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# A Study of Engagement in Active and Passive Roles in Casual Leisure Occupations

## Abstract

**Background:** This article explores whether engagement with listening occupations varies depending on the occupational role or the level of sensory stimulation presented to participants with neuropalliative conditions.

**Method:** The study used a multiple case quasi-experimental study involving marginal-participant time-sampled observations of engagement of individuals with neuropalliative conditions, with casual leisure occupations using the Individual Child Engagement Record. Data was collected using the Individual Child Engagement Record with 14 participants (who had Barthel scores averaging 7/100). The participants represented a particular sub-group of individuals with profound levels of neurological disability.

**Results:** The time-sampled observations of engagement showed a significant difference between the scores for the control condition, engagement in a potentially active role at a music-making group, and engagement in a passive audience role when listening to an audio recording. Therefore, passively listening to an audio recording appears to be less engaging than the potentially active role offered by the music-making group for participants with neuropalliative conditions.

**Conclusion:** The small sample size and the use of a single observer without video recording backup compromised the reliability of the data while complying with the facility's POVA policy. Switching on an auditory recording or broadcast, while easy to arrange, may not be sufficiently engaging to prevent boredom and occupational deprivation. Consideration of an individual's sensory, support, and role preference should be undertaken when designing leisure occupations for individuals with neuropalliative conditions rather than simply switching on an audio recording or broadcast.

## Keywords

Casual leisure, occupational engagement, engagement, passive, potentially active, leisure, neurological, disability, neuropalliative, leisure occupation.

## Credentials Display

**Anne M. Fenech, DipCOT, MSc (geront), MBA, PhD**

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Due to improved survival rates and greater longevity, the incidence of neurological disabilities is increasing (Neurological Alliance, 2014). Therefore, individuals with disabilities are living longer with greater impairments and fewer occupational choices (Monti et al., 2010). More than 12 million individuals in the United Kingdom have significant neurological disabilities (Neurological Alliance, 2014). Neuropalliative conditions (NPCs) (Turner-Stokes et al., 2007) include rare neurological conditions, as well as common conditions in their advanced stages.

Participating in satisfying leisure activities is the goal of many individuals who cannot return to their past employment. Fenech and Shaw-Fisher (2012) have suggested that societal attitudes could enforce dependence by requiring permission or support for leisure engagement, depending on what is deemed appropriate, earned, or available. Fenech (2013) has suggested that disparity remains for individuals with an NPC, a disparity influenced by society's apparent attitudes to profound disability and government policies about enablement, both of which may influence occupational engagement.

Arguably, a lack of leisure engagement influences quality of life. Being immediately and intrinsically rewarding, casual leisure occupations, such as making or listening to music, require little or no skill to enjoy (Stebbins, 1997). However, individuals with an NPC experience many barriers to leisure engagement.

### **Literature Review**

A systematic literature search strategy identified articles on psychology, therapeutic recreation, neurological rehabilitation, and occupational therapy that were published in

English from 1990-2012. One area of literature explored was impaired sensory gating or sensory processing. Occupational therapists acknowledge the presence of sensory integration, sensory processing, and sensory modulation disorders, all of which alter responsiveness to sensory stimuli. Similarly, an NPC may reduce an individual's ability to respond to undifferentiated stimuli, such as those experienced during casual leisure occupations (Arciniegas et al., 1999). This undifferentiated stimulation influences cognition, attention, memory, sensory motor functioning, and processing capacity (Kumar et al., 2005).

Howell (1999) suggested that a combination of the environment and a health condition could overload or deprive an individual of sensory stimulation. This overload or deprivation could lead to hallucinations, reduced concentration, anxiety, and confusion (Howell, 1999). Similarly, Arciniegas et al. (1999) and Freedman et al. (1994) suggested that inattention and perceptual and memory problems result from damaged sensory gating/processing. Sensory gating, therefore, influences sensory processing and, consequently, occupational performance. Other research conducted into the effects of sensory gating deficits has included many NPCs, such as Huntington's disease (Uc, Skinner, Rodnitzky, & Garcia-Rill, 2003), multiple sclerosis, Parkinson's disease (McCarley et al., 1997), and head injury (Kumar et al., 2005).

Creek (2010) defined occupational engagement as the involvement, preference, positive meaning, and commitment to occupational performance. An individual or an observer may perceive occupational engagement differently given the interaction among the

individual, the environment, and the individual's motivation (Creek, 2010; Nilsson, 2006).

Therefore, according to Nilsson (2006), only the individual can truly describe his or her engagement experience. Nilsson's suggestion is challenging given the cognitive and communication difficulties experienced by individuals with an NPC.

Seekins, Ipsen, and Arnold (2007) suggested that observation of engagement is the preferred outcome measure for rehabilitation, which influenced the methodology they used. Occupational engagement requires attention and absorption (Rothbard, 2001). However, both require concentration, which may be restricted by cognitive limitations. Engagement also has been associated with motivation, choice, and meaning (American Occupational Therapy Association, 2002). The demonstration of engagement can include passive attention or physically active participation (Kishida & Kemp, 2006).

Occupational engagement supports health and well-being (Wilcock, 2006), while its lack has the potential to do harm. Engagement in occupations is an innate human need (Wilcock, 2006). For individuals with profound levels of disability, however, the tendency is to withdraw from all but the most passive of occupations (Farrow & Reid, 2004). This withdrawal may occur when sensory overload renders them unable to retire completely or because they prefer a passive audience role. Active occupations may be carried out on behalf of these individuals (Nyman & Lund, 2007), leaving leisure engagement as the only opportunity for occupational performance available to them.

Leisure engagement matters; without it, life satisfaction falls markedly (Backman, 1991), leading to consequences that may be injurious to health and well-being. Also, occupational deprivation matters because it might result in active or passive nonengagement in the shorter term. In the longer term, it might lead to negative effects, such as imposed dependence, lower mood, a lack of social acceptance and social status, reduced abilities, loss of self-identity and a diminished sense of self-efficacy, and social isolation (Fenech & Shaw-Fisher, 2012).

Self-determination in relation to leisure is challenging because the bio-psychosocial and sensory environment may influence occupational performance in addition to an individual's preferences (Jonsson, Josephsson, & Kielhofner, 2001). Therefore, participation is not entirely a matter of individual choice and personal responsibility. Accessibility may influence engagement (Verghese, 2006), especially if being easily accessible depreciates it, turning a leisure occupation into an imposed, arbitrary, or easy option for supporters to provide. Additionally, leisure for one individual may not be leisure for another (Taylor, 2008). The level of support received and a desire to prevent boredom may influence engagement. The timing or sense of time passing could also be a factor, since occupations are a way of using time. Another influencing factor could be the participant's sense of altruism or the individual's interest (Yerxa, 2002), the meaning of the occupation, and his or her sense of occupational balance. Other factors could include the novelty of an occupation, the participant's occupational capacity, the complexity of the occupation, and the occupational role offered.

## Method

### Purpose of the Study

This study compared the engagement of a group of individuals living with an NPC with a control condition, a potentially active leisure role, and a passive leisure role (each condition described later). This was done to determine whether occupational engagement alters with different numbers of sensory modalities. Data collection occurred during each single (non-replicable) short-term experience. These data formed part of a larger study (Fenech, 2013) comparing engagement across eight different casual leisure occupations, each with different numbers of sensory modalities and published separately (e.g., Fenech, 2012), acting as pilot studies for a multi-center study.

### Methodology

A quasi-experimental methodology was used to avoid the need for random selection, which could have changed a self-selected leisure opportunity into an imposed occupation (Cook & Campbell, 1979). Case-based studies do not seek to control the variables in any occupational context; instead, they involve separate “experiments,” repeated differently each time (Yin, 2013). In this instance the variable (engagement by a group) arose from the conditions (leisure occupations), which varied in the number of sensory modalities involved. The conditions used were a convenience sample of typical casual leisure occupations provided for a group of profoundly neurologically disabled individuals, thus offering a combination of distinctiveness and relevance to the real world.

### Participants

The participants of this study were permanently, progressively, and profoundly disabled individuals who relied on others for their self-care, productivity, and leisure. Their leisure participation included passive roles (Nelson & Gordon-Larsen, 2006), living life through others (Hocking, 2000), and potentially experiencing occupational deprivation (Wilcock, 2006).

The 14 participants (five men and nine women) were residents of a residential care facility (i.e., not undergoing rehabilitation) who had consented to participate in the study. They ranged in age from 22 to 74 years. The mean modified Rankin Scale (mRS) score of the study participants was six, and the Barthel Index score was 7/100. Thus, their scores were lower than Gupta, Connolly, Mayer, and Elkind’s (2004) description of severe disability (mRS score of four to five or Barthel Index score < 60/100). It was concluded, therefore, that the participants were experiencing profound levels of disability.

### Procedures

The University of Roehampton and the Director of Clinical Services of the facility granted ethical approval for the study. The inclusion and exclusion criteria for the study focused on the participants’ ability to give consent and their choice to attend the occupations. The participants were free to choose the leisure occupations in which to engage. The conditions observed had some common and some unique members, but always a core group of the same 14 participants. These 14 participants consented to observation and undertook both the occupations and the study’s control condition to generate a valid comparison between leisure occupations.

The participant inclusion/exclusion criteria included:

- Inclusion criteria
  - Residents who consented to participate
  - Residents who participated in all conditions for 45 min
- Exclusion criteria
  - Residents who did not participate in all conditions
  - Residents who withdrew from the condition before the end of the 45-min observation period
  - Residents who did not consent to participate in the study

Exclusion of non-core participant data occurred because some residents had attended some, but not all of, the conditions or had withdrawn from the condition before the end of the observation period.

Momentary time sampling (for one minute, every five minutes) involved observations of engagement for each of the 14 participants for 45 minutes per condition. Pilot studies have supported that this time span is how long it took the observer to rotate his/her observation around all the participants in turn. A single marginal-participant-observer (Robson, 2011) using a structured observation format captured the engagement of the same participants in all three conditions. The role adopted by the investigator (in this case, a marginal-participant) was as important as the structure of the data collection. More formal and structured approaches (such as the one used) steer the observer's attention toward the data to collect. Participant-observer roles range from full participation (becoming part of the context), to being a marginal-participant who is

present but does not join in the activity, to being an unnoticed "pure" observer with no interaction within the context.

Observation of the participants' engagement occurred during (a) a control condition, (b) engagement in a potentially active role in a music-making group, and (c) engagement in a passive audience role when listening to an audio recording. This produced 140 data points per condition, using five engagement codes:

- **Active Engagement:** participant actively interacts with the environment appropriately by manipulating materials or making sounds.
- **Passive Engagement:** participant interacts with the environment without manipulation or making sounds.
- **Undifferentiated Engagement:** participant interacts with the environment automatically (i.e., in a repetitive manner).
- **Passive Nonengagement:** participant does not interact with the environment as expected during the activity.
- **Active Nonengagement:** participant interacts with the environment in an inappropriate manner by manipulation, movement, and/or making sounds.

The small sample size and the use of a single observer without video recording compromised the reliability of the data, but complied with the facility's protection of vulnerable adults (POVA) policy.

### **Instrument**

Kishida and Kemp's (2006) Individual Child Engagement Record (ICER) is a measure of observed engagement designed for use with

individuals who cannot report their own experiences. Thus, it is ideal for use with a population with such complex needs. The ICER was designed to measure engagement with individuals, with individuals in groups, and with groups. Its inter-rater reliability was suggested to be  $k = 0.77$ ,  $p < .001$  (Kemp, Kishida, Carter, & Sweller, 2013). Kishida, Kemp, and Carter (2008) also reported 91.4%, an acceptable mean level of inter-rater agreement ( $k = 0.73$ ) when coding grouped engagement and grouped nonengagement. Additionally, the ICER was deemed applicable for use in determining occupational engagement regardless of age.

The ICER is simple to administer in a consistent manner using a time-sampling methodology. The ICER's engagement category definitions are unambiguous, being designed for use with participants with cognitive, physical, and communication challenges.

The ICER's original validation did not include adults, either with or without an NPC. However, the engagement categories defined by Kishida and Kemp (2006) are stable states. This stability makes the ICER appropriate for validating its use with other age and diagnostic groups. One weakness of using the ICER with adults living with an NPC includes the difference in developmental stages between children and

adults. Individuals with an NPC develop and lose skills as they age because of their condition. However, adults and children engage in some similar activities because engagement has stable qualities whatever the age of the engager.

The ICER measures engagement using definitions of active and passive, engagement and nonengagement that are applicable across age groups. This reflects similarities in engagement categories in toddlers (Aguiar & McWilliam, 2013), young children (Kemp et al., 2013), students (Gross, 2012), and adults (Timonen, Kamiya, & Maty, 2011). The ICER measures engagement with individuals in groups, making it suitable for this study, where as communication and movement limitations isolated an individual within a group situation. Although other tools were explored, none were deemed appropriate for the purposes of this study. For example, Mackenzie (2011) described eight leisure assessments used by occupational therapists, but none were suitable for use with individuals with an NPC.

### **The Cases/Conditions**

Each condition in this study involved a different number of sensory modalities. Table 1 illustrates the presence of each sensory modality offered.

**Table 1**  
*The Sensory Modalities of Each Condition*

Occupation	Control Group	Listening To Audio Recording	Music-Making Group
Smell			
Hearing	?	✓	✓
Taste			
Touch/Temperature			✓
Seeing	?	?	✓
Proprioceptive			?
Vestibular			✓
Minimum Sensory Modalities	0	1	4
Maximum Sensory Modalities	2	2	5

Note: ✓ = definitely/for all; ? = possibly/for some

The number of sensory modalities represented in each condition was more important to study than the combinations of sensory modalities presented. The number of sensory modalities was determined using a binary contingency approach to recording presence (present/not present), whatever its intensity, location, or duration. A description of each condition follows.

**Control Condition**

The control condition occurred in a large semi-dark day room in the early afternoon. There was no background noise and the only person present other than the residents was the researcher,

who moved very slowly and quietly so as not to disturb the residents. Special consideration for those who were at risk of fitting, choking, or experiencing respiratory distress was continuous. The participants could have habituated to the touch of clothing or equipment. Proprioceptive stimulation was limited due to poor motor control. The participants had no performance demands made of them and no resources, tools, materials, or equipment were required. The data collector sat where each participant was observable unobtrusively.

**Passive Condition**



The passive condition occurred in the participant's own semi-dark room, with the doors closed to reduce external stimulation. The only person present other than the participant was the researcher, who tried not to disturb the participant by locating herself where she could see the participant, but far enough away to reduce intrusion. The participant was sitting or lying in a chair or bed and was encouraged to be still to reduce stimulation. The only sound was that of the recording (five audio books, six pieces of music, and three radio plays). This condition involved the participant listening to an audio recording of his/her own choice as a primary occupation. Staff regarded this as an accessible occupation for even the most severely disabled participants. Therefore, it may potentially be over-used by those who care for individuals with an NPC. In a laboratory situation, this condition would have involved the participants being in a darkened, sound-proofed room similar to the one used.

The performance requirements for the passive condition included listening and concentrating to understand the recording. The precautions and contraindications for the condition included controlling the sound level—to be loud enough to hear, but not loud enough to interfere with others or to be uncomfortable for the participant. The chosen listening material was each participant's own; it varied according to their age, culture, gender identification, and personal preference, which may have contributed to the observed outcomes. There were no physical demands on the participants during the condition. The communication demands included agreeing to or requesting to listen, the selection of recording,

and communication with supporters facilitating the condition. The physical demands included sitting or lying still and being isolated to facilitate concentration on the recording. Concentration, attending to, understanding, and following the recording and visualizing the context of the recording were all cognitive demands placed upon the participants by this condition.

The resources required included supporters, audio equipment, a dimly lit and quiet location, a comfortable temperature, and positioning of the participants to help them remain alert and able to concentrate. The condition occurred against a background of habits, routines, and roles. The participant's role was to be a physically passive absorber of sounds. This absorption required processing to understand and perhaps reflection to link interests, roles, and/or a continued interest. The participant could have listened routinely to a radio show or a book. Consequently, what they heard would continue from past experience and into the future.

### **Potentially Active Condition**

The potentially active condition was a regular weekly event, facilitated by a volunteer disk jockey (DJ), which included shaking or banging simple musical instruments. Well-known music encouraged participation, such as humming along or wheelchair dancing with their attendant. The participants requested the music to be played. During the observations, the researcher sat facing the group with the DJ, apparently helping him.

The participants could experience auditory, visual, tactile, vestibular, or proprioceptive stimulation. The condition occurred in a big public space, but with the door closed to reduce outside stimulation. The

participants had the opportunity to hear the music, sing, and play musical instruments. The conversations between supporters and the participants added to the noise. The room was at a comfortable temperature for non-mobile participants. The likelihood of detecting touch sensation in response to movement within wheelchairs and clothes declined with the participants' limited mobility. Banging the musical instruments, nodding, or swaying could have caused proprioceptive and tactile stimulation. The participants who danced could have experienced vestibular stimulation as well.

In a laboratory situation, this condition would have occurred in a context similar to the one offered to reduce extraneous visual, tactile, and auditory stimulation. It also could have been possible to collect data about a single participant interacting with a DJ or even to have the music provided by a source outside the room so that there was no one with whom the participant could interact. However, given that the music-making group was a social activity, the participant may have felt embarrassed, aware of the observation, and, therefore, not behaved naturally. This condition brought with it the opportunity for intergenerational leisure since the participants' visitors joined in, potentially influencing engagement.

The physical and communication demands of the condition included limb movement, singing, or chatting while others remained physically passive. Other demands of the condition included using musical instruments and directing wheelchair dancing. Socially acceptable conduct included reducing disturbance to other participants. The cognitive demands included

recognition and memory of the words or tune. Using the musical instruments required an understanding of how to make a sound with the instrument. Communication was a prerequisite to seek assistance, discuss their experience, or sing along. The music requested did not reflect the cultural background of any single participant. The participants attended regularly and chatted with the DJ or their supporters about the music, their requests, and their preferences.

### **Data Analysis**

Data analysis was based on theoretical propositions, with a descriptive framework to identify links and test explanations (Yin, 2013). Following data collection, the raw score for each individual at each data collection time point was coded numerically and displayed using an excel spread sheet with other group participants to present the entire groups' data. Descriptive statistics and graphic displays were used first to explore the data. Data analysis therefore included pattern matching and explanation building. Pattern matching compared the anticipated pattern and actual data (Trochim, 1989). Pattern matching involves no precise comparisons between data, focusing on the pattern overall, highlighting the trends that occur in the results and the extent to which a pattern appears rather than statistical tests (Yin, 2013). Building an explanation followed, resulting from the unanticipated patterns presented (Yin, 2013). This style of analysis was conducted because the researcher was not concerned about the strength of the relationship, merely that there could clinically (rather than statistically) be an association occurring. The study occurred with a group of participants rather than individuals because the

researcher had noted that many of the casual leisure opportunities offered to the participants were offered from a menu.

**Results**

Figure 1 shows the mean and median group engagement scores for each of the

conditions from each 45-minute session observed. The levels of engagement for the control condition were substantially lower than for the other conditions. Additionally, the mean level of engagement appeared to increase as the sensory modalities increased.

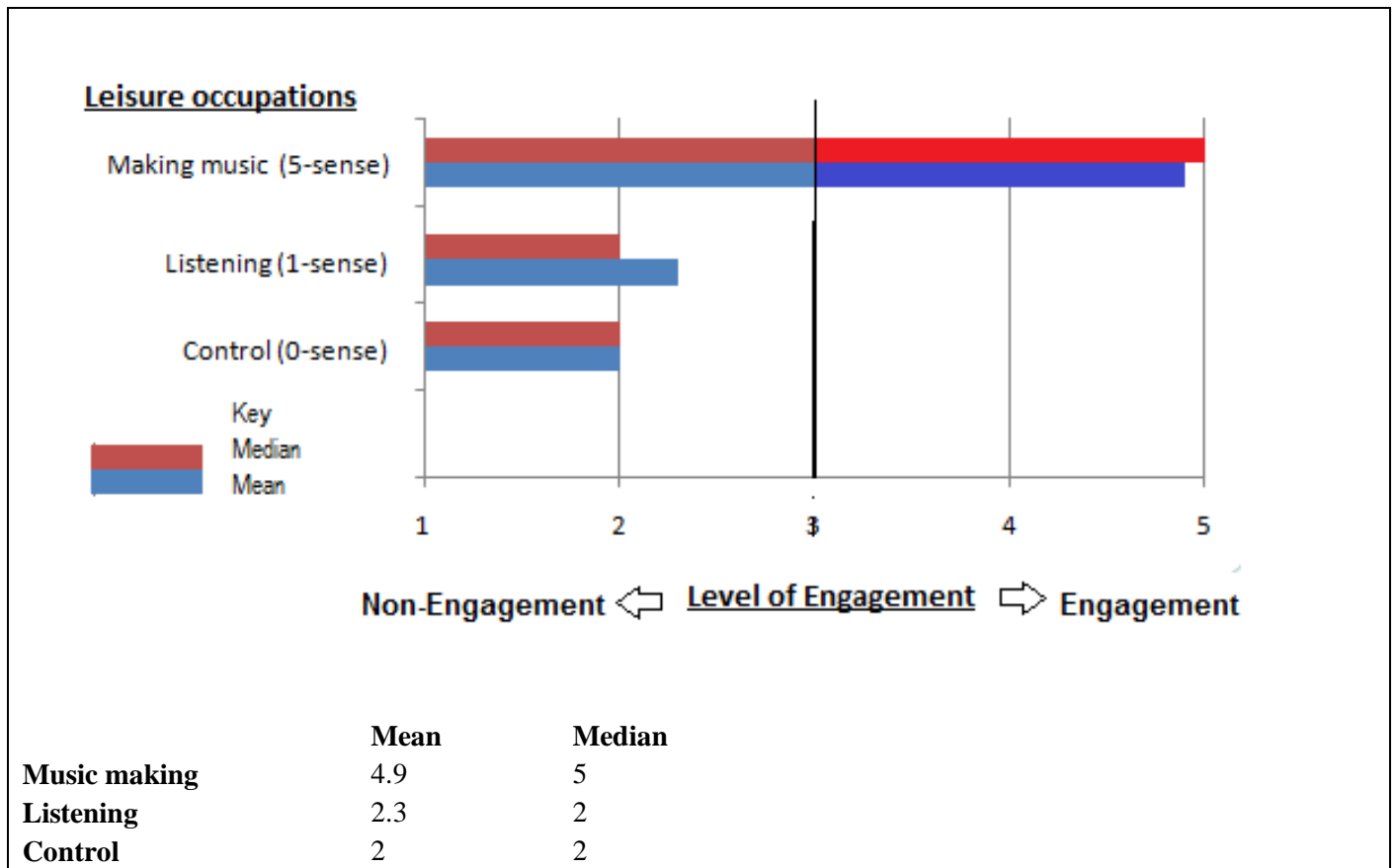


Figure 1. Mean and median participant engagement levels across occupations. Key to the engagement scores: Active nonengagement, 1; Passive nonengagement, 2; Undifferentiated engagement, 3; Passive engagement, 4; Active engagement, 5.

The differences in engagement categories became visible because the ICER produced ranked categories. Medians are presented for this study because it is the categories that are important, not the code value itself or the frequency of the values attributed to each individual. The rank position corrects for bias and distortion, outliers, and other anomalous distributions, as well as unequal intervals between points on a scale. Therefore, bar charts, tables, and narrative present the data, rather than relying on statistical significance only.

Table 2 presents a comparison of minimum and maximum sensory modalities, the supporter-to-participant ratios, and the passive or potentially active nature of the condition. It also demonstrates that a low supporter-to-participant ratio was observed in the control condition (0:1) and the passive condition (0:1). Conversely, a mid-level supporter-to-participant ratio occurred during the active condition (.75:1).

**Table 2**

*Comparison of Minimum and Maximum Sensory Involvement, Supporter-to-Participant Ratios, and the Passive or Potentially Active Status of Each Condition*

	<b>Control Condition</b>	<b>Listening Activity</b>	<b>Music-Making Group</b>
Supporter-to-Resident Ratio	0:1	0:1	0.75:1
Supporter-to-Resident Ratio Groups	Low		Mid
Novel/ Frequent	Frequent	Frequent	Frequent
Physically Active/ Passive	Passive	Passive	Potentially Active
Minimum Senses	0	1	4
Maximum Senses	2	1	5
Median Engagement Category	2	2	5

### **Discussion**

Significantly, the control condition was nonengaging throughout, the passive condition was passively engaging, and the potentially active condition was actively engaging. Additionally, differences in the sensory content of the casual leisure occupations observed may have significantly contributed to the participants' engagement. Conversely, the observed increase in engagement with the higher number of sensory modalities in the active condition may have resulted from other factors in the occupational environment. These could have included supporters' attitudes toward enabling the participant's leisure and the role supporters offered compared to the participant's role preferences. Other factors may have included a preference for (safe) independence in the audience, as opposed to the need for support as a participant or personal interest/ preference.

This study involved a group of participants rather than individual participants. The study sample reflected the belief that casual leisure opportunities offered at the facility occurred in groups. While the leisure opportunities offered

focused on NPCs in general, they did not take into account the individuals' sensory preferences. The conditions observed varied in terms of their supporter-to-participant ratio, as shown in Table 2. The control condition involved a passive role, whereas in a music-making group the participants had the choice to take a passive or an active role. These two conditions also varied in the number of sensory modalities provided.

The results from the statistical tests suggested that the potentially active condition had significantly higher engagement levels than the passive condition. The passive condition, in turn, had significantly higher engagement levels than the control condition.

### **Clinical Implications**

Engagement in leisure occupations matters for individuals with an NPC because without it life satisfaction has been suggested to fall markedly, leading to negative consequences. The opposite, occupational deprivation, matters because it results in active or passive nonengagement in the shorter term, with altered patterns of time use. In the longer term, it leads to negative effects, such as imposed dependence,

lower mood, reduced abilities, loss of self-identity, and social isolation. So having little or no leisure engagement may negatively influence life satisfaction. The findings of this study suggested that a potentially active role led to a higher level of engagement than a passive role.

The observation data suggested that the number of sensory modalities influenced engagement in casual leisure occupations in combination with other contextual factors (Brown & Dunn, 2010). For example, personal interests/preferences or insufficient adaptation to allow participation may have influenced engagement. Furthermore, the importance of preventing boredom, of time passing, or of the participants' sense of engaging altruistically (e.g., to thank a supporter for arranging a special event) may have been a factor (Borell, Asaba, Rosenberg, Schult, & Townsend, 2006). Additionally, the sense of experiencing an occupational balance may be important, as well as the meaning of the occupation for the participant (Fenech, 2013). Other factors contributing to the occupational context might have included the novelty, ability required, and the complexity of the occupation.

Therefore, consideration of the contextual factors, the occupation itself, and the individuals' preferences in combination is crucial. For example, the number of sensory modalities and the role offered in relation to the preferred role, plus the meaning of engagement for each individual, requires consideration. Additionally, offering occupational balance and sufficient adaptation may be helpful. Other factors to note may include the novelty and the complexity of the occupation. Although this suggestion for

consideration sounds obvious, it is not always the experience of individuals partaking of a menu of leisure choices.

### **Limitations**

Many of the limitations in this study were compromises made to protect the vulnerable adults who participated. The participants represented a particular sub-group of individuals with neurological disabilities. The participants' capacity to express consent limited the sample size. The sample size limitation was inevitable given the small sub-group of individuals with an NPC.

The observation data gathered made this a multiple case study—an appropriate methodology, given that the conditions observed were casual leisure opportunities. Ideally, more than one observer is necessary to compare inter-rater objectivity. However, this would have been inconsistent with the facility's POVA Policy. Additionally, several observers may have heightened the likelihood of participants altering their conduct.

The presence of the observer may have drawn the attention of the participants since the observer attempted neither to hide nor to join actively with the sessions. The use of video would have been helpful in determining whether the engagement was with the conditions rather than other factors. However, staff regarded the use of video for research purposes as an intrusion into the participants' privacy and it has not been welcomed during other studies. Finally, data saturation (and the large amount of data collected using a time sampling methodology) may have countered the implications of the small number of participants.

## **Conclusion**

Considering the contextual environmental factors, the occupation itself, and individual preferences in combination appears vital when planning leisure occupations for individuals with such profound disabilities. The unique contribution of this study is that it examined the influence of sensory stimulation on engagement in casual leisure occupations for a group of individuals who experienced menu-driven casual leisure opportunities because of an NPC. The study occurred with a group of participants, rather than with individual participants. As such, although designed for an NPC in general, no consideration of the sensory profile of individual participants occurred, potentially influencing engagement.

This study suggests that the number of sensory modalities influenced engagement in casual leisure occupations in combination with other factors. On the surface, it appeared that the greater the sensory modalities the participants experienced, the more likely they were to engage in occupations. Arguably, some participants could have met their sensory threshold but continued to engage beyond it. This conclusion ran counter to the researcher's clinical experience of sensory overload, suggesting that sensory factors alone could not be the only influence on engagement. Consequently, consideration of the occupation, the

individual's sensory profile, and the occupational environment is vital.

It would appear, therefore, that there could be more to engagement than simply the number of sensory modalities offered by a casual leisure occupation. Some of the coexisting factors may over-rule the sensory threshold and facilitate engagement, such as those suggested by Fenech (2013) that pertain to the individual, the occupation, and the environment.

The findings of this study suggest a reduction in satisfaction resulting from background sounds when compared to the potential for an active participatory role. The findings run counter to the use of background music or "parking" an individual in front of the television in some residential care settings without ascertaining the individual's preference about what was shown. The lack of choice may be the experience of individuals with an NPC who lack mental or communicative capacity in the moment.

The findings also suggest the value of casual leisure occupations nearing the individual's sensory preferences. Therefore, consideration and accommodation of an individual's sensory, support, and role preferences is vital. This consideration may improve the leisure experience for individuals with an NPC, rather than simply having them listen to background recordings that may not be of their own choosing.

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