



Circular Consumption in Everyday Life: Drawing Insights into the Creation of a Circular City

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Abstract

Although individual consumption is the biggest contributor to cities' carbon footprints, the link between personal actions and building a circular city remains narrowly researched. Similarly, the implications of the circular economy in individuals' everyday lives are not yet well known. This study bridges these research gaps by examining the impacts of circular consumption on urban neighborhood inhabitants' everyday lives and by considering the relationship between individual consumption and the creation of a circular city. This qualitative research relies on interviews conducted with inhabitants, companies and a school of Tammela neighborhood. Results derived from a directed content analysis suggest that circular consumption is an advisable instrument for living in accordance with environmental values and promotes economic inclusion for individuals. However, circular consumption requires more consumption work from consumers compared to linear consumption. In conclusion, at the city level mainstreaming circular consumption might be achieved with policies aiming at (a) increasing environmental awareness and teaching circular skills and (b) enhancing convenient circular systems of provision to attract people with various values to engage in circular consumption, while considering the amount of consumption work required by the consumer.

Keywords Circular economy · Circular city · Circular consumption · Sustainable lifestyles

Introduction

Concerns about our planet's ecological well-being have risen during the last few decades. The circular economy (CE) is a concept that has the potential to solve some of our ecological problems [1, 2]. It is based on the idea of radical change, but the concept is still ambiguous and transient [3]. The CE bases itself on reducing the excessive use of resources and

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sustaining their economic value as long as possible by reusing, recycling, and recovering them [4]. Current consumption habits are a major reason for the recent ecological decline [5], and changing these habits is one of the most effective ways to address this issue [6]. To minimize individuals' environmental impact, the concept of a *circular lifestyle* has emerged. This concept refers to the efforts individuals make to live and consume in a way that minimizes resource loss from the economic system [6].

The surrounding living environment creates a specific frame for different lifestyles. A *circular city* (CC) is a concept used to describe the implementation of the CE within the boundaries and scales of cities [7–9]. For instance, Williams [7] describes circular cities places where resource looping, adaptation, and ecological regeneration are implemented. Truly, cities play a substantial role in implementing and localizing the CE. Although they cover only 3% of the global surface, urban environments are responsible for 70% of all global CO₂ emissions and consume 60% of all raw materials produced [10]. They possess immense potential in realizing a comprehensive CE based system as they are clusters of resources, innovations, data, and socio-economic capital concentrated on a small geographic area, and thus, are “uniquely positioned to support certain circular business models, such as sharing models, reuse systems or product-as-a-service models” [11]. In addition, urban communities potentially enhance the CE beyond capitalist systems through social innovation, as the spatial proximity of city inhabitants enables various socially inclusive alternative production-consumption practices [12]. Hence, cities are places to carry out circular transitions at different scales.

In circular transitions the role of individuals may be perceived through two opposing views. On one hand, they may be considered autonomous and rational actors who make conscious consumption decisions, thus shaping the economy [13]. On the other hand, individuals may be seen as conditioned by their current consumption habits and socio-material relations, and thus, their capability to create change is limited [13]. Drawing from Hobson's idea, Ortega Alvarado and Pettersen [14] argued that there are two ways of approaching citizens in terms of governance in a CC. First, citizens can be involved in creating a CC by seeing them as individuals responsible for the change, for instance, through enhancing and creating the market provision of circular products and services. The alternative view approaches citizens in a passive manner, as creating a CC requires modifications in infrastructure and considerations of how to integrate the CE into the everyday lives of citizens, which is not about individual choices but a matter of continuous “production and reproduction of normality” [14 p. 3]. Cities across Europe have concentrated especially in projects that deliver the latter one, such as enhancing circular construction through building material requirements and facilitating or building of circular waste infrastructures [9, 15]. However, actions considering the citizen as an active decision maker remain fewer. To name a few examples of addressing individual level consumption, and seeing consumer as an active decision maker, city of Paris has supported city inhabitants to establish and use collective composting points by giving free guidance and equipment [16]. Amsterdam has stated in a CE policy document that the city will provide “more space and opportunities for the sharing economy, repairs, second-hand sales and rentals” [17, p. 7]. One reason why cities might not have adopted widely projects aiming at directly enhancing circular consumption is that these projects are often low value activities (cf [15]). Independent repairing of broken consumer goods does not per se run the economy.

To date, CC research has concentrated on the role of public actors (such as city government) [7, 9, 18] and the private sector (such as circular product producers and localized loops) [19, 20] in enhancing the CE within the scales of cities. Even though citizens' consumption represents the largest share of carbon footprint in cities [19], their role in shaping a CC remains rarely and narrowly researched [14]. This is despite a fact that on a theoretical level CC and individual circular consumption have the same value basis as both concentrate on the idea of looping resources [7, 21]. Similarly, little attention has been paid on the social dimension of the CE [22, 23] and on what are the implications of the CE to peoples everyday lives, norms and behavior [13]. Considering the individual level is crucial as cities are ultimately places for the people and their futures [9] and reaching circular transitions requires understanding of social dynamics of everyday demand [24]. This study bridges these research gaps by inspecting urban circular lifestyles and their connection to the concept of CC [14]. In addition, this paper highlights the social impacts of the CE by examining how circular consumption influences the everyday lives of urban neighborhood inhabitants. The research questions are formulated as follows: (1) *What kind of implications circular consumption has on the everyday lives of urban neighborhood inhabitants?* (2) *How should the role of inhabitants be addressed in the creation of a CC?*

These questions are examined through literature review and qualitative methods, by interviewing dwellers, companies and a school located in urban neighborhood of Tammela in the city of Tampere, Finland. Next, this article presents the concepts of a circular lifestyle and sustainable consumption. After that, the methodology adopted in this study is presented in detail. Then, results are explained. Finally, it is discussed how the results are connected to earlier research literature, conclusions are made, and policy implications and suggestions for future research are given.

Theoretical Framework

Remarks of a Circular Lifestyle

A lifestyle can be defined as “a pattern of personal and social characteristics of an individual or a group” [25, p. 247]. Jensen [26] further stated that a lifestyle is a manifestation or expression of self-identity. Consumption does not equate to a lifestyle; instead, it is a way to maintain one [26]. Van Langen et al. [6, pp. 107–108] described a circular lifestyle to be an emerging concept “where consumer purchases and acts in such way that a minimum amount of resources is lost from an economic system”. They used the 8R typology (rethink, refuse, reduce, repurpose, reuse, repair, recycle, and rot). The concept of a circular lifestyle is related to the well-researched topic of sustainable lifestyles 27–29]. Sustainable lifestyles have several definitions, but Shirani et al. [30] defined the concept as not consistently sustainable lifestyles but an individual's efforts to live and consume sustainably. Critics of sustainable lifestyles refer to the connotations of overemphasized individual responsibility [31] and individuals' unwillingness to make the necessary changes [32]. In addition, Butler [33] argued that sustainable lifestyles provide a limited view of the processes of broader sociocultural change. Based on these definitions of lifestyles, in this article, a circular lifestyle is defined as a manifestation or expression of an individual's self-identity, where a

minimum amount of resources is lost from the economic system in individuals' consumption processes.

Consumption in the Circular Economy

Current consumption habits are said to be the biggest cause of current environmental problems [5], and changing them is one of the most effective ways to solve these problems [6]. The evolution of individualization is a primary development process to explain current environmentally harmful consumption patterns [34]. Traditionally, people have expressed their self-identity through collectivity, such as community, religion, or class norms. However, the rise of individualization has led to the decline of these collective values [5], especially in Western countries [35]. A characteristic of this individualized era is the commercial culture that pushes people to define themselves through material consumption [5]. The norm of individual consumption leads people to possess the same or more amount of goods as those possessed by their peers [36], which further creates a vicious cycle that leads to growing individual material consumption, and finally, overall consumption of the society. Moreover, material goods are efficient in meeting material needs but inefficient in meeting social and psychological needs. Attempts to fill one's social and psychological needs with material consumption may appear as inextinguishable need for material consumption [37]. Briceno and Stagl [5] concluded that ignoring the role of such social processes in consumption in research and politics may jeopardize the efforts to create a sustainable society.

Circular consumption is a form of consumption that considers social processes as consumption in the CE is partly motivated by connections, reciprocity, and interaction [38]. Henriquez et al. [21, p. 15] defined circular consumption as an emerging dimension in which consuming products and services “involve sharing, leasing, reusing, repairing, refurbishing, and recycling existing materials and products as long as possible, where the life cycle of raw materials and products are extended, reducing waste and natural resources consumption to minimum.” Henriquez et al. [21] differentiated between sustainable consumption and circular consumption. Sustainable consumption emphasizes a wider set of responsible consumption choices, such as considerations of environmental and social sustainability aspects. In contrast, circular consumption can be viewed as a more specific approach and as a subsystem to sustainability, with a focus on minimizing waste and maintaining the product value through the circular practices [21]. This also explains why the R frameworks that started as more general strategies to the implementation [4] of the CE is also incorporated with the concept of individual circular consumption.

There are multiple drivers of circular consumption [21]. Socio-demographic factors, such as gender, age, social class, and culture, affect individuals' engagement in circular consumption. Female, young, and higher-educated people are often aware of environmental issues, which drive them to live according to the CE principles [39–41]. People with high income levels consume more and thus have a larger ecological footprint [42]. The richest 1% of the global population produce a larger carbon footprint than the poorest 50% [43]. Lower income-level classes consume less and benefit economically by participating in different resources or goods-sharing schemes [44]. Similarly, people living in non-Western countries have a greater tendency to participate in sharing schemes, as these countries cherish collective values more than Western countries [35].

Individuals' motivation to consume according to the principles of the CE differ because *consumer goods* are asymmetrical in terms of their usability, economic value, environmental impact, and degree of social interaction [21]. Nevertheless, most consumers participate in the CE due to monetary reasons and convenience, even though many providers highlight idealistic values [45, 46]. This variation in the motivators of participating in the CE is the reason why circular consumption is a growing trend. Consumers and providers engage in it due to "personal values and beliefs, reinforced by cultural and social norms or, contrastingly, by a desire for distinctiveness and self-affirmation, to economic and convenience reasons, to needs for social connection" [21, p. 19].

Some researchers have started discovering the implications of the CE and circular consumption to individuals' everyday lives. Circular consumption is about keeping materials in circulation and maintaining their economic value, and it requires time, knowledge, skills, and effort. It has been demonstrated that *consumption work* done by consumers is integral to the execution of the CE and engaging in circular consumption [47, 48]. Consumption work refers to the labor required to consume [24]. This includes activities such as walking to the grocery store, picking up groceries, and self-scanning them. In the context of circular consumption, repairing of items to become increasingly common in our cultures requires time, spaces, and skills of general population [24]. Hobson [47] noted critically that consumption work in the CE is not likely to be delivered evenly in our societies. The aspect of consumption work is a critical but overlooked aspect when considering individual's participation in the CE [24].

Studying the impacts of the CE into individuals' everyday lives with qualitative methods is crucial to provide deep understanding about how individuals adopt circular practices and engage in circularity [24]. Thus, research based on qualitative methods may provide much needed information to form effective policies to create circular cities and a truly circular society. Next, the materials and methods used in this study are presented in a more detailed manner.

Materials and Methods

This study used a qualitative approach to provide understanding of the issue of circular consumption. 16 interviews conducted between July and October 2023 represented the primary data of this research. The interviews were targeted to actors that live or operate in Tammela neighborhood in Tampere, Finland. The interviewees consisted of fourteen environmentally conscious inhabitants living in Tammela neighborhood, two enterprises and an elementary school operating in the area. Enterprises were a thrift shop and a grocery store. From the local school, the principal and the head of the 'Sustainable Future' group were interviewed together. The purpose of the Sustainable Future group is to ensure that elementary school teaching includes themes of sustainability. In addition, the group organizes sustainability-oriented campaigns and activities. Semi-structured interview methods were employed, as this approach allows the interviewer to go deeper into themes that the interviewee had extensive insights on [49]. The interviews were conducted with a school, enterprises, and inhabitants; thus, three types of interview frames were applied. However, the common theme of the interviews was the manifestation and impacts of circularity in interviewees' operations and everyday lives.

One challenge faced during the data collection process was to find a representative group of inhabitants that would provide understanding of circular consumption. Thus, instead of creating a representative sample *per se*, the idea was to interview a broad set of actors implementing circularity. Environmentally conscious dwellers were chosen with an assumption that they could provide rich data on circular consumption and the aspects of a circular lifestyle. Two inhabitant interviewees were found through a research invitation post on a Facebook group related to the neighborhood of Tammela. Another two interviewees were acquired by spreading physical research invitation flyers around the Tammela neighborhood. As the post on Facebook and the physical posts around the neighborhood only led to four interviewees, an Instagram post was published to find 10 other participants for the research. To avoid personal relations affecting the study results, an external research assistant conducted the interviews with participants acquired through Instagram. Twelve of the inhabitant interviews were conducted as individual interviews and one as a couple interview as the interviewees represented the same household. Nine of the inhabitant interviewees identified themselves as female and five as male. The age range of the inhabitant interviewees was 23–72 years. The total duration of all interviews was 15 h and 30 min and the interviews were transcribed.

Tammela neighborhood provided some frames for consuming such as a geographical area encompassing businesses that enable circular consumption. This kind of frame facilitated finding of similarities when considering the impacts of the CE in interviewees lives. In addition, rather than acting as a comprehensive study about the impacts of circular consumption in dwellers everyday lives, the idea was to gain insights into the thematic by conducting in-depth interviews [49]. The Tammela neighborhood was chosen to be the geographical area for this research for its focal location related to the central city of Tampere. So far, research on circularity in neighborhoods has concentrated on sitting ducks—such as Buiksloterham in Amsterdam [13] or Hiedanranta in Tampere, Finland [50], which have been targets of large-scale CE driven development projects led by public actors. In contrast, Tammela represents a conventional neighborhood that has not been the target of any CE-related projects. Such conventionality provides an authentic geographic research area when reviewing the implications of the CE in individuals' everyday lives.

This qualitative study adapted a directed content analysis with the aim of increasing knowledge related to a new phenomenon and supplementing an existing but incomplete theory [51]. Directed content analysis can be categorized as deductive as a pre-existing theory guides the start of the process [51]. The idea is to provide an improved description of a phenomenon and coding and categorizing can be modified during the data analysis [51]. In a deductive content analysis, a categorization matrix based on an initial theory is developed [52]. The categorization matrix in this research was derived from the definition of circular consumption created by Henriquez et al. [21]. Originally, this definition used a 6 R framework (sharing, leasing, reusing, repairing, refurbishing, and recycling). To make circular consumption more comprehensible for the interviewees, sharing and leasing were combined as well as repairing and refurbishing. In addition, 'reduce' was added as reducing of material consumption is commonly understood as an imperative in the transition to more sustainable society [53]. Thus, the typology of the practices of circular consumption used in the semi-structured interviews and then used as initial categories in the analysis were reduce, reuse, share, repair, and recycle (see, Fig. 1). Basing on the interviews, these practices were subcategorized into their manifestation in interviewees everyday lives. Next, impacts of the

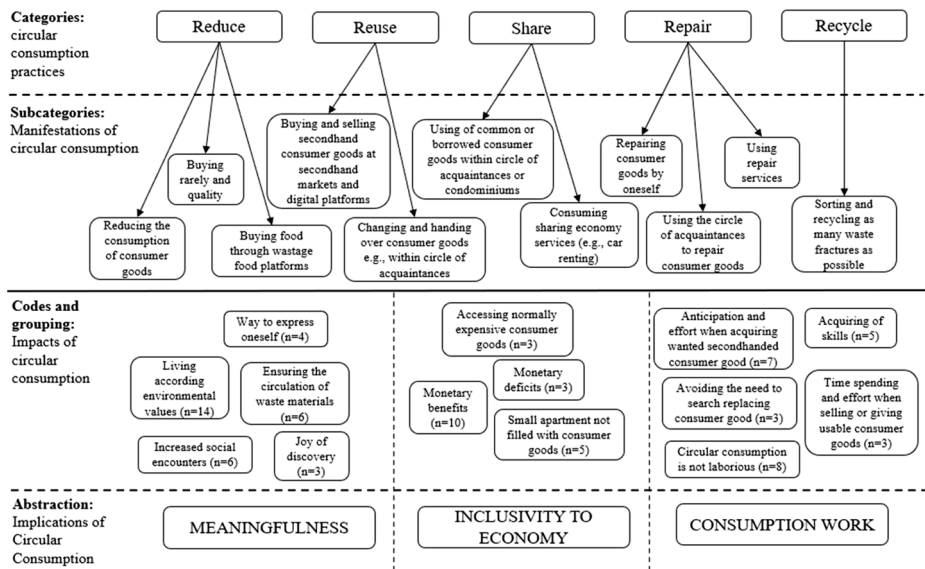


Fig. 1 The analysis process

manifestations of circular practices were coded [52]. These codes were separated from the initial practices for grouping and further abstraction. The groups of codes were abstracted to three different themes that are next presented in the Results chapter.

Results

Implications of Circular Consumption

In this section, it is analyzed what type of implications circular consumption has on the everyday lives of urban neighborhood inhabitants. Table 1 represents the manifestation of the circular consumption practices and illustrates how these manifestations are connected to retail and services of the surrounding neighborhood. As a result of the directed content analysis process, three different implications of circular consumption on inhabitants’ lives were drawn. These implications, which will be presented next, were meaningfulness, economic inclusion, and consumption work.

Meaningfulness of Circular Consumption

Even though the interviewees represented environmentally conscious people, their lifestyles were not consistently sustainable. Instead, environmental consciousness manifested through their efforts to live and consume sustainably (Shirani et al., 2014). In this regard, consuming according to CE practices seems like an appropriate means to live according to environmental values. Circular consumption in terms of reduce, reuse, share, repair, and recycle was clearly a means to fulfill environmental values, providing positive feelings of meaningfulness, rightfulness, and happiness:

Table 1 Manifestation of circular practices in consumption and in Tammela neighborhood

	Manifestation in consumption	Instances in Tammela neighborhood
Reduce	<ul style="list-style-type: none"> • Reducing the consumption of clothes, furniture, etc. • Buying rarely and quality • Buying food through wastage food platform 	<ul style="list-style-type: none"> • ResQ (digital wastage food platform)
Reuse	<ul style="list-style-type: none"> • Buying clothes, furniture, and digital devices from flea markets and secondhand shops through digital platforms • Changing and handing over consumer goods within circle of acquaintances 	<ul style="list-style-type: none"> • Kätkö Vintage (second-hand furniture and garment shop) • Fida (secondhand garment shop) • Bueno (thrift shop) • Tori.fi and Facebook Marketplace (digital secondhand platforms) • Sammakka-pop and Levykauppa Aikakone (secondhand music record shops)
Share	<ul style="list-style-type: none"> • Common consumer goods within circle of acquaintances and condominiums • Using of car renting services • Using of city bikes 	<ul style="list-style-type: none"> • GoMore and Rent24 (car rent services) • Kaupunkipyörät (City bikes)
Repair	<ul style="list-style-type: none"> • Repairing consumer goods by oneself • Using the circle of acquaintances to repair consumer goods • Using repair and tailor services 	<ul style="list-style-type: none"> • Mansen suutari (shoemaker) • MJ Data and Tietokonepalvelu Hietaniemi (IT-repair and secondhand shops) • Etappi (Non-profit bike repair service) • Pyörähuolto M&M (bike repair shop)
Recycle	<ul style="list-style-type: none"> • Recycling of as many waste components as possible 	<ul style="list-style-type: none"> • Condominium recycling points • Recycling point of marketplace of Tammela • Fida (accepts used garments) • Repe & Romu & Riepu recycling truck (accepts e.g., hazardous waste)

Naturally, it [circular consumption] brings a sense of well-being, as I mentioned earlier. Living in alignment with my values is inherently fulfilling, even if it doesn't change the world. This is my personal mantra: when I feel overwhelmed, I remind myself of this." [Female, 30].

Maybe from the perspective of clothes and other things, I am used to favor thrift stores precisely because they're more affordable and eco-friendlier, and so on. [Female, 25]

Circular consumption creates additional satisfactory when it aligns with monetary benefits while adhering to environmental values. A compelling example is the ResQ platform, which intermediates surplus food from restaurants, cafés, and grocery stores. Reducing food waste is estimated to be an effective way to reduce urban consumption-based carbon footprint [19]. Using the ResQ app represents eating with good conscience while also saving money:

“...but for example, with ResQ, there’s a good incentive in my opinion. Actually, it’s a kind of dual incentive. On one hand, you’re likely saving a bit of money, but on the other hand, you’re also rescuing food from going to waste, which can give you a good feeling. The only downside is that sometimes, when it’s food that would otherwise be discarded, you might notice that it’s not exactly top quality. But in that context, it’s something you can accept because it won’t be wasted” [Male A, 25].

Maybe [In ResQ] two things are combined... so you get to reduce food waste and at the same time at least most of the foods are quite cheap so also the economic side is present which is also essential for me. [Female, 23]

The interviews indicate that sharing is caring. Principles of CE makes consuming more communal and thus enhance social connections. The *sharing economy* is a way to ease environmental and social problems since it acts as an instrument to intensify the utilization of products to their maximum potential and enhances interpersonal connections and access to resources [54]. Such benefits can be achieved through shared consumption, where people or organizations borrow or rent their consumer goods, services, or skills to another party without giving up ownership [55]. Several terms with the same core logic have been used to refer to the sharing economy, such as collaborative consumption, peer-to-peer economy, and platform economy [56], but in this paper, there is no need to make a distinction between these terms. Especially items required occasionally and for short periods of time were highlighted as goods advisable to either share collaboratively with a friend or borrow them. Sharing is a way to help other person with a lower income level and maximize the use of occasionally needed item:

...I have a shared guitar amplifier with a good friend of mine. We’ve realized that it’s unnecessary for both of us to buy our own. I’ve invested in a good piece of equipment, so there’s no need. It’s mostly for economic reasons, like I said, he’s a student, so he doesn’t have a lot of money to invest in more expensive items right now. If I have the ability to help a friend in that regard, I don’t see any reason why I wouldn’t do it. It gets used, that’s the main thing for me, so it doesn’t sit gathering dust in a corner. [Male C, 25]

Well, my sister and I have this sort of shared wardrobe arrangement, and we joke about it a lot. She is almost graduated and works as a lawyer, so she has a lot better salary than me. So, if she happens to buy something valuable—like, say, a nice jacket—she’s not willing to sell it for a pittance. Instead, she’ll lend it to me, with the understanding that I won’t sell it. It’s a way of sharing... [Female, 23].

Worst case scenario, sharing could lead to breakdown of a social connection. This was brought up by one interviewee who suspected that people tend to neglect careful use of items that are not owned by themselves [Male, 72]. However, sharing within a circle of

acquaintances is a form of giving and having. In best case scenario, borrowing and sharing might become a cycle of goodness while reducing the need of owning individually expensive or environmentally heavy consumer goods:

You know, I find it really cool that you don't have to personally own everything... let's say I have many things in life—like, for example, a power drill—that I genuinely need occasionally. And I don't see it as financially sensible to buy one for myself either... And honestly, even if it's not super organized, we don't have any official 'services lending' group, just within our circle of friends. But it makes everyone's life easier, knowing that you can reciprocally get something if you need it. [Male, 27]

Economic Inclusion through Circular Consumption

Circular consumption seems to be an economically inclusive way of life. Reducing, reusing, and sharing, repairing, and recycling are ways of downsizing everyday life's expenses. In the acquisition phase secondhand consumer goods are less expensive than primary goods and borrowing consumer goods from a friend or family can be cost-free. In the use phase, repairing existing items postpones the need for new purchases. Finally, in the disposal phase careful sorting and recycling of waste provides cost-avoidance in terms of reduced waste management costs and usable products can be sold to be reused and to earn fractional money.

Economic inclusiveness of circular consumption can be linked also to limited living space. Reducing the consumption of material consumer goods is a way to deal with limited space in relatively small apartments. This theme was often repeated in the interviews, probably for two reasons. First, a large proportion of the interviewees were young adults and university students, whose income level is often related to relatively small dwelling sizes. Second, Tammela is a densely populated urban neighborhood with a density of almost 10,000 inhabitants per square kilometer. This density implies reduced dwelling sizes. Nevertheless, reduced dwelling sizes can be seen as a driver for individuals' circular consumption, as it creates an *urge to reduce* owning materialistic consumer goods. The interviewees repeatedly mentioned that instead of owning consumer goods, reducing consumption and renting or sharing consumer goods are ways to respond to limited living space:

...I have noticed that you just cannot fill the apartment more than it has space. You really have to struggle that the space is not piled up with stuff. [Female, 63]
[Borrowing stuff] has a big [meaning for me] especially economically. I don't have to acquire everything and my corners are then not filled unnecessarily with stuff I would not need that often. When you want to live in a fairly compact way, and you don't want to move somewhere far away [from the city center] you simply cannot fit everything. [Female, 29]

On the other hand, circular consumption might cause CE rebound effects, which refers to a situation in which CE-related activities potentially increase the overall production, and furthermore, either partially or totally offset the benefits of the activities [57]. Secondhand consumer goods are usually less expensive than primary consumer goods, and economic principles suggest that the lower price makes consumers comparatively wealthier. This so-

called income effect may encourage individuals to buy more than required, which further offsets some of the benefits created by circular activities [57]. In addition, it is arguable whether the reuse of consumer goods *de facto* displaces the production of new consumer goods [58]. For example, secondhand stores enable environmentally harmful consumption of fast fashion by providing a change to dispose of recently bought fast-fashion clothes with wrong sizes:

...if you think about the apparel that are tried to be sold and that still have their original price tags attached, and they are clearly unused, they are often from ultrafast fashion producers. Somebody has for example ordered them in various sizes and then eventually picked only the suitable one and then put the rest of the clothes into circulation instead of returning them. That kind of irresponsible consumption exist relating to secondhand markets. Of course, it is easier to buy five two-euro piece of clothing instead of buying apparel priced hundreds of euros. [Thrift shop keeper]

In addition, inexpensiveness of circular consumption is asymmetrical in terms of social factors. For instance, circular market activities might be costly compared to linear choices, pushing consumer to acquire a new consumer good instead of repairing the old one. This is often the case with tailors and shoemakers. Especially for low-income households using market-based repair services might not be a viable option to fix consumer goods. However, repairing consumer goods by oneself or by using the circle of acquaintances to do it is a way to engage in repairing by non-market activity, saving money:

I might not use repair services much. When it comes to clothing, I prefer certain stores that offer repair services... sometimes it can be more expensive to repair items like pants... So, I've asked around in my social circle to see if anyone knows someone who can do alterations. That way, I can benefit from these connections and avoid paying as much as I would to a professional tailor. [Female, 26]

Consumption Work in the Circular Economy

Engaging in repairing activities and other circular principles requires space, time, capabilities, skills, and the will to participate [59]. This phenomenon is discussed under label of consumption work [47]. It implies that engaging in circularity increases the amount of time and effort needed to consume:

I've noticed that living unsustainably is much easier [than circular consumption]... well if you think your own life, for instance, it can be much more time-consuming than simply walking into a fast fashion store and grabbing it there. After all, those stores have such a wide selection that you're likely to find what you need... And then there's the research aspect—if you want to understand the eco-friendliness of certain products or services, that also takes time. [Female, 23]

Increased amount of consumption work related to circular lifestyles manifested especially through the increased time used to find wanted consumer goods as secondhanded. As illus-

trated also in the previous quote, this is evident especially in the case of clothing as second-hand sellers and thrift shops might have limited collection of clothes in different sizes or colors. Besides, limited collections hindering circular consumption seems to be somewhat gender-based issue as there is less supply and variation for men than women in secondhand and thrift shops. Finding the needed secondhand good might be a game of chance:

Well, personally, I see that men have significantly fewer opportunities in the thrift store world. In that sense, it has perhaps been, in my opinion, a somewhat dreary experience whenever I've gone thrift shopping for clothes. [Male A, 25]

But to go back to thrift shops, maybe the challenge for oneself at least is that it's ultimately so random whether you find anything there. And then, it's quite time-consuming as well. It depends on where you want to spend your time. But sometimes, of course, there are always finds or discoveries, so there's that. But yeah, it's not always so easy and fun anyway. [Male B, 25]

To avoid excessive amount of consumption work, circular consumption, in some cases, requires loosening criteria for the needed consumer good. On the other flip of the coin, game of chance might bring joy of discovery:

...So, it's quite typical for me to describe to someone how many items I'm wearing that are newly bought, and there are very few of them. So, like, I might have underwear and shoes that are new, and everything else is reused. But now, even the bag is reused, probably the shirt from Fida as well. The jeans were bought used. Yeah, earrings naturally, because they're easy to buy. But, I have so many favorite things in the world that I've, you know, found. [Female, 53]

Businesses are in unique positions to foster circularity as they can design new circular service models that start with the idea of conventionality and minor consumption work for consumers. The thrift shop keepers gave an example of how they had launched an all-inclusive service with the idea that customer may drop sellable clothes after which the staff of the thrift shop takes care of rest of the process from pricing to the disposal of the clothes that were not sold. In the end of the process, customer is compensated with money based on the difference of the sales of the clothes and the price of the all-inclusive service.

Another key to reduce excessive amount of consumption work in circular consumption is utilization of digitality. For instance, online secondhand marketplaces provide catalogues and search functions that assist in finding the needed consumer good:

Digital platforms really play a big role in terms of consumption aligned with the circular economy. For example, now when I mentioned that you don't always find the right-sized clothes at flea markets, then platforms like Tori [online secondhand platform], Facebook Marketplace [online secondhand platform], and similar ones are really handy. I definitely make use of them. Whether it's about finding clothes or items. Just like when we recently moved, we had to buy some furniture, but I don't think we bought a single piece of furniture brand new. We got a used sofa, a used bookshelf, and a used TV stand. And all of these came through Tori. [Male, 27]

Circular consumption does not univocally increase the amount of consumption work but might be also an instrument to reduce it. For instance, repairing prevents the using of time to search a replacing consumer good:

...I feel like it's nice to be able to maintain that skill and then, not having to discard an item or clothing just because one button fell off or there's a hole somewhere, so you try to repair it to extend its usability even further. [Female, 28]

The surrounding urban living environment is a relevant aspect affecting circular consumption. Urban lifestyle seems to reduce the amount of consumption work in circular consumption by providing spatial proximity. It was highlighted in the interviews how the mixed-use neighborhood of Tammela provides accessible repair services, secondhand shops, and recycling points. Some interviewees brought up that spatial proximity of the circle of acquaintances was a key to circular consumption. This was the case especially with the principles of repairing and sharing:

Yeah, we have acquired some goods collectively with my friends who leave just around the corner. But in addition, I'm practicing renting of consumer goods and for sure I try to utilize whatever my condominium acquires to be used by the residents. [Female, 29]

...sometimes I've been asking from my friends if there's anybody who could shorten my pants. So, by utilizing my networks I might find somebody unknown for me, that could do it and wouldn't ask as much [money] as an enterpriser would. [Female, 28]

Finally, the perceived effort involved in circular consumption seems to diminish when environmental values form the basis of one's lifestyle. Most interviewees mentioned that circular consumption feels convenient and not burdensome, even if the reality might be different. For these interviewees, circular consumption is more about living in line with their values, solving material circulation puzzles, and continuously learning:

In my opinion, no, it [circular consumption] doesn't take me any more time than if I were to live carelessly. Honestly, I don't feel like it takes any of my precious free time at all, so no, it doesn't take more time. [Male B, 25]

I think it [circular consumption] maybe requires more interest. I also think it's kind of a generational thing because, like, when I think about my parents' generation, they don't intentionally make unsustainable choices. But maybe for them, it's a much newer concept than for people my age, who have been exposed to it from a young age, through school and everything around us. So, it's more of a norm for us. Maybe that's why I think about it more. [Female, 23]

Discussion

Personal consumption accounts for the largest share of greenhouse gas emissions in cities [19]; hence, they play a critical role in shaping the CC. Figure 2 illustrates that policies need to enhance both circular lifestyles and consumption in order to integrate individuals to the development of the CC. The main policy implication of this research is that CC policies should aim at engaging consumers in circular consumption through two main pathways: (1) by building individuals' environmentally conscious value base, and (2) by facilitating and building of circular systems of provisions that entice people with various values to circular consumption. This issue will be elaborated further next.

This study shows that circular consumption is a meaningful instrument for an individual to engage in a sustainable lifestyle because circular practices, such as reusing or repairing are experienced as ways to live according to environmental values. At the city level, enhancing such lifestyles is about impacting the urban software [19]. Individuals can be spurred to adopt such lifestyles by increasing their environmental consciousness. In addition to increase individuals' knowledge about "what to" (circular lifestyles), it is crucial to increase their capability of "how to" (circular skills). Teaching of circular skills, such as repair and maintenance, affects urban software by advancing peoples' ability to keep materials in circulation. Increasing individuals' environmental consciousness and teaching of circular skills may foster the adopting of circular lifestyles among city dwellers, as shown by Bolger and Doyon [18]. For instance, the school system plays a significant role in teaching circular skills and raising environmental awareness. Engaging in circular lifestyles could also be fostered by providing spaces for "low value" circular activities such as for repairing in urban areas with scarcity of space [60].

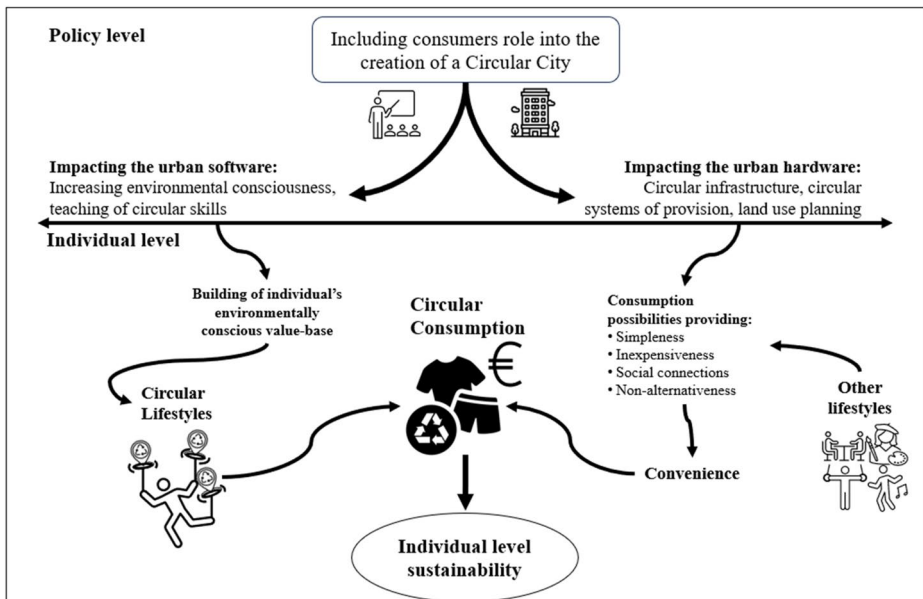


Fig. 2 Connecting consumers to the creation of a CC. (Source: author; [19]).

According to a study that analyzed the strategies of the 21 biggest cities in Finland, inhabitants were perceived as actors who consciously make sustainable consumption choices [61]. Such a view only takes into account people who have already adopted environmental values and ignores people with other set of values. If majority of people do not consume circular products and services, a circular society is undeliverable [62]. Thus, the best chance of mainstreaming circular consumption at the individual level is to enhance the diverse creation of value for people with different sets of values. This result is in line with previous research. For instance, on a firm level, Gomes et al. [63, 64] suggest that social enterprises have an important role in integrating disabled, socially excluded and financially struggling individuals to circular consumption. Henriquez et al. [21] conclude that circular consumption is a growing trend because of the wide variation in motivators it provides for people participating in it.

This research supports the findings that there is an intention-behavior gap when individuals hold environmental values but still do not engage in circular consumption [65]. A major barrier preventing people from engaging in circularity is the amount of consumption work related to it. Results suggest that the amount of consumption work related to circular consumption can be reduced in many ways. For instance, using digital applications and catalogues lowers the time used to search secondhand consumer good. Similarly, by being more flexible with the criteria for a preferred secondhand item, consumers can facilitate their purchasing process. Moreover, circular businesses have the possibility to build new service models that consciously intend to lower the consumption work related to consumption— and thus encourage engaging in circularity. Finally, individuals with a strong environmental value base perceive the consumption work related to circular consumption as not burdensome.

Consumption in the circular economy can be divided into non-market activities and market-based activities. This research indicates that these two differentiate in terms of consumption work and economic inclusion. In many cases circular consumption is about balancing between personal economy and the amount of consumption work. For instance, using market-based repair services may not cause a lot of consumption work, but as was mentioned in the interviews, it might not be economically desirable option for all. On the other hand, repairing the consumer good by oneself requires skills, time, and equipment, which increases the amount of consumption work. As stated by Greene et al. [24], consumption work in the CE is not likely to be delivered evenly in our societies. Low-income earners might have to use more time and acquire skills to engage in circular consumption. Higher income earners have better ability to outsource the needed consumption work to market-based services. These two aspects are complementary. Non-market activities carried out by individuals and their acquaintances require more unpaid consumption work, but they serve as a tool for sustainable consumption among lower-income earners, thus promoting economic inclusion. This view highlights the idea of a circular *society* where “no one is left behind” [22]. On the opposite side of the coin, market-based services and products are crucial to make circular economy an *economy* that delivers welfare to society in terms of jobs and tax incomes.

Finally, based on the analysis and prior literature, individual behavior is a combination of lifestyle choices and systems of provision [22]. Policies at different levels (international, national, and local) can enhance circular consumption to be not only an environmentally sustainable option but also the easiest, monetarily competitive, and otherwise most con-

venient option in the eyes of a consumer. At the city level, this shift in making circular consumption the most viable option takes place through enhancing the urban hardware that assists in creating as convenient circular systems of provision as possible. Enhancing such an urban hardware is possible through sufficient local policies. Most notably, land use planning may impact the creation of an optimal city structure that ensures convenient circular consumption. For instance, collaborative planning process may help building capacity to build circular systems of provision in cities [15, 66]. The ideas of a compact city (e.g [67]), and mixed-use neighborhoods (e.g [68]), may increase the convenience of circular consumption by providing proximity for users and viability for businesses. In the case of infrastructure, inhabitants can be made to oblige to engage in circularity when other options are limited. For instance, sewage infrastructure built according to the CE principles [69] may deliver a circular system of provision, which builds “reproduction of normality” [14, p. 3].

Conclusion

The first aim of this article was to examine the impacts of the circular consumption on the everyday lives of urban neighborhood dwellers. The second aim was to clarify the relationship between individuals and CCs. According to this research, circular consumption has three implications on the everyday lives. First, circular consumption brings meaningfulness as it is an instrument in living according to environmental values, and in addition it may enhance social connections as sharing produces social encounters. Second, circular consumption fosters economic inclusion, as secondhand consumer goods are typically more affordable than primary goods. Thirdly, circular consumption increases the amount of consumption work compared to linear consumption. However, the amount of consumption work can be reduced in many ways such as by designing new kind of service models and using digital platforms encompassing catalogues and search features.

Cities can foster circular consumption by increasing environmental awareness that fosters a value shift towards sustainable lifestyles. This can be pursued through education of circular skills and enlightening of citizens about sustainability issues and circular consumption practices. However, it cannot be ensured that the majority of citizens will adopt these values and thus engage in circular consumption. As a policy implication, it is recommended that cities should explore ways to support and develop circular products, businesses, and infrastructure that encourage or even mandate consumption according to CE principles. Such a comprehensive circular system of provision should cater to diverse consumer values, accommodating people from various social classes and with various set of values.

In addition, by adopting the concept of consumption work and considering ways to reduce it when planning circular systems of provision, consumers can be better enticed to engage into circular consumption. Such approaches on the policy level takes into consideration both sides of the coin: citizens as autonomous and conscious consumers capable of creating change versus citizens as incapable of creating change due to being fettered by linear consumption practices [13, 14].

The limitations of this research relate to the qualitative methods adopted. Lifestyles and consumption are highly context-dependent issues, and thus, rather than acting as widely generalizable research, this study serves as a call for a research agenda to study the impacts of the CE on individual level. Future studies could apply quantitative methods, use bigger

number of interviewees and consider more factors influencing circular consumption, such as the social class, gender, and culture. Another limitation of this research is that the analysis concentrates on the consumption of consumer goods, while areas such as mobility and food remain narrowly examined. Finally, some research about the relationship between urban form and sustainable lifestyles and consumption has been conducted (e.g., [70]), but further research is required to fully understand how the surrounding living environment enables or obstructs sustainable behavior. As people are increasingly concentrating globally on cities, the need for knowledge about sustainable behavior and urban policies grows as well.

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Declarations

Competing interests The author reports there are no competing interests to declare. Individuals interviewed for this research article consented to their participation.

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