More than a response to food insecurity: demographics and social networks of urban dumpster divers

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Paradoxically, cities in the developed world are simultaneously increasing levels of food waste and food insecurity. Social assistance programmes intend to provide vulnerable populations with food, but many people instead choose to collect food from municipal waste streams, including “dumpster diving”. Most food-insecure people who dumpster dive do so from need, to supplement food from, or avoid stigma related to, social assistance programmes. However, it is increasingly common for food-secure people to choose to dumpster dive. We used participant observation and semi-structured interviews to characterise urban dumpster divers in Montréal, Quebec, identify what items they dive for, and describe their social connectivity. We found that while some divers identified as food insecure and extremely poor, most did not; primarily, divers were Caucasian, university students, holding an “alternative” identity, and without a full-time job or children. Divers required specialised knowledge and mostly recuperated food waste from grocery stores and bakeries (e.g. breads, fruits, vegetables, meat, dairy products) that significantly improved the composition and quality of their diets. Unused goods were largely gifted and rarely sold. Food-insecure divers tended to be isolated, while food-secure divers had strong social connections because they frequently exchanged knowledge and goods and held common values. Our findings indicate that the dumpster diving community in Montréal is a heterogeneous group recuperating a range of goods for a variety of reasons that reduces food waste and alleviates food insecurity. We suggest that municipal policy-makers encourage the redistribution of potentially useful goods between local businesses and willing recuperators.

Keywords: dumpster diving; food insecurity; recuperator; food waste; freeganism; binning

Introduction

Worldwide, over one billion people are “food insecure”, unable to attain adequate food and suffering from malnutrition (van der Ploeg 2008). Food insecurity is not confined to the developing world: in Canada and the USA, up to 14% of households have experienced food insecurity\textsuperscript{1} in the past decade (Che and Chen 2001, Rainville and Brink 2002, Power 2008, Health Canada 2010, Nord et al. 2010); since the economic crisis of 2008, food insecurity in the USA has risen by 33% (Nord et al. 2010) and the use of food

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banks in Canada has increased by 26% (Food Banks Canada 2011). Although rates of poverty and food insecurity are growing in North America, *per capita* food waste in the USA has risen almost 50% since 1974 (Hall et al. 2009). American consumers wasted an estimated 124 kg of edible food per person in 2008 (Buzby and Hyman 2012) while Canadians wasted an estimated 172 kg per person (VCMC 2012) worth $CAD 27 billion (Gooch et al. 2010).

As both commercial waste and food insecurity increase, some urban residents, motivated by need or political activism, respond by recuperating goods from commercial waste receptacles, known as “dumpster diving” (Pentina and Amos 2011). The term “dumpster diving” has been broadly applied to various forms of food waste recovery and scavenging, particularly in affluent nations (Eikenberry and Smith 2005) where it is also known as “skip dipping” (Australia), “binning” or “gleaning” (UK) (Edwards and Mercer 2007), and “récupe” (Quebec and France) (Black 2009). Non-academic literature has reported dumpster diving in North American cities including Montréal, Toronto, Buffalo, and New York City (Doctorow 1997, Alfalo 2006, Halpern 2010, Drolet and Willis-Owen 2011). Rather than focusing on the activity of dumpster diving itself, the academic literature has singularly assessed two separate groups of people: those who use dumpster diving as a strategy to alleviate food insecurity or those who use it as a form of political activism or ideology.

Literature on food-insecure dumpster divers primarily assesses the barriers or constraints associated with accessing publicly funded food assistance programmes. Many food-insecure people see dumpster diving as preferable to government- or organisation-sponsored aid programmes (e.g. food banks or shelves, soup kitchens). These programmes may have limited hours of operation, and individuals might not meet qualification requirements, or have transportation or access to kitchen facilities (particularly a problem for homeless people) (Eikenberry and Smith 2005). Furthermore, people may object to the social stigma and feelings of dependence associated with charity (Vozoris and Tarasuk 2003, Engler-Stringer and Berenbaum 2007, Gross and Rosenberger 2010) or the religious context in which food is offered (Edwards and Mercer 2007). Eikenberry and Smith (2005) found that almost a fifth of low-income people in Minneapolis, MN, used dumpster diving to obtain food, largely because they did not have adequate access to food assistance programmes.

The dumpster diving literature not related to food insecurity has focused more on political ideologies or alternative identities of specific groups of people rather than identifying the range of people who choose to dive for non-food-related reasons. These divers have been shown to adopt a resistant “hero identity” (Cherrier 2009) by participating in a socially unacceptable and deviant activity that generates positive self-image as “self for others” (Eikenberry and Smith 2005, Anater et al. 2011, Fernandez et al. 2011). The literature is also limited to studies that assess alternative ideologies by focusing on a single homogenous group, such as freegans (Edwards and Mercer 2007, Gross 2009, Pentina and Amos 2011), anarchists (Robinson 2009), poor people (Eikenberry and Smith 2005), ideologically motivated youth, or the elderly (Black 2009).

Within the limited research on dumpster diving, there has been comparatively little focus on characterising who dumpster divers are, the methods they use, what goods they dive for, their social connections, and whether it alleviates food insecurity or reduces food waste (Eikenberry and Smith 2005, Edwards and Mercer 2007, Gross 2009, Robinson 2009, Fernandez et al. 2011, Pentina and Amos 2011). Dumpster diving requires specialised knowledge about where and when to go; without such knowledge the activity is less fruitful or generally inaccessible. Ideally, such information will enhance the efficacy of food policy strategies to alleviate food insecurity by identifying alternative forms of food
assistance and reduce commercial waste by facilitating recuperation methods and knowledge mobilisation among ideologically motivated individuals.

If dumpster diving is truly being used to alleviate food insecurity and or recuperate waste, we need to better understand who is dumpster diving and how they do it to facilitate the creation of municipal policies that enhance associated positive contributions while concurrently deterring negative effects. In this study, we interviewed and observed dumpster divers in a large metropolitan area (Montréal, Quebec, Canada) with the aim of assessing who the community of dumpster divers are and then to understand how they recuperate waste. More specifically, this research broadly characterises dumpster diving by investigating: (1) who dumpster dives, (2) what prevents them from diving, (3) how dependent they are on diving, (4) what goods they dive for, (5) how they dive and recuperate waste, (6) how and when they learned to dive, and (7) how socially connected are the divers. We found a broad community of dumpster divers with varying levels of food security and interconnectedness. Food-insecure divers were less socially connected, preferred diving to food assistance programmes, and chose to conceal their diving due to social stigma. However, ideologically motivated divers were part of a larger community of socially aware divers who willingly transferred diving-related knowledge and awareness. We conclude with opportunities to improve waste management and food assistance programmes, outline research challenges, and provide some recommendations for future study.

Methods
From December 2011 to April 2012 we conducted 26 in-depth interviews in Montréal, Quebec, with dumpster divers (defined here as individuals who had personally entered a commercial waste receptacle in search of goods). The Montréal Census Metropolitan Area is the second most populous in Canada with a population of 3,824,211 in 2011 (Stats Canada 2012). At the time of the study, the first author had been dumpster diving in Montréal for three years, was active in communal dumpster diving events such as communal dinners and organisation meetings, and had four roommates who were also dumpster divers.

We recruited study participants via targeted snowball and convenience sampling at dumpster diving events (e.g. group dumpster runs, communal dinners of recuperated food), collective kitchens, and community outreach centres (similar to Watters and Biernacki 1989, Eikenberry and Smith 2005, Edwards and Mercer 2007, Gross 2009). Although we made a concerted effort to contact a demographically diverse and representative group, we recognise our sample is not necessarily statistically representative of all dumpster divers in Montréal because of our sampling strategy. All individuals approached agreed to participate in this research without receiving any incentives.

Data collection took place throughout the week, but primarily from 5 pm to 10 pm when large public markets closed. Participants completed a socio-demographic questionnaire about their socioeconomic status (e.g. education, income, occupation, ethnicity). We also used semi-structured interviews, lasting roughly 90 min, to explore individuals’ dumpster diving practices (e.g. where, when, with whom, since when), present food security and use of food assistance programmes, and perceptions of dumpster diving. Interviews took place at the participants’ residences, nearby cafés, community centres or kitchens. Twenty-five interviews were conducted in English and one in French. All interviews were tape recorded and immediately transcribed; participants were given a copy of the transcriptions to ensure validity of their responses. In addition to questionnaires and interviews, the first author accompanied and observed participants while dumpster diving and during

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subsequent food preparation to further assess how people dumpster dive and record what goods they recuperate.

Data analysis was conducted by the first author using an iterative progressive focusing technique under the supervision of the other authors. Coding began with an initial conceptualisation of dumpster diving as who dives, what for, how, necessary knowledge, and major constraints to participation. The validity and reliability of the analysis were deemed highly credible given the lack of incentive to participate, lack of need to mislead, the spontaneous nature of most of the data collection occurring in social situations, and the lack of influence the researchers had on participant actions and statements considering the tacit knowledge of the researchers.

Results

Who dumpster dives?

Half of our participants had experienced periods of food insecurity. They were equally male and female and were between 21 and 50 years (average 28). They had between 1 and 29 years of diving experience (6 years on average) and their first experience occurred between the ages of 13 and 38 (Table 1). Participants lived in 11 different neighbourhoods throughout Montréal. Of the 26 participants, most identified as Caucasian \((n = 21)\), but our sample also included an Arab, an African-American, a Native American, and two mixed ethnicities. First languages were mostly English \((n = 11)\) or French \((n = 10)\), but also included Spanish, Dutch, German, Latvian, Arabic, and Algonquin. All participants had completed secondary education, half were currently enrolled at post-secondary institutes, and 10 had completed undergraduate or graduate degrees. Employment status included two full-time and nine part-time employees, five unemployed, and one retiree. All students were either unemployed or working less than 20 h/week. Participants derived income as artists, social workers, community organisers, cooks, cleaners, and through recycling consignment (collecting cans and bottles to earn recycling deposits); several derived income from self-employment, pension, or welfare payments. Only three participants reported annual household incomes over $20,000. Thirteen participants lived with 4 or more unrelated roommates, 4 lived in cooperative houses with 12 or more tenants, 2 lived with parents, 5 lived with their married or common-law partner, and 3 lived alone. Only one participant had children. Sixteen participants had experienced homelessness and/or used food assistance programmes.

Although our participants were primarily young Caucasians, our results show variation in dumpster divers’ gender, age, cultural and ethnic background, socioeconomic status and history, occupation, and housing arrangements. Participants reported knowing or encountering a wide variety of people who dumpster dive, from poor to affluent, and from homeless to living in a communal setting. Many participants described themselves as activists, “socially conscious”, or “alternative” in reference to general lifestyle, identity, politics, or ideology. In general, participants chose to dumpster dive not only to access food, but for other reasons which included saving money, protecting the environment, for the thrill of it, and for ideological purposes such as illuminating to others the overabundance of useable waste that perpetually enters landfills.

What prevents them from diving?

Participants identified several potential barriers to dumpster diving, including physical inaccessibility of waste receptacles, lack of time, awareness, or knowledge, and negative social
<table>
<thead>
<tr>
<th>Name</th>
<th>Years diving</th>
<th>Frequency diving</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leroy</td>
<td>&lt;1</td>
<td>Less than once a month</td>
<td>Caucasian male, 23 years old, bilingual (English/French), unemployed student, living with one roommate</td>
</tr>
<tr>
<td>Alisera</td>
<td>&lt;1</td>
<td>Every other day</td>
<td>Non-Caucasian female, 22 years old, anglophone, writer, working part-time as a fundraiser, living with five roommates</td>
</tr>
<tr>
<td>Leah</td>
<td>&lt;1</td>
<td>At least weekly</td>
<td>Caucasian Latvian female, 24 years old, part-time visual artist and designer, living with four roommates</td>
</tr>
<tr>
<td>Ava</td>
<td>&lt;1</td>
<td>Every other day</td>
<td>Caucasian female, 21 years old, anglophone student, living with two roommates who do not dumpster dive</td>
</tr>
<tr>
<td>Johanna</td>
<td>1</td>
<td>Every other day</td>
<td>Caucasian German female, 27 years old, social worker and community organiser, living with five roommates</td>
</tr>
<tr>
<td>Xavi</td>
<td>1</td>
<td>Weekly to daily</td>
<td>Caucasian transgendered, 25 years old, bilingual francophone, part-time massage therapist, living alone</td>
</tr>
<tr>
<td>Ali</td>
<td>1.5</td>
<td>At least weekly</td>
<td>Caucasian female, 34 years old, anglophone, librarian, and university student, living with four roommates</td>
</tr>
<tr>
<td>Eleanor</td>
<td>2</td>
<td>Every other day</td>
<td>Caucasian female, 21 years old, anglophone, student, living in a communal house with four roommates</td>
</tr>
<tr>
<td>Bill</td>
<td>2</td>
<td>Weekly</td>
<td>Caucasian male, 40 years old, anglophone, journalist with military pension, living with partner</td>
</tr>
<tr>
<td>Cate</td>
<td>2</td>
<td>Bi-weekly</td>
<td>Caucasian female, 24 years old, francophone</td>
</tr>
<tr>
<td>Karen</td>
<td>3</td>
<td>At least weekly</td>
<td>Caucasian female, 23 years old, bilingual anglophone, unemployed journalist/youth leader, living with four diving roommates</td>
</tr>
<tr>
<td>Cascade</td>
<td>3</td>
<td>Every other day</td>
<td>Caucasian male, 21 years old, bilingual anglophone, activist student, living with four roommates</td>
</tr>
<tr>
<td>Charlotte</td>
<td>3</td>
<td>Monthly to every two days</td>
<td>Caucasian female, 21 years old, bilingual francophone, student and part-time cleaner, living with 11 roommates in a communal house</td>
</tr>
<tr>
<td>Stephi</td>
<td>4</td>
<td>Bi-weekly</td>
<td>Caucasian female, 26 years old, francophone, part-time union secretary, living with 12 roommates in a communal house</td>
</tr>
<tr>
<td>Maria</td>
<td>4</td>
<td>Weekly</td>
<td>Caucasian female, 31 years old, francophone, student, part-time employment, living with partner</td>
</tr>
<tr>
<td>Kevin</td>
<td>5</td>
<td>Every two days</td>
<td>Caucasian male, 24 years old, francophone, student, living with four roommates</td>
</tr>
<tr>
<td>James</td>
<td>5</td>
<td>Every other day</td>
<td>African-American male, 28 years old, anglophone, student, living at home with mother and sister</td>
</tr>
<tr>
<td>Tina</td>
<td>5</td>
<td>At least every other day</td>
<td>Caucasian female, 23 years old, bilingual (English/French), teacher’s assistant and researcher, living with two roommates</td>
</tr>
<tr>
<td>John</td>
<td>6</td>
<td>At least every other day</td>
<td>Caucasian male, 30 years old, anglophone, part-time cook, musician, living with four roommates in communal house</td>
</tr>
<tr>
<td>Sam</td>
<td>6</td>
<td>Almost daily</td>
<td>Caucasian male, 34 years old, anglophone, full-time web developer, living with one roommate</td>
</tr>
<tr>
<td>Jorge</td>
<td>7</td>
<td>Weekly</td>
<td>Hispanic male, 26 years old, recently immigrated from Mexico, full-time cook in a community kitchen, living with four roommates</td>
</tr>
<tr>
<td>Farid</td>
<td>7</td>
<td>At least every other day</td>
<td>Arabic male, 34 years old, successful entrepreneur, one child, living at home with parents</td>
</tr>
</tbody>
</table>
norms or stigma associated with diving. Most participants thought the physical nature of accessing a dumpster would prevent or deter older or less physically able individuals from diving. John, who dives at least every two days, said, “For me it’s exciting, but I can’t picture my grandmother jumping a fence and getting food [from a dumpster].” If dumpsters became locked or fenced in, some divers would abandon the locations but others climbed the fence or broke the lock.

An important, non-physical barrier preventing new divers is the absence of social connections within the diving community to gain the knowledge and motivation to dive. Most respondents were friends with other divers, personally knowing at least 15 other dumpster divers. Maria, who dives weekly, said “I think more people that are poor socially don’t dumpster dive. They don’t have this web of people around them to show them how and to organise themselves and cook the food.”

Participants thought that social stigma labels dumpster diving as filthy, unhealthy, and disgraceful which inhibits or alters the practices of some divers, particularly ethnic minorities. Ethnicity was thought to be a significant barrier to dumpster diving; participants knew few non-Caucasian dumpster divers. David, who is Algonquin First Nation described negative stereotypes linking his ethnicity to dumpster diving and kept his diving discrete in response to this stigma. James, who is African-American, found “shopping” (collecting refundable bottles and cans, mainly from roadside recycling bins, more frequently known as “binning”) to be less shameful than dumpster diving, which was better practiced in secret. He went diving every other day and explained

When you go shopping nothing happens. If you go dumpster diving you feel bad, if you get caught by someone you feel bad. It’s more of an embarrassment . . . That’s why you’re better off at night . . . No one can see what you’re doing and you are free to be as curious as you please.

**How dependent are they on dumpster diving?**

Half of the divers were at times food insecure and used dumpster diving as a survival strategy concomitantly with food assistance programmes, stealing, begging, or “table diving” (taking unfinished food from plates at restaurants or food courts). Dumpster diving was perceived to be a better option than food assistance programmes such as food banks and kitchens due to their limited availability (location and hours), long waits, the need to prearrange visits, stringent qualification criteria, low food quality, limited choice of food, and religious affiliations. Also, divers avoided food assistance programmes due to the associated stigma or because

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Table 1. Continued.

<table>
<thead>
<tr>
<th>Name</th>
<th>Years diving</th>
<th>Frequency diving</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanya</td>
<td>8</td>
<td>At least every other day</td>
<td>Caucasian female, 24 years old, Dutch traveller, temporarily living with 11 roommates in a communal house</td>
</tr>
<tr>
<td>Kathy</td>
<td>11</td>
<td>Weekly to daily</td>
<td>Caucasian female, 29 years old, bilingual francophone, part-time day-care worker, living with two roommates</td>
</tr>
<tr>
<td>Alain</td>
<td>20</td>
<td>Every two days</td>
<td>Caucasian male, 50 years old, francophone, unemployed, living alone</td>
</tr>
<tr>
<td>David</td>
<td>29</td>
<td>At least weekly</td>
<td>Native American (Algonquin) male, 42 years old, unemployed, living alone</td>
</tr>
</tbody>
</table>
they thought those resources were better left to people without the option of dumpster diving. Dumpster diving was seen as a way to be independent and as David stated, as a means to “take care of yourself”. Dumpster diving was identified as being more convenient, providing better food, and a more enjoyable social experience than going to food assistance programmes. By sharing goods with others, 29-year-old David felt “full, happy, and proud in that I don’t spend my hours bumming”. However, divers also used food assistance programmes, stole, begged, and “table dived” when not in need of food but rather as a means to merely save money, reduce financial stress, have fun, and to improve the quality or quantity of food they consumed. Although dumpster diving helped participants save money, they very rarely generated income by selling recuperated goods, aside from redeemable cans and bottles. Most divers considered selling goods to be wrong unless additional labour had been invested (e.g. making repairs, preparing food). Dumpster diving goods were usually freely shared with roommates, friends, family, or even strangers met while dumpster diving, especially when large quantities of a single type of food were found. Only occasionally were goods bartered or exchanged instead of gifted.

**What goods do they dive for?**

The most sought-after goods were foodstuffs from grocery stores and bakeries, as well as food distributors. Common foods recovered included baked goods (breads and pastries), fresh fruits and vegetables, various prepared foods (sandwiches, salads, spreads, soups, etc.), meat and dairy products (milk, cheese, and yogurt). Some participants also retrieved frozen foods, eggs, seafood, snacks, beverages, post-consumer food from restaurants, and dry staples (sugar and flour). Additionally, participants dumpster dived at large pharmacies, health food stores, hardware stores, second-hand stores, and construction sites. Commonly recuperated non-foodstuffs included clothing, construction materials, furniture, household goods (e.g. utensils, appliances), cash-redeemable bottles and cans, wine or alcohol, and bicycles or parts.

Dumpster diving had a significant impact on the composition, quality, and quantity of our participants’ diet. Food acquired from dumpsters typically constituted one-quarter to half of all foods consumed by the respondents. However, participants with regular dumpster diving regimens experienced periods of time where they acquired almost all their fruits, vegetables, dairy products, meat, and bread solely from dumpsters. Dumpster diving allowed participants to eat a variety of foods they would not normally purchase or obtain from food assistance programmes including more produce, meat and dairy, and more exotic and expensive foods. Some divers specifically targeted health food stores for organic foods or delis for cheeses and sausages, which allowed them to access foods that they could not or would not normally buy. Though divers demonstrated that it is possible to get sufficient quantities of food from dumpsters alone, almost all still purchased some foods like dry grains, legumes, and oil, which are seldom found in dumpsters. Though dumpster diving was touted as providing a higher quality diet by some, this was dependent upon having access to facilities to store, clean, and prepare the food. Those without access, such as the homeless or travellers, consumed more baked goods (e.g. bread, pastries), sandwiches, and post-consumer foods.

**How do they dive?**

Dumpster diving predominately took one of two semi-distinct forms, as either a deliberately planned and organised “mission” or an informal, convenience-based “run”. Organised
missions occurred along a known route of several dumpsters, and participants used cars, bicycles with trailers, or large bags to transport larger “hauls” of goods. Missions frequently targeted isolated businesses known to consistently have large amounts of desirable goods, such as wholesale food distributors. Since missions are time-intensive and conspicuous, they were usually made at night, after stores closed, to avoid employees or management (some of whom were reported as viewing dumpster divers as nuisances or undermining business strategies). Missions were made up to eight times per month, depending on need and the availability of a vehicle or goods. Food collected from missions was commonly preserved by freezing, canning, or fermenting, as well as distributed among friends.

In contrast to missions, convenience runs occurred *en route* when divers adjusted their non-diving-related course, generally on foot or bicycle, to check a dumpster. Runs were often spontaneous or involved minimal planning and were usually carried out alone. Dumpsters visited on runs mostly belonged to small or medium grocers or bakeries and usually provided smaller quantities and more perishable goods. Consequently, runs were taken more frequently, typically one to four times per week, though sometimes even daily. Since the timing of runs was generally dictated by convenience and when the dumpster was full, they usually occurred during the day. Since more frequent and negative encounters with public or shopkeepers were concerns, these solo, convenience, and day-time runs tended not to be the participants’ first experience. Only with time and experience did these types of runs become the most common approach for many participants.

Although participants rejected the social norms labelling objects found in dumpsters as unsuitable for use or consumption, some precautions were still taken to ensure safety. Most divers were cautious about eating raw foods and would not take or cook foods they were unsure of, but few regularly followed rigorous cleaning protocols such as washing containers with soap or bleaching vegetables. Participants were conscious of seasonal changes in food safety, preferring to dive more frequently in summer months to reduce the time food spent outside in warm dumpsters. Despite describing food from dumpsters as being “perfectly good” with the proper precautions, over half of the participants described becoming sick or knowing someone who had been sick from eating food found in a dumpster. No one had been injured while diving although only a few divers wore gloves or boots.

In addition to dumpsters, participants often recuperated from public markets, “curb dived” (from waste awaiting removal from the roadside), “binned”, and formed informal agreements with retailers. During the summer, many public market vendors would set aside food unfit for sale in boxes next to dumpsters. Participants said this made waste recovery more accessible, especially for older divers, generally more pleasant, and thus more popular than physically entering dumpsters (as necessary at public markets during the winter). Curbsides were celebrated sources of non-food items, as nearly all participants had found furniture, clothes, appliances, or other goods there (common practice in Montreal even among the non-diving community). Some divers, particularly travellers and the homeless, reported “binning” for containers with redeemable deposits or food in public garbage cans. Many participants created informal agreements with food retailers (including grocers, market vendors, bakers, or restaurateurs), in which divers would pick up donated food, at times posing as bogus aid organisations to trick the retailer into giving them food. Some participants had table dived from left-over meals at restaurants, although few regularly used this tactic.

*How and when do they learn how to dive?*

Dumpster diving requires specialised knowledge about where and when to go; without such knowledge the activity is less fruitful or generally inaccessible. Most participants were first
introduced to diving by knowledgeable and experienced divers who acted as guides. In turn, most participants had introduced and taught other newcomers how to dive, often converting them into regular dumpster divers. Divers frequently share knowledge about remaining goods, prime locations, ideal timing, and types of goods usually available in particular dumpsters, sometimes even with divers they do not know. Participants described the typical dumpster diver as outgoing and friendly, willing to share goods, and explore dumpsters with others.

However, not all dumpster divers were forthcoming with advice to inexperienced divers. Some participants expressed concern about over-exploiting dumpsters and disturbing store managers, which could result in dumpster locking; ergo, they only shared information with a few trusted individuals or about already well-known locations. To prevent the loss of access to prime locations, divers espoused basic dumpster diving etiquette, unwritten, but common to all participants. This included keeping the area clean (“leave no trace”), staying quiet at dumpsters neighbouring private residences, and practicing variations of “take only what you can use or distribute”. A few participants had encountered individuals defending dumpsters and preventing others from accessing goods. Participants commonly described older divers as unresponsive to efforts to share goods or knowledge or engage in conversation. In addition to concerns over losing valued resources, some participants would not mention their dumpster diving activities or suggest the practice to non-divers to avoid shame or stigmatisation. Non-Caucasian divers were more selective in who they knowledge or goods with and largely chose to dive at night to avoid being seen. Caucasian divers, however, preferred to dive in the day time and enjoyed sharing knowledge and goods with even random strangers passing by on the street.

How socially connected are the divers?

Dumpster diving was commonly referred to as providing a sense of community that stemmed from dumpster diving together or sharing goods and diving knowledge with others. Also, participants shared a sense of solidarity in the universal belief that waste is “ridiculous” or “absurd”, which encouraged them to continue diving, either independently or with others, to reduce waste. Participants stayed informally connected to other divers via common social spaces and networks, which extended beyond simply dumpster diving together. These interactions helped to provide material and psychological support, as described by Alisera who had recently arrived in Montréal and goes diving weekly:

I really have grown to appreciate a lot of the culture of dumpster diving, meeting people while I’m dumpster diving, and even sharing stuff with people at the dumpster, or talking about dumpster diving with people who are there and learning more about other dumpsters and these sorts of things, and sort of supporting each other that way. And then also feeling like when I dumpster dive something I am a lot more inclined to just give it away a lot more easily or to share it. I really love seeing when good communal meals come out of a good dumpster dive, that’s really [pauses] nice.

Besides social connections derived specifically from dumpster diving, participants were also connected to other gleaners through food recuperation efforts like Food Not Bombs, online networks, and larger subcultures like the Occupy movement or homeless social groups. These groups facilitated dumpster diving by creating a supportive space where dumpster diving was positively recognised and communally practiced. Ten participants had taken part in Food Not Bombs activities; for some it was the first time they ate recuperated food or even heard of dumpster diving.
Dumpster divers often lived in communal houses (up to 13 members) that prioritised cooperation and collective living, including dumpster diving. Dumpster food was shared within and between these communal homes, making it, as Eleanor explained “almost no effort at all” for some to subsist on dumpster food. Dumpster diving duties were distributed among household members, similar to house-cleaning chores or tending the garden. While living at such a communal house, Farid led “dumpster tours” where he explained diving techniques and etiquette to house visitors or interested members of the general public. Participants said that having a space in which dumpster diving was positively received was important to developing and maintaining the activity.

Divers who were not connected to these extensive networks of dumpster divers still had social circles within which they shared knowledge and goods, often using the same dumpsters as those people in other larger social groups. When David was homeless, he and his homeless friends shared knowledge about which dumpsters were best and would go on missions together and share goods. He would often frequent the same dumpsters used by communal housing members, which demonstrated how dumpster divers from various networks of communities shared common resources.

Discussion
We found both food-secure and -insecure dumpster divers in Montréal who were predominately well educated, unemployed Caucasians, with no children who may have an easier time overcoming the negative stigma around dumpster diving due to their “invisibility” (Corman 2011), and the acceptance of unconventionality within their social circles. They were dependent on social networks to acquire the necessary special knowledge and overcome the various barriers that prevent people from dumpster diving, including the lack of knowledge, stigma, and convenience. These more socially acceptable groups preferred to dive during the day and share their experiences, whereas poor or minority divers tend to dive at night and hide their activities.

Dumpster diving in Montreal is legal in public spaces such as alleys and is therefore commonly practiced during the day; however, Fernandez et al. (2011) found only nighttime diving in New Zealand, where it is illegal.

Implications for waste management and food assistance
Our findings suggest a need for innovation to encourage the redistribution of potentially useful goods. Participation in food assistance programmes in Montréal has increased by 32% since 2008, serving almost 150,000 people per month (Moisson Montréal 2011). Municipal policy-makers and community organisers might seek to promote relationships within communities and between local businesses and willing recuperators, such as dumpster divers, to help ensure goods reach individuals in need and to reduce waste. Our study shows that both food-insecure and food-secure individuals in cities are using dumpster diving to acquire food and other goods and suggests that the predominant forms of extra-governmental charitable food assistance may be inadequate for the management of food insecurity (Riches 2002). Although some individuals forged positive community and personal empowerment through dumpster diving, others did not. Dumpster diving can be a demeaning experience, a source of personal or public shame, and can be hazardous to one’s health. Furthermore, dumpster diving is a potentially risky and unreliable source of food due to the physical risks posed by entering dumpsters and the inconsistency of food availability and food safety. Similar to Eikenberry and Smith’s (2005) findings,
half of our participants reported sickness or knowing someone who became sick from dumpster diving; however this differs from Edwards and Mercer (2007), who only found a single incident among 30 participants. Greater access to public kitchens and food storage facilities may alleviate some of these health risks. That individuals still chose to dumpster dive even when other food assistance resources exist only reinforces the need for wider reforms to public food assistance programmes (Eikenberry and Smith 2005). Reliance on individual and industry donations, and the benevolence of dedicated volunteer labourers, may be causes of the scattered programme availability and poor food offerings reported by participants in this study and elsewhere (Vozoris and Tarasuk 2003, Eikenberry and Smith 2005, Tarasuk and Eakin 2005). Other than operational barriers, respondents seemed equally deterred by the social perception of food assistance programmes being only for the most destitute and the desire to feel independent (Tarasuk and Eakin 2005, Engler-Stringer and Berenbaum 2007, Gross and Rosenberger 2010). Food Not Bombs and Really Really Free Markets (public gatherings in which goods and services are freely shared; Lindeman 2012) are contemporary examples of international autonomous organising in response to waste, which may serve as inspiration for future action.

Dumpster diving is becoming more common in developed nations, both in practice and popular culture, which might reduce access to resources for those most in need. Increasing attention in the mass media may be helping to alleviate the stigma associated with waste recuperation, which is attracting more people to the practice (Edwards and Mercer 2007, Pentina and Amos 2011). Most participants in this study were glad to see the practice spreading and appreciated the mounting awareness of the negative consequences related to society’s overabundance of waste. Others worried they would lose access to these resources, if dumpsters are locked or desirable goods become rare due to more people dumpster diving. As goods become more limited, the question of who is entitled to or ought to be dumpster diving might arise. Does one type of diver have more of a right than another to goods that are the private property of the business disposing of the waste? Many would argue that concern ought to be first given to those who depend upon dumpsters for nourishment, but is it morally questionable to assert that anyone should acquire food through means such as dumpster diving?

**Challenges and recommendations for future study**

By presenting some baseline characteristics common to many divers, this research provides direction for future work to assess who dumpster dives, for what, and why. However, we collected data during the winter months, a less popular time for dumpster diving, and hence there might be a different type of common diver during warmer months. Further research is needed to identify the various motivations to dumpster dive and quantitatively assess the prevalence of dumpster diving and other modes of urban gleaning, as well as the level of dependency on these methods as strategies for food security. Additionally, research could address ways to foster relationships between local businesses and dumpster divers as means of securing and easing access to valuable resources for those most in need.

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Notes

1. Food insecurity is defined as “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways” (Anderson 1990).

2. Food Not Bombs is a global movement that utilises various practices to recover, prepare, and serve food in public spaces frequented by the poor or homeless, or during protests.

References


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