields, and have been subject to accusations of "hysteria" when sharing their work-related health concerns (Messing, 2018; 1998; Messing and Lippel, 2013; Murphy, 2006). Occupational health mapping understands workers to be the experts of their environments, including the sources of potential hazards and best practices in hazard mitigation. The approach is consistent with Watterson's (1994) conception of *lay*

epidemiology and Brown's (1992) *popular epidemiology*. Popular epidemiology is used to denote frontline community-level expertise in relation to toxic and polluting industries, while lay epidemiology has been used in relation to occupational health. Both terms refer to the use of worker- or community-led data collection, use, and mobilization, often in partnership with academic and other allies (Brown, 1992; Watterson, 1994). Occupational health mapping visualizes worker-led and based understandings of space that counter external, power-laden constructions that define local knowledge as suspect and subject to external confirmation via hard science. As a counter-mapping practice, occupational health mapping facilitates workers' reclamation of the stories of their bodies, workplaces, and communities.

4.3. Theoretical Approach: Beyond the Bounded Body

Occupational health mapping – by virtue of its method – rejects the notion of a bounded and disconnected body. While fields like EJ and industrial hygiene have long placed bodies in relationship with environments in relationship with power, feminist materialist approaches have shaped recent scholarship on gendered environmental hazards, affirming corporeal permeability – where material sites interact with broader infrastructures and structures of power. Feminist materialist approaches further shape notions of corporeal permeability; that bodies are in relationship with environments and in relationship with power. Tuana's (2008) *viscous porosity* asserts that phenomenon is the product of complex interactions between the "natural," "human-made," "social," and "biological" – categories that are thought bounded and impenetrable but are porous and viscous (resistant). In particular, Tuana (2008) references "plastic flesh": "The boundaries between our flesh and the flesh of the world we are of and in is porous. While that porosity is what allows us to flourish—as we breathe in the oxygen… and metabolize the

nutrients…. [T]heir viscous porosity often binds itself to strange and toxic bedfellows." (p. 198). Toxicants *become* flesh (Litvintseva, 2019).

Influenced by Tuana's (2008) conceptual framework, Alaimo (2010; 2016) terms *trans-corporeality* which refers to the intertwined relations between flesh, built and natural environments, toxicants, infrastructures, and structures of power. The trans-corporeal person is, "… "situated" in a more material manner, as the very substances of the world cross through her, provoking an onto-epistemology that reckons, in its most quintessential moments, with self as the very stuff of the emergent material world." (Alaimo, 2016, p. 8). Noting that the distribution of exposure to toxicants can be raced, Sze (2017; 2018) extends Alaimo's framework to term "racialized trans-corporeality." However, new materialism, as a field, often under-recognizes and under-cites the debt to Indigenous Land/body knowledges, which, since time immemorial, have affirmed interconnected relations and responsibilities between humans, non-humans, and environments (Todd, 2016; Watts, 2013; Kimmerer, 2013; LaDuke, 2017; 1999; McGregor, 2009, 2018; Murphy, 2008; 2017; 2017a; Native Youth Sexual Health Network and Women's Earth Alliance, 2016; Whyte, 2021; 2014).

The body-maps presented in this article denote pollution – sometimes referred to as a "toxic trespass" – as not just exposure to industrial toxicants, but also as exposure to other workplace hazards that have material implications, such as labour violations and verbal abuse. Based on workers' experiential and embodied knowledges, occupational health mapping identifies and visualizes these harms, tracing them to their sources in the worksite (hazard-mapping). Yet the method identifies more than the immediate hazards of the job; it points to broader structures and infrastructures of violence and their material manifestations in workers' bodies. As in Alaimo's (2016) discussion of naked bodies in protest, which signal the

interconnections of flesh and place, occupational health mapping, when contextualized, reveals multiple layers of interaction – the structural roots of violence, their immediate manifestations, and their resultant harms. Like Lewontin and Levins' (2007) "proletarian lung" and Benach et al.'s (2019) "capitalist liver," the corporeal scale exposes the material impacts of structural violences.[22] Body-mapping visualises the embodiment of capitalist exploitation and its associated racial and gendered disparities as well as the violence of national borders – all of which intersect to position newcomer and immigrant-settler women of colour in precarious positions.

4.4. Method: Occupational Health Mapping with Toronto-based Nail Technicians

On August 12, 2019 (Workshop 1), September 24, 2019 (Workshop 2), and February 20, 2020 (Workshop 3), I led the facilitation of occupational health mapping workshops with a total of 37 Toronto-based nail technicians. The workshops were formed and facilitated in partnership with the Nail Technicians' Network but with additional support and guidance from Parkdale Queen West CHC and the Healthy Nail Salon Network. To ensure useful research, the Nail Technicians' Network shared insights on what information collection would be most beneficial to grow the network and focus their aims. Each workshop was approximately two-hours in length and included body-mapping, hazard-mapping, and a component in which workers discussed their ideas on how to create and maintain healthier nail salon work environments.[23] Each workshop was co-facilitated with support from members of the Nail Technicians' Network,

[22] Both the "proletarian lung" and the "capitalist liver" denote capitalism's regulation of and subsequent harm unto workers' bodies.
[23] This is discussed in depth in Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions."

the Healthy Nail Salon Network, Parkdale Queen West CHC, and the Chinese and Southeast Asian Legal Clinic.

All participants identified as former long-time or current nail technicians and held various levels of expertise. Some had decades of experience while others were relatively new to the occupation. Participants were all female and ranged in age from young adults to seniors. Workshop 1 has 18 participants, Workshop 2 has ten participants, and Workshop 3 has nine participants. With the exception of one person, Workshop 1 and 2 were comprised of nail technicians from Chinese and Vietnamese communities. Workshop 3 was comprised of Korean nail technicians. During the body-mapping exercises, participants were divided into small groups of 5 – 8 people. Participants were divided on the basis of first-language and experience-level. Hazard-mapping and life-mapping were done via a large-group discussion. Core members of the Nail Technicians' Network and allies in Parkdale Queen West CHC who were fluent in either Mandarin, Vietnamese, or Korean provided translation support.

Each small group was given a blank body-map (16 x 22 inches), which is a generalized representation of the front and back of a human figure (See Figures 2-8). Participants were also given small circular stickers in red, green, blue, and yellow. Each of these stickers signified different health harm categories, as based on the model used by Canadian occupational therapist, Dorothy Wigmore. Red stickers signified aches and pains, green stickers signified stress-related harms, blue stickers signified any other health harms, and yellow stickers signified health-related worries. After the exercise was introduced and explained, each group discussed amongst themselves and used the stickers to mark sites of harm or worry on their body-maps. Some participants also wrote keywords or phrases on the body-maps to ensure that the maps fully captured their intentions.

After the small-group discussions, we had a large-group discussion, where nail technician participants identified and discussed the specific health harms and worries noted on their body-maps. Using post-it notes, the participants linked the health harms and concerns identified to their sources in the nail salon – a variation of hazard-mapping. Hazard-maps generally require workers to draw out their work environments; however, this was not possible in the time allotted as the participants were from various worksites with differing layouts. Therefore, I prepared a general nail salon mock-up, and asked participants to supplement or correct any errors (Figures 9-11). Table 2 summarizes the health harms, health worries, and hazard sources identified by the workshop participants.

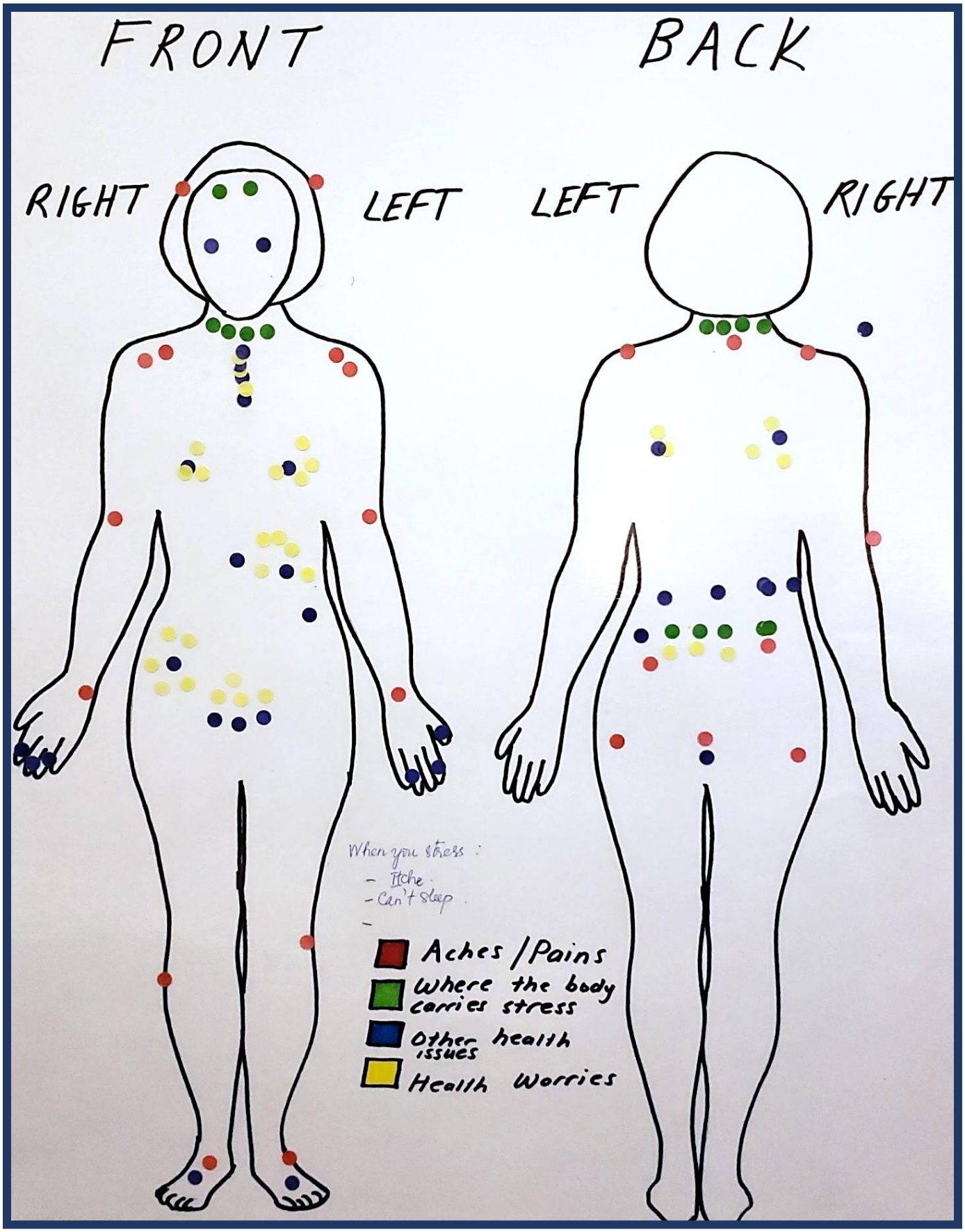

Figure 1: Body-Map 1 (08/12/2019)

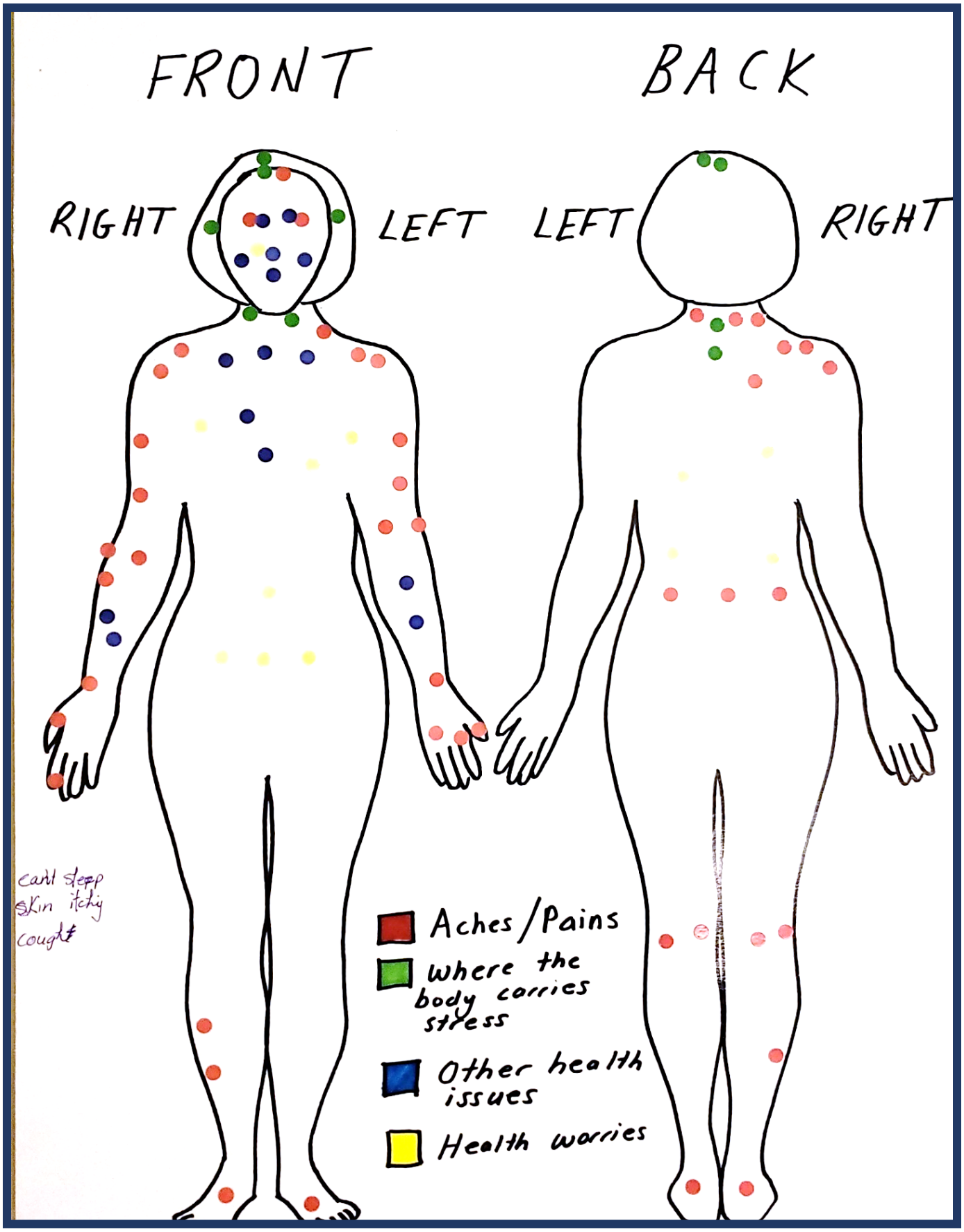

Figure 2: Body-Map 2 (08/12/2019)

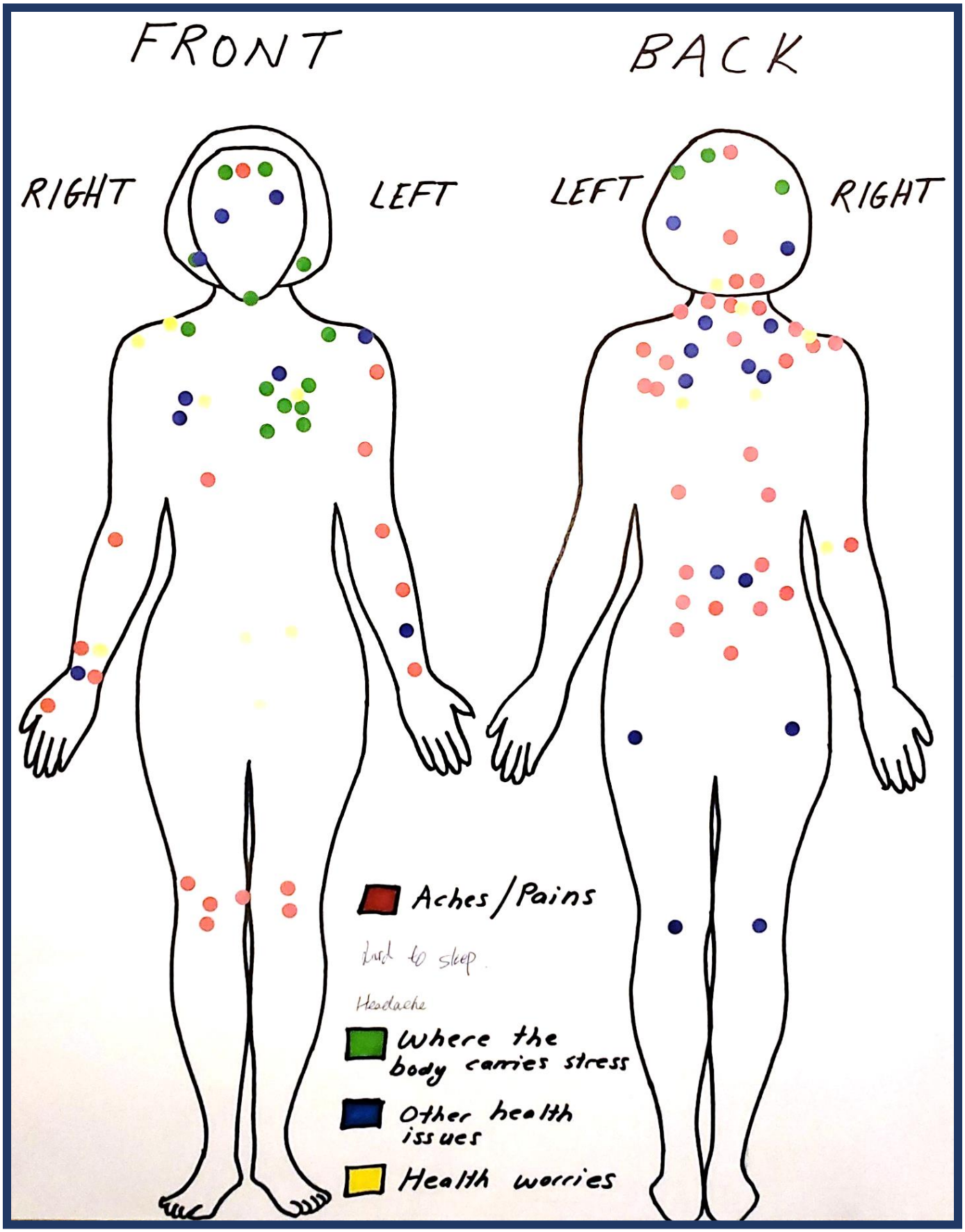

Figure 3: Body-Map 3 (08/12/2019)

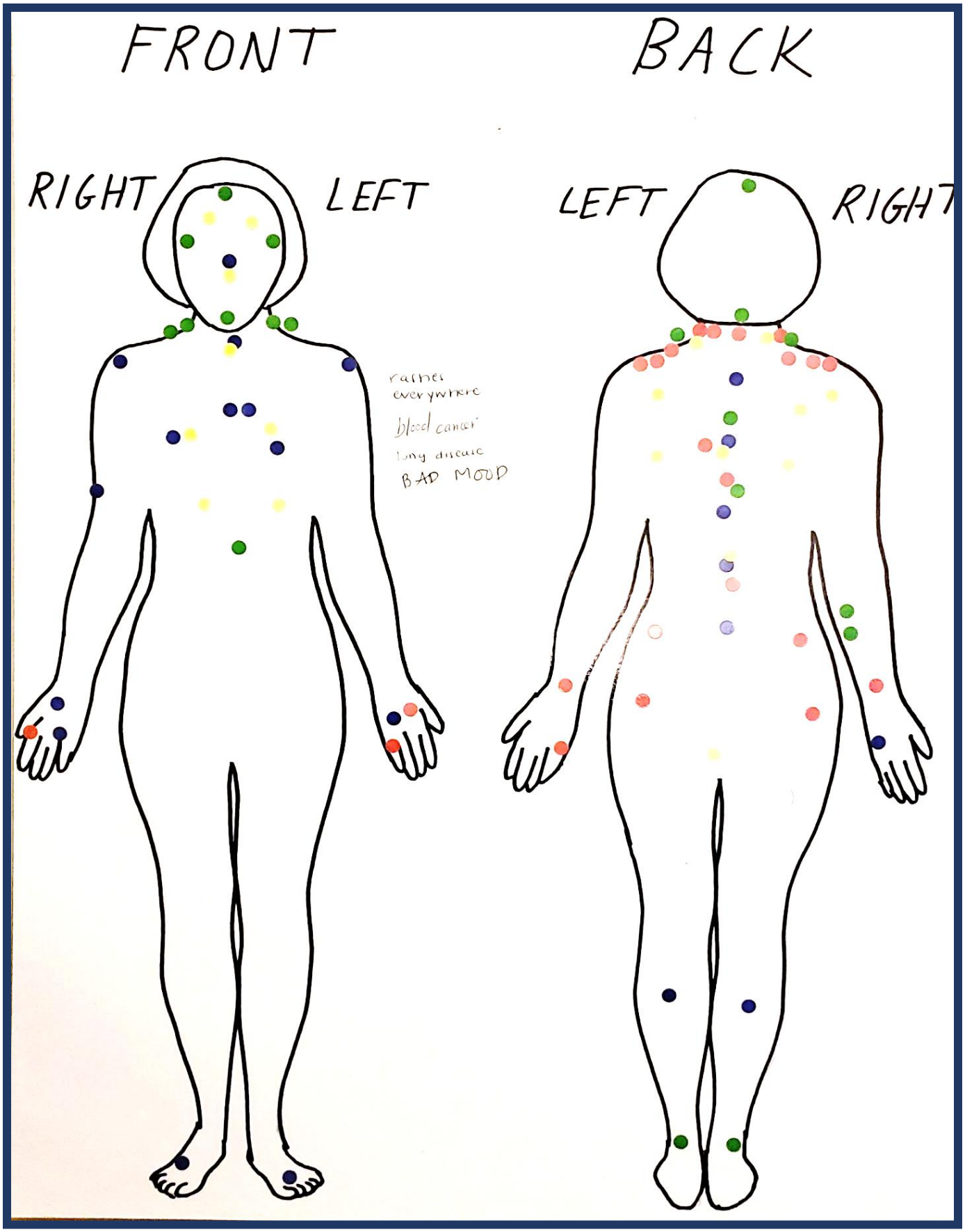

Figure 4: Body-Map 4 (09/24/2019)

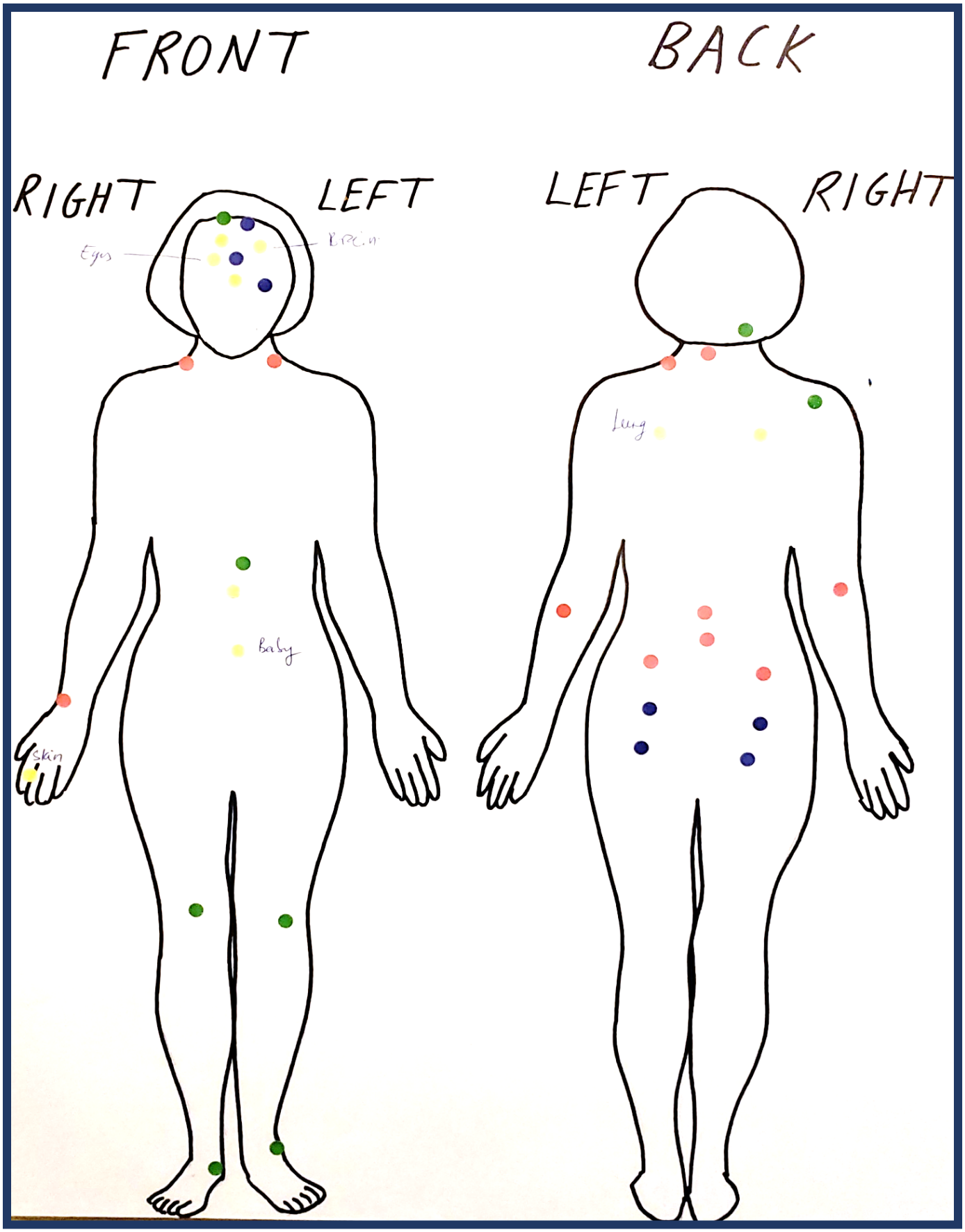

Figure 5: Body-Map 5 (09/24/2019)

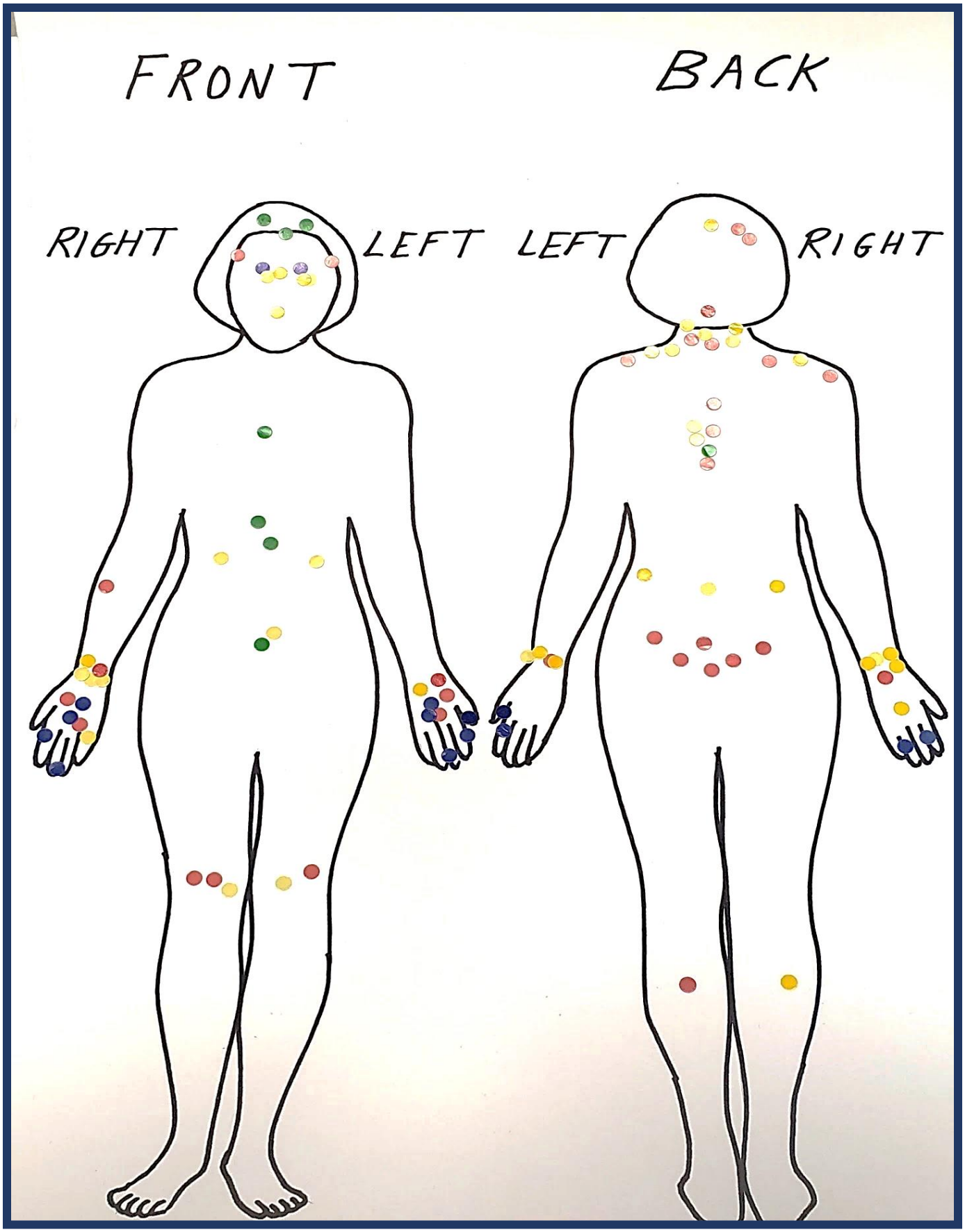

Figure 6: Body-Map 6 (02/20/2020)

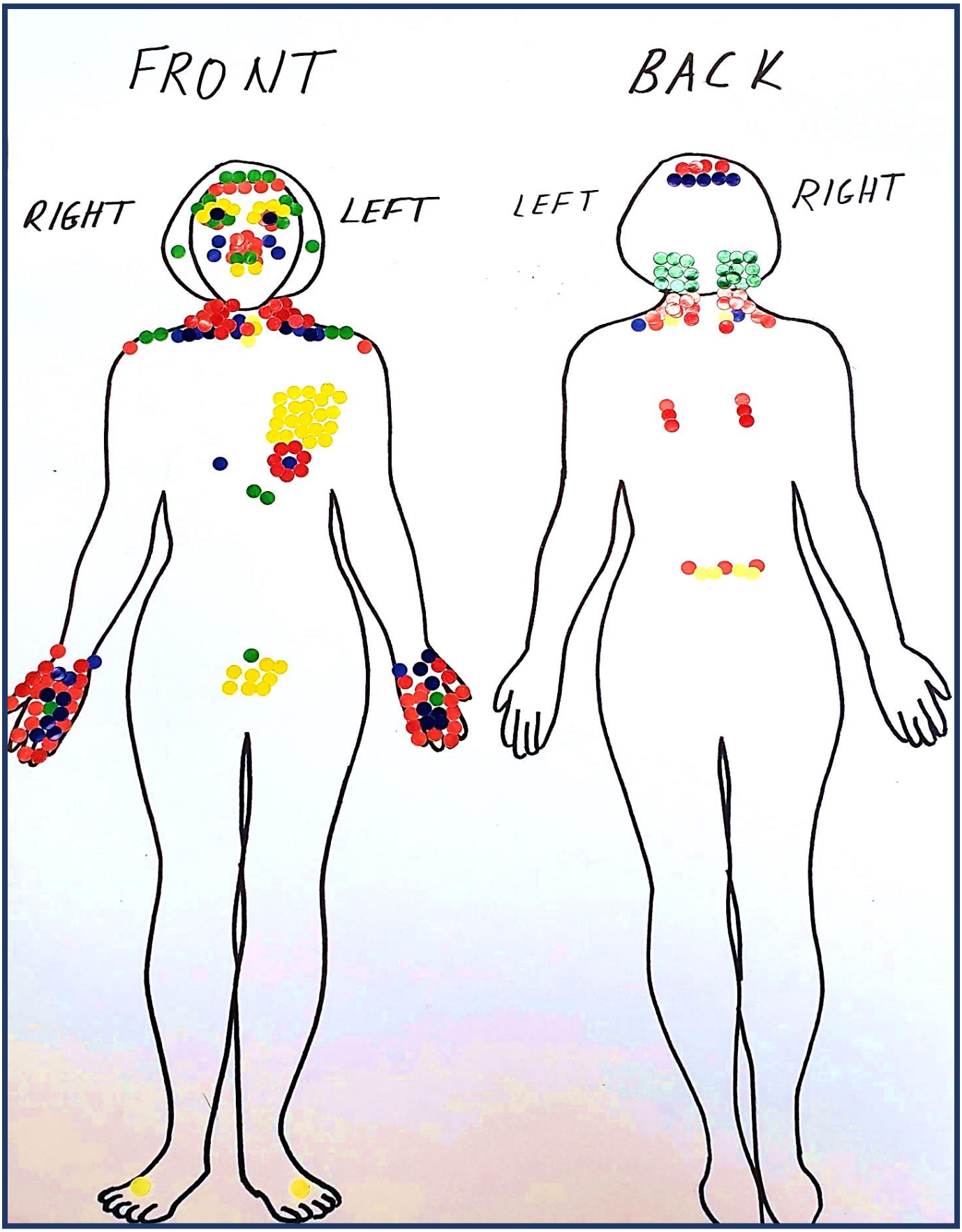

Figure 7: Body-Map 7 (02/20/2020)

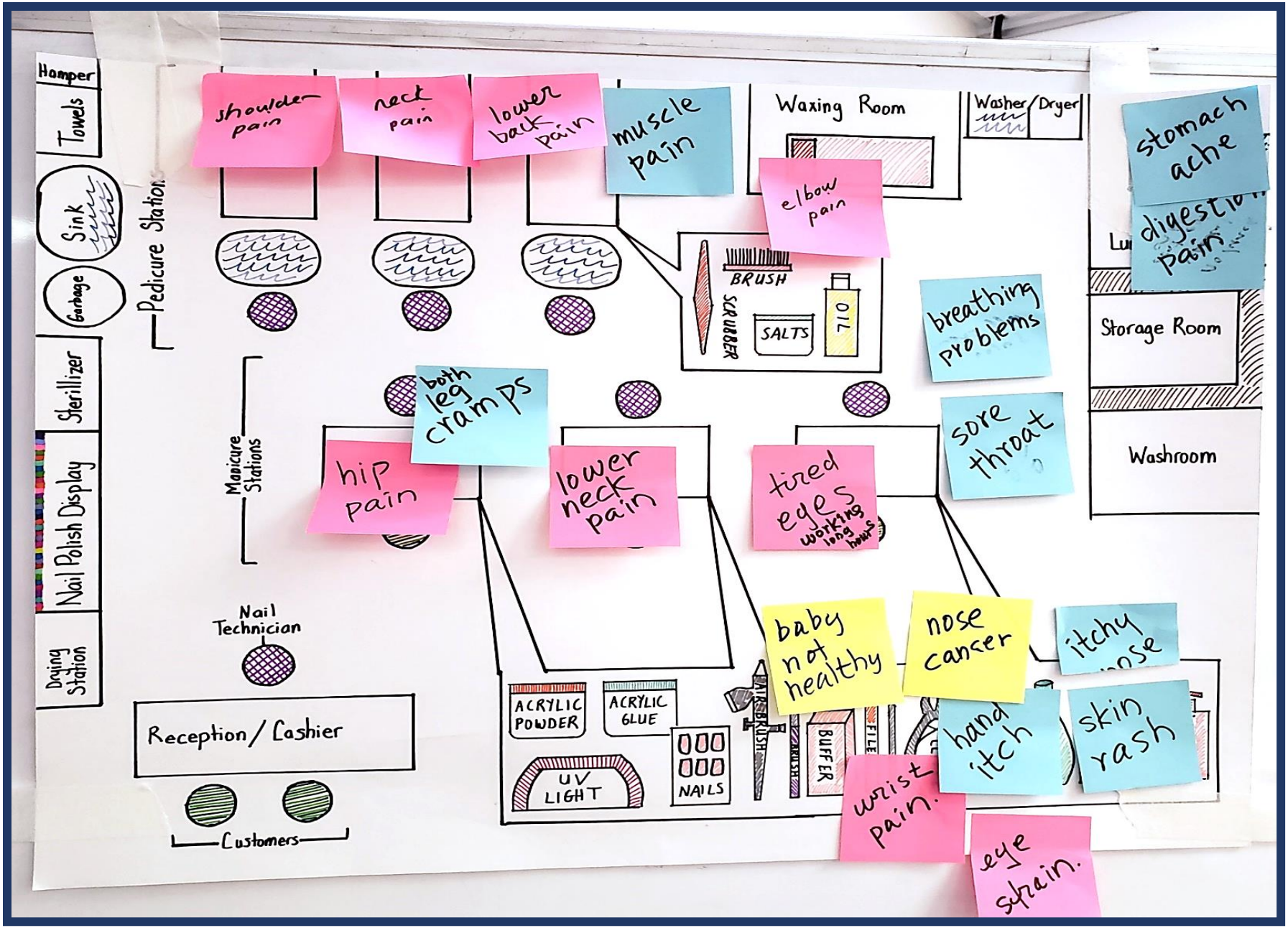

Figure 8: Hazard-Map 1 (08/12/2019)

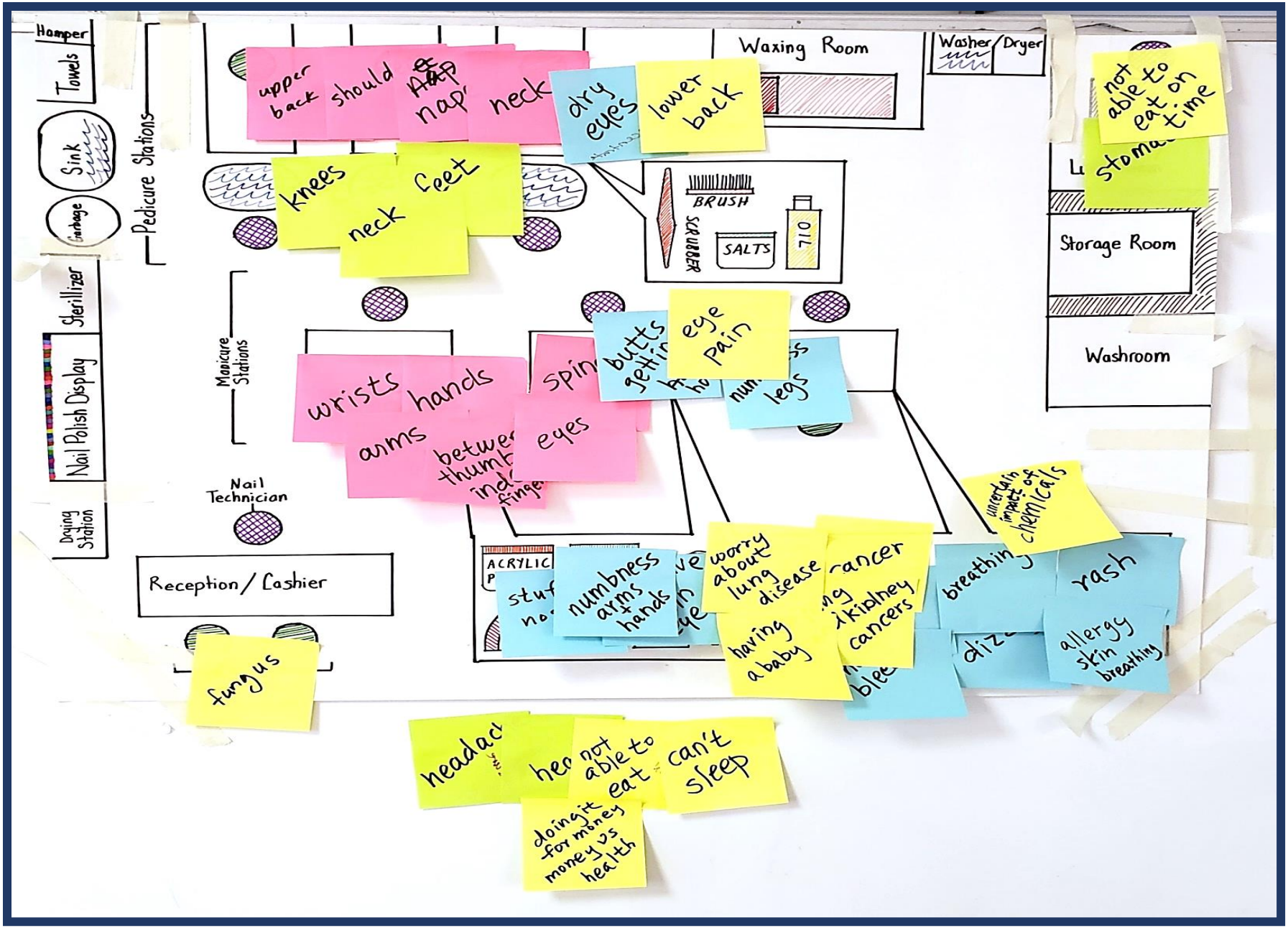

Figure 9: Hazard-Map 2 (08/12/2019)

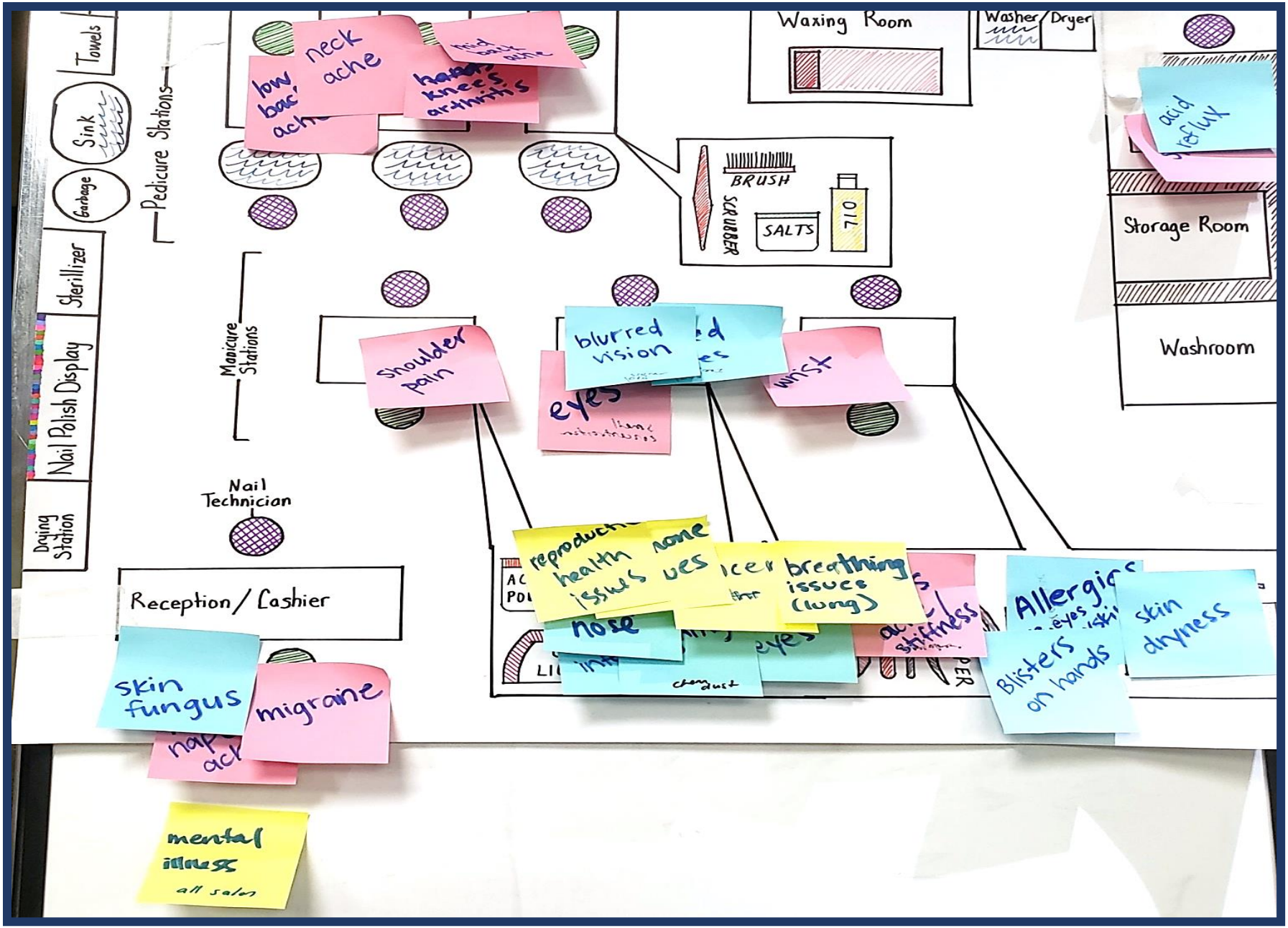

Figure 10: Hazard-Map 3 (08/12/2019)

Table 2: Summary of Health Harms Identified via Occupational Health Mapping with Nail Technicians			
Body System	**Health Harms** **— Health Harm** **▼ Health Worry**	**Source according to Nail Technicians (Type of Hazard)**	**Nail Salon-based Studies with Related Findings**
Neurological	— Headache — Migraine — Difficulty sleeping — Tinnitus — Depression — Mood Swings ▼ Mental illness	Stress-related (Psychosocial) Work pressure (Psychosocial)	Tran et al., 2020; Lteif et al., 2020; Ma et al., 2019; Seo et al., 2019; Adhikaar for Human Rights and Social; Justice, 2015; Park et al., 2014; David, 2014; Gallicchio et al., 2010; Roelofs et al., 2008
	— Dizziness	Nail Products (Chemical)	
Respiratory	— ▼ Breathing problems — Stuffy nose — Itchy nose — Nosebleeds — Throat infections, soreness — Cough	Nail Products, including acrylic dust (Chemical)	Tran et al., 2020; Seo et al., 2020; 2019; Ma et al., 2019; Kieć-Świerczyńska et al., 2017; Adhikaar for Human Rights and Social Justice, 2015; White et al., 2015; Park et al., 2014; David, 2014; California Healthy Nail Salon Collaborative, 2011; Harris-Roberts et al., 2011; Quach et al., 2011; 2008; Reutman et al., 2009; Sauni et al., 2008; Roelofs et al., 2008; Kreiss et al., 2006; Hiipakka & Samimi, 1987
	— Pressure in chest — Throat pain — Cough	Stress-related (Psychosocial)	
Digestive	— Digestive problems — Sore stomach	Stress-related (Psychosocial) Work pressure (Psychosocial)	Chhetri et al., 2018; David, 2014
	— Stomach ache — Digestive pain — Acid reflex	No lunch or unable to eat on time (Psychosocial)	

Ocular	— Itchy eyes — Eye sensitivity	Nail Products (Chemical)	Lteif et al., 2020; Seo et al., 2020; Ma et al., 2019; Seo et al., 2019; Kieć-Świerczyńska et al., 2017; Adhikaar for Human Rights and Social Justice, 2015; David, 2014; Park et al., 2014; California Healthy Nail Salon Collaborative, 2011; Quach et al., 2011; Quach et al., 2008
	— Tired eyes — Blurry vision	Stress-related (Psychosocial) Working long hours (Psychosocial)	
	— Eye pain — Eye strain — Dry eyes	Intense concentration (Ergonomic)	
Dermal	— Itchy skin — Skin allergies — Rash — Dry skin — Sensitive skin — Blisters	Nail Products (Chemical)	Tran et al., 2020; Lteif et al., 2020; Ma et al., 2019; Seo et al., 2019; Milich et al. 2017; DeKoven & Holness, 2017; DeKoven et al., 2017; Gatica-Ortega et al., 2017; White et al., 2015; David, 2014; Quach et al., 2011; California Healthy Nail Salon Collaborative, 2011; Quach et al., 2008; Roelofs et al., 2008
	▼ Fungus	Customers (Biological)	
	— Itchy skin	Stress-related (Psychosocial)	
Musculoskeletal	— General muscle aches and pains — Neck ache — Shoulder ache — Upper, mid, lower back ache — Hip ache — Arm and elbow ache — Wrist ache — Hand ache — Pain between thumb and index finger — Numbness in the legs — Leg cramps — Knee ache — Foot ache	Manicure and pedicure stations (Ergonomic)	Seo et al., 2020; Seo et al., 2019; Ma et al., 2019; Broadwater & Chiu, 2019; Park et al., 2014; David, 2014; Harris-Roberts et al., 2011; Roelofs et al., 2008; Quach et al., 2008

	▬ Neck ache ▬ Lower back ache ▬ Numbness in the toes	Stress-related (Psychosocial)	
	▬ Numbness in the arms ▬ Numbness in the hands	Nail Products (Chemical)	
	▬ Wrist aches and pains ▬ Finger aches and pains	Tools (Ergonomic)	
Reproductive Health	▼ Ability to have healthy children ▼ Miscarriages	Nail Products (Chemical)	Seo et al., 2020; Ma et al., 2019; Seo et al., 2019; Park et al., 2017; Kim et al., 2016; Quach et al., 2015; David, 2014; California Healthy Nail Salon Collaborative, 2011; Herdt-Losavio et al., 2009; Meyer et al., 2008; Laslo-Baker et al., 2004; John et al., 1994
	▬ Increased menstrual pain	Stress-related (Psychosocial)	
Hormones	▼ Hormone disruption	Nail Products (Chemical)	
Cancer	▼ Cancer	Nail Products (Chemical)	Lamplugh et al., 2019; Quach et al., 2010; Guidotti et al., 1982

4.5. Discussion: The Hazards of the Job

During the workshops, the nail technician participants shared a number of health hazards experienced due to their work conditions – hazards that, via body-maps, are visual testaments to the material implications of unsafe work environments, which are themselves rooted in broader structures of power that disadvantage newcomer and immigrant-settler women of colour in the labour market. In all three workshops, musculoskeletal concerns were prevalent. The participants identified aches and pains in their head, shoulders, neck, back, hips, legs, knees, feet, arms, elbows, wrists, hands, and fingers, as well as numbness in their extremities. These hazards were primarily traced to the manicure and pedicure stations, where nail services entail awkward bodily postures, positions, and movements. Aches and pains in the wrists, hands, and fingers were, in addition, linked to the specific tools used to perform nail care.

In the Canadian labour market, women have heightened rates of musculoskeletal injuries as compared to men. Newcomer and immigrant-settler women face additional risks due to their funnelling into precarious work and the deskilling that occurs due to the non-recognition of their credentials (Messing, 2018; Messing & Lippel, 2013; Syed & Ahmad, 2016). However, lack of reporting, research, and inadequate compensation fuel women's historic erasure from these dimensions of occupational health (Lippel, 1999; 2003; Messing, 2018; Messing and Lippel, 2013). The same is true of stress-related hazards, which, in occupational settings, can be disproportionately gendered (Messing, 2018; Messing and Lippel, 2013). For the nail technicians, stress triggered musculoskeletal issues, such as aches and pains in the neck and lower back, as well as triggered a range of health hazards across multiple bodily systems – from neurological, respiratory, and digestive to ocular, dermal, musculoskeletal, and reproductive. Psychosocial hazards, fueled by workers' lack of *voice* and control over their work

environments, produce material implications that are detrimental to worker health (Gordon & Schnall, 2009).

When asked about the sources of stress, participants shared specific workplace conditions. This includes pressure to serve multiple clients in quick succession and scheduling complaints, such as irregular hours, long hours, missed lunch breaks, and slow periods. In addition, participants expressed dissatisfaction with their income – low wages, inadequate tips, and not being paid on time. Interaction with bosses and clients was an additional source of stress, as participants were forced to deal with rude behaviours and verbal abuses in the workplace – particularly from clients.[24]

Rude clients were a focal point in the occupational health mapping workshops – perhaps as, in a large group setting with unknown faces, clients are a safer topic of discussion than bosses. Participants noted that clients often dismiss their skill-sets as well as waste their time with indecisiveness – an understandable frustration amidst the pressure to serve many clients quickly. One young nail technician further commented that clients treat them "like trash" – indicating a sense of disposability. This comment evokes Stein's (2007) conception of the "polluting" or "poisoning" impact of client-worker relations where verbal abuses are experienced as a type of "toxic" trespass. In Stein's (2007) review, frontline workers describe abusive clients as "ob*noxious*" [emphasis added] and "venomous" indicating a process of poisoning. Further, workers were likened to waste dumps as clients "give [them] shit" and force them to put up with "garbage." Much like conventional exposure to toxicants, these abuses can traverse the boundaries of the client-worker interaction, as workers carry the associated stress to their other

[24] These stressors are consistent with those identified in other nail salon-focused studies in the United States (see Adhikaar for Human Rights and Social Justice, 2015; California Healthy Nail Salon Collaborative, 2009; 2011; Chhetri et al., 2018; David, 2014; New York Nail Salon Workers Association, 2020; Maslin Nir, 2015; Phan, 2016; Sharma et al., 2018

interactions in the worksite and to their home environments (Stein, 2007). The relegation of workers to "trash" further points to the perceived disposability of nail technicians – what Pajnik (2016) refers to as a *wasted precariat* in which anti-migration policies and labour market segregation funnels migrant workers into precarious 3D (dangerous, dirty, and demanding) work positions.[25]

Nail technicians are further exposed to conventional toxicants – an additional source of stress, as participants questioned the long-term implications of their routine exposures. Workers linked a host of health harms to their exposure to toxicants in nail care products, including acrylic dust. Nail technicians linked dizziness, breathing problems, stuffy and itchy noses, sore throats, cough, itchy and sensitive eyes, dry, itchy, and sensitive skin, rashes, and blisters to their occupational exposures to toxicants. In addition, workers expressed their worries in relation to various cancers, reproductive health, and hormone disruption – all of which are linked to uncertain exposures to toxicants. In fact, Jackie Liang of Toronto's Nail Technicians' Network shared that, during pregnancy, some Chinese nail technicians cease their employment to avoid exposure to the toxicants in the workplace. However, as Liang contends, this choice is impossible for many nail technicians whose health also depends on steady wages (personal communication, July 15, 2020). While there is limited nail salon-based evidence of reproductive harm (Quach et al., 2015; Park et al., 2017; Pak et al, 2013), uncertain risks of cancer (Guidotti et al., 1982; Lamplugh et al., 2019; Quach et al., 2008; 2011), and no nail salon-based studies on endocrine disruption (Quiros-Alcala et al., 2019), nail technicians are justifiably worried about the long-term impacts of their occupational exposures.

[25] Pajnik (2016) writes about the experience of migrant workers in Europe; however, their conceptualization is relevant to the Canadian context as well.

Common toxicants found in nail products are linked to adverse reproductive-, intergenerational-, cancer-, and hormone-related findings. Table 3 summarizes a selection of these findings. The data presented affirms nail technicians' experiential and embodied knowledge and worry in relation to their reproductive, endocrine, and general health. As a snapshot of the potential exposures in nail salons, Table 3 includes the "toxic-trio," dibutyl phthalate (DBP), formaldehyde, and toluene as well as methyl methacrylate (MMA), which is prohibited in cosmetics but is still detected in nail salons and in nail products (Alaves et al., 2013; Ceballos et al., 2019; Ford, 2014; Goldin et al., 2014; Grešner et al., 2018; Pavilonis et al., 2018; Quach et al., 2011; Zhong et al., 2019). DBP, toluene and other phthalates and volatile organic compounds (VOCs) have been detected at heightened levels in nail technicians' bodies (Ceballos et al., 2019; Goldin et al., 2014; Kwapniewski et al., 2008; Lamplugh et al., 2019; Varshavsky et al., 2020). In addition, the table includes a number of solvents that are found in nail polishes and other products. This is inclusive of the BTEX family of toxicants, benzene, toluene, ethylbenzene, and xylene, which have been detected in nail salons at levels comparable to oil refineries (Lamplugh et al., 2019). Further, acetone was identified by nail technicians as a substance of concern. In addition, the table includes other solvents, which were found in an ingredient review of three popular nail polishes (see Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon").

Table 3: Health Harms linked to select Chemicals found in Nail Products and Nail Salons				
Chemical (Function)	**Reproductive & Intergenerational**	**Cancer**	**Endocrine Disruption**	**Sources**
Acetone (Solvent)	▪ Shortening menstrual cycle ▪ Impaired fertility ▪ Changes in fetal development	No found evidence	No found evidence	Agency for Toxic Substances and Disease Registry, 2015
Alcohol denat./SD alcohol 40-B (Solvent)	No found evidence	No found evidence	No found evidence	
Benzene (Solvent)	▪ Irregular menstruation ▪ Damage to sperm ▪ Miscarriage and preterm birth ▪ Placental transfer ▪ Changes in fetal skeletal development, low birth weight, and damage to fetal bone marrow ▪ In-utero exposure linked to childhood leukemia	▪ Classed "Carcinogenic to humans" per the International Agency for Research on Cancer ▪ Leukemia ▪ Lung cancer	▪ Disruption to testosterone, estrogen, and insulin	Abplanalp et al., 2019; Centers for Disease Control and Prevention, 2018; De Celis et al., 2000; Dere et al., 2003; Dowty et al., 1976; Houot et al., 2015; International Agency for Research on Cancer, 2020; Katukam et al., 2012; Llop et al., 2010 ; Marchetti et al., 2012; Rosati et al., 2017; Warden et al., 2018; Xu et al., 1998; Zhou et al., 2014
Butyl acetate (Solvent)	▪ Changes in fetal development	No found evidence	No found evidence	Hackett et al., 1982
Dibutyl Phthalate (Plasticizer)	▪ Reproductive toxicity ▪ Loss of pregnancy ▪ Changes in fetal development, including testicular and sperm-related affects	▪ Breast cancer, including in the children of occupationally exposed men ▪ Prostate cancer	▪ Disruption to testosterone, estrogen, progesterone, and follicle stimulating hormone	Adir et al., 2017; Ahern et al., 2019; Arzuaga et al., 2019; California Office of Environmental Health Hazard Assessment, 2005; Carran & Shaw, 2012; Ema et al., 2000; Fisher et al., 2003; Gray et al., 2006; Higuchi et al., 2003; Sen et al., 2015; Wang et al., 2016; Zhu et al., 2018

Ethyl Acetate (Solvent)	No found evidence	No found evidence	No found evidence	
Ethylbenzene (Solvent)	▪ Testicular and sperm damage ▪ Placental transfer ▪ Changes in fetal skeletal development	▪ Classed "Possibly carcinogenic to humans" per the International Agency for Research on Cancer ▪ Lung, kidney, liver, and testicular tumors	▪ Disruption to estrogen, luteinizing hormone, and progesterone	Agency for Toxic Substances and Disease Registry, 2010; De Celis et al., 2000; International Agency for Research on Cancer, 2020; National Library of Medicine, 2021; Ungváry, 1986; World Health Organization, 2003
Formaldehyde (Hardener)	▪ Menstrual disorders and irregularities ▪ Damage to testes and sperm ▪ Loss of pregnancy ▪ Reduced fertility ▪ Placental transfer ▪ Changes in fetal development, including congenital heart malformations	▪ Classed "Carcinogenic to humans" per the International Agency for Research on Cancer ▪ Nasopharyngeal cancer ▪ Myeloid leukaemia	▪ Disruption to testosterone	Beane Freeman et al., 2012; Lu et al, 2007; Olsen & Dossing, 1982; Dulskiene & Grazuleviciene, 2005; International Agency for Research on Cancer, 2020; 2016; Pidoux et al., 2015; Pinkerton et al., 2004; Shumilina; 1975; Taskinen et al., 1999; 1994; Wang et al., 2012; Vosoughi et al., 2013; Vosoughi et al, 2012; Xu et al., 2007; Zang et al., 2017
Heptane (Solvent)	No found evidence	No found evidence	▪ Evidence of disruption to adrenocorticotropin hormone	Glowa, 1991
Isobutyl acetate (Solvent)	No found evidence	No found evidence	No found evidence	
Isopropyl Alcohol (Solvent)	▪ Placental transfer ▪ Changes in fetal development, including decreased weight	No found evidence	No found evidence	Nelson et al., 1988; Wood et al., 2007
Methyl Ethyl Ketone (Solvent)	▪ Detected in breast milk ▪ Changes in fetal skeletal development and decreased weight	No found evidence	No found evidence	Giroux et al., 1992; Schwetz et al., 1991
Methyl Methacrylate (Used in	▪ Changes in fetal development	No found evidence	▪ Disruption to progesterone, gonad releasing hormone, follicle stimulating	Nicholas et al., 1979; Singh et al., 1974; Stepanov et al., 1999

artificial nail products)			hormone, and luteinizing hormone	
N-Butyl Alcohol (Solvent)	▪ Changes in fetal development	No found evidence	No found evidence	Segal et al., 2020
Toluene (Solvent)	▪ Menstrual disturbances ▪ Damage to sperm ▪ Miscarriage ▪ Placental transfer ▪ Changes in fetal development, including low birth weight, learning disabilities, and hearing loss	▪ Leukemia ▪ Lung cancer	▪ Evidence of disruption to follicle stimulating hormone, luteinizing hormone, and testosterone	Agency for Toxic Substances and Disease Registry, 2015; Canadian Centre for Occupational Health and Safety, 2020; California Office of Environmental Health Hazard Assessment, 1991; Costantini, 2011; De Celis et al., 2000; Heck et al., 2013; National Library of Medicine, 2021a; Ng et al., 1992; Svensson et al., 1992; Svensson et al 1992a; Warden et al., 2018
Xylenes (Solvent)	▪ Damage to sperm ▪ Limited evidence of miscarriage, hemorrhage during childbirth, and infertility ▪ Detected in breast milk ▪ Placental transfer ▪ Changes in fetal bone and neurological development and reduced birth weight ▪ In utero exposure linked to childhood leukemia	▪ Leukemia ▪ Lung cancer	▪ Evidence of disruption to progesterone and testosterone	Agency for Toxic Substances and Disease Registry, 2014a; De Celis et al., 2000; Heck et al., 2014; Kandyala et al., 2010; National Library of Medicine, n.d.; Tarko et al., 2018; Warden et al., 2018

Table 2 is a snapshot of the impacts associated with a selection of the chemicals that make-up nail products. The reproductive, cancer-related, and hormone-related impacts of exposure to these substances supports nail technicians' concerns, including their potential intergenerational impacts. Certain toxicants are found to cross the placental barrier and have been detected in breastmilk – a "canary in the coalmine" as certain toxicants can be detected in breastmilk before they can be detected in the blood and urine (Boswell-Penc, 2006). Moreover, low and cumulative exposures are sources of concern. Roelofs and Do (2012) caution the particular limitations in the nail salon environment: "Exposures are likely to be to a mixture of multiple chemicals, chemicals in vapor and dust forms, and to chemicals without exposure limits or accepted epidemiological findings." (p. 3). To illustrate, Huang (1991) found a heightened incidence of menstrual disorders, including painful menstruation, and miscarriage in leathershoe workers who were simultaneously exposed to benzene and toluene. While there is little nail salon-specific work on reproductive, intergenerational, cancer-related and hormone-related health outcomes, the work on the health implications linked to these toxicants support nail technicians' concerns about their health in their work environments.

4.6. Conclusion

The hazards identified by nail technicians are consistent with other nail salon-based studies, as well as scholarship on the intersections of precarity, health, race, immigration status, and gender in Ontario-based workplaces. The body-maps presented visualize the permeation of multiple hazards in/on worker's bodies, which are enacted through conventional forms of toxicity but also perpetuated in the material harms of precarious and unsafe work. The troubling workplace conditions that mark the nail salon sector are not just a matter of, in some cases, "bad bosses," though that is certainly a relevant takeaway. Broader structural factors usher immigrant-

settler women of colour into precarious employment conditions, which subject them to increased risks of exposure to workplace hazards. Roxanne Ng (1990) contends, "The reality of the labour market is such that non-English speaking women, particularly those from visible minority groups, tend to be concentrated at the bottom rungs of most service and manufacturing sectors...." (p. 107). Various factors usher newcomer and immigrant-settler women into these positions, from unrecognized credentials and a lack of Canadian work experience to language barriers and discrimination (Das Gupta, 1996; Merolli, 2012; Ng et al., 2018; Noack & Vosko, 2011; Premji & Shakya, 2017; Premji et al., 2014; Vosko, 2000; Yanar et al., 2018). In turn, these precarious work environments subject newcomer and immigrant-settler women to dangerous work, which have potential long-term implications on their health (Premji, 2018; Premji and Shakya, 2017; Premji et al., 2010; Yanar et al., 2018).

Occupational health mapping necessitates thinking across scales – of power, of violence, of resistance. The method illustrates multiscalarity. The body-maps presented are a snapshot of the material implications of broader structures of violence and their infrastructural manifestations. The maps further signal temporal scales as nail technicians express concern over their reproductive health – rightly as various toxicants used in nail products and detected in nail salons are linked to intergenerational health harms. While at first glance the body-maps appear to connote individualistic and body-centric conceptions of harm, when contextualized, the method prompts multiscalar analysis – *bodies in relationship with environments in relationship with power.*

The following chapter discusses potential solutions to the aforementioned occupational hazards, as defined by nail technicians. These solutions were defined by nail technician participants in the occupational health mapping workshops conducted between August 2019 and

February 2020. These worker-defined solutions are read next to initiatives put forth by liberal environmental health campaigns, which centre the consumer's so-called purchasing power. As will be detailed, the worker must be at the helm and crux of all efforts to ensure safer work environments.

CHAPTER THREE

Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions

"Nail technicians should be together… together we can build more power to fight for rights."
— Jackie Liang, Nail Technicians' Network

In 2019, I visited a Winners location. Searching for a present for my niece, I browsed the toy section of the popular discount department store. Having focused on nail products and nail salons for several years, I was immediately drawn to a nail kit titled Scented Nail Boutique (see Figure 11). The kit included nail polish, scented nail patches, scented press-on nails, nail stickers, a ring, and a nail file. In addition, the kit boasted "non-toxic" peel-off nail polish on its cover. Priced at $9.99 for more than 168 components, the kit is an affordable option for parents of children interested in nail products. I turned the package to scan the ingredients. While the kit included a number of harmful toxicants, I was struck by one – methyl methacrylate (MMA). Under *Canada's Cosmetics Ingredient Hotlist*, MMA is prohibited in cosmetic products (Government of Canada, 2019a).

Despite long-time national bans, MMA continues to be detected in nail salons as toxicants continue to "leak" through (Alaves et al., 2013; Ceballos et al., 2019; Ford, 2014; Goldin et al., 2014; Grešner et al., 2018; Pavilonis et al., 2018; Quach et al., 2011; Zhong et al., 2019). A 2020 study detected MMA in 28% of the nail products tested in eight Toronto-based nail salons. This includes in products labelled "5 free," which refers to nail products that are free of formaldehyde, dibutyl phthalate (DPB), toluene, camphor, and formaldehyde resin (Kalenge et al., 2020). MMA was prohibited due to its associated health impacts, which include respiratory irritation and skin sensitization (New York State Department of Health, 2016). In addition, MMA is linked to endocrine disruption. This is particularly troublesome as the Scented Nail Boutique kit is marketed to children and EDCs are of particular concern during key human

development stages. Reframing the popular though outdated toxics adage, “the dose makes the poison,” Sarah A. Vogel (2008) contends “the timing makes the poison.”

Three months later, while browsing a Walmart greeting card section, I found Disney birthday cards with a small nail polish bottle attached (see Figure 12). The cards were displayed at the end of the aisle to highlight them and prompt additional sales. Each of the cards displayed a popular Disney princess with the statement, “Fingernail polish for you!” Once again, MMA was listed as an ingredient, and once again, the item was marketed to children (See Figure 4). In fact, both the Scented Nail Boutique kit and the Disney birthday cards were marketed to young girls, in particular, as demonstrated in the feminized signals of pink tones, popular Disney princesses, unicorns, and the clear signage, “Girl Birthday” in Walmart’s card section.

When I approached workers, they were unaware and somewhat uninterested – understandably in the context of overwork and underpay in the retail sector. While the Scented Nail Boutique was eventually taken off the shelves, I wondered: How many are aware of the long-time MMA ban? Despite my in-depth reviews of the *Cosmetics Ingredient Hotlist,* even I cannot list the toxicants that are prohibited or subject to specific requirements when included in personal care items. More importantly, is this the consumer’s responsibility?

Figure 11: Scented Nail Boutique Kit

Figure 12: Disney Greeting Cards

5.1. The Limitations of Consumer Choice: Towards Worker-led Solutions

The Scented Nail Boutique kit and the Disney birthday cards demonstrate the limitations of consumer choice-based approaches to mitigate exposure to toxic hazards. A consumer-choice approach assumes public knowledge of toxicology and toxics regulation. Consistent with neoliberal individualization, it puts the burden of choice (and blame) on consumers, who may not fully understand or be aware of the health impacts linked to toxicants in their environments. While there are avenues for consumers to report toxics in the marketplace, the introductory examples illustrate the serious limitations in state-level toxics enforcement.

Amidst structural barriers in knowledge and access, consumer "choice" cannot serve as a solution. "Choice" is an unrealistic and inequitable barrier to mitigate potentially harmful exposures (MacKendrick, 2014; 2015; 2018; Scott et al., 2016; Scott & Lewis, 2015). Choice is a function of responsibilization rhetoric, which does not account for structural barriers in access and ability. Workers and frontline communities often do not have a choice to prevent or mitigate their exposure to toxicants and other industrial pollutants. Likewise most consumers cannot exercise the choice to shield themselves from toxicants amidst barriers such as income-level and access to information. In addition, the ubiquity of toxicants in our environments makes "choice" an unrealistic option to mitigate day-to-day exposure to toxicants. Despite this, some nail salon-focused campaigns use consumer choice-based methods as a tactic to limit occupational hazards. These approaches cannot and do not protect workers. Worked-defined approaches are best to achieve safer workplaces.

This chapter centers short- and long-term solutions to address hazards specific to nail salons as identified by nail technicians. As demonstrated in Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians"), nail technicians contend with

multiple workplace hazards – from exposure to harmful toxicants to labour rights violations, which "leak" into workers' bodies and homelives. These worker-defined solutions are read next to consumer choice-based approaches. Aspects of Toronto's campaign draw inspiration from tactics in United States' jurisdictions. This includes the San Francisco model, which puts forth a consumer-centered Healthy Nail Salon program (Ford, 2020). Other approaches that aim to build worker power and solidarities are an additional source of inspiration (Jackie Liang, personal communication, July 15, 2020).

Consumer choice-based solutions are most prominent in mainstream environmental health organizations, which seek avenues to engage the public in toxics mitigation efforts (MacKendrick, 2018). While such organizations will identify hazards as rooted in inadequate regulation, they tend to place the responsibility to mitigate toxic hazards on individuals in their capacity to act as consumers (MacKendrick & Cairns, 2018). In contrast, nail technicians share collective solutions enforced via state regulation as well as state the importance of worker solidarities. These worker-defined solutions are not radical visions of system-level or multiscalar change. As such, they do not wholly protect workers that produce, distribute, sell, or dispose of nail products or the toxicants therein, nor do they factor in upstream burdens of exposure as borne by frontline communities (see Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon"). Nonetheless, nail technician-defined solutions address the important aims of reform and thus harm reduction at the nail salon-level.

3.10. Theoretical Context: Precautionary Consumption and the Fallacy of Choice

Ethical consumption is based on the idea that consumers must make strategic choices to consume less harmful products. Potential sources of harm include unfair labour practices and toxic components in consumer products. Under ethical consumption, consumers use their

purchasing power to prompt corporations to institute better practices or manufacture safer products (Paeth, 2018). Ethical consumption can involve broad-based and diverse tactics to further the collective good, such as in consumer boycotts, divestments, litigation, and protest actions (Paeth, 2018). Gwen Kay (2005) details the history of the United States consumer movement in relation to cosmetics from 1900 – 1945. From 1920 to the 1930s, the substantial growth of unregulated and dangerous cosmetics spurred consumer-led action, which prompted the United States government to institute safer product regulations. These efforts spurred the Food, Drug, and Cosmetics Act (1938), which expanded the Food and Drug Administration's powers to seize harmful cosmetics (Kay, 2005). Nonetheless, personal care product regulation continues to be subpar, in part due to the perception that cosmetics are feminine products (Boyd, 2018).

Precautionary consumption is a pertinent theoretical lens to understand ethical consumption in the context of nail salons, nail products, and cosmetics in general. Termed by Nora MacKendrick (2014; 2015; 2018), precautionary consumption is a phenomenon in which women – and mothers, in particular, due to feminized expectations of care work – purchase goods that are deemed non-toxic, natural or organic to seemingly shield their families from exposure to toxicants. The practice is rooted in the false notion that boundaries can be established between bodies and toxics via appropriate consumption choices. This belief ignores the ubiquity of toxicants in our environments, including in consumer goods (Endocrine Disruptors Action Group, 2016; MacKendrick, 2014; 2015; 2018; Scott et al., 2017; Scott & Lewis, 2015; Shotwell, 2016). Precautionary consumption is reminiscent of Szasz' (2007) concept of the *inverted quarantine* – an individualistic and consumeristic approach in which people attempt to isolate from their toxic environments via their consumption choices.

As a manifestation of neoliberal ideology, precautionary consumption has roots in the notion of *consumer sovereignty* where, "… consumers are the primary force for determining the scale and scope for the production of goods and the provision of services in the economy through their power to choose whether or not to consume goods and services" (Myers, 2018, p. 651). Derived from neoclassical economics, the sovereign consumer is an individual capable of free choice. Through their purchasing decisions and the principles of supply and demand, the consumer directs service provision and production, exercising power over both capital and labour. This is linked to the practice of dollar-voting which itself reinforces disparities as consumers with access to finances and capital have a bigger vote (read: voice). The Environmental Working Group (2020) writes, "Vote with your dollar and help us demand stricter regulations on toxic chemicals in the marketplace" – a paradoxical statement as dollar-voting puts the onus of toxics mitigation on the consumer, absolving the state of its responsibilities to ensure safe products and working conditions.

It is not just consumers, in general, that are tasked with this responsibility; it is women and mothers in particular. Precautionary consumption is a manifestation of environmental sexism as toxic hazard mitigation falls under the purview of social reproduction and therefore becomes a woman's job (Buckingham & Kulcur, 2009; Scott, 2015; Voyles, 2015).[26] Structural barriers between women mean that some can exercise this "choice" to avoid toxics while others are left shouldering the blame for their and their families' exposures. While MacKendrick (2018) warns

[26] Feminized responsibilities of toxic hazard mitigation include social reproduction or care labour in the family unit as well as in the broader community – what Krauss (2009) calls the third shift. In another iteration of the term, Naomi Wolf (1991) argues that maintaining beauty standards are women's "third shift." Kang (2010) critiques Wolf's view, stating that the theorization ignores the labour of immigrant women of colour: "… like the domestic work of the second shift, the beauty work of the third shift is not laid solely on the shoulders of educated powerful women. Just as immigrant women, predominantly from Latin America, the Caribbean, and the Philippines pick up the second shift of raising children, cooking food, and homes, the third shift of beauty work also increasingly relies upon the labor of immigrant women of color." (Kang, 2010; p. 15-16).

that "… precautionary consumption is not solely a project of upper-class mothers" (p. 125), low-income and working-class mothers face greater limitations in their abilities to make "safe" consumption choices (MacKendrick, 2018), as do Black and other racialized women who are disproportionately exposed to hazards in certain cosmetic products, such as skin lighteners and hair relaxers (Eberle et al., 2019) – what Zota and Shamasunder (2017) call the *environmental injustice of beauty*. Consider the Scented Nail Boutique kit. Priced at $9.99 with over 168 components, the kit is an affordable option for parents – though the takeaway here should not be that cheap equals toxic. Many expensive personal care items include harmful substances.

Women and mothers who are unable to exercise the appropriate choice are met with blame, which often manifests as mother-blame – the scapegoat of market failure. Mother-blame is prominent in reproductive risk narratives which define the pregnant parent and their consumption choices as responsible for fetal health but obscures the impacts of environmental and occupational hazards (Ford & Scott, 2017; MacKendrick, 2014; MacKendrick & Cairns, 2018; Mykitiuk & Scott, 2011; Stevens, 2016; Wiebe, 2016; Wiebe and Konsmo, 2014). MacKendrick (2018) asks, "… does pollution start with the mother's body and end with her domestic labor? Is widespread chemical trespass within her (or any other individual's) personal control? The mother, like the child and child's father, is located in an environment already contaminated with substances that easily pass through the corporeal boundaries…" (p. 146). Blame is further raced and classed; Indigenous, Black, racialized, and poor mothers' actions are subject to increased policing and scrutiny (see Sze, 2004a).

Precautionary consumption purports the myth of free will. However, consumer choices are limited by financial barriers, lack of information, and literacy skills – what Altman et al. (2008) refer to as a "consumption fallacy." Likewise, worker choices are limited by lack of voice

and power in the workplace. Ford and Scott (2017) use the hypothetical example of a pregnant nail technician. As noted in Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians," nail technicians are concerned about adverse reproductive health outcomes linked to their exposures to toxicants in the workplace. (p. 54). Ford and Scott (2017) identify the worker's limitations in exercising choice. This includes lack of resources, lack of time, limited English literacy skills, lack of awareness of toxic hazards, and the impossibility of knowing about a pregnancy in early weeks – all of which make individual risk avoidance impossible (Ford & Scott, 2017). The authors ask: "How realistic is it to rely on the behavior and purchasing practices of individual women to significantly alter the growing problem of toxic exposures in pregnancy?" To depend on individual choice reinforces the disparities in access to safer products, services, and workplace (Ford & Scott, 2017; MacKendrick, 2014; 2015; 2018, Scott et al., 2017).

3.11. Precautionary Consumption-based Tactics

Nail salon-focused campaigns use a multitude of short- and long-term strategies to meet the aims of safer work environments. This includes government lobbying and outreach, research, training (healthy and safety, workers' rights, customer service, and ergonomics), licencing support, collaboration with likeminded public health and settlement agencies, increasing public awareness, and, in the time of COVID-19, mutual aid (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons"). While these are vital strategies, the focus of this section is on Healthy Nail Salon programs and product labelling – two tactics that enact the principles of precautionary consumption. These tactics are not the sole or even primary approach of the various nail salon campaigns discussed; however, their inclusion undermines worker-centered long-term solutions. Consumer choice-based approaches do not

protect workers. Such methods relegate worker protections to the customer's and salon owner's approval. In relegating toxics mitigation to the client's (constrained) choices, the state is absolved of its responsibility to ensure safer products and better working conditions.

3.11.1. Healthy Nail Salons: King County, Boston, and California

The Hazardous Waste Management Program (n.d.; n.d.-a) of King County, Washington initiated the Healthy Nail Salon model as part of their work with nail technicians, which dates to 2007. Under King County's Healthy Nail Salon Recognition Program, nail salons must meet specific criteria including ventilation requirements,[27] harmful toxic-free products, proper labelling and storage, PPE use, recycling practices, and adequate sanitation and disposal. In addition, "Healthy Nail Salons" receive linguistically-appropriate occupational health training. As a voluntary approach, salons that meet all or part of the criteria are rated on a scale of three to five stars. Based on the rating, nail salons receive incentives such as free advertising, a certificate, an award, and possible financial support to purchase safer products and ventilation technologies. In short, the initiative aims to, "… create a safe work place for King County nail salon technicians by rewarding nail salon businesses who safely handle, store and dispose of salon chemicals, improve ventilation and use safer chemicals" (Foster, 2015; Local Hazardous Waste Management Program in King County, 2016). King County's Healthy Nail Salon initiative is now on hold as staff re-evaluate its effectiveness. However, the voluntary model has proven popular, expanding to other jurisdictions across the United States (Swati Sharma, personal communication, July 23, 2020).[28]

[27] In Washington state, all nail salons built or remodelled after 2007 must have local exhaust ventilation.
[28] Swati Sharma is the Research and Policy Consultant with the California Healthy Nail Salon Collaborative.

Boston's Safe Shops Program was initiated in 2004 under the broader aim to ensure health and safety in immigrant-run and staffed workplaces. Run by the Boston Public Health Commission (BPHC), Safe Shops started in automotive and repair shops. The initiative expanded to include nail salons in 2007 as a result of odor complaints. Outreach staff provide linguistically-appropriate training and guidance that spans technological improvements, such as proper ventilation, and information on worker protection measures (Boston Public Health Commission, n.d.; n.d.-a; Roelofs et al., 2010; Seller et al., 2019).

In 2012, BPHC initiated the Green & Clean program. Green & Clean is a voluntary initiative that recognizes nail salons and other small businesses that "… go beyond basic environmental and sanitary standards to promote and protect worker and client safety, public health, and the environment" (Boston Public Health Commission, n.d -b). In addition to mandatory requirements, this initiative includes further reductions in the use of toxic nail products, additional PPE (e.g. safety glasses), certified "green" cleaning products, and energy efficient appliances. Green & Clean salons also participate in regular health and safety training. Like King County's initiative and depending on the number of additional criteria met, nail salons are given a Green & Clean rating of one to four leaves (Boston Public Health Commission, n.d; Boston Public Health Commission, n.d. -b).

While King County's and Boston's initiatives are older, the most well-known example is arguably California's Healthy Nail Salon Program. Initiated by the California Healthy Nail Salon Collaborative in 2010 and in partnership with several California counties, including San Francisco, Santa Clara, San Mateo, Santa Monica, and Alameda, the program is a voluntary measure to curb exposure to toxic hazards in the nail salon environment (Yardimci, 2018). To become a certified Healthy Nail Salon, salons must implement a set of criteria. This includes: (1)

Using nail products free of certain harmful chemicals, such as DBP, toluene, formaldehyde, and MMA; (2) Having proper ventilation equipment; (3) Instituting health and safety training, and; (4) Using appropriate PPE (Alameda County, 2019; California Healthy Nail Salon Collaborative, n.d.; City of Santa Monica, 2018; County of San Mateo, 2020; County of Santa Clara, 2020; San Francisco Department of the Environment, n.d.). While there are no requirements related to fair working conditions, Healthy Nail Salons cannot have violations under California's Board of Barbering and Cosmetology. As public health, toxics, and environmental health experts, the program's facilitators felt unqualified to incorporate labour-related demands. However, labour law is including in the mandatory training offered to salon workers and owners (Swati Sharma, personal communication, July 23, 2020).

3.11.2. Healthy Nail Salons? Questions of Efficacy

Healthy Nail Salon initiatives use incentive-based approaches to encourage salons to adopt safer practices and use safer products. This is part of a broader trend in which incentives are used to reward compliance with environmental directives. However, as Scott (2015) contends, "… as incentives move into the foreground, enforcement fades into the background. This is by design, not by accident" (p. 391). Incentivizing shifts responsibilities to market actors, alleviating the state of its role in protection.

Few public studies examine the efficacy of Healthy Nail Salon initiatives.[29] Garcia et al. (2015) compared eleven nail salons in San Francisco – six that were enrolled in the Healthy Nail Salon Program and five that were not. The authors found increased awareness and reductions in toluene and total volatile organic compounds (TVOC) – albeit at statistically insignificant levels.

[29] Several California counties have data on the impact of the Healthy Nail Salon initiative; however, I was unable to access this data.

In addition, the researchers detected heightened levels of MMA in the Healthy Nail Salons. This was attributed to increased time spent performing acrylic nail services in comparison to the control nail salons (Garcia et al., 2015). Roelofs et al. (2010) note the benefits of Boston's Safe Shops program as gained from pre- and post-audits in automotive shops. The improvements include better labelling, lid-closing, and sanitation standards. Furthermore Shoemaker et al. (2007) found improved knowledge of occupational health and safety as well as better PPE use amongst automotive shop staff that participated in the Safe Shops program. However, in 2011, BPHC shifted their approach in recognition of the limitations of voluntary measures. According to Stephanie Seller, Program Supervisor of the Environmental and Occupational Health Division at BPHC, "… BPHC enacted regulations governing occupational and environmental health in nail salons to provide consistent and level protection standards. *These standards were not consistently achieved voluntarily, following educational outreach alone*" [emphasis added] (personal communication, July 10, 2020; also see Seller et al., 2019).[30] While the Healthy Nail Salon initiatives offer important benefits, additional long-term studies through the lens of occupational health are needed to assess its effectiveness.

Healthy Nail Salon approaches are touted as a win-win-win solution; nail technicians labour in safer conditions, consumers are informed as well as protected, and owners increase their profit margin. There are notable positive outcomes – in particular, awareness-building via the much-needed occupational health and safety training provided (Garcia et al., 2015; Roelofs et al., 2010; Shoemaker et al., 2007). However, the initiative remains consumer- and owner-

[30] To illustrate, in 2013, Boston's regulations were amended to include source capture ventilation units at each manicure and pedicure station and fresh air requirements (Seller et al., 2019). Several studies had identified poor ventilation as needed area of intervention in Boston nail salons (Goldin et al., 2014; Roelofs and Do, 2012; Seller et al., 2019).

dependent, which ultimately disempowers workers. This disempowerment increases workers' risk of exposure to unsafe work conditions (Smith et al., 2015).[31]

Moreover Healthy Nail Salon initiatives reflect a cost-benefit approach – increasingly common in environmental regulation under neoliberalism – where toxic hazards warrant action *only* if there is financial gain or limited economic cost (Liboiron et al., 2018). This is reflected in public outreach documentation advertising the initiative. The County of Santa Clara (2020) boasts, "Attract more customers once your salon is certified." The County of San Mateo (2020) states, "Customers will seek out your salon because it will be the healthiest option." Further the Boston Public Health Commission's (n.d. -b) Green & Clean program states, "Attract more customers. Show your clients and the community that you care about providing good services that are safer for them and for the environment." These consumer-centric points are listed first, while worker-focused points are listed later and often in conjunction with improved consumer health. Amidst the owner's profits and the customer's choices, the worker disappears.

Salon workers' erasure is made literal in a graphic produced by the Campaign for Safe Cosmetics (see Figure 13). Like the consumer-focused cost-benefit prompts to encourage nail salons to adopt healthier products and practices, the Campaign for Safe Cosmetics lists its first point as: "If you own your own salon, go green and use that as a selling point." The visual centers a white conventionally-attractive and feminine-presenting consumer. While the hairdresser's manicured hands are shown as cutting the consumer's hair, the hairdresser – as a whole – is not pictured in the visual. Therefore while the worker's labour is made visible and highlighted, the worker – as a full person – is erased. While likely unintentional, the perception

[31] This is as per the Vulnerable Workers' model, outlined in Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Toronto Nail Technicians."

is that the worker's value is limited to their labour. Incidentally, this graphic – in some ways – mirrors the logics that underlie advertisements produced in the post-WWII era to sell petrochemical-based products (see Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon"). Advertisements by the Union Carbide Corporation used disembodied hands to signal the performance of types of labour – spraying pesticides, extracting materials from the earth, and engaging in scientific inquiry. Petrochemical firms like DuPont and Dow Chemical showcased the consumer. These firms placed newly developed petrochemical-based household products in white, conventionally-attractive, middle-class women's manicured hands (see Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon"). In fact a cosmetics-focused post-WWII advertisement by the Dow Chemical Company titled "You have a date with plastics" showcases disembodied feminine-presenting hands combing the hair of a white conventionally-attractive woman – mirroring in some respects the Campaign for Safe Cosmetics' advertisement . The consumer is made visible while the worker is erased.[32]

[32] Unfortunately, I was not given permission to reproduce Dow's advertisement.

Figure 13: "Top 5 Safe Cosmetics Tips for Salon Workers" (Campaign for Safe Cosmetics, 2015)

5.3.3. It's All Up to the Market: Labels and "Non-Toxic" Branding

Product labelling is an additional example of precautionary consumption in practice. Mainstream environmental health organizations often frame labelling as a solution to mitigate toxic exposures in personal care products. Further some nail salon-specific campaigns have incorporated labelling in their recommendations for safer nail salons (see Ford, 2014; Sharma et al., 2018). In fact, the California Healthy Nail Salon Collaborative helped to pass AB 2775 – a law that now requires professional cosmetic products to list their ingredients (California Legislative Information, 2018). Labelling is useful in that it is a source of otherwise inaccessible toxics information and may prompt the voluntary phase-out of harmful toxicants (Endocrine Disruptors Action Group, 2016).

However, labelling is akin to responsibilization. It puts the onus on individuals – particularly women – to protect themselves, assuming the consumer to have specialized knowledge of toxicants. Moreover, labelling does not result in widespread protections, and, in prompting focus on a single "chemical enemy," it allows for unsafe substitutions (Endocrine Disruptors Action Group, 2016; Lee & Scott, 2014; Scott, 2015). For example, triphenyl phosphate (TPHP) – a potential endocrine disrupting chemical – may be used as a replacement for other harmful phthalates, like DBP, in nail polishes (Bittner et al., 2014; Estill et al., 2020; Liu et al., 2013; Liu et al., 2013a; Mendelsohn et al., 2016). The focus on a single "chemical enemy" further ignores the vast structures, infrastructures, and relations that produce and sustain harm via toxicants (see Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon").

Healthy Nail Salon initiatives often depend on labels to differentiate harmful nail products from safer nail products. However, mislabelling is a concern (Kalenge et al., 2020; Young et al., 2018). In 2012, California's Department of Toxic Substances Control tested 25 nail

products, 12 of which claimed to be free of DBP, formaldehyde, and toluene – the "toxic-trio." Ten of the 12 samples included one or more of the "toxic-trio" chemicals – at times at higher concentrations than the 13 nail products that did not make toxic-trio free claims (Guo, 2012). As an additional example, the Scented Nail Boutique kit discussed in the introduction displayed a "non-toxic" label despite the inclusion of MMA and other potentially harmful toxicants. Increased attention to toxics in personal care products coupled with limited regulation and enforcement can result in the use of labels like "toxic-trio free" and "non-toxic" as a marketing tactic – not as an accurate depiction of the product's components.

Problematically, Healthy Nail Salon programs and labelling requirements have led to the promotion of certain brands of cosmetics. Under a section titled "At home tips," King County's Hazardous Waste Management Program (n.d.) recommends "safer" nail polishes such as those produced by Avon, Revlon, and OPI. However, as Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon," will demonstrate, OPI nail products are not a safer option for communities adjacent to petrochemical production, nail technicians, or consumers. Some mainstream environmental health organizations also highlight market-level solutions. Environmental Defence, a Toronto-based environmental health organization, includes a list of personal care companies that meet their Just Beautiful Pledge (Environmental Defence, 2020a).[33] Among these companies is Beautycounter.

Founded in 2013, Beautycounter strives to promote safer personal care products via lobbying and through its high-priced line of cosmetics. Despite commitments to better labour

[33] Environmental Defence's Just Beautiful Pledge requires that companies disclose all ingredients. Further their products should not include Environmental Defence's Toxic Ten ingredients (triclosan, artificial musk, phthalates, petrolatum, formaldehyde releasing agents [quaternium-15, diazolidinyl urea], parabens, 1,4-dioxane, silicone chemicals [cyclomethicone, cyclotetrasiloxane, cyclopentasiloxane, cyclohexasiloxane], coal tar-derived colours, and butylated hydroxyanisole and butylated hydroxytoluene).

practices, such as in relation to mica mining (see Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon"), Beautycounter hires independent consultants – not employees who have access to workplace rights and protections (Beautycounter, 2020; Beautycounter, 2020a; Beautycounter Canada, n.d.). Though touted as a means to improve regulatory action, labelling and non-toxic branding, in fact, promote market-based solutions.

Consumer-centric tactics aim to compensate for inadequacies in state-level toxics regulation (MacKendrick, 2014; 2015; 2018). However, they allow further inadequacies as the capitalist state is permitted to shirk its responsibilities to the consumer and the market. Scott et al. (2017) state that the Canadian government focuses on toxics information provision, not collective protections. The non-legally binding Cosmetics Ingredient Hotlist is a notable example of this information-over-protection phenomenon as is the United States Environmental Protection Agency's (EPA) Safer Choice initiative. Rather than regulate and ban hazardous ingredients, the EPA affixes a "Safer Choice" label that "… helps consumers and commercial buyers identify products with safer chemical ingredients, without sacrificing quality or performance" (United States Environmental Protection Agency, 2019). Environmental health organizations facilitate precautionary consumption via advice on what toxicants to avoid when making cosmetics purchases – from the Environmental Working Group's (2020a) *Skin Deep* database to Environmental Defence's (2020) *Toxic Ten: Skincare Guide* and the David Suzuki Foundation's (2020) *The Dirty Dozen* list, part of another "win-win" arrangement, where the consumer is theoretically safer and the company receives financial benefit. However, neither consumers nor works are collectively protected by these models, which allow the state to shirk its responsibilities to the consumer and the market.

3.12. Method: "How do we create healthier workplaces?"

In Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians," I detailed a series of workshops held with a total of 37 nail technicians. As part of the workshops, participants offered their ideas on how to create safer and more equitable nail salon environments. In particular, I asked the participants: "How do we create healthy workplaces?" and divided potential solutions into actions that can be undertaken by customers, workers, nail salon owners, and various levels of government.

3.13. Results: Towards Worker-defined Solutions

Several themes emerged in the nail technicians' responses. Overall, the participants asserted the need for:

(1) Accessible training initiatives, including occupational health-related training and standardized nail technicians' training;
(2) Legislated and enforced health and safety protections, including the use of safer products and ventilation;
(3) Improved work conditions via the enforcement of existing labour law and additional protections, and;
(4) Worker solidarities.

The participants further suggests ways to improve interpersonal interactions in the workplace, such as between clients, workers, and salon owners. Table 4 is a summary of the recommendations offered by the nail technician participants in Workshops 1, 2, and 3. In the subsequent sections, I expand on these recommendations. As these workshops occurred between August 2019 and February 2020, there are no recommendations in specific response to the COVID-19 pandemic.

Table 4: Nail Technician Perspectives - "How do we create healthier workplaces?"				
	What can clients do?	**What can workers do?**	**What can salon owners do?**	**What can governments do?**
Accessible Training		▪ Improve skills, including nail care and communication	▪ Provide training to nail technicians	▪ Licencing requirements (free, language-specific) ▪ Provide standardized training that results in recognized certification that has multiple levels (language-specific, free, or with financial support) ▪ Provide language-specific health and safety training ▪ Provide labour market language training
Health and Safety Protections	▪ Do not ask for acrylic nails due to the dust that results ▪ Do not demand nail care service, particularly when presenting with a fungal infection or broken skin	▪ Close containers properly to ensure that toxicants do not leak ▪ Ensure a clean, welcoming work environment	▪ Understand salon-related health issues ▪ Ensure ergonomic design and set-up ▪ Ensure proper sanitation practices ▪ Ensure better in-salon ventilation ▪ Provide safer nail products ▪ Provide workers with PPE ▪ Provide extended health benefits to workers	▪ Ensure better health protection for workers ▪ As inspections are subpar, ensure better inspections ▪ Provide extended health benefits to workers ▪ Ensure regular check-ups for nail technicians
Improved Work Conditions	▪ Respect workers, particularly those that are seniors ▪ Cooperate with workers		▪ Respect workers ▪ Be approachable, fair, and friendly ▪ Pay workers well	▪ Recognize that nail care work is high skilled ▪ Increase workers' wages

	▪ Do not always complain ▪ Be mindful of children's behaviour while in the salon ▪ Better tips ▪ Be on time for appointments ▪ Know what services you want in advance		▪ Pay workers on time ▪ Ensure regular work hours ▪ As nail technicians sometimes work 10-hour days, ensure a maximum 8-hour workday ▪ Manage the schedule better to ensure that workers have breaks, including regular lunch breaks ▪ Do not make appointments during lunchtime	▪ Enforce labour law and workers' rights ▪ Ensure access to Workplace Safety and Insurance Board (WSIB) protections and to Employment Insurance (EI)
Worker Solidarities		▪ Do not gossip about or be competitive with colleagues ▪ Be nice to colleagues ▪ Support one another (worker solidarity)		

3.13.1. Accessible Training: The State's Responsibility

Participants proposed various training initiatives. Improved nail care, customer service skills, and labour market language training were identified as important for workers' professional development (also see Sharma et al., 2018). Some suggested standardized nail technicians' training with multiple levels of certification. Participants affirmed that this training must be linguistically-appropriate and free or offered with financial support. The focus on professional development evokes debates on care work and professionalization. The nail care sector is largely unregulated. While non-professionalization facilitates improved access to employment opportunities in the sector – a vital consideration for newcomer and immigrant-settler women who are otherwise excluded from the labour market – it can also facilitate low or lessened wages and subpar work conditions in general. In the absence of worker voice, this can lead to disproportionate exposure to hazardous work with limited opportunities for recourse (see Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians").

Nail technicians identified owners as a potential source of training but more so affirmed the state's responsibilities to ensure accessible training initiatives, including in occupational health and safety.[34] There are limitations to on-the-job training – a model that is allowed for aestheticians, electrologists, and related occupations in Ontario (Ford, 2020). In the specific context of the nail salon, workers often must pay salon owners for the training opportunity – the beginnings of a pattern of exploitation. This is problematic, in addition, because "… owners become the gatekeepers for workplace practices and workers' knowledge of how to protect

[34] The importance of training, particularly in relation to occupational health and safety, is consistent with recommendations put forth by nail salon campaigns in the United States (see Adhikaar for Human Rights and Social Justice, 2015; California Healthy Nail Salon Collaborative, 2009; 2011; Sharma et al., 2018) and are affirmed in occupational health scholarship specific to the nail salon environment (see Quach et al., 2013; Quach et al., 2018; Shendell et al., 2018).

themselves…. (Ahrens and David, 2017, para. 11; see Broadwater and Chiu, 2019). Perhaps in recognition of these limitations, the nail technicians affirmed the state's responsibility to provide various forms of accessible training.

Toronto's Healthy Nail Salon Network has addressed the need for accessible occupational health and safety training via language-specific in-salon workshops where nail technicians and owners are paid. This model arose in 2016 when funding from Ontario's Ministry of Labour initiated the Nail Salon Workers Project. With the funds, four Peer Health Educators were hired to lead workshops on respiratory health, ergonomics, and reproductive health. With support from the Centre for Research Expertise in Occupational Disease, a dermal health training initiative was also completed.

The workshops and associated written materials were delivered in English, Chinese, and Vietnamese to account for the make-up of nail technicians in Toronto (Ahrens et al., 2018). The Nail Salon Workers Project was a success; it increased worker awareness of occupational health and safety, improved knowledge of PPE and other protective measures, and resulted in heightened PPE use (Ahrens et al., n.d.). While non-profits play a crucial role in service delivery, they are limited by access to funds and funder requirements which can impact the consistency of program delivery.[35]

In addition, some Workshop 1 participants suggested province-mandated licensing requirements. Licensing can be useful in facilitating professionalization, warranting greater respect in a sector and leading to safer work conditions. However, there can be limitations in access – a notable issue for newcomer and immigrant-settler workers who were able to attain

[35] This sentiment was shared by nail salon campaign-related community health staff in both Toronto and California (Community Health Worker, personal communication, July 15, 2020; Swati Sharma, personal communication, July 23, 2020).

employment in nail salons, in part, because of the lack of professionalization. As such, the suggestion to license nail technicians was contentious. Others felt that such a requirement would result in job losses amongst current nail technicians. In the end, the participants agreed that all training initiatives must be free or offered with financial support and must be linguistically-appropriate – a response that affirms cost- and language-related barriers in access to licences and other forms of training (see Sharma et al., 2018).

Nail Specialty license training in New York state is a useful model to approach licencing in the Ontario context. Offered by the New York Nail Salon Workers Association (NYNSWA)[36] in partnership with Workers United (New York New Jersey Regional Joint Board) and the New York Committee for Occupational Health and Safety, the program facilitates access to New York state's Nail Specialty licence – a requirement under New York's Bill of Rights for Nail Workers.[37] In response to outreach by Workers United, nail technicians identified access to licensing as a priority, as, during inspections, unlicensed nail technicians were at times told to hide in basements, backrooms, or outside – including during winter and without their winter clothing. For workers, licensing was a matter dignity in the workplace. In addition, predatory for-profit schools offered "training" in the form of pamphlets which – predictably – resulted in constant failures.[38] In contrast, NYNSWA offers nail technicians free classes, a popular education-style teaching format, and offers assistance with form-filling and other administrative

[36] NYNSWA formed in 2016, is comprised of 801 dues-paying nail technicians, and has 30 – 40 worker-leaders. Most of the membership is Latina with some Mandarin-speaking, Vietnamese, and Korean women nail technicians. In addition, there is one male member (Luis Gomez, personal communication, August 4, 2020). Notably, Workers United has roots in immigrant women's labour organizing via its oldest predecessor union, the International Ladies' Garment Workers' Union (Workers United Canada Council, 2018). Workers United played a crucial role in facilitating the development of NYNSWA.

[37] New York's Bill of Rights for Nail Workers came into effect in 2015 and stipulates wage requirements, break requirements, PPE provision, a wage bond to protect from wage theft, and licensing requirements. In addition, nail salons must visibly post the Bill of Rights, which is available in multiple languages.

[38] In addition, these institutions lied to enrollees. They claimed that the only exam site was in Albany, New York and, as such, nail technicians had to pay them $125 - $150 for transport.

tasks necessary to obtain their licences. Prior to enrollment, participants complete four "Know Your Rights" workshops on occupational health and safety, immigration rights, wages and hours, and labour and unionization rights. To further increase access, NYNSWA has successfully advocated for New York state's nail technicians licensing exam to be delivered in oral format, not just written format (Luis Gomez, personal communication, August 4, 2020).[39]

3.13.2. Health and Safety Protections

Participants expressed significant concern about the health impacts linked to toxic exposures in the workplace. When asked about the customer-level solutions to these issues, Workshop 2 participants asserted that clients should not ask for acrylic nails due to the resultant dust exposure, nor should they demand service when presenting with fungal infections or broken skin. While public health guidelines affirm the latter expectation, nail technicians have reported being unable to refuse service (Ahrens & David, 2014, para. 10). The uneven power dynamic between owners, workers, and customers puts nail technicians in a precarious position; they are often unable to refuse client demands. One participant shared, there are two bosses in the nail salon – the owner and the client.

In addition, clients influence PPE use – or the lack thereof. Wearing PPE can collide with clients' expectations of emotional labour. In a focus group held by David (2014), a participant shared that mask-wearing coupled with her limited English language proficiency made customer interaction difficult. Kang (2010) references nail technicians being reluctant to use PPE due to customer perceptions that technicians think they are "dirty." PPE therefore poses implications for the emotional labour expected of nail technicians. While the medical masks generally used in

[39] Luis Gomez is the Director of Organizing for Workers United (New York New Jersey Regional Joint Board) and works closely with the New York Nail Salon Workers Association (NYNSWA).

salons do not protect against toxicants, they perhaps serve to protect workers from expectations of emotional labour (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons").

Owners occupy a central role in health and safety protection. The participants asserted that owners must adhere to health and safety guidelines. In addition, owners must provide effective PPE, non-toxic materials, better ventilation, ergonomic design, and, in general, understand health and safety issues specific to the nail salon environment. Participants in all three workshops further shared that owners should provide workers with extended health benefits such as massage to treat aches and pains – a recommendation that reflects the "leaking" of harm into other aspects of nail technicians' lives. According to the participants, the state must enforce these occupational health protections, including through inspections that at linguistically appropriate. However, poor relationships with inspectors and the use of inspections as a punitive and harassing tool undermines the effectiveness of this measure (Kang, 2010). For example, in 2018, it was reported that Toronto-based holistic practitioners – many of whom are people of colour – "… have been targeted with excessive, unnecessary and discriminative inspections and prosecutions [by Municipal Licensing and Standards division staff as well as Toronto police]." This includes dehumanizing treatment, sexual harassment, and reprisals for reporting abuse (Butterfly et al., 2018). Thus, as we strive for improved regulation and enforcement to ensure collective benefit, we must recognize and address the disparities in the legal system, including the use of workplace inspections to harass and discipline racialized communities.

Participants in Workshop 3 further stated that workers' compensation via the Workplace Safety and Insurance Board (WSIB) should be made more accessible. This is consistent with the experiences of other immigrant-settler workers. Premji et al. (2019) found that lack of

information, fear of reprisal, and language barriers prevent access to workers' compensation in both Ontario and Quebec.

3.13.3. Improved Work Conditions

Labour rights violations makeup a large part of nail technicians grievances – from delayed payments to the lack of breaks and verbal abuse. As such, when asked about how to create healthier nail salons environments, participants focused, in large part, on ensuring equitable and dignified workplaces. Lack of respect was a prime focal point. Participants affirmed that owners and clients must treat nail technicians with respect in both language and behaviour. For instance, clients must show up on time, co-operate with workers, be mindful of their children's behaviours, and know in advance what services they want as a means to respect workers' time. Owners must pay well (at least minimum wage) and on time, ensure breaks and a regular lunch hour, and ensure a maximum eight-hour workday. Nail technicians identified the state as central in enforcing these protections as well as bettering legislation specific to workers' rights. In addition, salon owners must be fair and approachable. However, participants shared that workers lack the power to approach owners with their grievances, concerns, or ideas for safer salon environments. This lack of power necessitates *voice,* both interpersonal and collective.

3.13.4. Building Worker Solidarities and Power

Worker solidarities were identified as a solution at the interpersonal-level. Participants shared that workers must support one another and refrain from competition. While cross-salon organizing was not mentioned, the labour of the Nail Technicians Network demonstrates the importance of collective mobilization. Unionization can be difficult in the nail salon sector where, for the most part, small, independent, and disconnected salons operate on a widescale

(Luis Gomez, personal communication, August 4, 2020). Nonetheless, there are several examples of worker-oriented organizations – the Nail Technicians' Network, the New York Nail Salon Workers Association (NYNSWA), and Adhikaar,[40] the latter two which operate in New York City. These worker-led collectives affirm that building worker power is crucial to achieving long-term health in the nail salon sector. This is done through capacity building and leadership development initiatives, labour rights and occupational health training, mutual aid or collective models of care (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons"), and legislative interventions to ensure better work conditions. For instance, both NYNSWA and Adhikaar were successful in lobbying to eliminate the tip credit. This means New York-based nail technicians must be paid $15 per hour, irrespective of the tips they collect (Luis Gomez, personal communication, August 4, 2020). These legislative aims are a manifestation of an intergenerational politics of care. Nail technicians mobilize to enact better conditions for fellow and future workers. This politics of care is not limited to the nail salon sector. The mobilization to eliminate the tip credit was fought alongside restaurant and car wash workers.

3.14. Discussion: From Precautionary Consumption to Worker Power

Worker-led solutions like nail technician-led and directed mobilizations are crucial to reclaiming workers' power in the nail salon environment. Nail technician report disempowerment in the workplace; they lack the ability to influence their work environments. Although enacted with good intentions, nail salon-focused campaigns that center owners' and

[40] Adhikaar formed in 2005 and is a social justice oriented non-profit working with Nepali and Tibetan communities. Adhikaar has worked with nail technicians since 2005, has 800 nail salon worker-members, and has laid important foundations for nail salon worker organizing in New York City (Adhikaar for Human Rights and Social Justice, 2015; Chhetri et al., 2017).

clients' interests exacerbate workers' disempowerment. Building worker power is vital to disrupt the uneven power relations that are at the crux of nail salon workers' exploitation. Owners and clients should not be the gateway to worker protections.

Healthy Nail Salon initiatives are effective in their focus on accessible occupational health training – information that can be difficult to attain for newcomer workers (Kosny & Yanar, 2017). However, as a precautionary consumption-based tactic that depends on owners' and consumers' (constrained) choices, these initiatives are unable to ensure widespread and standardized protections for all nail technicians. According the MacKendrick (2018), a shift from precautionary consumption to the precautionary principle is needed so that "…safer products are not a choice but rather the only option" (p. 82). In contrast to the individualism that underlies precautionary consumption, nail technician participants in this work proposed recommendations that affirm collective benefit: Regulated and enforced health and labour protections, accessible and standardized training initiatives that cover nail care work and occupational health, and worker solidarities.

While environmental health organizations do strive for regulatory interventions, the use of precautionary consumption as a tactic weakens their aims. Precautionary consumption assumes that individual bodies are capable of separation from toxicants and broader environments via appropriate choices – many of which are inaccessible to broad sections of consumers and, as a result, lead to individual blame for structural inequities. According to Szasz (2007), the notion of corporeal separation from environments lessens public demand for regulation as individual actors retreat to their own "toxic-free" cocoons – a fallacy amidst the built-in exposures in our environments, including in ways that are beyond the scope of our individual consumption choices – such as in workplaces and public spaces (Endocrine Disruptors

Action Group, 2016; Scott, 2015). As will be discussed in the subsequent chapter, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon," frontline communities cannot exercise choice in relation to their daily exposures to harmful toxicants (Scott, 2015). In addition, Žižek contends that ethical consumption aims to alleviate consumer guilt as the solution to exploitation is built into the product or service. In the process, sector-wide hazards and structural inequities are left unchecked (Žižek, 2010). In sum, the state is relieved of its responsibilities to ensure occupational and environmental health as consumers – predominantly women – and the market take the lead (MacKendrick, 2014; 2015; 2018; Lee & Scott, 2014). This reproduces and intensifies environmental sexism as well as undermines workers' interests.

3.15. Conclusion

The purpose of this chapter is not to vilify environmental health campaigns that incorporate precautionary consumption as a tactic to improve workers' health, nor is it to paint these campaigns with one brush. Many environmental health and nail salon-specific campaigns incorporate a diversity of tactics: consumer-focused, owner-focused, voluntary, worker-focused, regulated, state-focused, and collective. While campaigns in California, for example, have popularized the Healthy Nail Salon model, they have also lobbied for vital state-level protections. A pertinent example is California's Toxic-Free Cosmetics Act (AB 2762), which bans 12 harmful toxicants from cosmetic products (Little, 2020).[41] In addition, California's Safer Consumer Products Regulation identifies toxics of concern, such as toluene and MMA, and requires manufacturers to prove that their substitutions are safe (Department of Toxic Substances Control, 2020; 2020a) – an enactment of the precautionary principle. There is no question that

[41] These include formaldehyde, paraformaldehyde, methylene glycol, quaternium 15, mercury, dibutyl and diethylhexyl phthalates, isobutyl and isopropyl parabens, PFAS, and m- and o-phenylenediamine.

these organizations and campaigns are committed to the health and well-being of nail salon workers.

My point in this chapter is two-fold: Voluntary and precautionary consumption-based tactics are individualizing and thus demobilizing. This ultimately undermines regulatory and collective-level change. Building on occupational harms as a manifestation of capitalism's enmeshment in/on workers' bodies (see Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians"), Armiero and De Angelis (2017) write, "… capitalism enters into the body of subaltern people in two ways: on the one hand, it occupies cells with cancer and other diseases… on the other hand, it imposes an ideology of the cure of the self that is based on individual choices…" (p. 354). Second, tactics that prioritize the interests of owners and consumers exacerbate workers' disempowerment – a phenomenon that is linked to the increased likelihood of hazard exposure (Smith et al., 2015). Nail technicians must lead all interventions in their sector. Healthy nail salons require an environment in which nail technicians have access to professional development and occupational health training, have their health and labour rights protected, and have *voice* – both at the interpersonal- and collective-levels.

However, while regulatory interventions are vital to ensure sector-wide protections, regulation is not without its limitations. In addition to the use of regulation as a punitive tool to police marginalized communities, Canadian toxics regulation is based in a "permission-to-pollute" system. Outdated threshold logics – such as in occupational exposure limits – do not account for low-level and cumulative harms. Further, information-over-protection methods download toxics mitigation to consumers and cost-benefit approaches allow toxicant exposures to a certain limit (Murphy et al., 2019; Shadaan & Murphy, 2020). While EJ has traditionally looked to state-level regulation as the ultimate aim, newfound approaches question this aim as

the state – as both an active and complicit entity – produces environmental harm. Pellow (2018) writes that state-oriented aims "… may leave intact the very power structures that produced environmental injustices in the first place…" (p. 17). As an alternative, Pellow (2018) points to ground-up collectives that can "deepen direct democracy" (p. 24) and limit dependence on the state. Nail technicians' associations and their mutual aid efforts are a pertinent example (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons") as are initiatives that build worker-power in general. However, it is uncertain if such collectives can facilitate sector-wide occupational health improvements independent of the state's regulatory arm. The subsequent chapter, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon," contends with building ground-up power beyond the workplace and employment sector. When traced temporally and spatially (upstream), nail products are linked to broader scales of violence – far beyond the nail salon environment. To scale back and expose these relations of violence can – perhaps – facilitate solidarities that traverse the commodity chain.

CHAPTER FOUR

Beyond the Salon: Oil, Petrochemicals, and the Nail Salon

A column titled, "Choose Safe Places for Early Care and Education: Building State Programs" written by scientists and public health professionals at the United States Agency for Toxic Substances and Disease Registry (ATSDR) begins,

> What would you want to know before your children attend a day care opening in a former industrial building or adjacent to a nail salon? Are children at risk if their new preschool is located on former farmland where lead arsenate pesticide might have been used? What site-related environmental risks are most concerning for children attending early care and education (ECE) facilities? (Wendel et al., 2019, p. 40).

The column discusses a recent initiative spearheaded by the ATSDR in which proposed sites for early childcare facilities are pre-screened for environmental hazards. In the ATSDR's materials, nail salons are repeatedly identified as potential sources of harmful environmental contaminants that can have adverse impacts on children's health (Agency for Toxic Substances and Disease Registry, 2017). The inclusion of nail salons in tandem with former industrial sites and pesticide-laced farmlands is at first glance odd. Nail salons are often depicted and experienced as social and spa-like therapeutic environments that produce confidence and relaxation in addition to beautifully manicured and pedicured nails (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons") – not as industrial spaces of toxicity and adverse health outcomes. Yet the research on in-salon air quality showcases the latter, demonstrating that nail salons are sites in which multiple sensory experiences collide (Alaves et al., 2013; Ceballos et al., 2019; Goldin et al., 2013; Pavilonis et al., 2018; Rogula-Kopiec et al., 2019; Zhong et al., 2019). Based on air quality data from six Colorado-based nail salons, Lamplugh et al. (2019) found that BTEX levels (BTEX) measures in nail salons were comparable to levels detected in oil refineries.

Nail salons are linked to oil refineries in more than just exposure-levels. As we look upstream, it becomes apparent that the toxicant-related occupational hazards associated with nail salons have roots in oil extraction, refining, and petrochemical production. Building a case for thinking about these as interconnected sites of violence, this chapter uses a multiscalar analysis (spatial and temporal) to discuss the links between settler colonialism, petrocapitalism,[42] and nail products. Using a temporal lens that spans pivotal moments from the mid-1800s to the 1950s, I trace aspects of the historic interplay between petro-politics and cosmetics. Using a spatial lens, I trace toxicants in nail products to their production, use, and emissions in Ontario's "Chemical Valley" – site to 40% of Canada's petrochemical industry (Aamjiwnaang First Nation, n.d.), an offshoot of commercial oil extraction in the region which began in 1858 (The Chemical Division of Shell Oil Company of Canada, Limited, 1956).

Chemical Valley is located on Anishinaabeg land and is adjacent to Aamjiwnaang First Nation, which is bordered by Chemical Valley on three sides. The industrial hub contains more than fifty polluting facilities, inclusive of oil refineries and petrochemical plants. Aamjiwnaang First Nation has contended with Chemical Valley's emissions to water, air, and land for more than 150 years – since before Canada's formation as a settler state. My analysis in this chapter draws from my work in the *Land and the Refinery: Past, Present, and Future* – an Indigenous-led project that documents and contextualizes industrial responsibilities for pollution in Chemical Valley (Murphy et al., 2019). This chapter further builds upon past work that affirms the importance of structural – not body-centric or consumer-centric –frames of toxicity (see Shadaan & Murphy, 2020). This work traces nail polishes "… through [the] chain of production to their

[42] Petro-capitalism is a formation of capitalism in which the petroleum extraction, production, and consumption are central (Valdivia, 2011; Huber, 2017). Consider that Canada is a petro-state with a dollar that is dependant on oil.

manufacture and a larger disbursement of environmental violence" (Shadaan & Murphy, 2020, p. 5). The toxicants that harm nail technicians' health do not begin in the nail salon; they begin in places like Alberta's tar sands and Chemical Valley, where structures of settler colonialism and petrocapitalism undergird environmental violence. Efforts that reduce harm to the point of nail products conceal broader structural, cultural, and material relations, which impeded broadened solidarities.

6.1. Multiscalarity: Here *and* There

Scale is a fundamental consideration in EJ praxis as toxicants are traced to their material harms in bodies and communities. David Naguib Pellow's (2021; 2018; 2016; Pellow & Brulle, 2005) *Critical Environmental Justice* (CEJ) framework asserts a multiscalar lens as crucial to emergent directions in EJ scholarship. A multi-spatial analysis is not necessarily new to EJ. Pellow (2018) references the extensive literature on transnational EJ movements as well as studies on the movement of toxics across space – such as in R. Scott Frey's (2012; 2006; 1998a; 1998b) foundational work on the movement of waste to the Global South.[43] Incidentally, waste is transported to the Global South while workers from the Global South as likened to waste (see Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians." This echoes Traci Brynne Voyles (2015) concept of *wastelanding*, a "… a racial and a spatial signifier that renders an environment and the bodies that inhabit it pollutable." (p. 10). Frey's work is framed in World Systems Theory, which influenced Pellow's CEJ framework (Pellow, 2019). In CEJ, Pellow (2018) emphasizes the temporal scale including the historical processes that give rise to petrocapitalism, the roots of environmental racism in imperialism, colonialism

[43] Also see Pellow, 2007.

and the transatlantic slave-trade, and the multi-generational persistence and bioaccumulation of certain toxicants (Pellow, 2018; Gonzalez, 2013).

Further representations of scale in the context of EJ can be found in Rob Nixon's (2011) work on *slow violence* – a rejection of the single-story narrative of visible events confined to particular places, times, and bodies. Slow violence is incremental and, as a result, made invisible or "out of site." Davies (2019) extends this point, asking "out of sight to whom?'" (p. 6), which evokes questions on the erasure of community- and worker-based experiential and embodied knowledges of toxicity (Davies, 2019). Nonetheless, slow violence and related concepts attend to the multiscalarity that is environmental contamination. As Scott Gabriel Knowles (2014) writes, "The slow disaster stretches both back in time and forward across generations to indeterminate points, punctuated by moments we have traditionally conceptualized as "disaster," but in fact claiming much more life and wealth across time than is generally calculated" (p. 777).

Everyday practices – like cosmetic use – further demonstrate multiscalarity when contextualized. In fact, the linkages between consumption, production, and extraction are common in notions of the 'glocal,' which is helpful in approaching violence as a multiscalar phenomenon, but, in mainstream conceptions, often results in problematic narratives of individual responsibility for toxics mitigation (see Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions"). In *Exposed: Environmental Politics and Pleasures in Posthuman Times*, Alaimo (2016) reflects on the act of consuming seafood, the associated links to mercury pollution, microplastics, industrial responsibilities, and capitalist relations. Further, in *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants* (2015), Kimmerer (Potawatomi) reflects on everyday items, tracing them to their origins in the natural world:

> What would it be like… to live with that heightened sensitivity to the lives given for ours? To consider the tree in the Kleenex, the algae in the toothpaste, the oaks in the floor, the grapes in the wine; to follow back the thread of life in everything and pay it respect? …. In that awareness, looking over objects on my desk… I delight in following their origins back to the ground…. [M]y thoughts pass quickly over the plastic on my desk…. I can muster no reflective moment for plastic. It is so far removed from the natural world. I wonder if that's a place where the disconnection began, the loss of respect, when we could no longer easily see the life within the object. (p. 154-155).

What would it mean to contextualize nail polish, tracing it back in time and across scales of place? Pellow (2018) writes, "An embrace of multiscalar methodological and theoretical approaches to studying EJ issues is important for developing a stronger comprehension of the complex spatial and temporal causes, consequences, and possible future resolutions of EJ struggles" (p. 22). To situate nail polishes in these broadened scales counters the tendency to view nail salons in deficit frames, as singular or discrete perpetrators of toxic violence. It further highlights how sites of harm are interrelated, opening possibilities for broadened solidarities.

6.2. Across Time: From Oil to Cosmetics

The "birth" of North American commercial oil extraction is often traced to Titusville, Pennsylvania. In actuality, the practice dates to 1858 when James Miller Williams drilled the first commercial oil well on Anishinaabe land in an area that came to be called Oil Springs in Southwestern Ontario (The Chemical Division of Shell Oil Company of Canada, Limited, 1956). Extraction was facilitated by land theft. European settlers to these lands did not discover oil; oil was known and used in reciprocal relationship (Black & Ladson, 2010; Murphy et al., 2019a). However, settlers, like Williams, transplanted capitalist relations of being with land and with each other – the privatization of the means of production (including land, which was constructed as resource), production for profit *not* use, and the exploitation of wage labour. While colonialism and capitalism can be "… happy bedfellows and indeed longtime lovers… they are

not the same thing" (Liboiron, 2021, p. 13). The theft of land was the precursor and foundation for the enactment of capitalist relations (Liboiron, 2021). For capitalism to develop, settlers needed access to land – a space to create *wastelands* to extract from and pollute (Voyles, 2015). Such access depended on genocide unto the people and cultures that occupied those lands. The privatization of land is then not just a material matter; it underlies cultural genocide and the normalization of extractive relations with land and each other (Liboiron, 2021; Yellowhead Institute, 2021).

The colonial aim is to own, exploit, and profit from the land – a politics of enclosure in which land is deemed private property and relegated as "resource." Gómez-Barris (2017) calls this the "extractive view" while Moreton-Robinson (Geonpul, Quandamooka First Nation) terms this process as based in "[white] possessive logics" or the "… excessive desire to own, control, and dominate…" as property ownership is tied to whiteness, rooted in Indigenous dispossession, denied to those who are racialized, and built into colonial law (Moreton-Robinson, 2015, p. 67). While racialized settlers were foundational to colonial expansion as hyper-exploited labour, their identities made them "unwelcome" (Day, 2016; Karuka, 2019; Li, 1998) – a narrative that continues as evidenced in the treatment of Asian (broadly) nail technicians (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons").

While Titusville did not "birth" the petroleum industry, it played an important role in the development of cosmetics. In 1859, oil workers used an unrefined petroleum jelly ("rod wax") to treat their wounds. A chemist named Robert Chesebrough distilled the substance into a transparent gel and patented it as Vaseline in 1865 (Unilever, 2018). Credited as the 'founder' of modern mascara, Eugène Rimmel (of the House of Rimmel, now Rimmel) later combined Vaseline with coal dust to create an early form of mascara (Valenti, 2015). In 1917, Thomas

Williams combined Vaseline and carbon dust to darken brows and lashes. This spurred the creation of international cosmetics giant, Maybelline (Maybelline New York, 2018). Modern cosmetics are thus, in part, linked to historical processes of oil extraction.

3.15.1. The Twenties: Nail Polish, the Automobile, and the "Modern Woman"

Nail polishes for consumer-use date to the early 1900s and their popularity grew in the subsequent decades. Founded in 1911, Cutex is credited as the first to commercialize and mainstream nail polish.[44] Under the Northam Warren Corporation, Cutex developed a cuticle remover and later expanded its collection to include other manicure products (Forde, 2002). This includes a rose-tinted nail lacquer in 1924 (Shapiro, 2014) and an acetone-based nail polish remover in 1928 (Gross, 2017). Constructions of aesthetic culture in this period evoke the flapper – a "modern woman" who rejected Victorian expectations of femininity. The flapper bobbed her hair, flattened her chest, took off her corset, dropped her waistline to her hips, and shortened her hemline. In addition, she wore dark eye make-up, bold lipstick, and nail polish (Chaudhri & Jain, 2009) – marks of promiscuity by Victorian aesthetic standards (Forde, 2002).[45]

Flapper aesthetic culture coincides with the strive for modernism, mass production, and an emergent consumer culture that marks the era. Nail polish proved to be a popular purchase, in part, due to its small size (Forde, 2002).[46] The most prominent symbol of this time is the

[44] Cutex' pivotal role is demonstrated in my childhood experience. Nail polish in general was referred to as "Cutex" in my household.
[45] The flapper aesthetic developed as a result of and in conjunction with several societal developments at the time: Increased opportunities for wage labour, although these opportunities remained confined to feminized occupations in service and care labour (Forde, 2002); The mainstreaming of birth control, although there were explicit links to the eugenics movement, and; Women's access to voting rights, although these rights did not always extend to poor and non-white women.
[46] A Department Store clerk in 1926 commented, "You can sell New York people anything if it is small enough" (Forde, 2002, p. 179).

automobile – used to denote conspicuous consumption in F. Scott Fitzgerald's narrations of Roaring Twenties and painted as a "house of prostitution on wheels" by conservative onlookers (Coontz, 2018, p. 66). Ford's assembly-line production of the gasoline-powered Model T spurred broadened access to the automobile – a trend soon followed by other car manufacturers. The automobile represented the technological innovation and strive for modernism that marked the era. It even influenced nail polish formulations. Michelle Menard, a French make-up artist employed by The Charles Revson Company (later Revlon), was inspired by nitrocellulose-based automobile paint (Baki & Alexander, 2015). Nitrocellulose-based lacquer was a new invention, developed by DuPont and applied to General Motors cars in 1923 (Blaszczyk, 2007). Nitrocellulose is further part of cinematic film – another facet of the era's strive for modernism (Forde, 2002). Menard added nitrocellulose to Revlon's nail polish (Baki & Alexander, 2015) – part of a "[bio]plastic modernity" that characterized the period (Forde, 2002, p. 175).[47] Two decades later, a petroleum-based "plastic modernity" arose – sold, in part, by manicured hands.

Like the automobile, commercial nail products thrived in the Roaring Twenties' culture of consumption. From 1916 to 1926, Cutex's business volume grew from $60,000 USD to $1.8 million USD (Forde, 2002). Likewise, Ford's sales increased five-fold from 1913-1914 levels to 1.25 million cars sold in 1920-1921 (Ford, 1922). The Model T succeeded because electric and steam-powered vehicles failed: It was the only feasible option in rural conditions, it could be repaired with general machine knowledge, and it was affordable (Schoenberger, 2015) – though only to the wealthier sections of the working-class. When Coco Chanel debuted her "Little Black Dress" in 1926, American Vogue even labelled it "The Chanel 'Ford' Dress, the frock that all the world will wear" to liken it to the Model T's mass appeal (Vogue – New York, 1926, p. 69).

[47] Forde (2002) uses the term "plastic modernity" to refer to the use of nitrocellulose in nail polishes and film.

Mainstream beauty culture embraced the automobile as representative of the new "freedoms" available to "modern women" (see Figure 13).

Yet the automobile did more than influence beauty culture; it led to the development of mass infrastructure to support gasoline-powered transport (Schoenberger, 2015) – an important historical moment in the rise of petrocapitalism. (Esso, 1969). In fact, Imperial Oil – the oldest continually operational refinery in the world, sited in Chemical Valley – expanded its operations across Canada and into South America as a result of the new gasoline demand. In addition, as the New Deal was implemented, regulations were put forth that gave sections of the working-class newfound access to an "energy-intensive life," which included petroleum-based or petroleum-dependent products (Huber, 2017, p. 4). Oil represented a social relation; not just a material entity (Huber, 2013). Access to home ownership and automobiles constituted "the good life" – a new standard of living dependent on petroleum (Huber, 2013, p. 28). As the petrochemical sector emerged and developed, "the good life" came to be linked to a "plastic modernity."

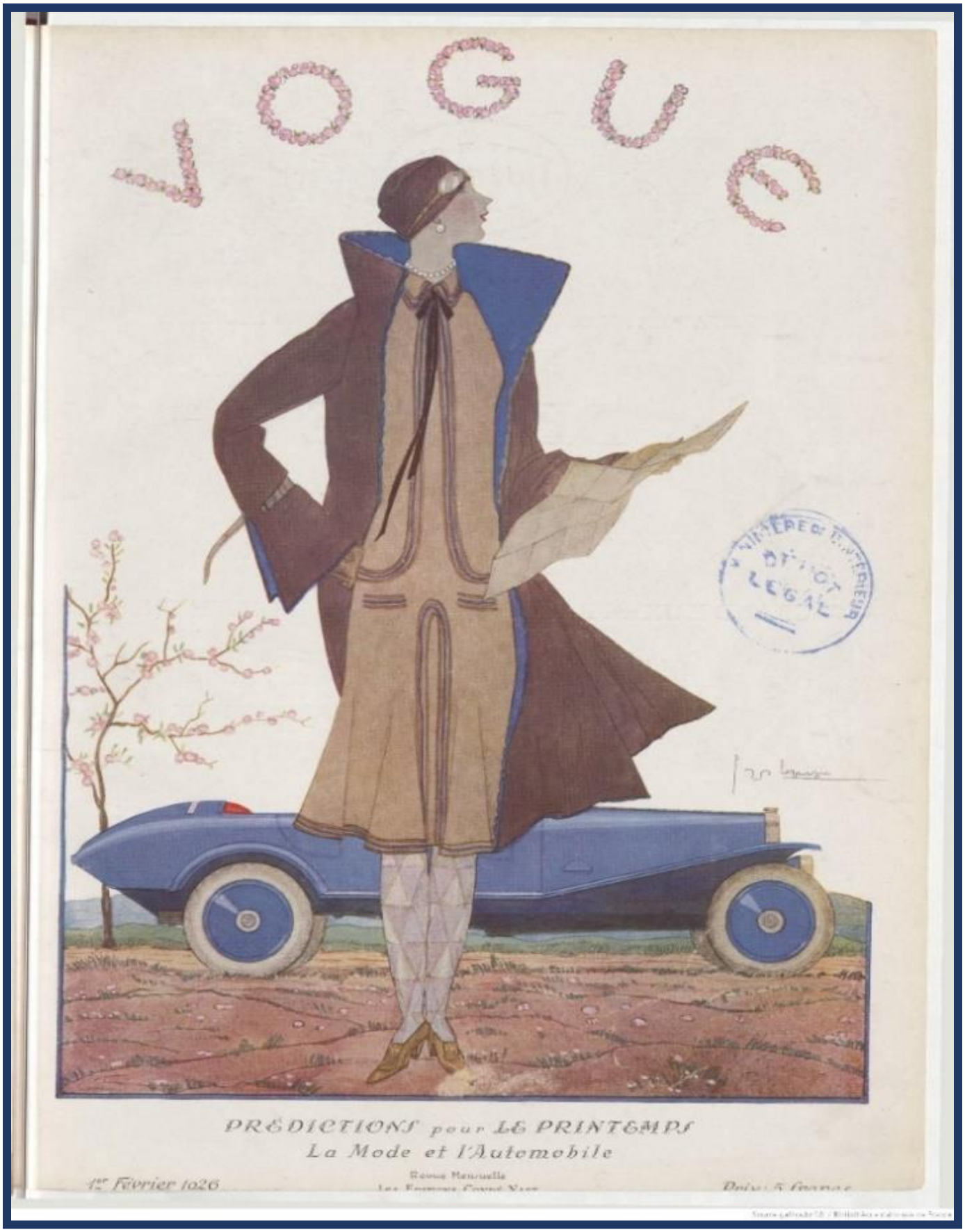

Figure 14: Vogue magazine cover, February 1926 © Estate of Georges Lepape / SOCAN (2019)

3.15.2. "The Golden Age of Capitalism": Petrochemicals, Plastics, and Manicured Hands

Petrochemical use was experimental in the pre-WWII period. The Union Carbide Corporation is self-credited as founding the petrochemical sector with the development of the first commercial ethylene plant in 1920 (Union Carbide Corporation, n.d.).[48] Union Carbide is infamous for its responsibilities in Bhopal Gas Disaster in 1984 and the Hawks Nest Tunnel Disaster in the early 1930s. The latter is deemed the United States' worst industrial disaster and the former is commonly called the world's worst industrial disaster.

During WWII, petrochemical development expanded to meet the need for synthetic products. In "Chemical Valley," the Dow Chemical Company built the first petrochemical plant in 1942 (Lauzon, 2013). Dow managed the styrene unit of the Polymer Corporation and began producing polystyrene plastic (The Chemical Division of Shell Oil Company of Canada, Limited, 1956). In this period, cosmetics plants also shifted to war-related production: Revlon produced hand grenades and Cutex was manufactured alongside airplane parts (Shapiro, 2014). While the U.S. War Productions Board somewhat limited nail polish production in 1942, cosmetics as a whole remained popular (Shapiro, 2014) – marketed, at times, as patriotic obligation (See Figure 14 and Figure 15).

[48] Ethylene considered a petrochemical building-block, used to create petrochemical-based consumer products.

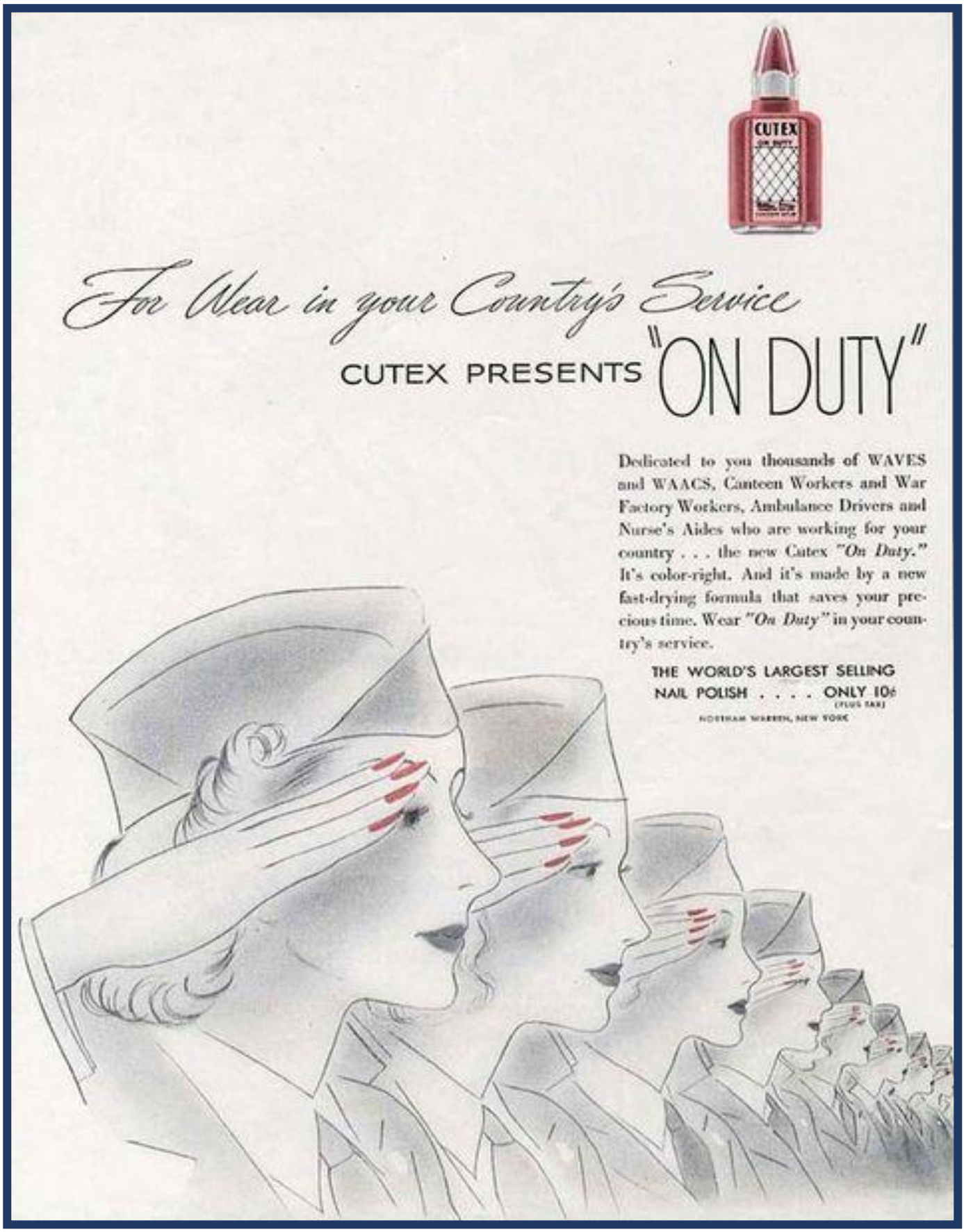

Figure 15: Cutex "On Duty." Courtesy of Revlon

Figure 16: Cutex "Flying Colors." Courtesy of Revlon

In the post WWII period, the "traditional" family arrangement arises: A white, middle-class, nuclear family living in suburbia (necessitating a car), led by a male breadwinner and supported by a female homemaker.[49] This is a work of fiction. In *The Way We Never Were: American Families and the Nostalgia Trap*, Stephanie Coontz' (1992) dispels the myth. The "traditional" family was not accessible to the poor and non-white families were not represented. Many women had no option but to participate in wage labour – particularly those who were poor, of colour, and migrant. Expectations to uphold perceptions of normalcy forced marriage and at times hid family-based violences (Coontz, 1992). Coontz' (1992) writes: "Beneath the polished facades of many "ideal" families… was violence, terror, or simply grinding misery…." (p. 65). In addition, the "traditional" family implies that a gendered binary is a "normal" or "natural" state and dismisses other forms of family life. Yet the legacy of the "traditional" family continues. Cara Daggett (2018) writes that depictions of a "… 'Leave it to Beaver' innocence'" (p. 32) in an era of cheap oil fuels modern-day hypermasculine expressions of pro-extraction – such as in Daggett's (2018) *petro-masculinity*[50] and Alaimo's (2016) *carbon heavy masculinities*.[51]

Petrochemical firms at the time fueled the traditional family mythos. Economic boom coupled with anti-Communist propaganda specific to the Cold War set the stage for "freedom" to, again, be defined as the freedom to consume. With the shift from petrochemical production

[49] Coontz (1992) asserts that this "traditional" family was an entirely new phenomenon that emerged in the 1950s.
[50] Daggett (2018) defines petro-masculinity, as: "… the relationship – both technically and affectively, ideationally and materially – between fossil fuels and white patriarchal orders. While misogyny and climate denial are often treated as separate dimensions of new authoritarian movements, a focus on petro-masculinity shows them to be mutually constituted, with gender anxiety slithering alongside climate anxiety, and misogynist violence sometimes exploding as fossil violence" (p. 28).
[51] Alaimo (2016a) defines carbon-heavy masculinities as, "… a gendered style that contributes to increasing CO2 emissions. This exaggerated form of masculinity is recognizable in the U.S. as a familiar type of tough-guy bravado, but during a time of concern about terrorism, immigration, and economic inequality, the style—which can be performed by people of any sex or gender—is not just individual but political, even nationalistic, with wide-ranging implications" (para. 1).

and use for WWII to consumer goods, "freedom" denoted the consumption of petrochemical-based household products – the beginnings of a petro-plastic modernity.[52] In this period, The Union Carbide Corporation released "A Hand in Things to Come" – an ad campaign that depicted massive seemingly-masculine and white hands lifting material from the Earth to indicate new products (and futures) via extraction.[53] As Union Carbide's "hands" extracted material from the Earth, it visualized the construction of the land as *terra nullius* and as relegated to an economic resource.

"A Hand in Things to Come" alludes that the future is built through extraction. The result is petrochemical-based household products like DuPont's Nylon, Dow Chemical's Saran Wrap, and Tupperware (called "Poly-T: Material of the Future") – a product developed by Earl Tupper, who, in 1937, also created celluloid-based nail appliques in hearts and shamrocks (Clarke, 1999). In advertisements, these household petrochemical-based products were held by or placed near middle-class white women's manicured hands, sometimes at close-up (See Figure 14 and Figure 15). Their un-chipped nails implied the myth of time and energy saved as a result of new household technologies.[54] Likewise Wylie (2018) reflects on mid-20th Century advertisements by the American Petroleum Institute, which signal… "… how feminine, middle-class, white domestic life is enabled by "American Oil and Gas… engag[ing] the working middle and upper

[52] This is based on Forde's (2002) terming of "plastic modernity" in reference to the use of nitrocellulose (a bioplastic) in nail polishes and film.
[53] While I would have liked to include the visual, I did not receive permission to reproduce Union Carbide's advertisements.
[54] Ruth Schwartz Cowan (1983) dispels this myth, noting that household technologies did not ease women's disproportionate burden of reproductive labour. Cowan writes, "… there is more work for a mother to do in a modern home because there is no one left to help her with it." (p. 201). This was due to several reasons: (1) Assumptions that new technologies made chores easier stopped men from helping in the household; (2) The rise of suburbia and car-centric communities meant that men worked farther away and spent less time at home; (3) Children spent their days in school and in after-school activities, and; (4) Most families could not afford domestic help. Although household technologies made the work less laborious, it was not less time-consuming (Cowan, 1983).

classes of white America by visually reminding them that the American dream of a heteronormal suburban family depends on fossil fuels…" (p. 251-252). Manicured hands sold more than the products they held; they sold petrocapitalism.

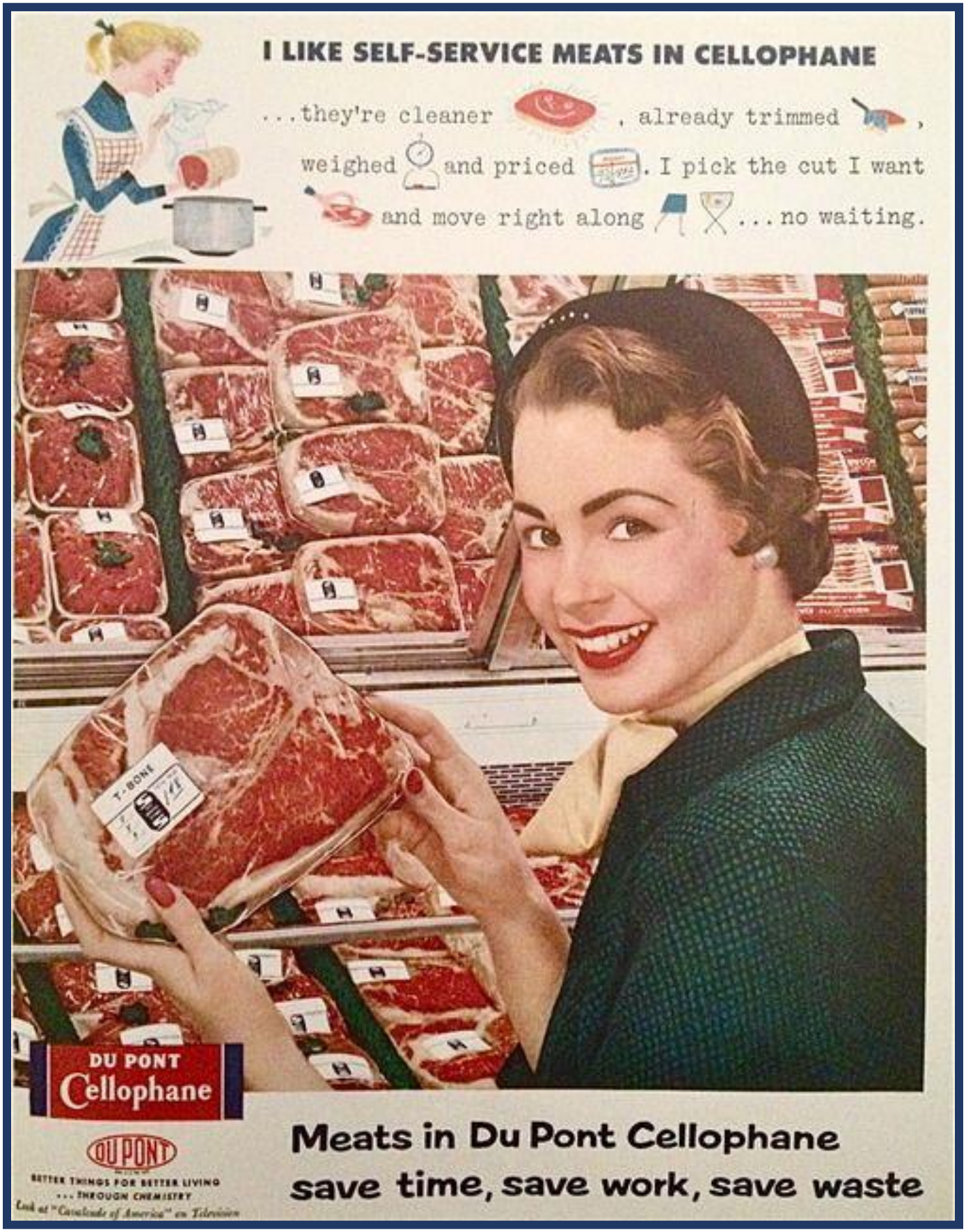

Figure 16: DuPont's Cellophane. Courtesy of DuPont. DuPont's Cellophane used nitrocellulose – the same component found in nail lacquers. While Cellophane is not petroleum-based, it is reminiscent of the "[bio]plastic modernity" that spurred the growth of nail polishes in the 1920s

Figure 17: DuPont's Nylon. Courtesy of DuPont. Nylon was created in 1935 and is petroleum-derived (The American Oil & Gas Historical Society, 2019).

6.3. Across Space: "Dipped in Petroleum"

Today's manicured hands hold more than Tupperware. Products that are dependent on petrochemicals permeate all arenas of our lives – our clothing and shoes, our phones and other electronics, our carpets, linens, and furniture, and our kitchen utensils and appliances (National Energy Board, 2018). Yet it is not just a matter of what manicured hands hold. Petrochemicals further permeate many personal care items, including nail polishes and other nail products.

In Spring 2016, Madeline Poole – an editorial manicurist for Sally Hansen – created a soft ombre "dipped in petroleum" look for Monse to showcase during New York Fashion Week ("See the best nail art from New York Fashion Week," 2016). "Dipped in petroleum" is an apt representation of nail polishes. Many components of nail products – particularly solvents – are petrochemicals. Solvents are a crucial component of nail polishes and nail polish removers. Solvents mix and dissolve the various substances used in nail polishes in order to produce uniform colour and thickness. Because of solvents, nail polishes remain in liquid form in their bottles. Once applied to the nail, the solvent evaporates – the source of the strong odors associated with nail polishes and removers. A solid film is left behind, which can be removed by solvents, such as acetone.

6.3.1. Method: Tying Solvents in Nail Products to "Chemical Valley"

To tie solvents in nail products to petrochemical hubs like Ontario's "Chemical Valley," I reviewed the ingredient list in nail polishes. In January 2019, I visited two beauty supply stores – CosmoProf and Sally Beauty Supply. Beauty supply stores market their products to aestheticians, rather than consumers – although there is significant overlap. While at these locations, I selected products from three popular nail polish brands – China Glaze (Strong Adhesion Base Coat, Whip It Good nail lacquer, and Fast Forward Top Coat), OPI (Natural Nail Base Coat, Taupe-less

Beach nail lacquer, and Top Coat), and CND (Shellac Base Coat, Shellac Power Polish in Cocoa Color, and Shellac Xpress5 Top Coat). I reviewed the labelled ingredients on the China Glaze (owned by American International Industries), OPI (owned by O.P.I. Products, Inc.), and CND polishes (owned by Creative Nail Design, Inc.) and identified solvents. I selected both common nail polishes and Shellac nail polishes, as Shellac is a popular nail salon service in Toronto salons (Sanaat, 2019).

After reviewing the solvents listed on these products, I consulted public emissions data from 1994 – 2019. My aim was to tie these solvents to their production and industrial releases – demonstrating that harm associated with the nail salon is not limited to the nail salon; it has roots in places like "Chemical Valley." With the exception of five solvents that do not at present have publicly available pollution data,[55] the toxicants in Table 5 are labelled on the China Glaze, OPI, and CND products reviewed. In addition, I include the "toxic-trio," DBP, formaldehyde, and toluene, as well as MMA and the BTEX family of solvents – toxicants that have been detected in nail products and in nail salon environments (Alaves et al., 2013; Ceballos et al., 2019; Ford, 2014; Goldin et al., 2014; Grešner et al., 2018; Lamplugh et al., 2019; Pavilonis et al., 2018; Quach et al., 2011; Zhong et al., 2019).

Pollution data was gained from the National Pollutant Release Inventory (NPRI) – a public database that documents pollution releases by facilities across Canada, reflecting the information provision-over-protection phenomenon that marks Canadian environmental regulation (Scott, 2017; see Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions"). While useful to attach emissions to facilities and thus responsibilities to perpetrators of pollution, the NPRI has limitations. It is comprised of industry-

[55] These include alcohol denat./SD alcohol 40-B, butyl acetate, ethyl acetate, heptane, and isobutyl acetate.

produced data, is limited to 324 chemicals, uses indirect emissions measurements, like "engineering estimates," and industries are not required to report emissions that fall below predefined thresholds. Despite these limitations, the NPRI is a useful database to attach responsibilities for pollution to their industrial sources (Murphy et al., 2019).

Table 5 lists the cumulative emission of 20 facilities in Sarnia, St. Clair, and Petrolia, which comprise the region of "Chemical Valley." Chemical Valley consists of vast infrastructures that are visible above-ground as well as infrastructures below-ground, such as storage tanks and pipelines (Scott, 2013). Some of the listed companies have multiple facilities, and thus, report their emission separately (e.g. ARLANXEO, Imperial Oil, Nova Chemicals, Shell, and Suncor). In these cases, I combine all the separate facilities' emissions data. Further, certain facilities have changed ownership over time while others have been bought-out by other industrial actors, demonstrating the webs of entanglement and unaccountability that mark industrial chemical production.[56] As such, I incorporate emissions data from past facility owners. In addition, Table 5 includes closed and operational facilities as while facilities may shut down or change ownership, persistent and bioaccumulative toxicants, intergenerational harm, and long-term health-related issues can remain beyond a particular facility's life. This work of mapping facilities in Chemical Valley was undertaken in collaboration with Kristen Bos (urban Métis) as part of the *Land and the Refinery: Past, Present, and Future* – a project that documents and contextualizes industrial responsibilities for pollution in "Chemical Valley" (Murphy et al., 2019).

[56] As an example, when the Union Carbide Corporation was purchased by the Dow Chemical Company, Dow refused to accept Union Carbide's outstanding liabilities. Recently, Dow merged with DuPont and then spit into three separate entities. This practices is deliberate; it allows corporations to evade their liabilities.

Table 5: Historic and Cumulative Solvent Emissions in Chemical Valley (1994-2019) – Expressed in Tonnes											
Facility Names ▼ Operational — Closed	**Acetone[57]**	**Benzene**	**Dibutyl Phtha-late (DBP)**	**Ethyl-benzene**	**Formal-dehyde**	**Isopropyl Alcohol**	**Methyl Ethyl Ketone (MEK)**	**Methyl Metha-crylate (MMA)**	**N-Butyl Alcohol**	**Toluene**	**Xylenes**
— Agrium					0.201						
▼ ARLANXEO		852.2				0.14				4.2	
— Basell Canada									39.66		
▼ Clean Harbors	0.432	0.085	0.044	0.053	5.339	5.549	68.619		0.819	59.555	5.497
— Dow Chemical		220.148		86.201				1.537		12.181	
▼ DuPont										75	
▼ Enbridge		4.539		0.128	25.39					3.658	2.455
— Ethyl Canada		2.06								1.332	1.477
— Fibrex Insulations					111.2						
▼ Greenfield Energy					11.06					2.04	
▼ Imperial Oil		908.1315		179.8732	8.186	0.046	922.371			850.2583	750.9779
▼ INEOS Styrolution		926.9976		722.6899	0.052					202.5677	2.823
▼ NOVA Chemicals		675.018		40.386	0.045	341.4				768.914	141.306
▼ Plains Midstream		1.918								0.83	0.179
▼ Shell	0.141	652.2891		160.4880		1206.537			32	917.7673	558.2009
▼ Suncor		367.7181		271.5696	34.5		0.2199			1197.918	1238.545
▼ Terra International					22.414						
▼TransAlta					12.152					2.408	
— UBE Industries						51					51
— Vulcan Containers				17.814	0.105	6.4	52.4		0.46	0.589	170
▼ Waterville TG						0.607					
TOTAL	**0.573**	**4611.104**	**0.044**	**1479.203**	**230.644**	**1611.679**	**1043.61**	**1.537**	**72.939**	**4099.218**	**2922.461**

[57] In 1999, acetone was deleted from the NPRI's substance list. Therefore, the acetone release data in Table 5 spans 1994 – 1998.

6.3.2. Intertwining Scales of Violence: From Petrochemicals to the Nail Salon

Table 5 demonstrates that occupational harm that results from exposure to solvents and other nail product-related toxicants are part of broader and interconnected spatial scales that are linked to other forms of pollution exposure-based violence upstream. Not only are these toxicants emitted, they are produced and used in facilities – many of which develop petrochemicals for industrial and consumer products. ARLANXEO produces synthetic rubbers – process that requires the petrochemical building block, benzene. Imperial Oil produces solvents, of which benzene, toluene, and xylene are "integral." (Imperial Oil, 2017). Likewise, NOVA Chemicals produces petrochemicals, like benzene. NOVA supplies benzene to facilities like INEOS Styrolution which use it to produce styrene. Styrene makes part of a common nail polish film former – styrene/acrylates copolymer. In addition, the former Shell plant produced isopropyl alcohol.[58] (Murphy et al., 2019a).

While these individual facilities hold responsibilities for their emissions, they are actors interwoven in wider scales – most of which are transnational. To illustrate, ARLANXEO is headquartered in Maastricht, Netherlands. It was founded in 2016 as a joint partnership of LANXESS (headquartered in Cologne, Germany) and Saudi Aramco, the state-run petroleum corporation of Saudi Arabia. Shell is also headquartered in the Netherlands. Imperial Oil is owned by ExxonMobil – infamous for numerous massive oil spills and headquartered in Irving, Texas. Dow Chemical is also headquartered in the United States – in Midland, Michigan. Many of these corporations are the product of a succession of mergers and changes in ownership – a process that serves to impede corporate accountability as the responsible entities shift ownership

[58] Liboiron (2021) reminds us that is crucial to pause. Life-supporting products such as plastic bendy straws and medical technologies warrant contextualization, not outright vilification because of their relation to petrochemical processes. A related example is isopropyl alcohol, which is used to produce rubbing alcohol.

and form. Further their transnational presence affects legal accountability; firms may refuse to appear on the basis of jurisdiction.[59] These corporate border-crossings serves to shield perpetrators and curtail responsibilities for environmental harm.

While the numerical emissions data presented in Table 5 is vague and somewhat unhelpful to visualize the extent of pollution, the massive tonnage listed is an urgent concern for surrounding community members who have heightened health risks and adverse health conditions as a result of long-term and cumulative exposure to a myriad of pollutants. In Aamjiwnaang First Nation, these solvents are material forms of colonial violence (Liboiron, 2021) that produce a myriad of health harms such as a heightened risk of rare leukemias, miscarriages, and hormone disruption (Ghazawi et al. 2019; Larsen et al., 2020; Mackenzie et al., 2005). Upstream, in nail salons and other salon environments, these solvents are linked to respiratory, dermal, and ocular health harms as well as alterations in fetal development (Quach et al., 2008; Garlantézec et al., 2009; Moradi et al., 2019). However, these are not the sole moments of corporeal harm and corporate/state responsibility. The oil refined in Chemical Valley-sited facilities comes from Alberta's tar sands. Communities upstream – like the Athabasca Chipewyan First Nation, Mikisew Cree First Nation, Fort McKay First Nation, Fort McMurray First Nation, Beaver Lake Cree First Nation, Chipewyan Prairie First Nation, Métis communities, and other locals – contend with a multitude of adverse neurological symptoms, respiratory harm, and increased cancer-risk (Anderson et al., 2015; Edwards, 2014; Finkel, 2018). Further, studies of non-occupational exposure to oil spills in general have detected links to pregnancy loss, genotoxicity, and blood-related health effects (O'Callaghan-Gordo et al.,

[59] For example, the Dow Chemical Company has repeatedly refused to appear in a Bhopal court in relation to their responsibilities in the Bhopal Gas Disaster.

2016). The oil is transported from Alberta's tar sands to Chemical Valley via Enbridge's Line 5 – a pipeline that has spilled at least 1.1. million gallons of crude oil to date (Ellison, 2019). Following the refining process in Chemical Valley-based facilities, the refined materials are transported to be manufactured into industrial and consumer products, like nail polishes. While there is little nail product-specific data on these points in the production chain, there is general literature on occupational harms at the points of transport and manufacture. In truck drivers, non-standard hours, long work-days, poor sleep quality, sedentary work, and lack of access to nutritious meals are linked to cardiovascular disease, hypertension, and diabetes (Canadian Centre for Occupational Health and Safety, 2021; Hege et al., 2018). Further, truck drivers' and railway workers' exposure to diesel exhaust is linked to a heightened risk of lung cancer (Bailey et al., 2007; Garshick et al., 2004). At the point of manufacture, there is little data specific to nail products and cosmetics in general although it follows that the toxicants that harm nail technicians' health also harm workers in the manufacturing process. After their use in the nail salon, nail products become a source of waste. Felzenszwalb et al. (2018) determined that nail polish waste can have an adverse impact on aquatic life. Taken together, these various interrelated scales demonstrate Murphy's (2008) *chemical regimes of living*, where "… unwanted and unseeable molecular exposures in everyday life [are] linked to both processes of production and habits of consumption… [N]ot just genomes but the atmosphere, water, soil, nourishment, commodities and our very bodies are apprehendable as caught in possibly toxic molecular relations" (p. 697).

The solvents identified both "leak" into and across bodies and through time. As noted in Table 3 (see Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians"), various solvents have intergenerational impacts – demonstrating a dimension of

corporeal porosity that transcends space and time. However, it is not enough to situate intergenerational harm in the realm of bodily burdens – harm is collective and relational.

6.3.3. Intergenerational Harm

In places like Aamjiwnaang First Nation, Athabasca Chipewyan First Nation, and Mikisew Cree First Nations, petroleum extraction and refining enacts colonial and – contrary to nation-to-nation relationships – transnational violence. The oil and gas sector enacts *environmental violence*. First termed by Carmen and Waghiyi (2012) environmental violence refers to:

> The disproportionate and often devastating impacts that the conscious and deliberate proliferation of environmental toxins and industrial development (including extraction, production, export and release) have on Indigenous women, children and future generations, without regard from States or corporations for their severe and ongoing harm p. 15; also see Native Youth Sexual Health Network and Women's Earth Alliance, 2016).

Environmental violence connotes disproportionately gendered harms and emphasizes social stressors, such as loss of culture – not just corporeal-level impacts. This attends to Indigenous Land/body relations which emphasize that reproduction includes but is not limited to childbirth or individual bodies. Métis scholar Michelle Murphy's (2013) *distributed reproduction* is a pertinent lens to frame this approach:

> Distributed reproduction names an understanding of reproduction occurring beyond bodies within uneven spatial and temporal infrastructures and relations. This conception of reproduction acknowledges the fulsomeness of Land/body relations, understanding reproduction to exceed the individual body as the site of childbirth and extends into relations to Land. It also attends to the reproductive work of settler infrastructures that distribute the benefits and violences of capitalism and colonialism in particular ways, reproducing and privileging capitalist relations to Land and life (Shadaan & Murphy, 2020, p. 10).

Indigenous Land/body frameworks refuse body-centric representations of harm – the latter which conceals the extent of violence through molecular-level and individualized manifestations of harm, which are often framed in the lens of neoliberal responsibilization. Such frames not only serve to conceal violence; they shift responsibility for violence to individual actors – often "careless" workers and consumers.

Mohawk scholar Elizabeth Hoover's (2017) work attends to the Land/body frame in relation to intergenerational harm. Hoover (2017) drew from and developed Katsi Cook's framing of *environmental reproductive justice* (ERJ). ERJ identifies harms as collective and relational, defining community as "… not just a collection of individual bodies, but… social bodies" (Hoover, 2017, p. 4). ERJ points to disruptions to cultural reproduction as a result of environmental violence. Hoover et al. (2012) write,

> In addition to concerns about the physical reproduction of community members, indigenous people are concerned about how environmental contamination impacts the reproduction of cultural knowledge…At Akwesasne, community members report a loss of language and culture around subsistence activities like fishing, which have been largely abandoned because of fears of exposure to contaminants. The generational reproduction of culturally informed interpersonal relationships has been affected as much as physical reproduction…For many indigenous communities, to reproduce culturally informed citizens requires a clean environment. (p. 1648)

The settler state responded to the pollution with calls to limit fish consumption; however, such precautionary consumption-based solutions are wholly ineffective to mitigate exposure to toxicants (MacKendrick, 2014; 2015; 2018; see Chapter 3, Towards Justice in the Nail Salon: Worker-defined Solutions) and do not account for the damage to cultural reproduction.

In Aamjiwnaang First Nation, industrial emissions are linked to hormone disruption, which has manifested in altered sex ratios (Mackenzie et al., 2005). As a result, Scott (2009) writes, "As one band member has stated: 'our daughters will have to go outside our community

for their partners.' The concern is essentially one about cultural survival" (p. 251). In the context of Alberta's tar sands, ERJ has been referenced as a process of "slow industrial genocide" – tantamount to cultural and, as a result, community devastation (Mercredi, 2008; Huseman & Short, 2012). This is not a new phenomenon; the Canadian settler state has long instituted practices that sought to eliminate or impede access to cultural knowledges as part of the project of dispossession. Taken in this context, environmental violence that stems from the tar sands and Chemical Valley are not accidental – they are deliberate acts as part of the settler state's ongoing colonial aims. This undergirds Liboiron's (2021) assertion, *pollution is colonialism.*

Intergenerational harm reflects violence that transcends the spatial scales of bodies and communities as well as and temporal scales as violence is reproduced cross-generationally. While toxicants manifest these harms, solvents are not just "wayward particles behaving badly"; they are material forms that enact structural violences (Liboiron, 2018, p. 333). Murphy (2017; 2018) frames this as part of the *alterlife* – life is altered and in the process of alteration in response to persistent, bioaccumulative, and endocrine disrupting chemicals which traverse the boundaries of space and time. The resultant cross-generational transfer demonstrates the persistent 'life' of settler colonialism, petrocapitalism, and their associated gendered and racialized forms of violence. Toxicants are entangled in these broader structures, infrastructures, and relations; they alter past, present, and future life (Murphy, 2017).

In the context of the nail salon, little scholarship attends to the intergenerational impacts associated with exposure to occupational toxicants – beyond potential corporeal effects (see Table 3). In Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons", workers shared that the conditions of precarious work impeded their ability to enact relations of care with kin – an issue relevant to other immigrant-settler workers in

precarious employment (Premji, 2018). Often long and non-standard work hours are framed as an act of sacrifice as parents labour to ensure their children have access to their needs and wants. In addition, emergent scholarship must attend to the intergenerational emotional impacts that may result from precarious work.

6.4. Conclusion

This chapter demonstrates the spatial and temporal links between commercial nail products and petroleum extraction.[60] Shifting outward and transcending the borders of space situates the bodily burdens represented in Chapter 2, "Beyond the Bounded Body: Occupational Health Mapping with Nail Technicians," in broader structures and relations that reproduce environmental violence and racism. From a multiscalar perspective, it is insufficient to reduce justice to, for example, "toxic-trio-free" nail products. While useful – in theory – in the confines of the nail salon, such reform-based measures do not fundamentally challenge the structural conditions that produce environmental and occupational violence – particularly as some calls for "toxic-trio-free" products highlight market-driven solutions, even as they advocate for state-level regulation (see Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions"). The expansive relations of the oil and gas sector mean that petrochemical-based consumer products enter all aspects of modern life – a collective, not just individual body-based, trespass.

A multiscalar approach prompts conceptions of EJ that transcend the boundaries of locality and workplace. To scale the violence back to its petro-origins exposes new pathways to address violence – solutions that, like toxicants, can transcend the boundaries of space. This

[60] In this chapter, I highlight certain moments of violence. However, there are many others to consider: How are petrochemicals and cosmetic products transported? What are the conditions of workers in cosmetics manufacturing plants? Are these products tested on non-human life?

petrochemical route is not the only pathway to trace the structural violence associated with nail products. Consider mica – used to create a shimmer in cosmetic products and found in the OPI Taupe-less Beach nail polish reviewed. India is a major mica producer and exporter. In 2016, the Thompson Reuters Foundation conducted a three-month investigation, which found child labour to be commonplace in illegal mica mines in Bihar, Jharkhand, and Rajasthan. Naturally-derived mica is deemed safe for consumer-use but is deadly for workers – particularly child workers. Bachpan Bachao Andolan (Save Childhood Movement) has documented an average of ten children's deaths per month due to mica mining in Jharkhand alone (Bhalla et al., 2016). A multiscalar lens forces disruption, challenges us to broaden our understanding of environmental and occupational violence, and opens possibilities for visions of justice and practices of solidarity that transcend spatial scales.

CONCLUSION

Multiscalar Frames and Broadened Solidarities

This work centers the nail salon within a multiscalar framework which attends to interrelated spatial and temporal scales – a process of border-crossing that attends to bodies, workplaces, home environments, the roots of solvents in petroleum extraction and petrochemical production, and intergenerational harm. Chapter 1 framed care work in the nail salon context, highlighting perspectives of both nail salon consumers and nail technicians. Chapter 1 discussed the devaluation of nail technicians' labour – a process rooted in the racial and gendered violences of capitalist exploitation as well as racialized discourses of hygiene that mark Asian (broadly) immigrant-settler workers as "other." The interaction between workers and consumers is an extractive care relation which can come at the expense of workers' family lives. Nail technicians shared that the conditions of their labour, such as long and non-standard work hours, can impede their ability to enact personal, familial, and self care work. Chapter 2 identified occupational hazards in the nail salon environment, including their felt and anticipated corporeal manifestations. This chapter used the visual and worker-centered method of occupational health mapping which centers workers' experiential and embodied knowledges. Harms are not abstract; they are rooted in broader processes. Like Chapter 1, Chapter 2 showed that bodies are sites in which broader structural violences are felt and understood. Chapter 3 discussed potential solutions to nail salon-based occupational hazards based on nail technicians' perspectives. These include more accessible training opportunities, better health and safety protections, improved work conditions, and building worker solidarities. Chapter 3 further critiqued existing approaches that center consumer and owner interests – tactics that are based on individualized, body-based, and molecular frames and ultimately reproduce neoliberal responsibilization. While

not radical system-level change, nail technicians offered solutions that affirm the importance of legislated sector-wide protections and building worker power. Chapter 1 and 2 aimed to "zoom in" to the corporeal scale, while Chapter 3 aimed to "zoom out" to sector-wide protections and worker solidarities – a thematic also evidence in the nail technician-led mutual aid networks that arose in response to the COVID-19 pandemic. While Chapter 3 identifies solutions that connote harm-reduction, Chapter 4 aimed to "zoom out" further in to set a framework for more radical system-level change. Chapter 4 locates nail products in broader structural frames, demonstrating material and cultural links to petroleum extraction and petrochemical production. Chapter 4 "zoomed out" to the broader commodity chain and its manifestations of gendered and other violences. This structural and multiscalar approach exposes interconnected relations of harm that span local-, national- and transnational-levels – an approach that is crucial to conceptualizing violence as well as subsequent resistance. Read together, this work aimed to border-cross at multiple sites, mapping bodies in relationship with environments in relationship with power.

Multiscalar Toxicities: Mapping Environmental Injustice in and Beyond the Nail Salon rejects the framing of corporeal enmeshment and porosity as an inherently deficient or harmful state, common in individualist approaches that view the body as capable of separation from the environment (see "Introduction" and Chapter 3, "Towards Justice in the Nail Salon: From "Choice" to Worker-defined Solutions"). While Chapter 1 and Chapter 2 discuss occupational hazards that are marked in/on workers' bodies, bodies cannot be solely framed in deficit. Bodies are also sites to multiple positive experiences and emotions, including simultaneous to their negative interactions (Murphy, 2021) Moreover, porous bodies are resisting bodies. "Leaky" bodies that take on toxicants and other harms, that express genuine emotion in the worksite (rather than engage in the performance of emotional/body labour), and that participate in vocal

and visible collective action are sites of danger to the status quo. As "dangerous" bodies, those disproportionately impacted by environmental violence and racism spearhead the building healthier collective futures. Armiero and De Angelis (2017) attend to this in their conception of the *wasteoscene* – the "… contaminating nature of capitalism… its accumulation of externalities inside both the human and the earth's body" (p. 348). The authors contest the villain versus victim frame and contend, "… the embodiment of inequalities in the human body produces not only victims but also rebellious subjects who do not comply with the neoliberal narrative…" (p. 352). In short, the shared embodied experience of violence generates community-level resistance (Armiero & De Angelis, 2017). Likewise, Pellow (2018) proposes the concept of *indispensability.* Communities otherwise rendered expendable are central to envisioning and enacting better collective futures – "… threatened bodies, populations, and spaces are indispensable to building socially and environmentally just and resilient futures for us all." (Pellow, 2016, para. 12; Pellow, 2018). Indigenous feminists scholars like Mishuana Goeman (Tonawanda Seneca) and Audra Simpson (Kahnawake Mohawk) discuss Indigenous women's bodies, in particular, as the locus of resistance to settler colonialism. Goeman (2017) contends,

> … the bodies of Native women are dangerous because they produce knowledge and demand accountability, whether at the scale of their individual bodily integrity, of their communities' ability to remain on their bodies of land and water, or as citizens of their nations. The sites of these "meeting places" and scales of geographies are key to contesting colonial structures that limit spatial alternatives and thus continue to create spatial injustices. (p. 123; also see Simpson, 2016)

Both Goeman (2017) and Smith (2016) discuss Indigenous women's bodies as material and symbolic representations of ontologies that are in stark contrast to settler colonial and capitalist relations. Smith (2016) writes, "… with all bodies, these bodies were more than just "flesh" –

these were and are sign systems and symbols that could effect and affect political life." (para. 12).

Nail technicians also resist and push-back against occupational violence at the corporeal scale. Sellers (1996) identifies worker resistance at the molecular level, as injury and illness occur in response to occupational harm: "… their bodies were reacting to, rebelling against, the chemical and physical conditions of the workplace. Even the least organized and most submissive workers were not infinitely pliable; their own physiology set limits to their obedience." (p. 230). Workers' bodies resist at the cellular level. At the interpersonal level, Kang (2010) describes how nail technicians mitigate expectations of emotional and body labour by claiming that they do not understand the customer and express their displeasures to one another in their native languages. Kang (2010) further defines "embodied resistance," as nail technicians dote on one another's nails, turning upside the extractive care relationship that underlies the worker-client interaction. This is in addition to acts of mutual aid – a collective politics of care (see Chapter 1, "Embodied Politics of Care: Body Labour, Emotional Labour, and Body Work in Nail Salons"). Finally, at the collective level, nail technicians mobilize to foster safer workplaces in and beyond nail salons by advocating for broad improvements in labour rights (see Chapter 3, "Towards Justice in the Nail Salon: Worker-defined Solutions"). This is a form of resistance that is collective – crossing bodies and sectors – as well as intergenerational. Workers and frontline communities fight for better collective futures. "Leaky" bodies rebel at multiple scales.

The recognition of corporeal embeddedness and enmeshment in broader structures produces particular modes of resistance. Alaimo (2016) terms *insurgent vulnerability* – "… a recognition of our material interconnection with the wider environment that impels ethical and political responses." (p. 94). Likewise, Shotwell (2013) advocates against "purity politics," a

body-centric frame in which the "solution" is to draw boundaries between bodies and their environments, such as through precautionary consumption-based tactics (MacKendrick, 2014; 2015; 2018). For Shotwell (2013), playing purity politics is "… a bad approach because it shuts down precisely the field of possibility that might allow us to take better collective action against the destruction of the world…. Purism is a de-collectivizing, de-mobilizing, paradoxical politics of despair" (p. 8-9).[61] Alaimo's and Shotwell's calls are in response to the responsibilization narrative, which seeks individual-level, body-centric solutions – solutions that cannot produce the structural shifts necessary for collective-level change (see Chapter 3, "Towards Justice in the Nail Salon: Worker-defined Solutions"). Bounded, impenetrable, and separated bodies are not the answer to exposure to harmful toxicants; indeed, this is an impossibility as petrochemicals and other toxicants permeate all aspects of our lives. The answer is, rather, in the collective – through relationships of mutual and non-extractive care and through active solidarity, including across the supply chain. Situating consumption habits in the broader context of the commodity chain prompts the expansion of our *spheres of political and ethical responsibility* – beyond individual bodies/families to land and communities (Scott et al., 2016).

Therefore, resistance is not a matter of individual bodies resisting; it is about building relations of solidarity. As shown in Chapter 1 and Chapter 3, this can occur in the context of the workplace and across the sector. However, this work aims to frame environmental harm as multiscalar – across the fossil fuel commodity chain – to evoke even broader possibilities of solidarity. Mezzano and Neilsen (2017) call for this expanded lens in their work, "On the Multiple Frontiers of Extraction: Excavating Contemporary Capitalism." The authors expand the concept of extractivism to encompass its broader material and cultural relations. This widened

[61] For a further discussion on the notion of bounded and enclosed bodies, see "Introduction."

scope underscores "… the ways in which the notion of extraction provides a means to map and join struggles that unfold in seemingly distant and unrelated landscapes." (p. 3). The links between nail products and the petroleum sector is a pertinent example. Toxics-related occupational violence in the nail salon context is symbolically and materially linked to settler colonialism and petrocapitalism. To link toxic exposure-related harms in the nail salon to the fossil fuel sector can – perhaps – facilitate broadened politics of care and solidarity. As resistance to the fossil fuel sector is led by Indigenous Land and water protectors, building relations of care and solidarity requires that we disrupt our (Asian broadly) complicities in settler colonialism and attend to our treaty responsibilities. Many Asian-origin scholars are confronting the dynamics of these relations in the historical context of Asian migration to Canada – such as through linking land dispossession and Asian labour exploitation (and exclusion) as underlying the white settler colonial structure (Day, 2016; Karuka, 2019; Chatterjee, 2018) and through unpacking Asian complicities in settler colonialism, including the internalization of its logics (Upadhyay, 2019). As Ruth Koleszar-Green (Mohawk) asserts, *guests have responsibilities*: (1) To learn protocols and from the land; (2) To learn about and challenge colonial histories, as well as confront complicities in settler colonial violence; (3) To foster relationships of mutual respect and honour treaties, and; (4) To act (not just speak) in allyship in Indigenous calls for self-determination (Koleszar-Green, 2018).

Thinking structurally, cross-spatially, and cross-temporally requires radical shifts in conceptualizations of justice. It is not enough to advocate for, for instance, "toxic trio-free" nail polishes, although such harm reduction-based measures certainly have their place. To envision justice across space and time is to address the fundamental relations that produce injustice – settler colonialism, petrocapitalism, and capitalist exploitation. Murphy (2017) discusses these

radical possibilities in their conceptualization of the *alterlife* – noted in Chapter 4, "Beyond the Salon: Oil, Petrochemicals, and the Nail Salon" in relation to lives disrupted intergenerationally by harmful toxicants. The other side of the alterlife is *alter-relations* of care and collaboration (Murphy, 2017; 2018). Murphy (2018) writes,

> Alterlife… attends to an openness, to a potential for recomposition that exceeds the ongoing aftermaths. Refusing narrative of purity, or a sense of life as separate from its conditions… alterlife strives for a politics of survival-as-resistance…. Alterlife is life damaged, life persistent, and life otherwise… (p. 118).

Alterlife in part connotes a radical politics of care or "… more consensual ways of being together within these extensive, noninnocent chemical entanglements" (Murphy, 2017, p. 497). Rooted in Indigenous Land/body approaches, this politic and ethic of care is reciprocal rather than extractive (see Kimmerer, 2013; LaDuke, 2017; 1999; McGregor, 2009, 2018; Murphy, 2008; 2017; 2017a; Native Youth Sexual Health Network and Women's Earth Alliance, 2016; Whyte, 2021; 2016; 2014).

The painted nails we adorn hold so much more than nail polish. They hold broader relations that span space and time. In the context of gendered and racialized formed of capitalist exploitation, the relatively inexpensive practice of nail care carries a significant cost borne by nail technicians and communities and workers upstream in petrochemical hubs. This dissertation has sought to challenge extractive politics – of oil and of care work. It asks that we shift our frameworks beyond local and disconnected "sacrifice zones" to broader relations of violence and solidarity – a process of border-crossing. As we strive for the vital aim of improved working conditions in nail salon environments, we also recognize that questions of justice necessitate that we transcend scale. The path to justice is not in a bounded, individual body; the path to justice is in our porosity, interconnectedness, and the collective but worker- and community-led strive for

just futures. Utilizing multiscalar frames to scope structural violence provides a conceptual lens to begin this work.

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