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## RESEARCH ARTICLE: THE MEANING OF THE EXPERIENCE OF KAYAKING FOR PERSONS WITH SPINAL CORD INJURY

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### ABSTRACT

**Engagement in meaningful activity is at the core of occupational therapy; when a person sustains a spinal cord injury (SCI), access to leisure activities that once had meaning may become limited. This study aims to gain an insider's perspective on the meaning of engaging in kayaking as a leisure pursuit for six adults with a SCI. It compares the findings to an original study by Taylor & McGruder (1995). A qualitative approach using Spradley's (1979) interviewing technique was employed.**

**A number of meaningful themes matched the original study by Taylor & McGruder (1995) and were consistent with current literature: atmosphere, achievement, adjusting, safety and physical benefits. The two unique findings of this study were the themes of sense of freedom and equality. Overall, kayaking was found to offer the participants with a SCI a unique experience to participate on equal terms with an able-bodied person, and facilitates freedom of mobility on the water.**

### KEYWORDS

*Spinal Cord Injury (SCI); Leisure; Meaning; Kayaking*

### INTRODUCTION

Active involvement in activities and roles is strongly related to health, well-being and quality of life (Pentland et al., 1999 & Schonherr et al., 2005). Chronic illness or severe disability such as a SCI can dramatically alter a person's ability to carry out normal life roles associated with self-care, productivity, and leisure. Such catastrophic change alters a person's occupational life situation, necessitating its fundamental reorganization (Kielhofner, 2002).

Different time use patterns between persons with a SCI and able-bodied individuals are well documented. Pentland et al., (1999) and Schonherr et al., (2005) found that on average disabled people spent twice as much time on self-care activities and hours spent in paid work were reduced (Schonherr et al., 2005). This coincides with an increase in time spent in leisure activities; however, there is a decrease in sports participation after a SCI (Kennedy et al., 2006; Tasiemski et al., 2006; Schonherr et al., 2005). Leisure is dominated by time spent in passive leisure pursuits (Pentland et al., 1999; Tasiemski et al., 2006; Schonherr et al., 2005).

Leisure activities are meaningful because people



choose to engage in them - they are not obligated to participate. The physical and psychological benefits of leisure are widely documented in the literature. Leisure and physical recreation has been shown to improve functional status and quality of life (QOL) in persons with disabilities (Heath & Fentem, as cited in Hanson et al., 2001). Enjoyable and personally meaningful leisure can act as a means of coping with the sudden onset of a traumatic injury (Hutchinson et al., 2003). Leisure has a self-protective role when faced with negative life events (Kleiber et al., as cited in Hutchinson et al. 2003). It can distract an individual with a permanent disability from immediate stressors associated with their situation and help to maintain their daily coping efforts (Kleiber et al., cited in Hutchinson et al., 2003).

This research explores the subjective meaning of participating in a particular leisure activity, kayaking, to participants with a spinal cord injury. This article describes the literature regarding spinal cord injury and leisure participation. A thematic analysis of the meaning of kayaking to participants is later presented and discussed.

## LITERATURE REVIEW

There is a wide range of literature about spinal cord injury and about the effects of participation in leisure for people with SCI. This section aims to review briefly some of this literature.

### Sports Participation and Spinal Cord Injury

Engagement in sport has been found to result in improved strength, endurance, balance, coordination and weight control for persons with SCI (Cooney and Walker, cited in Hanson et al., 2001). Increased activity results in improved physical competence and self-efficacy in wheelchair mobility (Greenwood et al., cited in Kennedy et al., 2006). Additionally, participation in physical activity decreases the incidence of urinary tract and respiratory infections, spasticity and pressure sores (Slater & Meade, 2004). A retrospective study by Krause indicates that participation in physical activity increases life expectancy of people with a SCI. It emphasises that high levels of fitness are linked to decreased time in bed, increased social interaction and overall improved life satisfaction (Krause, cited in Slater and Meade, 2004).

Tasiemski et al., (2005) found that respondents involved in sports demonstrated higher satisfaction with life compared to those that were not involved in physical activities. However other studies, such as those by Manns and Chad (1999) and Cushman and Hassett (2001) have not found significant

relationships between quality of life and exercise for people with a spinal cord injury (as cited in Tasiemski et al., 2005.).

Kennedy et al., (2006) revealed that participants' self-efficacy, satisfaction with leisure and motivation to engage in activities increased significantly between the start and end of an activity course. Subjects reported that they acquired confidence, a sense of achievement, new skills and friends (see also Ashton-Shaeffer (2001)). Physical activity has been reported to have a positive effect on self-image and self-efficacy in people with a disability (Katula & McAuley, cited in Kennedy et al., 2006).

### Social Integration

Habitual physical activity provides a vehicle to establish new friendships, share experiences and develop social support networks (Manns & Chad, 1999, Shepard, 1991 & Monnazzi, 1982, cited in Kennedy et al., 2006). Hanson et al., (2001) found that athletes with a SCI, scored significantly higher in an objective measure of community integration compared to their non-athletic peers attending the same camp. These findings are supported by Pluym et al. (1997), however the study was limited by lack of a control group.

### Obstacles to Engagement in Physical Recreation

Despite the above benefits, a number of factors act as barriers to the initiation and continuation of sports and recreation for people with a SCI. These include income (Lee & McCormick, 2004, Caldwell & Weissinger 1994 & Foreman et al., 1997), level of injury (Gordon, cited in Lee & Mittelstaedt, 2004, Slater & Meade, 2004 & Tasiemski et al., 2006) and lack of opportunity in communities (Kleiber et al., 1995 & Dattilo et al., 1998). Slater and Meade (2004, p.324) refer to the significance of personality characteristics stating "pre-morbid sports participation is likely the most important predictor of participation after injury and continuation of such activity".

### Kayaking and Spinal Cord Injury

The findings of Taylor & McGruder (1995) are consistent with rehabilitation literature – kayaking, as a physical activity, can aid in both the re-definition of self and coping with unstructured excess time post-injury (Taylor & McGruder, 1995). This study is limited due to the small, nominated sample. Selection of subjects was based on their interest in the topic, implying that results may be biased. All participants had a positive attitude towards their injury and experience of kayaking, which determined the resultant optimistic themes.

There is a paucity of qualitative data available to support these findings. In a study by Block et al., (2005), participants expressed pleasure in knowing that they could still kayak. However not all participants had a SCI. The study describes a recreational activity programme; methodology and results analysis are not discussed, thus the reliability of the findings is difficult to ascertain.

## METHOD

### Participants and Setting

Participants were persons with a SCI, who kayaked on a regular basis and were affiliated with an organisation that provided leisure opportunities for people with a SCI. Six participants volunteered to partake in the study following nomination by someone who worked in a managerial position for the aforementioned organisation. Their socio-demographic characteristics are outlined in Table 1.

**Table 1: Socio Demographic Description Research Design**

<b>Participants</b>	
<b>Gender</b>	Male=3 Female=3
<b>Employment</b>	Full-time work=5 Part-time work=0 Not working=1
<b>Paraplegic or Quadriplegic</b>	Paraplegic=4 Quadriplegic=2
<b>Domestic situation</b>	Living with family= 1 Living with spouse = 4 Living alone = 1
<b>Pre-morbid leisure activity participation</b>	Running=1 Climbing=3 Swimming=2 Hill-walking=1 Horse-riding=1 Cycling=1 Canoeing=1
<b>Present engagement in kayaking</b>	Weekly=3 Monthly=2 Discontinued= 1

Qualitative research is used in order to describe 'the empirical world from the viewpoint of the person under study' (Schmid, as cited in Krefling, 1991). This approach fits the aim of the study: to explore the unique, subjective experiences of individuals as they engage in a leisure pursuit. Unstructured interviews influenced by the ethnographic interviewing technique, outlined by Spradley (1979) were chosen. The essence of ethnography is concerned with 'the meaning of actions and events to the people we seek to understand' (Spradley, 1979, p.5). An unstructured interview is a type of "speech event", comparative to a casual, friendly conversation; this allowed participants the freedom to speak about all significant aspects of kayaking

hence exposing its personal meaning (Spradley, 1979).

Having reviewed the literature including Taylor & McGruder, (1995) the two researchers were cognisant of the general themes that emerge from this subject area. As the Spradley (1979) interviewing technique recommends researchers made note of words or phrases that reflected these themes and asked participants descriptive questions in order to expand in these areas. The technique utilises three types of questions; descriptive, structural and contrast. Researchers developed potential questions in each of the three types in order to develop interviewing skills.

Both researchers intended to conduct two pilot interviews. However, due to limited sample size, peer pilot interviews were held on each other and on an independent person. Having interviewed a participant each, the recordings were critiqued and recommendations made for future interviews.

### Ethical Considerations

Ethical approval was obtained from the University of Dublin, Trinity College Ethics Board. All participants signed consent forms prior to participation, having been provided with an information leaflet and letter of introduction. Strict confidentiality measures were adhered to at all times.

### Data Collection

All interviews were conducted at a place of convenience for participants. Three interviews were held in the office of the organisation that provides leisure opportunities for people with a SCI and three in participants' homes. Data was collected by interviewing participants using unstructured ethnographic interviewing techniques as outlined by Spradley (1979). They lasted approximately 30 minutes and were audio taped and transcribed. They began with a single 'grand tour question' (Spradley, 1979, p. 62) 'Tell me about your experience of kayaking?' Questions that followed were based on participants' own use of language. Researchers did not use topics or terminology that had not been introduced by participants. Participants determined the direction of the interview thereby the researchers' neutrality was enhanced.

Researchers alternated the three types of questions; descriptive, structural and contrast. The descriptive questions were used to elicit information. Specifically, guided tour questions were utilised to encourage further conversation. Structural questions were designed to illicit information about specific domains. Finally, contrast questions aimed to elicit meaning by



comparison and contrast of kayaking to other sports. This technique incorporated two complementary processes, developing rapport and eliciting information.

### Data Analysis

Thematic analysis aimed to identify patterns of participants' experiences and then categorise them into identifiable themes. Both researchers analysed data independently using the qualitative data analysis computer software program N6 (QSR). Researchers used code-recode procedure then compared their codes. When differences arose, researchers compared the code descriptions then determined the most appropriate. Sixteen codes were elicited, then synthesised into seven major themes: atmosphere, sense of freedom, achievement, adjusting, equality, safety and physical benefits. Themes were member-checked by participants, after which no changes were necessary.

### Trustworthiness

To establish trustworthiness researchers adhered to Guba's (1981) model (based on Krefting (1991) presentation) of Trustworthiness of Qualitative Research. For triangulation purposes a kayaking instructor was interviewed. Triangulation of data sources enhances confirmability and credibility. It enabled researchers to gain a greater understanding of what one experiences when kayaking and to test the strength of their findings through comparison of alternative perspectives.

Dependability was promoted by the clear description of the decision and audit trails as outlined in this methods section. Reflexivity was practised through use of the researcher's reflective log.

## RESULTS

The seven primary themes identified are presented below. Many are interrelated but are divided here to facilitate their description.

### Atmosphere

Atmosphere describes the positive emotional experience participants have when out on the water. A day on the water was described as "enjoyable", "fun", "relaxing", "freedom" and "fabulous". While the participants all enjoyed the group dynamic, the five participants that used single kayaks described the concept of "your own little world".

*"... I know runners talk about the sort of the flow. But just everything goes perfect and you feel like you could paddle forever... you just get into a stride and you either take off and leave the others behind."*

[Participant A]

*"... if you're a team person or not, you can just do your own thing anyway in kayaking, you can just kind of go at your own pace, generally you'd keep with group but pretty much you can go into your own little world."*

[Participant B]

### Sense of Freedom

The phrase Sense of Freedom was used verbatim in almost all interviews, to describe the increased mobility experienced when kayaking. The participants face constant obstacles and challenges every day when mobilising. When kayaking, they could freely explore the environment with no barriers preventing their movement over the water.

*"...It's just the freedom being able to move.... If I'm walking I've stiffness in my legs, I've trouble standing up, my hands don't work.... In the kayak you don't notice anything like that. You're just like any other person without a disability."*

[Participant D]

For both participants A and C the increased mobility was significant because of the freedom it allowed them to explore the environment:

*"... it means that I can go places that I couldn't in a wheelchair. I mean I go into the wilderness of [name of county] up in [name of lake] and go places, and into little inlets ...it's very special. It's the, I suppose it's the sense of freedom ... if I was trying to sell the idea to somebody I would say the sense of freedom."*

[Participant A]

### Sense of Achievement

The ability to do something new, do it well, and on par with able bodied kayakers gave the participants a great sense of achievement. At first the achievement was one of "I can do this", the realisation that they had the ability to successfully pursue this activity.

*"... I'd been kayaking before my accident so I kind of had a jist of what it would be like but I didn't know how I was going to work with being in the chair and getting into the kayak ... and how I was going to manage the oars and stuff like that, but it was grand.... it showed me that there is sport and stuff that I could take part in."*

[Participant E]

For most this moved onto a sense of personal challenge, kayaking gave them a way to push their



limits by undertaking longer, more difficult trips and completing them successfully.

*"I just like the challenge, ... we found that we could do it, we then did these mad trips from Ballyconnell to Killaloe, so it was the challenge of it ... we were being told that we wouldn't be able to do it, because we were wheelchair- users... that made us all the more determined...I've done the trip twice since, but the first time... it was a case of "Yeah we've done this!"*

[Participant A]

Participant E who has only kayaked twice also described the concept of personal challenge:

*"At the moment I am in a two-man kayak but I will work to the stage that I am in a one man, and then it's just a matter of go off if I want."*

### Adjustment

The fourth theme that emerged was the concept of adjustment. All of the participants talked about their sense of loss. They were all active people prior to their SCI and had lost the ability to participate in previous leisure activities (refer to table 1); this was difficult to come to terms with. At the time of the study, Participant E had only recently sustained a SCI. Before the accident she had been working as a swim instructor, she spoke of the loss she experienced when she could no longer swim:

*"... when I got into a swimming pool I couldn't swim properly. You know what I mean that's a big thing like. It kind of crushes you..."*

When asked if kayaking has helped her to adjust since her accident she responded by saying:

*"... it's kept me busy. I hate sitting down with nothing to do, I was never like that before when I was sitting at home for longer than ten minutes with nothing to do, I'd be gone out....it gives me something to look forward to so like I don't get bored.... If I had nothing to do, I'd say I probably would have gone into depression easily.."*

For many of the participants kayaking helped them broaden their horizons. Their ability to kayak opened them up to other things that they might be able to do despite their SCI, "it can give them hope" [Participant D].

*"When the accident happens and you're, told like what the situation is you're in a*

*wheelchair and you can't walk and then like your hands won't move, you can't feel....it feels really weird... it (referring to kayaking) made me think; oh I can still do this."*

[Participant E].

### Equality

In a kayak, participants are seated, no wheelchair is required and it is an upper body activity. Participants feel that whilst engaging in the activity, they are on "the same level" and are as capable as able-bodied individuals:

*"...you're all kind of on the same playing field so to speak, you're on the same level and everything."*

[Participant C]

Other participants confirmed this point

*"... because it would happen when our support teams where on the harbours people would be saying "Which is the guy in the wheelchair?" and they would say "I don't really know!"*

[Participant A]

### Safety

The next theme identified was the feeling of safety. The main fears identified were capsizing and the weather.

*"Yes its very scary... if I capsize will I come up and that was the one big fear that I had to get over especially for me as I said I can't swim any more... we had to practice capsizing, just to see how quickly you could get out and to make sure we didn't hurt ourselves.... You come up very quickly with the buoyancy jacket on anyway."*

[Participant D]

Referring to the weather:

*"..if the water's particularly rough and a wind comes from the side ... I follow in the direction of the kayak and the kayak follows me so, so really at this stage we know our limitations."*

[Participant A]

### Physical Benefits

Participants reported that kayaking contributed to their upper body strength and assisted them in their everyday activities:

*"... if you're transferring onto a bed or the loo or into your car, you're strong and you're well able and then you don't hit yourself or you don't the risk of getting any marks. So it's all very important, and you just*

*generally feel healthier.” [Participant B]*

Kayaking has developed their fitness and overall endurance.

*“... three or four hours is a good workout and it's good aerobically and it does keep you fit, but strong and fit.”*

*[Participant A]*

Participants state that kayaking and the training they engage in has improved their balance, which has made the activity easier to do.

*“...from the beginning we found it really hard to get our balance and were being pulled to one side and tended to go over a bit and were trying to counter balance all the day and after a while we must have built up more than we realised as it got so much easier”*

*[Participant D]*

## DISCUSSION

These results closely reflect themes identified by Taylor & McGruder, (1995). Five themes can be matched:

atmosphere/atmosphere, adjusting/adjusting, healthy lifestyle/physical benefits, “I can do this”/achievement and safety/safety.

### Atmosphere, Adjusting and Achievement

These themes were consistent with current literature (Hutchinson et al., 2003; Taylor & McGruder, 1995). In this study kayaking helped participants to adjust as it helped to occupy “a sudden excess of unstructured time after their injuries” (Taylor & McGruder, 1995, p. 42). Kayaking gave participants hope for the future, making them think about what else they could do despite their injuries. This is consistent with the findings of Hutchinson et al., (2003, p. 143): leisure has the “power to distract, to generate optimism about the future”. Achievement was meaningful as kayaking gave the participant’s the opportunity to be successful, which increased their confidence (Ashton-Shaeffer et al., 2001).

### Physical Benefits – Strength, Endurance and Balance

Improved strength, endurance, balance, coordination and weight control are recognised in the literature as benefits of physical recreation for persons with a SCI (Cooney and Walker, cited in Hanson et al., 2001). These are consistent with the findings of this study: participants described feeling “fit”, “healthier” and “stronger”. These findings are

echoed in the Taylor & McGruder, (1995) study, where participants reported feeling healthier and having increased strength and stamina.

Of particular interest is the inconsistent evidence on the benefits of kayaking to balance. According to Taylor & McGruder (1995, p. 43), “kayaking challenged subjects to work on improving their balance”. Improved balance was consistent with five of six participants in this study. Participant F however, felt that as a result of kayaking his “*whole balance and all that has deteriorated*”. While the cause of this deterioration has not been formally identified, he feels that it is directly linked to sitting in an “unnatural” 90 degree angle on the longer trips and reports that this “might have weakened my hamstrings”. Overall, the benefits of kayaking to participants’ balance in both studies differ and are reliant on self-report measures.

Despite being identified as a physical benefit of kayaking there is a scarcity of objective data on the possible changes in balance that take place during kayaking. Bjerkefors et al., (2007) report that dynamic balance in people with a SCI, alongside upper body stability shows significant improvement after a period of kayak ergometer training. Nine of twelve subjects in a study by Grigorenko et al., (2004) “expressed subjective feelings of improved... balance control in every day activities directly after the kayak training period” (p.116). However statistically, results indicate that individuals with a SCI may have developed new strategies for balance control utilising non-postural muscles during quiet wheelchair sitting, allowing for only limited further adaptation, even with such a vigorous training exercise as kayaking.

### Equality

Notably, equality is also not a prevailing theme in the literature; it is distinctive to kayaking, as once on the water “*everybody looks the same*” [Participant C]. In this study, kayaking has provided a vehicle in which to change social attitudes, hence reducing the stigmatising effects of participants’ disability. Shepard (1991) reports the opportunity for physically disabled people to participate in sport alongside their able-bodied peers, has a normalising affect on disability, reduces social stigmatisation and highlights their full potential (as cited in Kennedy et al., 2006).

Participant D highlights the social attitude associated with the participants. When discussing a kayak challenge she stated:

*“of course the army were involved and they were told to mind their p's and q's, and that*





*these were people with disabilities and be careful around them and sure half an hour out on the water they couldn't believe it. F'ing and blinding with the rest of us. [Laughs]."*

### **Triangulation with Kayak Instructor**

Through the triangulation of data the kayaking instructor acknowledges the similarity of the experience;

*"..on the water they are exactly the same as an able bodied person. There is nothing they cannot do that is any different to anybody else I don't think."*

She later expands on this theme, recognizing that persons with a SCI may feel conscious of their appearance when placed in another activity that does not allow such equality. According to Block et al. (2005), poor self-concept and body image associated with neurological disabilities and a SCI often inhibit the desire to participate in physical activity. In the case of kayaking, with limited adaptations in place, participants appear the same as other kayakers, thus limiting the effects of poor body image.

Both parties show similarity of character in that they all describe themselves as sporty and adventurous people, which determine their dedication to regular engagement in kayaking. The instructor further contributes to participants' descriptions by reporting that they are all positive, motivated "get up and go" characters.

Finally, in contrast, whilst participants acknowledge the social aspect of kayaking, it has not been identified as a significant meaningful aspect of their experience. On the other hand, the kayak instructor places more value on the "close-knit" social network she has acquired, the support they gives and the friends that she has made.

### **Limitations**

The unstructured nature of the Spradley technique is difficult for inexperienced researchers to implement. This study used a nominated sample and was limited to a small network of acquaintances affiliated with an organisation that provided leisure opportunities for people with a SCI (Polit & Tatano, 2004). The transferability of the findings is thus limited to this organisation.

### **CONCLUSION**

It is undisputable that active leisure pursuits are potentially instrumental in helping people cope with the challenges of traumatic illness. This study

establishes that the experience of kayaking can be meaningful for people with a spinal cord injury. Five themes identified were consistent with current literature: atmosphere, achievement, adjusting, safety and physical benefits. This study uncovers two unique themes beyond those previously identified in the literature pertaining to kayaking: sense of freedom and equality. The themes of atmosphere, adjusting and achievement were common in this and the original Taylor & McGruder (1995) study.

Kayaking highlights the meaning and value of leisure activities after such a traumatic injury. The occupational therapy process should recognise active leisure pursuits, as an important part of rehabilitation.

### **RECOMMENDATIONS**

A follow-up study on the meaning of scuba diving and other sports for persons with a SCI would establish if the themes of equality and sense of freedom are common with other sports. To enhance transferability, the study should be repeated with a larger sample size, in other organisations providing leisure opportunities for people with a SCI. Future research should include a detailed description of participants to allow for the correlation of data between level of injury and intensity of participation. Findings regarding this correlation are not fully investigated, prompting a need for further analysis (Slater & Meade, 2004 & Tasiemski et al., 2006). Where leisure does form part of the rehabilitation process, a follow-up study to investigate if individuals maintain their engagement in leisure activities post-discharge should be conducted. Literature suggests that many individuals terminate their participation in leisure activities when they return to their communities. Research to establish the obstacles to this would assist discharge planning.

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