

Collective customer-to-customer co-creation practices: Families with children with autism spectrum and airports

Monica Cerdan-Chiscano ^{1*}

¹ Faculty of Economics and Business, Open University of Catalonia, Spain. Email: mcerdanc@uoc.edu

*Corresponding author

Abstract

While research has shown that customer-to-customer (C2C) value co-creation leads to positive outcomes for people with disabilities, these studies have not addressed how collective C2C can improve value outcomes for families with children with autism spectrum (FwAS) in airports. Our focus is on accessible family tourism and travel in a European airport context, using a value co-creation approach to explore this gap in the literature. To achieve this goal, a collaboration was established with Josep Tarradellas Barcelona-El Prat Airport and Vueling Airlines to enable 25 FwAS to visit the airport in 2016. The study extends social situation analysis and uses a multi-method approach combining qualitative techniques such as ethnography and post-visit interviews. Collective C2C social practices were identified in which families, as a unit of study, engage with airport sites. These include standard practices (observing the practices of others), enhancing practices (sharing airport experiences and knowledge with others) and atypical social practices, such as deviating social practices. Our findings will enable airport and airline managers to create more inclusive experiences based on the actual needs of FwAS, thus bringing them closer to truly accessible tourism.

Keywords: Accessible tourism, airport management, families with children with autism spectrum, customer-to-customer (C2C) co-creation practices, value co-creation, social practices.

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1. Introduction

According to the US Centres for Disease Control and Prevention (CDC) (2018), autism spectrum (AS), a neurodevelopmental condition that affects an individual's interaction with others and their environment (Elsabbagh *et al.*, 2012; Bottema-Beutel *et al.*, 2021), is the fastest growing disease. Few families with children with autism spectrum (FwAS) participate in air travel out of fear that it may cause high levels of distress for the child with AS and the family as a whole (Dempsey *et al.*, 2021). This significantly hinders the ability of FwAS to travel internationally compared to families without children with AS (Hamed, 2013). This has led to an increasing focus in the literature on understanding how to enhance tourism activities experiences for people with autism spectrum (Hamed, 2013; Cerdan-Chiscano, 2021; Dempsey *et al.*, 2021).

Engaging in tourism activities in settings such as airports encourages families to spend time together and interact with other people and strangers in a shared service environment. In these scenarios, value outcomes are not necessarily derived from the immediate service transaction alone, but are rather shaped by the collaborative practices of tourists engaging with each other (C2C co-creation), as highlighted by Rihova *et al.* (2018). According to previous research, C2C interaction, i.e. "active or passive interaction between two or more customers during a service experience", which "may involve personal or physical contact or communication" (Nicholls, 2020, p. 125), as a form of value co-creation, can lead to positive outcomes (Vargo & Lusch, 2004; Padney & Kumar, 2020). Airport services typically involve these types of passive and active social interactions. Broadly speaking, C2C co-creation social practices are considered relevant for improving FwAS's value outcomes and social inclusion (Cerdan-Chiscano & Darcy, 2020; Cerdan-Chiscano, 2023). In the heritage context, for example, Cerdan-Chiscano and Darcy (2020) highlighted the relevance of focusing on social interactions and its value outcome through social practices such as sharing experiences, communication and helping.

Thus, Nicholls (2020) identified more negative critical incidents in C2C social interactions in public transport (trains, planes, etc.) than in other industries such as leisure, tourism and healthcare. For example, Harris and Baron (2004) found that when considering social interactions through C2C conversations in travel settings, such as on a train, the possible impact of the attitude and behaviour of the passenger sitting opposite must be taken into account. Padney and Kumar (2000), who studied C2C co-creation social practices in different settings, identified a variety of situations and conditions that influence the formation of value outcomes. Despite these findings, the creation of value from social interactions in airports for people with disabilities is still not well understood.

Therefore, our aim is to bridge the gap in the literature to better understand how collective C2C co-creation social practices and opportunities are created when families engage with the airport context through social interactions with other passengers and elements while using airport services, and how these practices and opportunities can lead to positive value outcomes for FwAS. Research questions are:

RQ1: What collective C2C social practices do FwAS engage in during shared airport experiences, and which ones promote inclusivity for FwAS?

RQ2: What are the related value outcomes for FwAS?

These questions are answered by exploring the collective C2C social practices that FwAS engage in and their related value outcomes, applying Schau *et al.*'s (2009) theory of social practices to explore how FwAS's social interactions shape their perceptions of airport experiences as accessible.

To this end, we first present a review of the literature on C2C co-creation and the social interactions in which FwAS engage in the airport setting. We then introduce a social practice theory analysis to empirically explore collective C2C social practices and their related value outcomes for FwAS.

2. Literature review

2.1. Collective C2C co-creation social practices among FwAS in the airport environment

Customer engagement has been associated with positive customer value outcomes (Storbacka *et al.*, 2016). According to Rihova (2018), “Engagement in tourism takes the form of interactions between customers, service personnel and crucially between tourists, each of which can contribute to creating or co-creating value” (p. 368). Further empirical studies exploring group engagement in tourism settings are needed (Jaakkola *et al.*, 2015).

When families engage in shared experiences as a collective group, they form social bubbles that are often extended to include broader networks of acquaintances, friends and relatives, as articulated by Rihova *et al.* (2018). Children often shape family consumption experiences in shared environments, so their needs must be considered in tourism research. Social interactions are a way for peer groups to share knowledge and experiences of similar customer behaviour (Cowan *et al.*, 1997). For example, in relation to children with AS, their sensory processing issues (Hochhauser & Engel-Yeger, 2010; Morgan & Pritchard, 2005) may lead to specific behaviours in certain environments such as airports. This can be problematic for FwAS when there are specific stressors, such as long queues (Kim & Lehto, 2013; Amet, 2013; Morgan & Pritchard, 2005), which can affect how their families experience the service. Furthermore, children diagnosed with AS may find it difficult to understand the social conventions of acceptable behaviour in public places, which can prove challenging, particularly in stressful and crowded environments such as airports, where their sensory difficulties may be exacerbated (Kim & Lehto, 2013; Amet, 2013). Many people with AS experience sensory processing sensitivities that can create accessibility challenges in their everyday experiences (Morgan, 2019). These experiences may discourage FwAS from engaging with certain environments, such as airports (Lydon *et al.*, 2014). FwAS may seek social interaction with other families with children on the autistic spectrum when sharing a service environment in order to exchange knowledge and experiences.

Through the lens of social practice theories, it is possible to understand how people behave when engaging in different activities, as shown by Lamers *et al.* (2017). Navigating an airport involves a variety of social practices, skills, meanings and materials. Firstly, the integration of resources and adapted materials provided by airport managers is important in social practices (Tussyadiah, 2014). For example, Cerdan-Chiscano’s (2021) study on the design of airport experiences for families found that providing them with adapted materials (e.g. inclusive spaces, scripts and easy-to-read text) before and during the airport visit significantly improved their experience. Secondly, the skills needed to navigate the airport as a social practice must be acquired, particularly if the passenger has communication, sensory or learning difficulties.

Practice theory is a useful tool to better understand family activity behaviour and social interactions in a shared service environment. We draw on Schau *et al.*’s (2009) definition of practices as a “spatially dispersed nexus of behaviours that include practical activities, performances, and representations or talk” (p. 31). However, the elements of C2C co-creation social practices in service settings such as airports have not yet been clearly defined in the literature (Rihova *et al.*, 2018). Our approach is based on the notion that collective C2C social practices are creators of value.

Meanwhile, Rihova *et al.* (2018) state that “social practices are carried out in the form of interlinked actions in physical space, using tools and knowledge” (p. 365). Human activities organised around shared ways of meaning are another approach to Schatzki’s (2001) social practice element. The literature has identified C2C social practices in tourism. For example, Korkman (2006) and Rihova *et al.* (2018) identified 18 C2C social practices (mainly sharing, advising, conversing and helping). Cerdan-Chiscano and Darcy (2020), drawing on Rihova *et al.* (2018), identified four exclusionary and 11 inclusionary C2C social practices for people with disabilities in heritage sites. Melvin *et al.* (2020) categorised joint family

social practices as part of the heritage context. There is a lack of studies on collective C2C social practices for families with disabilities in non-sensory-friendly environments such as airports. In the transport context, Camelis *et al.* (2013) identified the main categories of C2C co-creation as helping, disrupting, informing and entertaining. Wu's (2008) framework emphasises that service encounters involve interactions at different levels: between customers, between customers and staff, and between customers and the service environment. While our study focuses primarily on customer-to-customer interactions, we also consider the findings of Moura and Amorim (2017) and Yoo *et al.* (2012), namely that since C2C interactions are not directly controllable by organisations, managers can facilitate C2C co-creation opportunities for customers by managing customer interactions with staff and the service environment.

2.2. *The value outcome of social practices*

According to Vargo and Lusch (2004), "Value experiences are created by customers through their interactions with services and other people" (p. 15). The customer experience (before, during and after) has been broken down into different components, classified as behavioural, sensory, cognitive, social and emotional (Arnould *et al.*, 2006; Schmitt, 2003; Lemon & Verhoef, 2016).

Value is created from social practices when active customers interact with others (Prebensen & Foss, 2011; Reichenberger, 2017) and people feel better after the social interaction (Grönroos, 2008). This creates value as a result of the experience (Helkkula *et al.*, 2012) and is the main source of value creation (Ketola, 2014). Thus, value is to some extent collective (Heinonen *et al.*, 2013). Nevertheless, according to Heinonen *et al.* (2019), the value of sense-making and learning in a shared service environment may not be apparent to others, as this type of value is partly based on mental processes and derived from past experiences.

Research suggests that C2C interactions involving customers can create three types of value for customers: (1) functional (Falk *et al.*, 2012; Harris & Baron, 2004); (2) social (Kim & Jamal, 2007; Begg, 2011); and (3) emotional (feelings and emotions) (Schau *et al.*, 2009). Resource integration theories (Payne *et al.*, 2008; Baron & Harris, 2008) explain how service providers can make it easier for customers with certain resources to have positive value experiences in shared environments (Mathis *et al.*, 2016; Jaakkola *et al.*, 2015; Grönroos, 2008; Prebensen *et al.*, 2013).

2.3. *Airports and experience design*

Environmental design has a direct impact on whether social interactions are encouraged or discouraged in a service environment (Parker & Ward, 2000; Levy, 2010).

Inclusive design is related to universal design, described by Story (2001) as "the process of creating products, services and systems that can be used by the widest possible range of people with different abilities" (p. 32) and linked to each individual's experience (Harding, 2019). In the airport environment particularly, Cerdan-Chiscano (2021) reported significant problems with the way people acquire and represent navigational information. The author also identified major problems with social interactions that make it difficult for people to navigate within the airport by reducing their spatial orientation or impairing their wayfinding performance, resulting in high levels of anxiety and stress. In a sharing environment, people may also have different needs and wants, which can lead to customer dissatisfaction when conflicts arise (Yoo *et al.*, 2012). Universal design ensures that experiences are inclusive, both individually and collectively.

Interestingly, research on customer experience and disability theories has shown that experience design can affect customer experiences. For example, disempowering tourism experiences can occur when entering an inaccessible shared environment with a lack of accessibility (Paolis & Guerini, 2015; Cerdan-

Chiscano, 2021), effectively leading people to social exclusion. If the needs of people with disabilities are not taken into account in a service environment (e.g. where there is a lack of universal design), this is bound to result in a negative and disempowering experience.

2.4. Value co-creation and value co-destruction in airport settings

In uncertain contexts, value co-destruction may occur. This refers to a “breakdown in the relationship between provider and customer, culminating in a negative outcome” (Echeverri & Skálén, 2011, p. 201; Prior & Marcos-Cuevas, 2016, p.534). This negative outcome may occur when FwAS perceive that their needs are not being met at the airport, leading them to feel anxious about engaging with the environment. Once value has been destroyed, it becomes difficult to rebuild trust in the service provider. Therefore, “it is of relevance for service providers to understand what value is, and how it is created or destroyed in collaboration with their customers” (Sharma *et al.*, 2021, p. 37).

3. Methodology

3.1. Research approach

A variety of qualitative techniques were used to explore the dynamics of FwAS in their social interactions at the airport. These included a combination of ethnographic techniques, observational methods with 25 FwAS and interviews after the airport visit using a semi-structured questionnaire with 12 FwAS who were willing to participate (Lamers *et al.*, 2017; Kim & Jamal, 2007). Mixed qualitative methods are used in research where the focus is on interactions and interpretations in order to gain insights that contextualise participants’ discourse in relation to the phenomena under study (Cole, 2005). This approach is useful for better understanding value co-creation phenomena and related value outcomes in complex, under-researched contexts.

The empirical context is the Josep Tarradellas Barcelona-El Prat airport. The conceptualisation of social practices in Schau *et al.* (2009) was taken into account to delimit the data collection. Most of the data came from interviews with FwAS after the visit to the airport, and the interview data was supplemented by notes, video recordings and photographs.

3.2. Data collection and sampling

Figure 1 below summarises the phases of the research project.

Phase 1 (before the visit): Focus group

Prior to the visit, a focus group with stakeholders was held at Aena’s airport offices. Four Aena employees, four Vueling employees, seven representatives from Aprenem (an association for the inclusion of people with AS) and two researchers were present. The agenda included three hours of discussion and brainstorming on how to universally design the airport visit to facilitate navigation and social interaction for FwAS. A storybook was suggested by the Aprenem representatives to help parents and their children with AS understand what to expect during the visit. This storybook was designed and produced by the researcher together with the association and other stakeholders.

Phase 2 (during the visit): Ethnography and observation techniques with participants

In line with past studies, participants’ C2C social practices were shadowed by the researchers during the airport visit (Rakic & Chambers, 2012; Echeverri, 2005; Rihova *et al.*, 2018). Participants’ behaviours, opinions and emotions were recorded by a group of seven assistants from Aprenem and the main researcher, who took notes on observed episodes and informal conversations and photographed participants throughout the airport experience (Souza Bispo, 2016).

Phase 3 (after the visit): Post-airport visit interviews

With the help of the research assistants, interviews were conducted with 12 willing FwAS (see Table 1) using a semi-structured questionnaire after the airport visit. These interviews took place in the arrival terminal (T1) and lasted 20 minutes each. Concepts from the literature review guided our questioning strategy in these interviews. The data collected included transcribed interviews, supplemented by notes, 60 photographs, videos and observations made during the airport visit and during the post-airport visit interviews. Table 1 summarises the sample and methods used in phases 2 and 3 of the study.

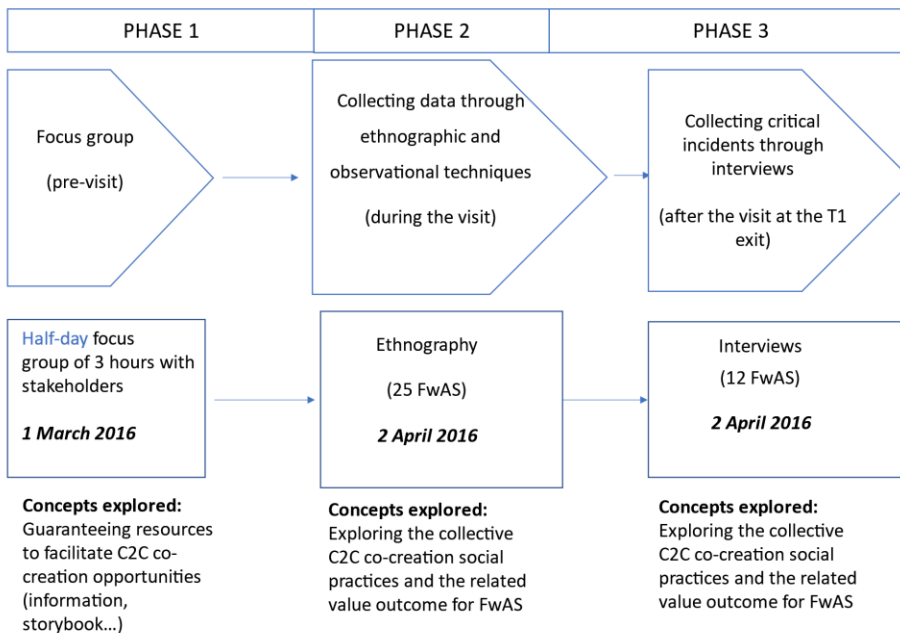


Figure 1. Phases of the design project.

According to Popovic *et al.* (2010), airport activities are “activities and interactions that passengers experience in a terminal building” (p. 350). Navigating an airport and engaging in these activities requires certain skills, especially for passengers who are elderly or have a disability. The airport visit took place in T1 on the morning of 2 April 2016 and lasted four hours. The airport was moderately busy that day. The visit was conducted in a group, with all families participating as research units. Families who were willing to participate were informed and given information (with the consent form) about the activity plan, which included the typical airport experience of navigating the airport from the entry of the airport to the boarding gates. The family was given a storybook in advance with easy-to-read language, pictures and pictograms to help them prepare for the visit. Additionally, Vueling provided the participants with a boarding pass. A group of research assistants were on hand to support the families throughout the experience.

As mentioned above, the study sample consisted of 25 families, all belonging to Aprenem. These families were willing to participate in the airport visit and signed a consent form before it took place. The consent form was obtained from the parents, who signed on behalf of their children through Aprenem. The consent form included permission to use the children’s images in publications, which was granted by 24 out of 25 families. Participants’ personal data were deleted after one year. A handbook was published and made available to families. The project was approved by the Ethics Committee at Ethos from the Ramon LLull University (URL-2nr-2016) on 30 March 2016.

Table 1. *Study sample and methods.*

Study sample	
Description	A team of seven research assistants from Aprenem and the lead researcher shadowed and observed 25 FwAS for two hours during a visit to the airport. Two research assistants and the lead researcher then interviewed 12 families after the visit.
Sample	The study sample included 25 families with children with AS. Of the children with AS, 18 male and 7 female between 5 and 18 years and had been diagnosed with AS. Of the 25 parent pairs, 23 reported never travelling by air with their child with AS and two reported doing so rarely.
Questioning strategy	The questions included the following: <ul style="list-style-type: none"> - Do you have any previous airport experiences? If so, thinking about your interactions with your child with AS, do you recall any major limitations or stressors from your previous airport visit(s)? - In your interactions with airport services, do you recall any accessibility highlights or concerns? - What positive and negative emotions and reactions did you experience in relation to your interactions in the airport setting? - During the airport experience, how did you decide which interactions to watch/observe, including interactions with services and with other people (other passengers)? - What positive and negative emotions and reactions did you experience in this regard?

3.3. Data analysis

We used an applied post-positivist approach (Matteucci & Gnoth, 2017) to explore the dynamics of FwAS airport interactions.

Familiarisation with the data (notes, transcripts, etc.) was the first step after the fieldwork had been completed and linked to the literature (Cresswell, 2007). After the airport visit and post-visit interviews, the researcher reported that data saturation was reached when additional information no longer contributed to more meaningful patterns (Corbin & Strauss, 1990). The soft laddering technique was used to “analyse the interviews and get to the bottom of certain collective C2C social practices” (Malhotra & Dash, 2015, p. 117).

Similarly to the previous research, interviews and observations were then transcribed into ATLAS-ti software, which was used to explore and encode the data (Saldaña, 2015). Schau *et al.*'s (2009) theory of social practices for limiting data collection were useful in this regard. Selective coding was used to analyse the data, and compared to literature review (Cresswell, 2007). A constant comparative approach (Corbin & Strauss, 1990, p. 9) was used to compare previous data on collective C2C social practices in tourism (Cerdan-Chiscano & Darcy, 2020; Melvin *et al.*, 2020) with our current data from the airport setting. This avoided bias by constantly comparing participants' dichotomous responses in the post-visit interviews.

Bazeley's (2007) five-step qualitative thematic analysis was used as a framework for our analysis. During the initial coding stage, a number of codes were generated covering all the different interactions we observed between the FwAS and other passengers (with and without disabilities) and the service encounters during the airport visit. Links were identified between specific social interactions and their meanings, as well as the different actors and elements that shaped the FwAS airport experience. The researcher manually reviewed the data, and the interview responses were pasted into Excel spreadsheets

to assist with familiarisation with the data and initial codification (Thyme *et al.*, 2013). Once familiar with the data, the next step was to generate the initial codes.

The initial coding phase generated a set of codes covering all the different interactions observed between the FwAS and other passengers (with and without disabilities) and service encounters throughout the airport visit. Links were identified between specific social interactions and their meanings, as well as the different actors and elements that shaped the FwAS's airport experience. The responses were coded to reveal commonalities when reviewing the data (Thyme *et al.*, 2013) with 36 initial codes (open codes), which were condensed into five axial codes to identify themes in the next step. Five main general categories (axial codes) were identified in the co-creation process: accessibility (interest in air travel, perceptions of airport accessibility, and availability of digital and non-digital accessibility resources), social atmosphere (attitudes of other passengers with and without disabilities towards disability), participation practices (e.g. sharing, giving advice, observing and supporting others), value outcomes (e.g. enjoyment, feelings of accomplishment and improved learning performance, anxiety and discouragement), and elements of inclusion and exclusion. In the third step, a detailed coding procedure was carried out, which involved a hierarchical breakdown of each category into four levels of sub-codes. Written notes were then added to each code and sub-code, drawing on the concepts from the literature review, and the data were then summarised to facilitate the fifth step. The resulting coding framework was divided into three themes: standard, enhancing and atypical collective C2C social practices, as outlined in the findings section below. The practices were linked to the activities, performances and understandings, and associated emotional engagement, that shape such practices (Schau *et al.*, 2009). The data were reduced after applying in-depth coding based on the literature review. To ensure inter-coder reliability, the data were analysed independently by two researchers who then compared their findings.

4. Findings

During the airport visit, FwAS used different combinations of collective C2C social practices when interacting with the airport environment and other people (see Table 2). Most of the information presented in Table 2 comes from the ethnographic techniques used in Phase 2 of the research project. This has been supplemented by data collected during the semi-structured interviews in Phase 3.

We considered Schau *et al.*'s (2009) elements of collective C2C social practices and constantly compared our findings with the relevant literature (Melvin *et al.*, 2020; Cerdan-Chiscano & Darcy, 2020). Our research suggests that the airport environment is conducive to specific C2C social practices in which FwAS collectively engage, and these can be categorised as follows:

1. Standard social practices (observing the practices of others).
2. Enhancing social practices (sharing airport experiences and knowledge with others).
3. Atypical social practices that shape FwAS's airport experience (deviating social practices).

Deviating social practices have been conceptualised as emotional and behavioural practices that occur when customers ignore, judge or deviate from social norms of appropriate behaviour (Melvin *et al.*, 2020).

Table 2 provides a summary of the collective C2C social practices observed among FwAS ((Phase 2 and Phase 3). It also identifies the related value outcomes for FwAS in the shared airport experience and explores the other actors and elements involved in accessibility.

Table 2. *Collective C2C social practices among FwAS (based on Schau et al., 2009) and their related value outcomes (Schau et al., 2009; Begg, 2011; Kim & Jamal, 2007; Harris & Baron, 2004).*

Collective C2C social practices	Know-how related to procedures and performance	Know-how related to understanding, e.g. signs showing how to get around the airport	Emotional engagement	Value outcome	Related value outcomes: is it a social practice that leads FwAS to social inclusion or social exclusion?	Illustrative examples
Standard social practices (observing the practices of others)	The focus is on the social interaction of observing other passengers.	It is assumed that passengers with special needs can gain cognitive knowledge by observing others in certain contexts.	Families want to learn from others and share their knowledge.	Cognitive component: where new or existing knowledge about airport accessibility and navigation is acquired. Cognitive and social component: where social interactions through observation lead to new knowledge about accessibility or where existing knowledge is confirmed.	These social practices can lead to social practices that are inclusive of FwAS. Feeling more at ease and comfortable, with a positive sense of achievement and accomplishment when FwAS acquire and integrate resources for inclusion (the identified value outcome may lead to a social practice that is inclusive of FwAS). Feelings of anxiety when resources for inclusion are not available (the identified value outcome may lead to a social practice that excludes FwAS).	<i>I wasn't sure if my 8-year-old with AS would be told to let go of his iPad when going through airport security, which can be very overwhelming for him. So I started watching other families in similar circumstances that were going through the security checkpoint to see what was going on. It was a relief to see that the security staff were considerate, patient and trying to help other families with this issue. (Mother of an 8-year-old with AS) At the beginning of the visit we were a bit confused about where to go because the airport has changed a lot in the last 10 years, but having other families and staff there was useful to continue the visit. We followed the group with our storybook provided by the airport and were pleased with the way the visit was organised. (Father of a 12-year-old with AS)</i>
Enhancing social practices (sharing airport experiences and knowledge with others)	Family members interact with other people (other passengers) and share relevant information about the airport.	Family members understand the relevant features that make their airport experience accessible.	Family members are happy to share their experiences with others if it means improving their knowledge and acquiring more information about airport accessibility.	Social component: where families interact within the airport service ecosystem to construct or reaffirm their inclusive airport experience.	The identified value outcome may lead to a social practice that is inclusive of FwAS.	<i>The airport visit was shared with other families in a similar situation to ours and it was great to be able to share the experience with them because it is a relief to see that others have the same concerns as we do when it comes to air travel and to learn how other families with autism deal with it. It makes us feel more comfortable and at ease, I suppose. (Mother of a 10-year-old with AS)</i>
Atypical social practices	Family members deviate from	The behaviour is not	The families feel the need to keep their	Emotional, behavioural and sensory	Discomfort, helplessness (the identified value	<i>The airport was very crowded and we have problems with waiting times and crowded</i>

that shape FwAS's airport experience (deviating social practices)	the expected behaviour of airport passengers.	perceived to be justified.	children with AS at ease in challenging environment s.	component: where children behave in response to a sensory stimulus from the constructed environment in order to calm themselves.	outcome may lead to social practices that exclude FwAS).	<i>places are difficult for my child to cope with... My child with AS was constantly overwhelmed and did not follow the group very well. It was clear that we were different... (Mother of a 10-year-old with AS)</i>
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The aim was to identify collective C2C social practices and related value outcomes that enhance C2C co-creation opportunities for social inclusion (Cobigo *et al.*, 2012) for FwAS in a shared airport environment, arising from participants' interactions with other passengers and other elements.

4.1. Standard social practices (observing the practices of others)

A number of important social practices were identified in which the FwAS immersed themselves in the experience of visiting the airport. We summarise these as “observing the practices of others”. This core set of collective C2C social practices is generated through community engagement and social networking (Shau *et al.*, 2009) and includes various standard cognitive activities that people perform when entering an unfamiliar environment, mainly based on observing other people's interactions with the environment. Going to an unfamiliar place, such as an airport, can be stressful in itself for many FwAS. On arrival, parents were already showing signs of stress due to their children's condition. These standard social practices play an important role and can lead to new relational experiences. For example, one of the families with little previous airport experience was seen observing and following other families at the security checkpoint as they were not sure how to get through (see Figure 2). In fact, the families carefully observed the behaviour of others at each service encounter. Their aim was to quickly acquire enough skills to be able to do this without delay and to avoid holding up the queue.



Figure 2. Families observing each other on their way through the security checkpoint during the airport visit. Source: the author

The FwAS appreciated being provided with adapted resources prior to the airport visit so that they knew what to expect and could prepare accordingly. In this study, the families were given a storybook depicting a typical airport visit, developed and produced by Vueling and the lead researcher and adapted to meet the communication needs of children with AS. The aim was to give them an idea of what the airport visit experience would be like (see Figure 3). Parents showed the story to their children with AS and used it to explain what happens during a visit to the airport. It is important to adapt resources and information to the communication needs of people with AS. With this in mind, the storybook included visual aids and pictures to help parents introduce their children to new situations in advance. An illustrative example of this came from the mother of an 8-year-old with AS, who reported the following:

I found the storybook for children with AS provided by the airline very useful. We printed it out at home and we constantly shared the story with my child throughout the airport visit to let him know what was going on.



Figure 3. Storybook. Source: the author

Observing others to learn how they perform an activity can also lead to improved inclusive social practices. These occur through other forms of social interaction with other families; for example, asking for information and sharing experiences with other passengers can improve the airport experience for FwAS.

4.2. *Enhancing social practices (sharing airport experiences and knowledge with others)*

These collective C2C social practices are considered “enhancing” because they often bring added value to FwAS, given their potential to promote further inclusive collective C2C social practices among FwAS and other families. These practices can be divided into two main categories: sharing airport experiences and interacting with others to acquire accessible resources.

Sharing airport experiences is a cognitive-behavioural social practice linked to the families’ desire to make the airport visit as smooth as possible. An illustrative example was provided by a family with a 5-year-old child with AS who explained to other families how to avoid queues by checking in online and bringing only hand luggage. This practice was usually carried out by family members with more airport experience and resources. For example, one family explained how useful it had been for them in past airport experiences to contact the disability assistance service, reserve the quiet VIP room and use the online services to book seats and check in. This practice of sharing experiences and resources can also offset accessibility issues. Furthermore, during their visit, the FwAS interacted with others to acquire accessible resources so that they could successfully navigate the airport. For example, one of the fathers with a 10-year-old with AS reported the following:

Talking to other families and asking for a quiet room to keep my child calm was very helpful for us. The staff were also very helpful in explaining how to get access to the room. I couldn't remember how the VIP room worked... you know, just remembering how things work in case you might have forgotten.

4.3. Atypical collective C2C social practices and related value outcomes: Deviating practices

Deviating practices are emotional-behavioural engagement practices (Arnould *et al.*, 2006; Schmitt, 2003; Lemon & Verhoef, 2016). It has been observed that some noisy and crowded areas of the airport cause children with AS to exhibit unusual sensory behaviours, such as an increased prevalence of atypical sensory responses, e.g. covering their ears or moving away from their parents (see Figure 4).

While my wife was checking us in, I had to look after my son Alex and try to calm him down, as he was very overwhelmed by the airport experience and struggled to keep quiet all the time. It was quite exhausting for us.



Figure 4. A father calms his 8-year-old with AS during the airport experience.
Source: the author

Children with AS were observed behaving differently in noisy and crowded areas of the airport. One mother reported problems with her 11-year-old with AS in such environments:

We try to avoid noisy and crowded places, such as shopping centres and public transport, as noise and crowds make my child very anxious. No matter how many electronic gadgets he has, he starts moving around and crying. Coming to the airport is quite a challenge for us.

The FwAS who struggled to successfully complete the visit tended to lose interest (Lydon *et al.*, 2014) in the airport visit experience. Finally, four of the 25 FwAS expressed feelings of helplessness and reported that the experience of entering and navigating an unfamiliar environment such as an airport was still too challenging for their children with AS. This is illustrated in this statement from the mother of a 6-year-old with AS:

We appreciate the efforts of the airline and the airport to invite us today, but I don't think we will be able to travel by air. Our child was very nervous and disorientated throughout the terminal and we are worried about how he will cope once we are on the plane. It's very difficult for these children to travel by air.

A mother of a 10-year-old with AS reported the following:

We are used to people looking at us, because my 10-year-old is very loud, especially in crowded places, which makes us feel uncomfortable; why do people feel the need to judge other people's lives if they don't know you?

A mother of an 8-year-old with AS reported the following:

There were some older people who asked us if my child was alright and if he didn't like flying. It made us feel different and observed by everyone else. It's obvious that we struggle with our child's condition in very crowded places, but people should understand our situation.

If parents believe they are being judged, they are likely to feel uncomfortable and out of place, as if they should not be there. Due to the general stigma surrounding AS, FwAS are at a higher risk of social exclusion. The aim was to identify observed social practices that limit participants' opportunities to participate in the shared airport environment and that discourage FwAS (Lydon *et al.*, 2014) from air travel.

For example, in interaction practices, if FwAS perceive negative attitudes towards disability from others, this can lead to outcomes such as *feeling uncomfortable and out of place* and value co-destruction.

5. Discussion and conclusions

Tourism managers, including airport managers, need to understand how value is created or destroyed in shared tourism environments and how to better allocate resources to disabled segments to improve accessibility.

Previous research has shown that collective C2C social practices among families with disabilities can be improved in terms of accessibility in tourism settings (Cerdan-Chiscano & Darcy, 2020). However, our aim here was to explore how accessible collective C2C social practices are co-created or co-destroyed for FwAS in other contexts such as transport, as the literature has identified more negative critical incidents in C2C social interactions in transport (trains, planes, etc.) than in other industries such as leisure and tourism, with more value co-destruction episodes.

5.1. Theoretical implications

Firstly, this study responds to recent calls for increased research into FwAS (World Health Organization [WHO], 2021). Secondly, our research extends the findings of Nicholls (2020), who found that shared transport service environments may have more negative incidents on C2C co-creation practices, by exploring how value is created (value co-creation) or destroyed (value co-destruction) in airports for FwAS, which had not yet been properly studied.

Specifically, we have identified a taxonomy of C2C co-creation practices, as described in the previous section, which to our knowledge had not been previously explored. Additionally, our study considered interactions within family units and how families as units of study engage with others and other elements in the airport environment, which to our knowledge had not been studied before.

The main contribution of this study is that it extends knowledge on accessible tourism by identifying the collective C2C social practices and related value outcomes for FwAS in airports. One of the key findings is that if airport managers focus their attention on specific segments such as FwAS for engagement with the airport setting, they may be able to design improved airport experiences for FwAS that lead to positive value outcomes. For example, in the airport context, something that has not been

discussed in the literature to date is that families report that their engagement with the airport experience has a cognitive component, namely that of learning imitation strategies (Meirsschaut *et al.*, 2010) to manage air travel more comfortably with a sense of accomplishment and achievement that leads to social inclusion. The specific value generated for FwAS at the airport may not exist in other contexts, such as outdoor recreation.

Our approach has led us to the findings identified and outlined in Section 4, and has enhanced our understanding of collective C2C social practices among FwAS in the airport context and how value outcomes are created in such challenging environments for FwAS in terms of accessibility, which to our knowledge has been lacking in the literature. Our findings support Verbeek's (2011) assertion that analysing social practices is essential for designing desirable and inclusive experiences.

Our findings show that certain collective C2C social practices can lead to undesirable outcomes, making FwAS feel uncomfortable and out of place. However, we agree with Lamers *et al.* (2017) that social practices can be changed. In particular, we agree with the literature that one of the significant difficulties experienced by FwAS that can lead to social exclusion is that there are often no outward signs that the child has AS, which can cause particular tensions in public places (Ryan, 2010). This can lead to social exclusion and stigmatisation (Farrugia, 2009; Ryan, 2010) if the FwAS becomes aware that other passengers and staff, for example, are judging their child with AS when they display disruptive behaviour. This is important as it can lead to FwAS losing interest in tourism and participation in leisure activities (Lydon *et al.*, 2014), particularly in challenging tourism service environments.

The deviating practices identified here have previously been analysed (Melvin *et al.*, 2020). Our view is more in line with Uriely *et al.* (2011), who argue that deviance in tourism involves adaptive defensive mechanisms. FwAS may feel uncomfortable and out of place if other passengers without disabilities display negative attitudes (stares, rude comments, etc.) towards their children with AS, stigmatising their atypical behaviour in certain circumstances and leading to social exclusion and value co-destruction. However, practices that have the potential to exclude and stigmatise FwAS (Farrugia, 2009; Ryan, 2010) may not have this effect if parents are unaware of them.

Our findings provide insights into how the experiences of families with disabilities can be improved through collective social practices. While previous research has begun to explore the co-creation of collective C2C social practices in relation to people with disabilities, there is a gap in the study on how families with disabilities engage and interact with airports and other actors (airport staff, other passengers with and without disabilities) who are involved in and influence accessible or marginalised passenger experiences.

Our framework is useful for analysing and interpreting the outcomes of families' airport experiences through the opportunities created in collective C2C social practices, by focusing on the lens of families as they deploy and draw on resources through engagement to co-create their own experiences. The paper contains highly personal accounts of the emotional, embodied and experiential aspects of the airport experience for those caring for people with developmental disabilities (Aumann & Hart, 2009). In the findings section, we discuss the types of collective C2C social practices that produce positive and negative value outcomes for FwAS, and how collective C2C social practices take place among FwAS in the airport environment, leading to positive value co-creation or value co-destruction with negative related value outcomes. Interactions are important and are used by these families to offset accessibility issues.

5.2. Managerial implications

Many FwAS do not travel by air because airport services do not meet their needs (Lydon *et al.*, 2014). Non-sensory-friendly environments, noise, waiting times and crowded areas are particularly challenging for children with AS and have a significant impact on their behaviour in such environments (Hamed *et al.*, 2013). Our findings may be useful for airport operators and airlines in designing more inclusive experiences for people with AS. In particular, we show how airport operators and airlines can promote positive interactions between FwAS and other passengers. Although airport managers have no control over social interactions between passengers, they can facilitate improvements in how families interact with the service environment and staff to create opportunities for C2C co-creation. For example, airports could set up an online platform for FwAS to share their airport experiences and resources and provide mutual support.

Airport managers can also help to design learning and skills development resources to make it easier for FwAS to navigate to and within the airport by promoting inclusive collective C2C social practices between these families and the services they encounter. For example, the parents in our study found it easier to manage the airport visit thanks to the visual storybook they were given, which they used to explain to their children what was happening every step of the way.

We agree with Heinonen *et al.* (2019) that learning value, which is based on mental processes, is not always visible to the company and others and therefore may be more difficult for the airport to identify. In this regard, proper allocation of company resources is crucial (Mathis *et al.*, 2016; Prebensen *et al.*, 2013; Jaakkola *et al.*, 2015; Grönroos, 2008). For children with AS, this is particularly true when it comes to digital tools such as online check-in and mobile boarding passes, which allow families to get through security quickly and avoid the main stressors identified in the literature (Cerdan-Chiscano, 2021). Specifically, our findings suggest that (i) when universal accessibility is not met, interactions with the service environment and with others (other passengers) can offset accessibility issues, e.g. when FwAS share their airport experiences and interact with others to acquire accessible resources such as useful information and recommendations during their airport visit; (ii) FwAS perceive value in the cognitive component of their airport experience when they are able to integrate learning resources through social interactions and, as a result, navigate to and within the airport more easily; and (iii) C2C social practices are helpful in shaping positive tourism experiences in stressful, high-consumption service environments (Pandey & Kumar, 2020) by triggering cognitive learning in those involved. To facilitate the social inclusion of FwAS, airport operators and airlines can also provide FwAS with accessibility resources. This is in line with the literature (Payne *et al.*, 2008; Prebensen *et al.*, 2013) that certain resources can lead customers and service providers to positive outcomes.

Positive experiences with other people and service encounters, especially those that trigger learning and create cognitive value (Falk *et al.*, 2012) for the family, can also stimulate further interactions within the setting. This is because families gain confidence in the interaction process as a way of acquiring resources. This confirms that human interaction is crucial in tourism (Melvin *et al.*, 2020), particularly for FwAS's human social interactions with staff, which have been shown to be essential for their cognitive acquisition of up-to-date information and resources (Rihova *et al.*, 2018; Lamers *et al.*, 2017) about the airport environment and experience.

The FwAS's heartfelt desire to get through the airport visit and find the resources they needed led to more interactions with others in the airport context. This in turn deepened the families' cognitive and emotional engagement with the airport context.

Finally, our data analysis and findings provide insight into what it takes to design accessible airport experiences for FwAS, including the provision of resources that promote inclusivity. This insight can be

applied to any high-density consumer tourism environment that is challenging for these families. By fostering C2C social practices, airport managers can design better, more inclusive airport experiences and help FwAS overcome the challenges of air travel and avoid being discouraged from travelling by air (Lydon *et al.*, 2014). For example, airport operators and airlines could provide training to airport staff on how to deal with situations that may contribute to passenger dissatisfaction due to differing needs with other passengers in the shared airport environment.

6. Limitations and future research

The study has a number of limitations that needs to be considered. Firstly, as this is an exploratory study, it was carried out on a single day and at a single airport. Future studies should observe FwAS in the aircraft itself to gain further insights that may help to improve the overall air travel experience of these families. As the study was conducted before the COVID-19 pandemic, future lines of research analysing how families with disabilities experience the recent digitalisation of airports would be relevant. In addition, the study was conducted on domestic departures, so future studies on international departures may provide new insights into international travel and AS. Finally, this study considers the voices of families with children with AS through the opinions and perceptions of parents. Future research that directly considers the voices of children with AS in the airport context would provide enriching insights into their airport experiences.

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