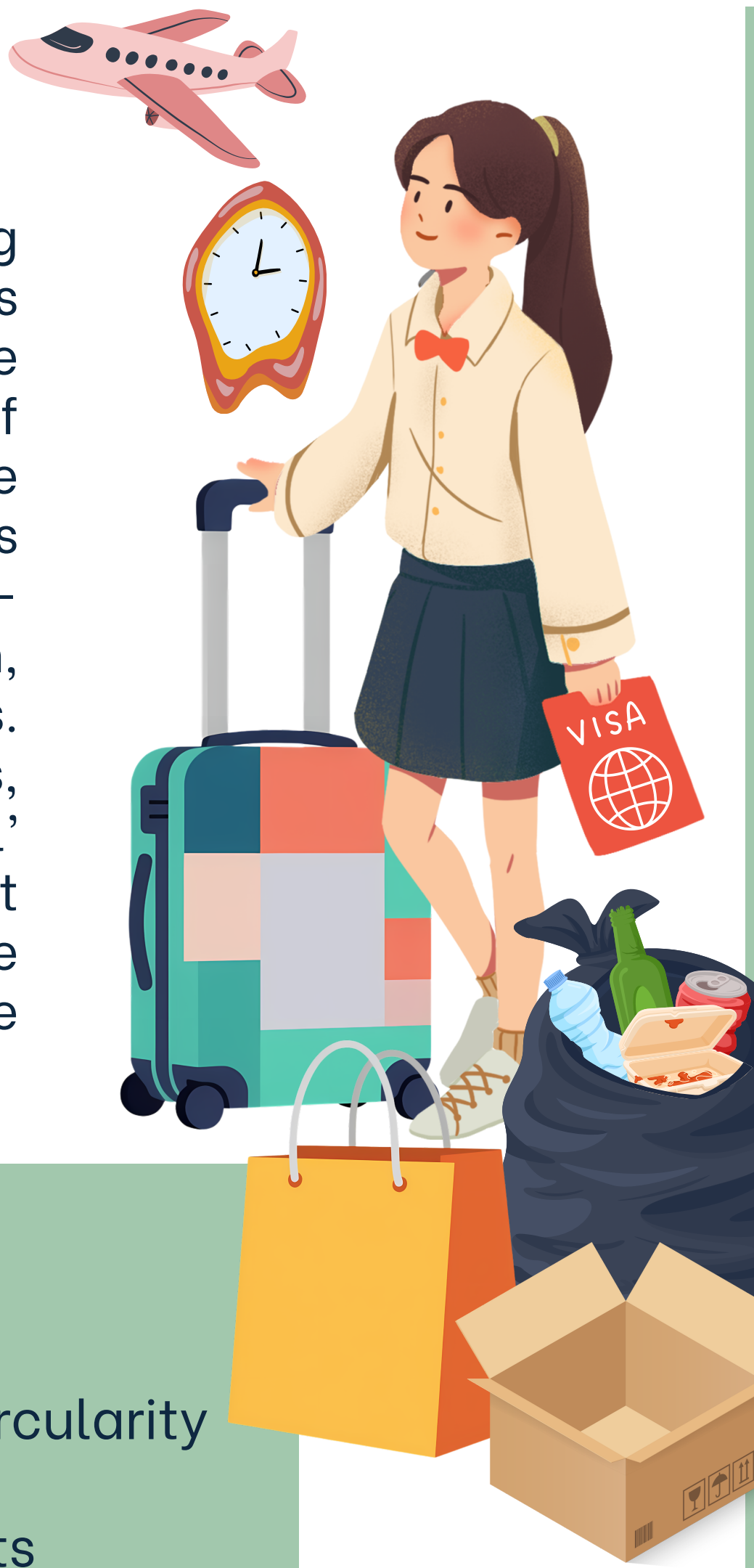




Evidence-Based Storytelling for Shaping Circular Cities

Opening vignette

An international student arrives in Leuven. Everything she brought needed to fit in her suitcase, and she buys plenty new items for her residence room a day before her classes start. Overwhelmed by the amount of information she is given and the new environment, she only learns about circular options in Leuven weeks later. Throughout the year, she buys some second-hand items and adapts to Belgium's recycling system, but never learns about university-located initiatives. She is unaware of Leuven's climate neutrality plans, which do not target her. When she leaves for her 'real' home again, she well-meaningly leaves many items at her residence for future students. Her residence managers however are less than pleased with the influx of items at the end of each semester.



Our challenge

- Leuven is a leading sustainable city and part of Europe's 100 climate-neutral mission cities, with the circular economy (CE) as a core strategy.
- International students make up a significant share of the population but are often overlooked in local circular initiatives.
- This TDI project explores their awareness, behaviours, and potential to contribute to Leuven's circular transition, and how they might then be better included in the story of Leuven's CE.

Research question: *To what extent are international students partaking in circular behaviour, which factors influence their engagement and how might we improve their inclusion?*

Wicked nature

- No single agreed-upon definition of what the problem is
- Embedded in complex interacting systems (e.g. structural invisibility of temporary citizens in city policy, emotional psychology of displacement, unequal + uncertain migration systems)
- Stakeholders have conflicting values and priorities regarding CE
- No stable endpoint due to high turnover of students

SDGs: Sustainable Cities and Communities, Responsible Consumption and Production & Reduced Inequalities

Our process

- Transdisciplinary group
 - No strict definitions of sustainability and circularity
- Stakeholder engagement
 - Project from and with international students
 - Co-creating knowledge
 - Monitoring students' invisibility in real time.
 - Overlap with agenda of Re-Startkit project
- Integration of futures
 - Exploring the implications of the inherently transient nature of the international student population on the local CE.
 - Employed future-oriented approaches to embedding international students in local circular economy initiatives.

Survey which reached 300+ students and mapped their

- Demographic characteristics
- Plethora of circular behaviours
- Sense of belonging to Leuven
- Knowledge and cultural narratives regarding CE/sustainability
- Barriers and motivations for circular behaviour
- Relevant information for the Re-Startkit project

Focus group with 5 international and 1 local student

- Presented the context of CE in Leuven and the results from the survey and then discussed what resonated with their experiences
- Discussed early arrival realities, navigating barriers, connecting to the circular ecosystem and co-creating solutions

Wrote a **report** that summarises our research process and findings, which we disseminated to our stakeholders

Discussion

Our findings from the survey and discussions from the focus group session has contributed to a **greater understanding** of the wicked problem

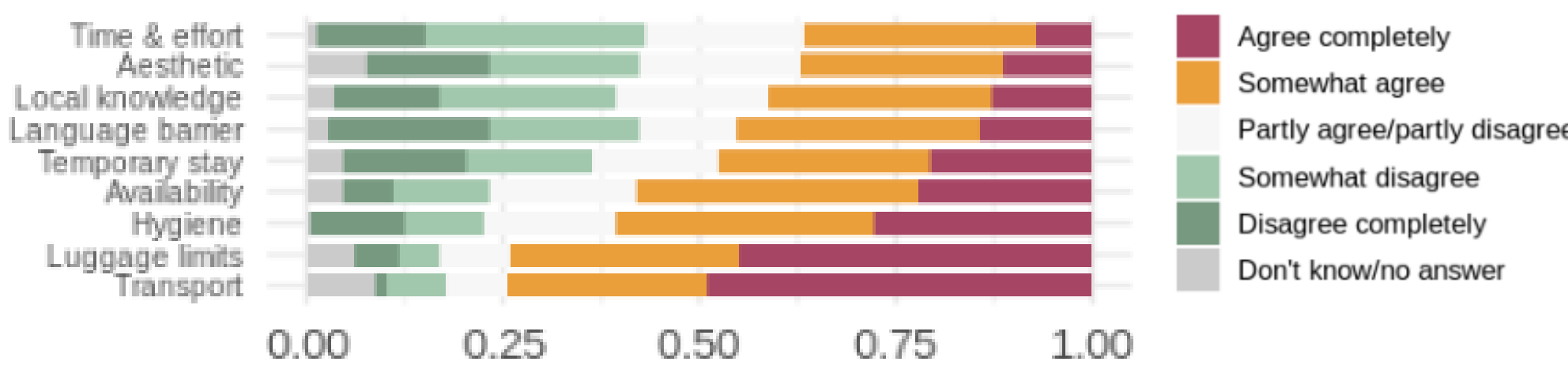
- This exposed the need to systematically embed circularity within Leuven's urban and institutional structures, ensuring that engagement is not contingent solely on individual student motivation, but is instead supported by accessible, well-communicated systems that are attentive to the barriers faced by international students.

Further investigations and actions

- Creation and dissemination of an online toolkit for international students before their arrival
- The influence of the home environment on circular economy practices as an overlooked factor

Limitations: time constraints and loss of manpower

Data on perceived barriers



Note: agreement indicates a stronger barrier

Focus group



"Some people have an *erasmus* mindset and just focus on having fun on the few months they are here, they do not feel responsible towards Leuven"

Result of cluster analysis (PAM)



Profile 1: Routine Circular Practitioners (n=60)
Behavior: Focuses on low-effort daily routines, recycling, reducing food waste, reducing disposable.
Context: More likely male; private housing; high Leuven belonging; non-OECD background.
Barriers: Time, effort, and hygiene.



Profile 2: Consumption Linear Thinkers (n=38)
Behavior: Defaults to new items; high consumption.
Context: Recent exchange students; uni residences; more likely Arts, Humanities and Social Sciences.
Barriers: Low self-reported barriers, likely reflecting low engagement with circularity.



Profile 3: Reuse-Oriented Actors (n=52)
Behavior: Active on second-hand apps (Vinted, Too Good to Go).
Context: Often Arts & Humanities students; higher financial and social motivations.
Barriers: Primarily cultural (sharing less normal back home) and quality concerns.



Profile 4: Repair Specialists (n=72)
Behavior: Highest repair frequency.
Context: Often STEM students Medicine and Engineering, high circular economy familiarity.
Barriers: Transport restrictions and climate overwhelm.

Our outcomes

Survey

- We characterised the demographic, academic, housing, and mobility profiles of 340 respondents (over 40 nationalities), including an international (n=250) and Belgian subsample (n=90)
- Environmental concern and convenience were the strongest motivations for circular behaviour; transport restrictions and luggage limits the most prominent barriers
- A clustering analysis identified four distinct circular behavioural profiles among international students residing in Leuven
- Informed the Re-Startkit project

Our focus group

- Largely complimented our findings + added more richness while pointing to priorities, especially surrounding the early arrival context
- Prominent issues of timing, 'erasmus mindsets', the lack of renting opportunities and of knowledge of local initiatives

Several ways in which these insights could be applied in society were identified:

- The construction of a centralized platform for a bi-annual exchange of goods, for instance modelled about Trondheim's ReStore project
- Connecting circular activities with other welcome activities
- Informing students before their arrival regarding the circular options in Leuven that are most relevance for them, taking into account their logistic realities and other barriers