

A Commentary on Occupational Health for “Binning”, Informal Resource Recovery, in British Columbia, Canada

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Introduction

- Informal recycling involves the generation of income from the collection, sorting, and selling of materials discarded as solid waste¹
- “Informal recycler” is an umbrella term representing people worldwide who are involved in this type of work¹
- There are numerous health hazards due to the interaction with solid waste¹
- Four categories of these hazards include:
 - Mechanical injuries¹
 - Infections¹
 - Ergonomic and musculoskeletal damage¹
 - Chemical hazards¹

Definition – Binning

- A Canadian west coast colloquialism
- The collection of discarded items of value from the waste stream as a means of supporting one’s livelihood
- In British Columbia, Canada, people who take part in informal recycling are known as “binners”
- The origin of this term is attributed to Robert Sarti, a Vancouver Sun newspaper reporter

Goal

- Review the research on binners in British Columbia (BC) to determine the current state of knowledge on their occupational health

Review Objectives

- To summarise the demographics of the binner population in British Columbia
- To characterize the occupational health hazards experienced by binners and the relative importance of each, as determined by affected proportion
- To identify the gaps in research

Materials and Methods

- A scoping review was performed
- Papers were retrieved using Google Scholar
- Inclusion criteria were based on defined search terms
- No date restrictions were applied and theses were included
- Four papers were identified that fit the inclusion criteria
- An additional report (unpublished) commissioned and provided by *The Binners’ Project* was also included

Results – Occupational Health of Binners in BC

Hazards

Mechanical Injuries

Cuts, fractures, blunt force trauma, and traffic accidents¹

Reported by:
 37% of binners in Victoria²
 72% of binners in Vancouver⁶

Infections

Biological hazards such as infections by bacteria, viruses, fungi, and parasites¹

Reported by:
 22% of binners in Victoria²
 72% of binners in Vancouver⁶

Ergonomic and Musculoskeletal Damage

Sprains, fatigue, soreness, muscle aches, back problems¹

Reported by:
 30% of binners in Victoria²
 58% of binners in Vancouver⁶

Chemical Hazards

Poisonings and damage to the skin or respiratory tract¹

Reported by:
 No reports by binners in Victoria
 10% of binners in Vancouver⁶

Protective Measures

Equipment and Behaviour

- Examples include proper footwear, gloves, tools, Epsom salt, water to wash hands^{2,4,6}

Reported Usage by Binners

- Personal use: 20-55%^{2,6}
- Observed use by other binners: 20%⁶

Reasons for Low Usage

- Interference with work⁶
- Discomfort⁶
- Unavailability⁶

Results – Demographics of Binners in BC

Gender & Age



30-39 years old

40-49 years old

Figure 1. The gender breakdown of binners in British Columbia. On average, 20% of binners are female and 80% are male. The majority age of male binners is 40-49 years⁴. This is older than female binners for which it is 30-39 years⁵. The range of ages span 19-75 years⁴.

Nationality & Ethnicity

In Victoria, binners who reported being homeless, reported the following:

- 57% Canadian²
- 35% First Nations²

In Vancouver, binners reported the following:

- 56% Caucasian^{3,6}
- 29% First Nations or Aboriginal^{3,6}
- 18% Asian (estimated)^{3,4}

- Researchers have identified an inability, as yet, to characterize a subpopulation of binners broadly grouped under the description of “elderly Asian women”^{3,4,6}

Housing



- In Victoria, 58% of binners report being homeless²
- In Vancouver, 15% of binners report Homeless^{4,6}

Finances



- Fifty-eight percent of binners report binning is their main source of income^{2,4}
- In Victoria, more homeless binners report binning is their main source of income (68%) than those who do not report being homeless (40%)^{2,4}

Educational Background



- The majority of binners, 67%, have high-school education (completed or attended)^{2,4}
- 21% have college or university education^{2,4}
- 14% have primary education^{2,4}

Conclusions

- The binning environment in Vancouver, BC appears to be more hazardous to the health of binners compared to Victoria, BC
- The elderly Asian subpopulation of binners remains uncharacterized in literature
- Limitations: this review is limited by the non-representative sampling of the binning community^{2,3,4,6}

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Discussion

- A greater proportion of Vancouver binners experience occupational health hazards despite having similar demographics and use of protective measures compared to Victoria binners^{2,3,4,6}
- This difference could suggest it is more hazardous to bin in Vancouver
- Elderly Asian women who bin were repeatedly identified as an understudied population^{3,4,6}
- This group’s experience of occupational hazards related to binning is not represented in the results
- There is an incomplete picture of occupational health for binners^{4,6}

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