

Polysensoriality and Aesthetics: The Lived Sensory Experiences of Adults with Mental Illness

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Polysensorialité et esthétique : l'expérience sensorielle vécue d'adultes ayant un trouble mental

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Key words: schizophrenia; polysensoriality; habits; aesthetics.

Mots clés: Esthétique; habitudes; polysensorialité; schizophrénie.

Abstract

Background. Research in neuroscience shows that adults with schizophrenia or related psychotic disorders experience atypical sensory processing (e.g., deficits in sensory gating and mismatch negativity). Despite significant evidence proving these biomarkers are common among adults with serious mental illness, it is unclear how their sensory experiences impact their occupations in daily life (i.e., real-world implications of atypical sensory processing). **Purpose.** To explore how the lived sensory experiences of adults with psychotic disorders affect their occupations. **Method.** We used Walking with Video, photo-elicitation, and semi-structured interviews to study how the lived sensory experiences of adults with psychotic disorders ($N = 6$) relate to their occupations. Informed by a phenomenological perspective, we analysed data from semistructured interviews, and undertook analyses through iterative rounds of coding to develop themes and two cycles of group reflective practices to identify researcher biases and assumptions. **Findings.** Analyses revealed the following themes: polysensoriality, embodied aesthetics of everyday life, habits of sensing and sensory anchors, and active sensory beings. **Implications.** In clinical contexts, occupational therapists should carefully consider the situatedness of sensory experiences while avoiding assumptions that sensory preferences and aversions mechanistically generalize across contexts and occupations.

Résumé

Description. La recherche en neuroscience montre que les adultes ayant un trouble mental grave présentent des schémas de traitement sensoriel atypiques (p. ex., déficits dans le filtrage sensoriel et négativité de discordance). Malgré les données démontrant que ces biomarqueurs sont communs parmi les adultes ayant un trouble mental grave, on ne sait pas comment ces schémas affectent leur participation occupationnelle au quotidien. **But.** Étudier la relation entre les schémas de traitement sensoriel des adultes ayant un trouble psychotique et leur participation occupationnelle. **Méthodologie.** Pour étudier la manière dont l'expérience sensorielle vécue des adultes atteints d'un trouble psychotique ($n = 6$) affectait leur participation occupationnelle, nous avons eu recours à l'approche Walking with Video, à la photo-élicitation et à des entrevues semi-structurées. **Résultats.** Les analyses ont révélé les thèmes suivants : la polysensorialité, l'esthétique incarnée de la vie quotidienne, les habitudes sensorielles et les ancrages sensoriels, ainsi que les êtres sensoriels actifs. **Conséquences.** En contexte clinique, les ergothérapeutes doivent considérer attentivement le caractère situé de l'expérience sensorielle, tout en évitant de présumer que les préférences et les aversions sensorielles sont automatiquement généralisables quel que soit le contexte ou l'occupation.

Funding: The authors disclosed receipt of the following financial support for the research, authorship, and or publication of this article. This research was funded by the Thorp Faculty Engaged Scholars Program at the Center for Public Service at the University of North Carolina at Chapel Hill.

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Introduction

Adults with serious mental illness (SMI), such as schizophrenia, experience atypical sensory processing patterns (Andersson et al., 2021; Bailliard & Whigham, 2017; Brown et al., 2020). Research in neuroscience has unequivocally demonstrated that adults with SMI experience atypical auditory processing in sensory gating (i.e., ability to filter out extraneous auditory stimuli) and mismatch negativity (i.e., ability to recognize an acoustic irregularity within a predictable pattern of stimuli) (Jahshan et al., 2013; Hamilton et al., 2018). These differences result in challenges with affective prosody (i.e., reading tone) (Jahshan et al., 2013), difficulty perceiving sarcasm (Kantowitz et al., 2014), and difficulty with social relationships (Engel-Yeger et al., 2015; Stols et al., 2013). In contrast, there is a relative lack of research exploring how the lived sensory experiences of community-dwelling adults with SMI affect their occupations compared to other population groups (e.g., Engel-Yeger & Rosenblum, 2017). Further, researchers tend to prioritize the pathological, negative aspects of sensory patterns that are aversive and detrimental to health (Andersson et al., 2021; Landon et al., 2016), thereby obfuscating positive sensory experiences and their potential to induce positive mental health and quality of life for persons with SMI.

In occupational therapy, research about sensory experiences primarily adopts a traditional biomedical conceptualization of sensory processing that limits efforts to study the everyday settings and sociocultural aspects of sensory experiences. For instance, a recent concept analysis of sensory modulation in the *Scandinavian Journal of Occupational Therapy* concluded that sensory modulation is a twofold process that “originates in the central nervous system as the neurological ability to regulate and process sensory stimuli; this subsequently offers the individual an opportunity to respond behaviourally to the stimulus” (Brown et al., 2019, p.521). Similarly, Bagby and colleagues (2012) described “sensory experiences” as “an event in which a person is affected by a stimulus to one or more of the senses; processes the input via the sensory system; and responds through an observable behavior” (p.78). Such conceptualizations of sensory processing reflect the traditional representational theory of mind, where a person is a passive recipient to sensory stimuli which are somehow transduced and represented abstractly in the mind to solicit a behavioural response (Dewsbury et al., 2002; Lorimer, 2008; Thrift, 1996; 2007). There is a relative lack of research that goes beyond the biomedical model to explore phenomenological understandings of the everyday lived sensory experience.

In mental health, recent occupational therapy studies about sensory modulation tend to focus on sensory-based treatments within inpatient mental health facilities aiming to regulate emotions, lower agitation, and reduce the use of restraints (Barbic et al., 2019; Machingura et al., 2018, Matson et al., 2021). Notable exceptions are Andersson et al.’s (2021) exploration of the sensory experiences of adults with SMI living in the community using interviews, Williamson and Ennals’ (2020) study

of co-created sensory modulation interventions with youth and their families in community mental health settings, and Wallis et al.’s (2018) study of sensory modulation to treat anxiety in a community mental health setting. Andersson et al. found that participants intuitively used sensory strategies to manage sensory inputs during daily occupations. Williamson et Ennals found that co-created sensory modulation interventions enhanced the occupational participation of youth. Wallis et al.’s statistical analyses ($N = 4$) suggest that using sensory modulation may reduce anxiety and improve participation. However, these studies tend to focus on clinical outcomes (i.e., reduction of symptoms, improved participation) instead of a holistic understanding of the sensory experiences of adults with SMI (Bailliard & Whigham, 2017; Scanlan & Novak, 2015). Although sensory-based treatments are well-received by both mental health service users and providers (Machingura et al., 2021), the perspectives and assumptions that underpin clinical practice and research need to be broadened to understand the lived sensory experiences of occupational therapy clients in their everyday settings.

Examining how the sensory experiences of adults with SMI affect their participation in daily activities is a critical area of inquiry because this group experiences multiple barriers in their occupational participation. Research in occupational therapy and psychology has found that on average, people with SMI, such as schizophrenia, are more likely to be doing nothing (i.e., remaining idle or sleeping) and are often excluded from society and important occupations (i.e., employment, parenting, education, social occupations, etc.) (Bejerholm & Eklund, 2006; Cella et al., 2016; Edgelow & Krupa, 2011; Krupa et al., 2003; Leufstadius et al., 2006; Vancampfort et al., 2017). The sedentary lifestyle and relative lack of participation in daily activities by adults with SMI compared to the general population correlates with negative health outcomes such as weight gain and premature mortality (Owen et al., 2020; Strassnig et al., 2021; Vancampfort et al., 2017).

Qualitative studies such as Andersson et al. (2021) have demonstrated how repetitive and/or unwanted sensations experienced by adults with schizophrenia throughout their daily lives negatively affect their occupational experiences. Pfeiffer et al. (2014) also demonstrated that people with SMI with sensory sensitivity report less participation, lower levels of recovery and lower quality of life (Pfeiffer et al., 2014). However, there is insufficient research exploring how the relationship between the sensory experiences of adults with SMI and their participation in occupation in order to understand how to minimize negative sensory experiences that are barriers to participation and maximize positive sensory experiences that can encourage participation and decrease sedentary behaviors that have negative health consequences.

To expand such understandings, it is necessary for occupational therapy researchers to diversify their methodologies and the knowledge paradigms with which they design and conduct research studies. More specifically, researchers should be encouraged to use multiple research methods (Wright-St. Clair, 2012) and adopt an epistemologically pluralist (Kinsella, 2012)

approach to studying the relationship between adults with SMI's lived sensory experience and their participation in everyday activities. Therefore, there is a need to study the lived sensory experiences of adults with SMI in real-world contexts to understand the wholeness of lived sensory experiences and to engage in holistic client-centred practices. Accordingly, the purpose of this study was to explore how the lived sensory experiences of adults with psychotic disorders affect their daily occupations. We focused on individuals with psychotic disorders because they represent a unique group within the broad spectrum of mental illness.

Method

Design

We engaged in a phenomenological approach that emphasizes the embodied and situated nature of lived sensory experiences as described by Merleau-Ponty (Hass, 2008; Merleau-Ponty, 1964). This approach eschews old mechanistic assumptions of sensory processing where each sensory organ separately registers and transmits sense data to the brain where it is transformed, or transduced, into an abstract symbol to create an internal representation of the external world (Meteyard et al., 2012). Merleau-Ponty's philosophy is a unique phenomenological approach that underscores the importance of aesthetics and art to the performance of everyday actions (Levin, 2016). It also emphasizes that the perceptual situation is an effective starting point for inquiries regarding human existence (Alloa, 2017). Embracing Merleau-Ponty's phenomenology required methodologies that move beyond textual and cognitive representations of sensory experience.

Our visual methods consisted of Walking with Video, photo-elicitation; and video-elicitation. We used both *static* (i.e., photographs) and *dynamic* (i.e., video recording) visual research methods, to collect and study different ways to represent sensory experiences. Using such methods in tandem helped us broaden the ways in which we conceptualized and studied "experiences" beyond retrospective, narrativized varieties (Throop, 2003). For example, photographs and interviews characterized narrativized forms of sensory experience that could be distilled into granular images, while video recordings served as documentation of the emergence of particular sensory experiences in real-time (Throop, 2003). Walking with Video (Pink, 2007) consisted of videorecording participants as they engaged in a self-chosen occupation while reflecting on their sensory experiences. Photo-elicitation consisted of asking participants to take five photos of situations when their sensory experiences affected their occupations. Semistructured interviews using photo and video elicitation (Harper, 2002) were conducted with participants to review and discuss their videos and photos. After discussing their videos and photos in relation to occupation, participants were prompted to describe examples of their sensory preferences and experiences to obtain additional examples of positive and negative sensory experiences and how those impacted occupation (e.g., "what is your favorite

smell?"; "how do you feel when you're in a place with a lot of strong smells?"; "do smells ever interfere with your activities?").

Data Collection

Six adults with psychotic disorders (i.e., schizophrenia, schizoaffective disorder) (see Table 1 for pseudonyms and demographics) were recruited through flyers and therapist referrals at clinics and clubhouses for persons with SMI. Inclusion criteria were English fluency, a primary diagnosis of a psychotic disorder, and no comorbid sensory processing disorder. Informed consent was obtained as approved by the Institutional Review Board at the University of North Carolina at Chapel Hill (IRB# 18-0765). Video recordings and photographs occurred at a place of participants' choosing. Data collection occurred over three meetings over approximately a month period. During the first meeting, participants were introduced to the study and methods for Walking with Video and photo elicitation. Participants were given a digital camera and instructed to take a minimum of five photos of situations when their lived sensory experiences impacted their engagement in meaningful activities. Participants also used this meeting to identify a preferred occupation—an activity they enjoyed doing in daily life—and location to engage in Walking with Video (Pink, 2007). During the second meeting, participants returned their digital cameras and engaged in Walking with Video as the researcher followed and videorecorded participants engaged in their occupation of choice while reflecting on their sensory experiences. For example, one participant requested to be videoed as he took his dog to the park. The researcher followed and video-recorded the participant as he engaged in his chosen occupation and discussed his sensory experiences in real-time. Participants elected to engage in the following occupations for Walking with Video: cooking a hamburger, taking the dog to the dog park, walking on a treadmill for exercise, smoking a cigarette, washing a dog, and attending to a pet cat. During the third and last meeting, participants engaged in semi-structured interviews to reflect on how their sensory

Table 1
Demographic Information of Study Participants.

Name	Gender	Age	Level of completed education	Race/ethnicity
James	Male	60	High school. Took college-level courses	African-American/Black
Joah	Male	43	Bachelor's degree	White
Lucas	Male	45	Did not respond	African-American/Black
Nia	Female	52	Did not respond	African-American/Black
Owen	Male	38	Bachelor's degree	White
Zayden	Male	28	Did not respond	African-American/Black

experiences affect their occupations. The interviews were also supported with photo elicitation and video elicitation during which participants reviewed and discussed their photos and videos with the researcher.

Analysis

Our analyses were guided by Merleau-Ponty's phenomenological approach (Hass, 2008; Merleau-Ponty 1964) and associated occupational science research (Bailliard et al., 2018; Park Lala & Kinsella, 2011) which emphasize the embeddedness of humans with environments, the corporeality of occupation, and the importance of perceptual experience. A research team consisting of the primary investigator (first author), an occupational science researcher (second author) and an occupational therapy masters student (third author) engaged in analyses. All interview and video transcripts were coded independently by each author using open coding, with an emphasis on exploring the impact of sensory experiences on occupation. Visual data from photos and videos were not coded separately since a discussion of them was included in the interview transcripts and they were used as tools for elicitation. Following this first round of analysis, the research team met to compare codes and emergent findings to achieve consensus. Codes (e.g., multiple senses, past experiences, feels good) that were common among the research team were kept and differences in coding were discussed and debated until a consensus was reached. This included engaging in group reflexive practices (i.e., iterative group meetings focusing on positionality and potential impact on study processes) to assess potential biases and assumptions. After having achieved consensus regarding the first round of coding, the team engaged in a second round of individual and independent analyses to collapse codes into thematic categories (e.g., polysensoriality, aesthetics). The team met again to discuss and debate the thematic categories to achieve consensus regarding the findings presented below. This also included a second round of reflexive practices to evaluate the potential impact of researcher assumptions and biases on the findings.

Findings

Analyses yielded the following themes: polysensoriality; aesthetics of everyday life; habits of sensing and sensory anchors; and active sensory beings.

Polysensoriality: Experiences Always Involve an Intersection of the Senses

When asked to reflect on the relationship between their sensations and occupations, participants recounted everyday experiences that were polysensorial (i.e., involving an intersection of multiple sensations across and within sensory systems) to generate a gestalt-lived sensory experience that affected occupation. Although participants were able to identify single sensations in response to the interview questions, they qualified

those sensations with additional sensations. Indeed, participants depicted their lived experiences as polysensorial instead of a series of separate and isolated sensations. For example, Lucas immediately associated enjoying the sensation of smoking to include the sensation of listening to music on his back deck while having a cigarette, as a deliberate combination of specific sensory experiences to generate an expected experience of occupation. Similarly, he immediately associated his tactile preference for warm water while washing hands to pleasant fragrances: "It feels good on your hands, it smells nice, and then you got the water running on your hands."

Upon identifying a sensation, participants identified accompanying sensations that elaborated and deepened the meanings of the first sensation. Participants contextualized their sensations with reference to specific situations featuring additional sensory experiences from different times, places, and meaningful experiences. For example, when discussing his olfactory preferences for incense, Owen referred to a combination of olfactory sensations:

A new church that has an incense smell. So, you get that new wood smell with the incense. I don't like old churches that have that—like old Catholic churches that are burning incense—because you can smell the must, and I don't like that. But, a new church with new wood—I like that smell.

Despite referring to different sensations of the olfactory system, Owen's reflection suggests that a singular objective sensation (i.e., smell of incense) does not exist in isolation and is mediated by the existence of other sensations (i.e., new wood smell versus old must). For Owen, the combination of smells was significant and altered the experience of smelling incense. Indeed, the intersection of senses within sensory systems contributed to a gestalt-lived sensory experience that could not be explained or determined by one single sensation or sensory system.

Sensations occurring across sensory systems also transformed the experience of singular sensations. For example, Owen reported,

listening to music ... live music is fine but ... canned music, like music that's on a radio or something, bothers me. It makes me ... especially in the car, I feel more car sick when I listen to music. Sometimes it's okay, but it's just, like, this drone, and especially repetitive songs that are on the radio all the time.

For him, the auditory experience of canned music coupled with the sensation of riding in a car was overwhelming. In isolation, the sensation of listening to canned music was bothersome; however, its combination with the polysensorial experience of riding a car provoked nausea.

Embodied Aesthetics of Everyday Life: Sensory Preferences are Historical

Participants frequently linked the origin of their sensory experiences to memories that included an affective component, embodied as an aesthetic preference. Participants' personal aesthetic preferences were grounded in sensations experienced

during memories of occupations which subsequently became aesthetic markers. For example, when preparing a hamburger, Zayden used sliced bread instead of a bun. Eating a hamburger on sliced bread presents a significantly different sensory experience because the thin bread crumb quickly becomes soaked with the meat's juices and transforms the experience of holding and consuming the sandwich. Because the sliced bread often falls apart and the juices leak down the fingers, restaurants typically serve hamburgers on buns. When asked why he chose sliced bread, Zayden acknowledged that he had sufficient funds to purchase buns. However, he was not bothered by the resulting sensory experience and chose the bread because it aligned with positive past experiences and were embodied as a pre-reflective sensory preference.

They're [my parents] from the South Bronx so they know how to take things and make do with what we have ... I'm not saying I'm struggling now, but I just got that from them. It's just ingrained in me, I guess...It's just bread to me.

The aesthetic of Zayden's hamburger was beyond an objective and isolated gustatory sensation; it enfolded his past sensory and affective experiences with his current situation to generate a gustatory sensation during which he literally tasted pleasure in the frugality of using sliced bread. Through repeated co-occurrences, affective experiences became coupled with sensory experiences to generate aesthetic orientations to being-in-the-world. The experience was aesthetic and felt right.

James also likened his favorite smell to an embodied aesthetic that was co-constituted by past pleasurable social experiences and an intersection of specific gustatory and olfactory sensations. James reported that he loves the smell of a local hamburger restaurant and declared that when he smells it, "it's a type of relaxation, happy, and I'm very comfortable."

Then it's breathtaking when I sit out there and see so many people that I know who I've met through the Burger Shack [a hamburger restaurant] ... me coming in and out, and get the chance to speak to them, and just feeling good about seeing people, and smile, and talk to them ... it reminds me of a place I can go to, at will, and I'm very comfortable around the people there ... So just a place where I feel comfortable. I love the smell of that food coming out of there.

Although the smell coming from the restaurant was likely enjoyed by many passersby, James' lived sensory experience was not an isolated objective sensation, it prompted him to relive embodied positive social connections and belonging.

The aesthetics of participants' everyday activities were embodied associations to meaningful past experiences during which sensations became infused with affective and moral evaluations of how experiences *should* feel. For example, Owen explained how wearing a specific pair of jeans during occupations contributed positively to his emotional state:

I'm very ... comforted ... I feel better about myself when I put them on because ... they feel better. I just ... feel better. When I have them, I get excited when they come out of the wash and I can wear them. There's ... other jeans that don't fit as well, I feel awful in, I don't feel as good about myself. It's like I don't feel

as comfortable. But these jeans just fit really well, and I like the way they're kind of worn out a little bit. I've definitely had jeans in the past that I wore out myself and they had much more meaning ... these kind of feel that way without actually being something I've had for years ... I think some of it's the weight and the pressure on my legs ... where it fits on my body.

Owen felt better about himself when his pants provided similar sensations to his old jeans in terms of weight, pressure, and fit. This contributed to a positive sensory context for his occupational experiences. The experience of wearing those particular jeans was aesthetic because it was pleasurable to his senses, felt right, and contributed to positive emotions.

Owen's experiences of specific olfactory sensations were contingent upon the context in which they were experienced. When referring to his hygiene, Owen reported:

it's ... kind of repulsive but also kind of ... if I don't ... shower for a week and you get that body odor ... it's kind of ... nice. Like, if you're at work you're ... embarrassed and I'm like, this is ... awful, and I'm turning people away, and I'm very self-conscious. But ... if I'm at home I'm like, mmmm, that kind of smells good.

Owen experienced his body odor differently depending on context: it felt good when he was alone but he experienced shame when in a social environment. For all participants, the aesthetics of daily occupations were predicated on past experiences that had become embodied as expectations for how things *should* feel.

Habits of Sensing and Sensory Anchors: Personal Sensorial Guideposts to Occupation

Many of participants' occupations involved following sensory habits that were established through past occupations. Sensory experiences *felt right* or *felt wrong* depending on an embodied aesthetic which consisted of sensory habits that were formed in the past. For example, Zayden reported that the smell of Pine-Sol generated positive feelings and was associated with cleanliness,

I love Pine-Sol. I remember back in the '90 s. I don't know if you saw the commercial. It was an older black woman and she just sniffs the Pine-Sol and she was like, 'Oh, this is good.' ... So, I like Pine-Sol Oh, it smells good and it leaves a scent. Like you can mop, and the room still is like—it makes it a little bit cleaner

As a result, Zayden used the product when cleaning—not because it cleaned better, but because it felt right as a historically embodied aesthetic. These sensory-based habits and routines provided comfort, helped participants regulate their emotions, and guided their occupations as they unfolded. For example, Lucas reported that his smoking routine included sensory habits that enhanced his comfort and mood:

I like drinking cold water because cold water is purified. When I drink cold water, it makes me feel good ... It cleans my lungs out—any time I go out for a smoke, I come back inside ... and drink some water out of an old soda container because ...

it cleans it out of your system. It's refreshing and it makes you feel good.

Lucas regularly followed this procedure as a routine guided by sensory habits. Each step satiated an anticipated sensory experience, set the stage for the next anticipated sensory experience, and provided comfort. His actions were not consciously calculated at each moment and instead flowed along sensory guideposts which were monitored subconsciously to ensure the occupation is proceeding as expected. When walking on a treadmill, Joah explained, "I like to hear myself walking to make sure I'm not walking on the wrong part of the treadmill. It helps me with where I put my feet so I can focus more on the walk and music." The sound of Joah's footsteps on the treadmill was a sensory expectation, operating prereflectively to allow him to focus on other aspects of his experience. When that expectation was perturbed (i.e., the sound of a foot on the wrong part of the treadmill), Joah would consciously take note and adjust his action (i.e., the placement of his next step). These expectations can be conceived of as signposts, or sensory anchors, that indicate a person is on the familiar path to complete an occupation as expected. Participants did not passively receive sensory stimuli; rather, they actively engaged their senses and negotiated their preferences in relation to their needs and values.

Active Sensory Beings: Agency in Using Sensory Experiences to Manage Oneself

Participants reported engaging in occupations in search of specific sensations that contributed positively to their well-being. When referring to his strong preference for consuming cold water, Joah concluded: "So, I only have so many pleasurable things in my life due to the situation I'm in. And it's something pleasurable ... [I] just attached myself to it." Having few opportunities to experience pleasure, he exercised his agency to seize upon a rare pleasurable sensation and incorporated it into his daily routine. Owen also reported exercising agency by strategically adopting a gustatory preference to promote a tough personage and identity:

I started drinking just straight [coffee] without any cream or sugar in it. And I thought I was this really tough kind of—I don't know if you know that song, ... Coffee and Cigarettes by—Aretha Franklin ... it really spoke to me ... because I went to art school, and so I would drink ... just straight ... black coffee ... I thought that was ... part of my identity.

Owen strategically used the sensory experience of black coffee to feel tough and portray toughness during his occupations at school which facilitated his participation in art school. As a sensory anchor, the sensation of black coffee changed his confidence during his engagement in art school occupations. Even when experiencing active psychosis, Owen sought specific sensations to enhance comfort and feel better, "when I was in more ... psychotic states, I would make the same noise over and over again, and I ... enjoyed it."

As an active sensory being, Owen also reported that he intentionally modified his sensory habits during walks after

adopting a dog. Prior to having his dog, Owen would walk with his eyes down and avoided eye contact out of paranoia of being perceived as "a strange person ... walking down the street." After adopting his dog, he became aware of needing to monitor other dogs and their owners and expanded the zone of his sensory vigilance in anticipation of potential interactions. Owen modified his sensory habits to increase his visual and auditory input to enhance his environmental awareness.

Participants also reported needing to intentionally confront and manage their sensory aversions to engage in occupations that offered desirable experiences. For example, Nia described coping with auditory aversions to tolerate noisy environments during social occupations at a clubhouse despite her strong preference for quiet environments:

I don't like a lot of loud noise ... It's [the clubhouse] gotten so loud. I'm not used to all that loud noise. I still go there. I go there because I get lonesome here, and I need to get around people.

To meet her social needs and feel well, Nia negotiated the costs and benefits of attending the clubhouse—concluding that the ensuing aversive auditory experiences were outweighed by the social benefits. Avoiding the unpleasant auditory experience was not a feasible option since it entailed unacceptable social costs. Nia actively exposed herself to noxious auditory stimuli in search of meaningful connection.

Discussion

In this study, we wanted to explore how sensory experiences, most of which occur prereflectively (i.e., prior to conscious evaluation) in the background of the lived experience (Hass, 2008; Merleau-Ponty, 1964; Throop, 2003), affect occupational experiences. Studying prereflective occupational processes using measures that ask the person to cognitively analyse past experiences (e.g., interviews, questionnaires, etc.) is problematic because those measures capture processes that give coherence to experience but not the experience itself (Throop, 2003). Accordingly, quantitative measures of sensory processing, which are retrospective, would fail to capture the lived experience as it occurs in the real world in real-time. We, therefore, adopted visual methods to capture pre-reflective data of participants' lived embodied sensory experiences, in order to engage in corporeal readings of their doings (Bailliard, 2015b; Merchant, 2011; Throop, 2003). Further, we also integrated walking methodologies to capture "vital, sensory, material, and ephemeral intensities beyond the logics of representation" (Springgay & Truman, 2017, p.28). Visual and walking methodologies enable researchers to study lived experiences as emplaced in complex entanglements of "geological forms, weather, human socialites, material objects, building, animals and more" (Pink, 2017, p.88).

Although our interviews' use of biomedical categorizations of sensory systems (i.e., smell, taste, vision, touch, sound) represents a reductionist approach to understanding the lived sensory experience, we used those terms because they are

mainstream in society and were familiar concepts that all participants understood. We used these familiar understandings as a springboard to prompt participant descriptions of their lived experiences. As a result, our findings did not focus on specific responses to preferences in discrete sensory systems, but focused on participants' lived sensory experiences and the sensations that emerged when doing their occupation(s) of choice for the study.

Although this study is small and explorative, its findings still challenge prevailing assumptions regarding the sensory processing of adults with psychotic disorders and support existing sensory research in cognitive psychology (Hutchinson & Barrett, 2019), anthropology (Csordas, 1990, 2008; Howes, 2019), sociology (Bourdieu, 2004), and other disciplines. The findings reflect the lived experience of study participants and should not be overgeneralized to the lived experience of all individuals. Accordingly, the following discussion and clinical implications should be considered within the context of the lived sensory experiences of adults with psychotic disorders.

This study expands existing understandings of the lived sensory experience of adults with SMI in the community. Previous studies on the sensory processing of adults with SMI in the occupational therapy literature tend to focus on sensory modulation, sensory rooms, and other sensory-based treatments within inpatient mental health facilities (Barbic et al., 2019; Machnigura et al., 2018; Matson et al., 2021). Studies in community settings have also focused on studying sensory-based interventions to improve the clinical outcomes of adults with SMI (Wallis et al., 2018; Williamson & Ennals, 2020). This study helps fill a gap in the literature regarding how the lived sensory experiences of adults with SMI affect their participation in occupation. This knowledge is critical to improve the understandings of why adults with SMI are more likely to be doing nothing and are often excluded from important social occupations (Bejerholm & Eklund, 2006; Cella et al., 2016; Edgelow & Krupa, 2011; Krupa et al., 2003; Leufstadius et al., 2006) with devastating effects to their health (Owen et al., 2020; Strassnig et al., 2021; Vancampfort et al., 2017). By focusing on the lived sensory experience outside of clinical contexts, this study adds important understandings of the positive sensory experiences of adults with SMI and how to harness those experiences to support participation.

Findings related to polysensoriality challenge assumptions that the senses operate in isolation from each other and encourage therapists to carefully consider the real-world context through which those sensations occur (Howes, 2019). Despite being asked to identify isolated sensations that were noxious or salubrious, participants always qualified those sensations with additional sensory quale (within and across sensory systems and contexts) which altered how the first sensation was experienced. Findings show that the *lived sensory experience is a gestalt sensation involving a complex intersection of the senses (within and across sensory systems) that emerges through a person's everyday doings (current and historical) and being-in-the-world*. In occupational therapy, the gestalt lived sensory experience of a client's real-world context and

everyday doings is unavoidably different than those presented in clinical environments, therefore assessment in a client's real-world environment will likely reveal different findings and subsequent intervention strategies than when performed in clinical environments. This finding suggests occupational therapy practitioners in mental health settings would benefit from observational guides to improve the assessment of sensory processing across real-world contexts to avoid overly simplifying and categorizing a client's sensory processing. For example, occupational therapy practitioners could use an observation guide that orients practitioners to assess the sensory features of an occupation in context while a person engages in that occupation. Although the Adolescent/Adult Sensory Profile (AASP; Brown & Dunn, 2002) is used to assess the sensory experiences of adults with SMI across multiple systems and contexts, it is a sensory history questionnaire that relies on client reflection and does not assess sensory processing at the moment. The AASP could be enhanced with observational guides to help occupational therapy practitioners and their clients explore their lived sensory experiences in real time.

Findings related to sensory habits and their relationship to the aesthetics of everyday life illustrate the historical and socio-cultural origins of some sensory preferences. This challenges the assumptions regarding sensory preferences as having a primarily biological origin in the neural machinery of a person. Although the biological origin of some sensory preferences is unquestionable, this study suggests that therapists should also be mindful of the various lived experiences and sociocultural influences that become embodied as aesthetic preferences and as pre-reflective intentionalities toward being-in-the-world (Bailliard et al., 2022; Csordas, 1990; Dewey, 1896; Hass, 2008; Merleau-Ponty 1964). Indeed, participants reported experiencing sensory quale differently depending on the situation and the aesthetics of those experiences were predicated on their embodiment of past sensory experiences that were imbued with affective content. Many sensory preferences identified by participants were related to what *feels right* instead of a conscious objective evaluation of bodily comfort. These *feelings* are embodied as an aesthetic preference through a person's history of engagement in everyday occupations through dynamic sociocultural milieus. They are not isolated sensations devoid of contextual meaning and application. The sociocultural and experiential influences on sensory habits demonstrate the need to assess sensations as lived experiences and not through a reductionist biological lens that isolates discrete senses out of a person's real-world context. These findings also support the idea that people develop aesthetic preferences for doing that go beyond normative expectations for the beauty of things and, instead, involve personal conceptualizations of the beauty of doings. An aesthetic experience of occupation occurs when a person's expression of that occupation adheres to pre-reflective internationalities toward sensorial experiences and doings that shape the unfolding of occupation and a person's being-in-the-world.

The existence of sensory habits also suggests that they could play a significant role in intervention. Sensory anchors

(i.e., pre-reflective sensory experiences serving as familiar markers signaling that the occupation is proceeding as expected; Bailliard, 2015a) could also be used in therapy to support clients' occupations. For example, interventions could focus on intentionally exploring and developing sensory anchors so they can eventually become subconscious habits that support and guide occupation. Occupational therapy practitioners could help clients identify sensory experiences that serve as guideposts for performing an occupation and anchor the person in the experience of being-in-the-world. Further, existing approaches to sensory modulation in occupational therapy could integrate the concept of sensory anchors and sensory habits to raise client awareness of their sensory experiences and how they affect their occupations.

Study participants also demonstrated that they were active sensory beings who exercised agency in evoking desired sensory experiences through occupation. This challenges prevailing assumptions in medicine that humans are passive recipients of environmental sensory stimuli and that integration occurs after the reception of said stimuli. It also challenges assumptions that behavioral responses are *in reaction to* a sensory stimulus (i.e., stimulus-response paradigm) and, instead, reinforces conceptualizing sensory experiences as part of an ongoing lived experience involving a person who is already being-in-the-world and living sensory experiences prior to the emergence of any new stimulus. Indeed, the lived experience of study participants parallels findings from cognitive psychology (Hutchinson & Barrett, 2019), anthropology (Csordas, 1990, 2008; Howes, 2019), sociology (Bourdieu, 2004), and other disciplines arguing that humans orient themselves to their environments in ways that, pre-reflectively, have already culled their sensory environment prior to conscious experience. In this view, occupation is an expression and actualization of pre-reflective sensorial intentionalities and orientations toward being-in-the-world.

This study provides an additional perspective for understanding the sensory experiences of adults with SMI. The biomedical model has dominated mainstream understandings of sensory processing which has resulted in assessment and intervention practices that are overly reductionistic and do not reflect the dynamic lived sensory experiences of people in real-world environments. Despite widespread uncritical uptake of the representational theory of cognition and stimulus-response paradigms, these have received significant criticism for portraying sensory processing as ahistorical, acontextual, and asocial (Bailliard et al., 2022; Csordas, 1990; Dewey, 1896; Dreyfus, 2002; Fuchs & De Jaeger, 2009; Hass, 2008; Merleau-Ponty 1964; Meteyard et al., 2012). Research in cognitive psychology and neuroscience is increasingly supporting the embodiment paradigm, which holds that sensory and motor information are a part of cognitive processing (Meteyard et al., 2012). For decades in anthropology, many scholars have embraced the embodiment paradigm to understand how humans incorporate sociocultural practices of being and doing in everyday life (Csordas, 1990, 2008; Howes, 2019). There is emerging occupational therapy research that has shown that, in addition to

being biological, sensory experiences are also informed by sensory habits which are embodied through lived experiences with situated occupations (Bailliard, 2015a; Bailliard et al., 2022). Sensory experiences emerge in particular socio-cultural and temporal contexts through occupations, guided by dynamic, co-constitutive habits that develop through repeated "doings" that inform the individual that they are doing the occupation in a way that feels right and intuitive (Bailliard, 2015a).

Strengths and Limitations

This study had a small sample size ($N = 6$) and researchers must not generalize findings from this study to the entire population group of adults with SMI. However, we collected an extensive volume of data on the sample through a variety of methods, as part of our interest in enacting epistemological pluralism (Kinsella, 2012) in research and thinking about diverse ways of knowing and representing lived sensory experiences. A significant strength of our study was its participatory nature—participants were empowered with choosing what was observed and were encouraged to emphasize their lived experiences and priorities. Study findings are limited by the methods chosen for this study. Although a phenomenological approach allowed for a rich exploration of the research question, findings would have been strengthened by incorporating quantitative instruments to measure the relationship between sensory experiences and occupation. The study would also have been strengthened by incorporating member checking to confirm or challenge findings. However, study methods were ceased due to COVID-19 and the research team was unable to pursue further contact with participants to check findings.

Conclusion

We explored how the lived sensory experiences of six adults with psychotic disorders related to their occupations using Walking with Video, photo-elicitation, video elicitation, and semi-structured interviews. Analyses revealed the following thematic understandings of their sensory experiences during the occupation: polysensoriality, embodied aesthetics of everyday life, habits of sensing and sensory anchors, and active sensory beings. Participants' occupational experiences were polysensorial (within and across sensory systems) and were comprised of multiple varying and transacting sensations each contributing to the gestalt of the experience of occupation. Sensations were never experienced in isolation and the lived experience of sensations was affected by other sensations at the moment and previously lived sensory experiences. Participants also reported embodying repeated past sensory experiences during occupations to form expectations for sensory experiences that were affective and aesthetic (i.e., related to what doings are personally appealing and how they should be performed). Participants' experiences of whether their occupations felt right were affected by their sensory habits and expectations. These habits also consisted of using sensory anchors as pre-reflective guideposts for the progression

of their occupations. In addition to doing so prereflectively, participants also actively used sensations to affect how their occupations unfolded including related affective experiences.

Understanding lived sensory experiences as polysensorial, agentic, aesthetic, and comprised of embodied habits, has the following implications for occupational therapy practice with adults with SMI. The evaluation of sensory processing must go beyond a contextual standardized assessments to understand the lived polysensorial experience in real-world contexts as a biological process that becomes meaningful and aesthetic through sociocultural experiences. Sensations vary in meaning and impact on occupation depending on context and the presence of other sensory qualities; therefore, overgeneralizing the impact of a particular sensation across a client's various contexts is problematic. Structured observational guides could assist practitioners in improving the assessment of the sensory processing of their clients across real-world contexts by guiding their analyses to sensory-specific phenomena during their observations of a client's occupations. Practitioners could assess the role of sensory habits and sensory anchors in how their clients perform their occupations. Sensory anchors could also be developed to support and guide occupations. Practitioners could help their clients develop self-awareness of their sensory anchors and aesthetic preferences for occupation to enhance their ability to leverage them to support their occupations.

Key Messages

- Sensory experiences and related aesthetic preferences vary in meaning and impact based on a person's occupational history.
- The evaluation of sensory processing must go beyond standardized assessments to include observations and/or interviews.
- Occupational therapy practitioners can use sensory anchors and aesthetic preferences to support the occupation.

Declaration of Conflicting Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and or publication of this article.

Ethical Approval

Study procedures were approved by the Institutional Review Board at the University of North Carolina at Chapel Hill (IRB# 18-0765).

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