Māori mental health consumers' sensory experience of Kapa Haka and its utility to occupational therapy practice.

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Abstract

Sensory modulation is an emerging occupational therapy intervention within adult mental health services. However, cultural variations in the use of sensory modulation have not been directly explored. In New Zealand, the traditional performing arts of kapa haka are used within Māori services as a cultural intervention. This qualitative study explored Māori mental health consumers' sensory experiences during kapa haka via in-depth interviews. Participants experienced feeling safe, being grounded in their bodies, and having an enhanced cultural identity. The findings support the use of culturally-responsive sensory modulation activities within occupational therapy practice and highlight the need for further research.

Key words

Sensory modulation, cultural responsiveness

Reference

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Sensory modulation intervention uses specific sensory input via objects, activities and environments to achieve optimal levels of arousal, assisting with self-regulation of emotion and behaviour. The intervention is gaining acceptance within adult mental health services on a national and international scale (National Association of State Mental Health Program Directors, 2009; Te Pou o Te Whakaaro Nui, 2010). However, New Zealand's bicultural social and healthcare contexts, and the higher levels of mental disorder in Māori (Oakley Browne et al., 2006), require interventions be explored for relevance

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and responsiveness to this population. While the sensory modulation approach has been explored within psychiatric populations using standardised Westernised intervention methods (Champagne & Stromberg, 2004; Knight, Adkison, & Stack Kovach, 2010), there has been no exploration of the applicability of the intervention with a diverse range of cultures, including Māori. In order for occupational therapists to provide culturally-relevant sensory modulation, research is needed to understand sensory experiences during culturally meaningful occupations and explore links between these and the sensory modulation approach. Therefore this study asked the question "What are the sensory experiences of mental health consumers engaging in kapa haka (Traditional Māori performing arts involving various forms of group-based song, actions and dance) within a Kaupapa Māori unit?" The purpose of the study was to reveal mental health consumers sensory experiences and to instigate discussion about how this culturally-meaningful occupation can be used to increase or decrease arousal levels and enable self-regulation.

Literature review

Sensory modulation interventions are derived from Sensory Integration theory, which was developed by occupational therapist and educational psychologist, Jean Ayres (1972). Underpinning the theory is an assumption that neurological processes organise multiple sensations so that an adaptive, purposeful interaction with the environment can occur (Bundy, Lane, & Murray, 2002). However, the processing and integration of sensory information can be significantly affected by stress, trauma, anxiety and other mental health symptoms (Abernethy,

2010). Recent sensory modulation practice has focused on improving emotional and behavioural responses by increasing self-awareness of sensory preferences and reactions, as well as people's self-management of sensory input (Champagne, Koomar, & Olson, 2010).

Self-regulation is a fundamental skill used to facilitate recovery within mental health settings (Rapp & Goscha, 2006). Traditionally, 'top down' approaches, such as cognitive behavioural therapy, have been used to assist with selfregulation. These involve the use of thoughts, inner dialogue and visualisation techniques to calm one's mind and physiological responses (Champagne et al., 2010). In contrast, Polyvagal Theory (Porges, 2003) and related neurobiological research suggests that sensory defensiveness or overresponsivity is brainstem based. This suggests that cognitively based approaches may not be fully beneficial for individuals who experience overwhelming responses because of instinctive reactions that originate in bodily sensation (Heller, 2003). Sensory modulation is a relatively simple and practical intervention that utilises a 'bottom-up' approach to selfregulation. It is based on the premise that physiological arousal in the body can be affected through specific sensory input, which in turn can help to calm the mind and facilitate adaptive self-management in people with mental health issues.

Sensory modulation principles and intervention strategies

In sensory modulation intervention, specific sensory input is applied to induce calm, alert states, soothe or distract the person from troubling thoughts or emotions, ground one in the moment and in one's body, create positive associations and facilitate organised and adaptive behaviour (Champagne, 2008; Sutton & Nicholson, 2011). Fundamental principles of the approach include creating a sense of safety and control, supporting expression, and the release of thoughts, energy and emotions. Sensory diets are used to improve self-organisation, essentially inducing optimal emotional or arousal states through engagement in occupations that have particular alerting and calming properties (Champagne & Stromberg, 2004).

The sensory modulation approach is viewed as cost effective, adaptable, individualised and deemed to be appropriate for working with multicultural populations (Champagne, 2008). However, sensory modulation literature commonly describes the use of Westernised sensory based tools and strategies such as weighted blankets, 'stress balls', rocking and massage chairs and scented oils (Champagne, 2008). Little attention has been given to the cultural responsiveness of the approach for ethnically diverse populations and to the potential for using traditional occupations for sensory modulation purposes within occupational therapy practice.

In New Zealand, Te Pou o Te Whakaaro Nui (National Centre of Mental Health Research, Information and Workforce Development) promote the use of sensory modulation interventions in mental health services, supporting the creation

of sensory rooms within inpatient services and facilitating sensory modulation training days and workshops. A qualitative study explored staff and service users' experience of using sensory rooms and sensory interventions within acute mental health inpatient units (Sutton & Nicholson, 2011). It found that both staff (n=40) and service users (n=20) perceived the use of the sensory modulation rooms and interventions to be effective tools for calming, facilitating personal connection and facilitating self-management. The results supported the implementation of sensory modulation intervention within New Zealand's mental health services. However, the study did not consider the ethnicity of participants nor look at cultural responsiveness of the interventions used. It did briefly state within its practice recommendations that "Sensory tools and strategies should be individualised in order to meet the unique sensory, cultural, gender and safety needs of each service user" (Sutton & Nicholson, 2011, p. 57). The scarcity of research directly exploring culturally-responsive sensory modulation interventions highlights a gap in the occupational therapy knowledge base and potential translation of findings into culturally-situated practice. Investigation exploring the impact of culturally meaningful occupation within sensory diets or recovery plans will address this.

Māori health

The *Te Rau Hinengaro* report (Oakley Browne et al., 2006) suggests that Māori have a higher level of need for mental health services compared to non-Māori. Of the 2,595 Māori surveyed, 50.7 percent had experienced a mental disorder in their lives. Higher rates of mental illness were found in lower socioeconomic areas where Māori are over-represented (Robson & Harris, 2007). Decreased access to tikanga Māori (Māori customs) and te reo Māori (Māori language) negatively influence Māori mental health (Dyall, 1997; Mark & Lyons, 2010; Rochford, 2004). Māori health, including mental health, is associated with sense of strong self-identity, and a connection to one's cultural roots (Rochford, 2004; Te Ahu Paenga, 2008). The provision of kaupapa Māori (Māori ideology) based services and interventions has been identified as essential for the improvement of mental health outcomes for Māori (Durie, 2003, 2004; Wirihana, 2008). Several Māori models of health have been developed in response to the need to provide comprehensive and culturally responsive health care (Mark & Lyons, 2010). One such holistic model, Te Whare Tapa Whā is a basic model which includes four domains; te taha wairua (The spiritual side), te taha hinengaro (The mental side), te taha tinana (The physical side), and te taha whanau (The extended family side) (Durie, 1998). Te Whare Tapa Whā has been regarded as a clinical tool where the four domains may be assessed to ascertain historical, social and psychological aspects of health (Rochford, 2004). Owing to the model's ability to represent most tribes' holistic concepts of wellbeing, and the ease of application in practice and in teaching consumers, Te Whare Tapa Whā has been incorporated into New Zealand mainstream and Māori mental health care services (Durie, 2011; Headspace, 2011; McNeill, 2009).

Although progress has been made in the development of culturally-responsive models for service delivery, Western notions of mental disorder and Westernised interventions are still privileged in health services, including occupational therapy (Whalley-Hammell, 2013). Occupational therapists have an important role to play in addressing this issue through the use of culturally-relevant occupations to facilitate well-being for a diverse range of service users. Advancing therapists' understanding of the therapeutic potential of traditional Māori cultural practices, including their potential for sensory modulation, may support more responsive service delivery for this segment of the population.

Kapa haka as a meaningful occupation

Kapa haka is a dynamic multifaceted Māori tradition grounded in the group performance of haka (War dance), mōteatea (Traditional chant), modern poi (A light ball on a string which is swung or twirled rhythmically to sung accompaniment), and waiata-ā-ringa (Action song) (Kaiwai & Zemke-White, 2004). Kapa haka is used within mental health settings as a vehicle for communication and cultural learning. An understanding of waiata and haka is associated with Māori identity through connection to whānau, hapū (Subtribe) and iwi (Tribe) (Ka'ai-Mahuta, 2010), as well as a means for developing self-esteem and confidence. Hence kapa haka's cultural relevance is situated within what is being performed. Such knowledge is passed down within the Māori culture in oratory, and waiata and haka convey history, whakapapa and current day messages to the audience (Smith, 2003).

New Zealand healthcare policy suggests that facilitation of cultural activities, such as kapa haka, within and outside of kaupapa Māori mental health services, supports cultural connection (Ministry for Culture and Heritage, 2008; Ministry of Health, 2002, Ministry of Health, 2008). Culturally-situated activities, or everyday occupations, such as kapa haka and mahi harakeke (Flax weaving), have been explored in terms of connecting with one's spirituality (Bright, 2010; Ihimaera, 2004) or from socio-cultural perspectives (Smith, 2003; Wirihana, 2008). Several studies have examined Māori consumers' engagement in kapa haka within mental health services, however no studies to date have directly explored in depth, experiences of kapa haka in relation to sensory experiences and emotional regulation.

Method and study design

This exploratory study was conducted with the aim of developing insights into the experience of kapa haka for service users in a Kaupapa Māori mental health service. The research arose out of the first author's observations while participating in kapa haka during an occupational therapy fieldwork placement at the service. It was noted that kapa haka involved strong sensory input and appeared to have an effect on participants' emotional and physiological arousal.

A qualitative descriptive methodology with an interpretive lens was used to guide the study (Magilvy & Thomas, 2009).

Because the focus was on eliciting rich descriptions of the Māori participants' experiences when doing kapa haka, analysis was informed by Te Whare Tapa Whā (Durie, 1998) and methods congruent with van Manen's (1997) methods for researching lived experience. Attention was paid to the fundamental aspects of experience, including the associated sensations, and the experience of space, time, one's body and relationship to others (van Manen, 1997).

Ethics and cultural safety

Ethics approval for this study was gained through the Regional Ethics Committee and endorsed by the Auckland University of Technology Ethics Committee. The guidelines for research involving Māori (Health Research Council of New Zealand, 2010) and the principles of partnership, protection and participation (Durie, 1998) were followed, including collaboration with the locality's cultural team, guidance from a cultural supervisor and respecting Māori cultural concepts and practices throughout the study.

Recruitment

Inclusion criteria required that participants be a resident at the nominated mental health facility, aged 18 or over, fluent in English and/or te reo Māori, and to have participated in at least 4 sessions of kapa haka. Three participants volunteered for the study after being approached by an intermediary (see Table 1). The small number of participants is in keeping with an exploratory qualitative descriptive research, which aims to highlight aspects of individual experience and may or may not be directly generalisable (Benner, 1994; Cohen, Kahn, & Steeves, 2000). All participants chose to complete the interviews in English.

Table 1: Participant profiles

Pseudonym	Gender	Age	Involvement in kapa haka at facility
Tama	Tane/Male	24	2 years
Toa	Tane/Male	30	1 year
Marama	Wahine/Female	43	3.5 years

Data collection and analysis

Semi-structured individual interviews were conducted using open ended questions. Interviews took up to 75 minutes and were audio recorded and transcribed verbatim by the first author. A Māori cultural supervisor was present at all interviews to provide guidance as needed. All interviews were held in the facility's wharenui, or meeting house, where the weekly kapa haka sessions were also held. Data gathering and analysis occurred concurrently (Graneheim & Lundman, 2004; Magilvy & Thomas, 2009) alongside cultural input to promote the study's

integrity. The transcribed participant accounts of kapa haka were carefully read and words or phrases associated with the sensory aspects of the experience were highlighted. A number of categories were identified within the highlighted text, and these were then grouped into broader themes. The Te Whare Tapa Whā Māori health model (Durie, 1998) was then used to enhance the deeper cultural meaning of the participants' experiences.

Rigour and reflexivity

The rigour of the study process and findings was promoted through regular discussion between the primary researcher and the cultural and academic supervisors. Additionally, the primary researcher maintained a reflective journal throughout the study and was interviewed prior to and following data collection to increase reflexivity. Participants were encouraged to review their interview transcripts to ensure the text reflected their experience (Magilvy & Thomas, 2009).

Findings

Three major themes were drawn from the participants' accounts of engaging in kapa haka. These were: 'Gaining a sense of connection and identity', 'Gaining a sense of physicality' and 'Gaining a sense of embodied emotion'. The following discussion introduces the themes and illustrates key elements of the sensory experiences using excerpts from participant stories.

Gaining a sense of connection and identity

All of the participants reported experiences in which they were attuned to the social environment during kapa haka. For example, Tama described being attuned to others: "I know that there are others around me. They might follow each other in how to do the actions. The space is good though... like the energy, the atmosphere..." The sensation of being with others, following actions and coordinating movements created an atmosphere of 'shared embodiment' and 'togetherness'. This in turn encouraged participation and confidence: "I am really quite introverted and being a part of kapa haka was actually an opportunity to learn to stand, and learn to participate without being so completely shy and totally self-conscious" (Marama). The findings suggest that the group dynamics had a significant influence on the participants' sensory experiences and arousal levels.

We've had 3 if not 4 distinctly different groups and with each of the groups has been a different energy... There's been contrast to another group where the guys are just full ball going 'rrrrr' and... yet in the other groups we are really like 'welcome' and we want to give you a hug. (Marama)

Participants' stories highlighted how the collective nature of kapa haka is powerful in its potential for creating an immediate sense of connectedness with others. However, the sensations of Kapa haka also fostered a broader connection to family, memories and ancestry which supported participants' cultural identity.

[It has]...been a long time since I've been in a kapa haka group, [it] brings back memories of people I used to hang with... I wasn't as fluent as my brothers and sisters, 'cause they used to go to school in Māori schools. My sisters are Māori, they know they're Māori, but me, I'm just brought up in the English way, only know the Pākehā way... sometimes I need a bit of learning of myself to learn my culture. (Toa)

Engaging in the physical act of kapa haka, learning about himself and the movements in this context, enabled Toa to reconnect with his cultural roots. Culture is within him, embodied through his childhood experiences. The physical sensations draw this out and may evoke spiritual as well as cultural connectedness, as illustrated by Marama; "I like that aspect - that I can hear my mum singing when I reach a certain note... I wonder sometimes are tūpuna [ancestors] there in that space?"

The social context of kapa haka provides a safe, supportive space, enabling participants to learn physical movements and share sensations, embodying kapa haka individually and collectively. Sensations elicited from engaging in waiata and doing the actions within the haka and waiata-ā-ringa appeared to call forth memories and positive associations of people and places from the participants' past. The findings suggest that cultural knowledge is embodied through sensations experienced by participants, which in turn promotes connectedness and affirmation of an individual's cultural identity.

Gaining a sense of physicality

In addition to facilitating social and cultural connectedness, kapa haka was a way of expressing energy and emotion through the body. The topic of mana (Power, prestige, control, authority, influence) evoked stories which portrayed a physical sense of invigoration, strength and energy, as illustrated in Toa's account:

Like built up, you know, getting ready to be strong in your kapa haka, mana reo (Powerful language), mana to ao (Powerful world) ... It [doing the haka] brings my mana out... Tense, hyped up, eyes poking out, tongue's coming out, slap my chest till it goes red, slap my arms till it goes red, scare the opponent. (Toa)

Tama also shared a story about the sense of mana he feels as an individual and also as part of the group:

I feel all staunch and tense... It's mana. Being strong for yourself, being strong for the rest of the boys that take part in the haka, and what the haka means... After the haka your legs are sore, your arms are sore, it [energy] is released.

The reported experiences suggest that control and discipline is needed within the expression of mana; the whole body is given over to the cultural performance. The expression of pride and strength seemed to be often accompanied by highly alert physical states of being. Vigorous actions of stomping and slapping, accompanied by staunch, rigid postures used to convey mana induce proprioceptive and deep pressure touch sensations, which are conducive to a 'grounded' state.

Tama also reported how the exertion had a cathartic effect and elicited a calm state: "We'll probably end up doing a waiata to simmer it down for the boys... relaxing all the tension that you just finished going through... warming down". Here the use of soft waiata also induces calmness as the act of singing involves controlled breathing, oral motor sensation and soothing rhythm and tones.

As well as the potential for calming and alerting, kapa haka offered an opportunity for participants to be more attuned to their own movements and the cues around them. As illustrated by Tama and Toa's accounts:

My concentration is the future, like when's the next move... See all of it ... is just being proud of myself doing the haka how it's supposed to be done. The actions have to be done properly, and they have to be timed right with the words, the kupu (Word/s), with the song, with the waiata. (Tama)

The guys were doing the haka, got to time it [right]... got to have patience and got to listen... [to] the timing, like 'one, two' and then you have to wait for [the kaea] to say 'a' and then you jump in... (Toa)

Marama's story reveals how this focus on movement, timing and rhythm assists her to develop self-awareness and coordination. She disclosed:

... I like reggae as a genre because I can keep track of the beat, and it's the same with the kapa haka... I'm noticing being in co-ordination with, in sync with the group. Just more of a consciousness of where my hands are... It's an evolving state of improving... there is more that sense of consciousness and awareness of being co-ordinated.

Experiencing body movement, rhythm, co-ordination, and being synchronised with other group members induced a state of self-awareness. The rhythm itself seems to enable coordinated movement, which provides proprioceptive feedback in the body and in turn creates a sense of mastery and ability.

Gaining a sense of embodied emotion

Within the participants' accounts, physical sensation and emotion were interwoven during kapa haka. As shown in the previous theme, the physicality of the performance was often associated with emotions such as pride, respect, courage, and awe. Particular songs or actions evoked other distinctive physical and emotional responses, as an excerpt from Marama shows:

Actually as far as movement goes... I really enjoy that waiata. It's the first time that I've actually got this really light buoyant energy of not only singing these words, that kind of like enliven the spirit... 'cause it's like hands go, feet go, and its feminine... My body's in co-ordination with the music and I'm allowing myself, I'm not thinking, I'm feeling, that's the distinction... it just flows...

... It's the first time I've actually felt myself wanting to smile, because the movements really good, the song is cheerful,

it's like everybody's happy and they are having a good time. (Marama)

Findings suggest that participants were alert to a range of different emotional reactions to the physical sensations of kapa haka. These reactions appeared to be influenced by each person's sensory preferences and personal associations with specific waiata or actions. Additionally, the findings suggest that emotion, like culture, is embodied, indicating an autonomic response which may be intentionally evoked through particular elements of the occupation.

Discussion

Within his model of energy and tension, Thayer (1996) identified four basic mood states on two arousal continuums: calmenergy, calm-tiredness, tense-energy and tense tiredness. Calmenergy is an optimal state, associated with relaxed attention, whereby the heart rate and respiration rate is relatively elevated and accompanied by emotions of happiness and confidence. The participants' experiences of kapa haka in this study suggest their engagement in kapa haka may modulate arousal to achieve a calm and alert state. The following discussion explores this finding with consideration of the wellbeing model *Te Whare Tapa Whā* (Durie, 1998).

The enriched environment of kapa haka

Table 2: Notions revealed through application of van Manen's existential lens to Te Whare Tapa Whā domains

Te Whare Tapa Whā Domains	Revealed Notions
Te taha wairua	'Cultural space' 'Shared space'
Te taha hinengaro	'Expressed body'
Te taha tinana	'Performing body' 'Shared body' 'Being a student' 'Flow'
Te taha whānau	'Being accepted'

From a sensory perspective, engaging in kapa haka had environmental elements which contributed toward the creation of meaningful 'cultural space', as engagement in this performing art took participants out of the clinical context of the inpatient unit and into a culturally safe learning environment. This meaningful cultural space may have caused an increased state of alertness due to the value placed on the performance of the haka by participants (Waldon, 2004). Hasselkus (2002) discussed the concept of meaningful occupation in relation

to spirituality, health, and wellbeing. For Tama and Toa, kapa haka animates connection to their spirituality and values, and therefore holds meaning. This meaning is both felt and expressed through their bodies, and as a result, they may experience increased attunement to their bodies, actions and voices.

The 'shared space' of kapa haka shows how the collective nature of the occupation is powerful in shaping the sensory experiences and behavioural responses of the participants, effectively providing a modulating effect. These collective experiences enabled participants to be more aware of themselves by requiring them to be present, focused and attentive in order to respond appropriately to others. The physical space, including aspects such as light, air flow, room size, and temperature also shaped the sensations of kapa haka. There are similarities between the open space used and that of environments advocated for within Champagne's (2008) sensory modulation programme. Therefore findings suggest that kapa haka provides an environment which supports self-awareness, self-regulation, and self-organisation for participants.

The concept of 'being accepted' is essentially created by the kapa haka tutors who shape the social climate to be one of care and recognition, generating a strong sense of whānau. Group interactions nurtured a sense of belonging. Results suggest that the climate generated by the tutors aroused calm-energy states (Thayer, 1996), due to the level of attention required within kapa haka, the acquired feeling of social acceptance as a group member and perceived positive atmosphere. Such interpersonal stimulation may enable social identification (Gallese, 2009) and contribute to optimal social behaviour (Porges, 2003). The findings from this study further highlight that sensory input from other persons, such as perception of movement, vocal emotion and facial expression are just as important, in terms of arousal and sensory modulation, as input from the physical environment.

The modulating actions of kapa haka

Kapa haka calls for control and discipline, as it involved physical energy, vigour and exertion which through slapping, stomping, chanting and holding oneself up in a staunch posture. Rigorous actions such as these provide deep breathing, oral motor sensation, deep touch and proprioceptive feedback to the muscles and joints (Champagne, 2008). At times the arousal state identified by participants is similar to what Thayer (1996) described as tense-energy. This is a positive state but physiologically different from calm-energy as the skeletal muscles are tight and ready to perform various motor tasks. Tama identified a change of energy states when he spoke about singing a waiata to 'simmer' the boys down at the end of a rigorous haka session. The findings suggest that following this release of energy the participant's arousal state was altered from that of tense-energy to grounded calm-energy.

'Shared body' was associated with timing and rhythm. For

participants to get the timing right, they needed to be alert to others, observant, and anticipatory of the next action. This also involves aligning ones breath to sing at the right time with the group. Timing links with rhythm, as it comprised of an individual maintaining the collective beat of the waiata or haka with their foot via waewae takahia, stomping or tapping the feet on the floor. This waewae takahia action provides deep touch and proprioceptive feedback to the body, which accompanied with regulated breathing, may be grounding and have a calming and organising effect.

Participants feel the beat and synchronise their body movement to it. When Marama felt the steady rhythm within kapa haka it assisted with co-ordination of her actions as she found she could successfully follow the beat. These results link to the concept of entrainment whereby a stronger external pulse influences another pulse to match it (Thaut, Kenyon, Schauer, & McIntosh, 1999). Entrainment is well researched in the physical sciences, and has proven connection between rhythmicity and brain function whereby rhythmic cues immediately add stability to motor control and hand movement (Krasovsky, Berman, & Liebermann, 2010). Within sensory modulation, entrainment is used to shift energy from one level to another (either calming or arousing) through the use of rhythmic music and movements (Champagne, 2008). This finding highlights how cultural music and activity may be used to achieve the same desired energy shift.

Within the kapa haka environment, the participants in this study felt that they were students, as all were learning about themselves and their culture. Kielhofner (2002) stated environments which challenge a person's performance capabilities evoke involvement and attentiveness. As students, they described being attuned to the present within their learning environment, implying increased arousal and a state of focus. Culture is learned through the body, through communication, imitation of actions, gestures, language, tradition, and ceremony (Hasselkus, 2002; Waldon, 2004). Findings imply that skills learnt within kapa haka through imitation, practice, and repetition became embodied.

Once a sense of mastery or increased ability was felt, the phenomena of 'flow' (Emmerson, 1998) appeared. The state of flow is characterised by complete immersion of self in an activity, a loss of self-consciousness, and a removal from awareness of worry. Flow is said to be experienced as a positive affective state which involves arousal, alertness, energy and interest (Emmerson, 1998).

The notion of 'expressed body' came through strongly, highlighting how participants' emotional states were experienced and expressed through engagement in kapa haka. Awareness of the 'expressed body' afforded the participants with preference for certain waiata or haka due to their associations to the song or movements. Accounts suggest that arousal levels changed from song to song depending on personal taste, interest or connection. Here the physical sensation of singing and hearing the combined voices of the

group, along with personal motivation, produced what Thayer (1996) called a calm-energy state of arousal.

Implications for occupational therapy

Occupational therapy practice is based on principles of holism, client centeredness and cultural responsiveness (Townsend & Polatajko, 2007). This study shows the power of using a culturally meaningful occupation in supporting Māori participants to literally get in touch with their embodied being through various sensations. Significantly though, the sensations of kapa haka also connected them in a social, cultural and spiritual context.

Research has highlighted that people with mental illness have issues with sensory processing as well as emotional and physiological regulation (Abernethy, 2010, Brown et al, 2002). Occupational therapists have an important role in supporting self-regulation through the everyday things that people do, including those things that are most culturally meaningful. The findings suggest that supporting mental health clients to use kapa haka, or elements of it, as part of a daily sensory 'diet' may have real benefits in relation to grounding the body, regulating breathing, and increasing levels of arousal. With cultural humility (Whalley Hammel, 2013) and the application of sensory processing knowledge and occupational analysis, therapists may come to increasingly value and use traditional practices from a range of cultures for their natural sensory modulation properties.

As kapa haka is already established as a cultural intervention throughout mental health services in New Zealand, it may also prove to be an effective way to introduce education about sensory processing and self-regulation to Māori clients. In this study the occupational form of kapa haka amplified sensations and the kapa haka tutors naturally referred to this sensory input. However, it may be possible that increasing the focus on the modulating aspects within kapa haka could enable greater levels of self-awareness and self-regulation.

It is highly likely that the therapeutic effects and arousal levels are afforded by the safe space and sense of tikanga which exists within this specific kapa haka group. As kapa haka is a collective occupation, it is debatable if the same effect could be simulated within certain treatment settings or with individual clients. However, creating safe spaces and protocols to enable consumers to engage in kapa haka within mental health settings may afford some of the benefits. Individual capacity and preferences could be taken into account, allowing for some people to benefit from activities such as singing along and performing movements to recorded waiata. Although participants did not speak about the use of equipment such as poi or taiaha (A long weapon of hard wood with one end carved), consideration of tool use outside the kapa haka environment may be advantageous. This may offer more culturally meaningful sensory input than use of westernised tools.

Research involving a larger cohort of participants is needed to

confirm and generalise the findings of this study. Additionally, it would be beneficial to explore how altered states of arousal achieved through performing kapa haka may impact on longer term functioning and participation in other activities of daily living. Exploring these effects in a broader context would strengthen practitioners' rationale for application and use of cultural strategies within the sensory modulation approach, and improve facilitation of holistic occupational therapy intervention.

Limitations of the study

This is a study shaped to fulfil the final component to a Bachelor of Health Science (Honours) degree. The three interpretive themes, although specific to the nature of the study question, are not intended to offer a full representation of the participants lived world of kapa haka.

The interpretations within this study are based on the stories about sensory experiences from a small participant sample from a unique population. These findings do not aim to be representative of all Māori who engage in kapa haka. However, the nature of the stories suggest the findings may be relevant to similar populations in rehabilitative environments which provide cultural activity. It is anticipated that the study findings may encourage discussion of how other cultural occupations may be used as effective therapeutic activities within a sensory modulation approach.

Key points

- The kapa haka environment amplifies sensory input for participants enhancing sensory modulating effects.
- Kapa haka may afford a safe space to express oneself.
- The actions of kapa haka involving deep pressure, increased proprioceptive input and rhythm may increase body awareness and afford a calm-alert state of being.

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