

An Ethnography of Children with Dyspraxia Participating in Gymnastics

by

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the qualification of any other degree or diploma of a university or other institution of higher learning, except where due acknowledgement is made in the acknowledgements.

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Stephanie Christine Hessel

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The support and accommodation of the gym in which this study was conducted have resulted in a study which far exceeded my expectations. The President (Neil Cox) and Manager (Robyn Walker) provided assistance at the drop of a hat. All of the coaches expressed interest and support for my research and unquestioningly welcomed the participants of the study into the gym. Several of the coaches deserve special mention; Colleen Cadman and Julia Roots, who were so generous with their time. Some of the coaches also acted as video assistants, Julia, Whitney Calnan and Daniel Judge, and when they were not available Robyn was always able to find someone to fill in.

The Auckland University of Technology has been extremely generous with providing a scholarship to cover my fees during the period of my thesis. The Auckland University of Technology's Ethics Committee also provided me with ethical approval (29<sup>th</sup> April, reference number 04/64). The New Zealand Gymnastics Association also provided funding for the hire of the gym and my mileage to and from the gym during the fieldwork. This funding reflects the support and interest the Association has in including people with disabilities in the sport, and I hope this study makes a positive contribution to such inclusion.

The Dyspraxia Support Group coordinator and the paediatric therapists in Hamilton all freely volunteered their time to help me to find participants. Without their assistance I would have only had one participant and would not have been able to conduct the study I had planned. I look forward to reporting my findings to both these groups and hope that they get some return for the free time they gave me. In addition, the English Department at Hillcrest High School generously let me use their video camera for the duration of the fieldwork. Jenny Nicholson was particularly helpful in ensuring the camera was available, even on the days that I had left it very late to retrieve it.

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charitably responded to my e-mails and led me to resources that extended my interpretations and helped me to identify additional contributions that this study makes.

In contrast to the common perception of mother's in-law, Jenny Hessel has made an enormous contribution to editing my thesis and challenging and extending my interpretations. My mother (Paula Cox) kindly did the final reading of my thesis and ensured that it made sense to those who had not already read it more times than I would care to count.

Finally, but in no way lastly, my husband Matthew, and children Ben and Bella, have accommodated five years of an expensive, time consuming and self absorbed occupation. This thesis has cost them a laptop, many trips to Auckland, untold hours of childcare (to which my friend Amanda Alley also contributed), printers, paper and so on. My mother also leant me her Dictaphone and my father located a transcriber for me when I had almost given up hope of finding one that would fit the tapes I had used. I have been blessed to have such a generous family, and hope that one day, the completion of this thesis will somehow have some return for them.

## Abstract

This thesis describes three boys diagnosed with dyspraxia and their whānau (families and extended families) as they enter and become part of a community gymnastics group in a city in New Zealand. The study builds on literature that has defined dyspraxia in terms of dysfunction, but generally failed to resolve the disorder. Through the social perspective of health and well-being, participation of children and adults with disabilities has been explored in terms of the person and the environments in which they participate; however, the influence activity itself has on participation has not been thoroughly described. There has been a growing interest in the participation of children with disabilities in recreation and leisure activities and this study provides an in depth cultural perspective of such participation in New Zealand context. This study aims to answer the question “What do children with dyspraxia and their whānau do in a gymnastics group, and what does it mean to them to participate?”. The overarching question is “What is the culture of a community gymnastics group in which children with dyspraxia participate?”. Ethnographic methodology is employed to ensure that the participants’ perspectives, including the beliefs, values and meaning that their participation holds is portrayed, while the associated activities and behaviours are also captured. As the boys with dyspraxia and their whānau entered the gym, they built on their previous experiences to make sense of what they needed to do and what meaning the environment held. I had not planned on the boys being integrated with an established group, but on the first night they spontaneously joined in with a non-competitive, mixed age, boys group. The parents perceived the Club as professional, while the boys were initially intimidated. Fortunately, the equipment, which made the gym look like a playground, enticed the boys to participate. To shift the boys from their initial perception of the gym being a playground, the coaches used two styles of

coaching to support and encourage their participation, while suppressing behaviour that did not fit with the norms of the Club. The boys needed to develop gymnastics skills and fit into the group to become gymnasts. The boys succeeded in fitting into the group by both developing skills and adapting their behaviour, while the type of boys without dyspraxia, the style of coaching afforded, the range of equipment and the activity of gymnastics itself meant that some of their initial difficulties were accommodated and they were seen as group members. The participants developed values and beliefs about what the boys' participation in the group meant. Having fun and developing confidence and fitness were highlighted, while the social aspects (making friends and the whānau experiences) were also seen as important. The parents and coaches felt that the boys' experiences in gymnastics had an impact on them that would transfer to the world beyond the gym. This study contributes a qualitative perspective on the participation of children with disabilities in a sports occupation, with a focus on the cultural context of their participation.

Cartwheels: A Beginning

We used to do cartwheels with our skirts tucked into our knickers on the field during playtime when I was at school. It's strange how something that starts out as apparently trivial can have a significant influence on one's life. When I was ten years old I noticed that my friend Angela, who went to a gymnastics club after school, was doing tricks more difficult than cartwheels. I wanted to learn these tricks too. I signed up at a club, starting out in general (non-competitive) gymnastics. The sport came naturally to me and I quickly entered the competitive grades, joining the same group Angela was in (Figure 1). Judy, my first coach, encouraged us all to excel while having fun and instilled in me a passion for gymnastics.



Figure 1: My Team

We always had a lot of fun at training; we played tricks on Judy like arriving early and hiding under the vault while everyone was setting up the equipment. She would play tricks on us too, like daring us to get out of her car to do a cartwheel in a car park and then driving away. She had sleepovers with ten girls sleeping in her lounge which involved games, making up gymnastics routines and watching videos about Nadia Comaneci. I loved doing gymnastics so much that I borrowed the key to the gym from Judy so that I could continue to train during the holidays.



Figure 2: At a Competition

I generally did well in competitions, winning medals and being selected every year for the regional representative team (Figure 2). Although I liked to do well and enjoyed my success at competitions, gymnastics remained as social for me during competitions as it had on the field during playtime. As a teenager I gave up the high level of training required for competition in order to coach and joined a display group with which I performed in Germany. I initially coached competitive gymnastics but after a short time changed to general gymnastics and have been coaching general gymnastics periodically ever since. Along the way my family became involved in gymnastics too, with my younger brother entering the competitive grades and my father acting as the treasurer and eventually president of the gymnastics club while also coaching, judging and learning some gymnastics skills himself.

Gymnastics remains a significant influence in my and my family's lives; my father continues with all his levels of involvement, while he has taken on a new role of being a grandfather to gymnasts. Both my children and I are involved in a Saturday morning family class (Figure 3) in which children of all ages, their siblings and parents

do gymnastics together. One of the gymnasts who was in Judy's group with me, Tracey, also brings her children to the family class. Tracey, Angela and I hope to join the adults' gymnastics group next year (once I have finished my thesis!). I imagine that I will be involved in gymnastics for some time yet.



Figure 3: My Children at Gymnastics

Although I quickly entered the competitive grades I have no desire for my children to do competitions. I only hope that they will find gymnastics as much fun as I do.

### My Inspiration

In the third and final year of my degree (a Bachelors of Health Science [Occupational Therapy]) we had a guest lecturer who spoke to us about Sensory Integration Treatment. This is an intervention in which movement opportunities and tactile stimuli are provided to improve the child's ability to detect, integrate and respond appropriately to sensory information. I can no longer recall who the speaker was, but she showed us a video of treatment with a child with Developmental Dyspraxia (dyspraxia). It struck me immediately that much of the equipment and many of the activities were available in the gymnastics Club with which I had been involved for all those years. The lecture was

really just a taste of Sensory Integration; a week long course costing over two weeks wages was required to be able to understand and use the intervention.

I did not get overly excited about the lecture and thought I had largely forgotten about it until several months later, when in the shower, it struck me that perhaps this treatment could be conducted in a gym as part of a gymnastics class. A barrage of reasons for doing this all hit me at once; running a group in an environment that already had much of the equipment would surely be cost effective, it would be more of a social occasion than individual treatment in a clinic was, participation could continue over a long period in an ongoing group instead of time limited treatment sessions, and the children would be participating in a normal and socially valued occupation as well as receiving therapy. I leapt out of the shower and wrote my ideas down on a piece of paper.

Following the completion of my degree I went to work in Wellington, in a residential care setting for older adults for six months, to later return to the city I grew up in. At this time, a position for a therapist in a school became available. This was how I became involved in working with children. While working as a paediatric therapist, I had heard other therapists recommend gymnastics as a suitable activity for children with coordination difficulties such as those experienced by children with dyspraxia. Out at dinner one evening, I was discussing my grand plan to use gymnastics to provide Sensory Integration treatment with an old school friend and she suggested that I embark on my Masters to determine whether it would indeed work or not. So, just like that, I did.

### Embarking on this Study

I started my postgraduate studies, part time, five years ago with the sole focus of researching the use of gymnastics as Sensory Integration Treatment for children with

dyspraxia. However, my journey through the first three years of the Masters of Health Science programme led me to change my focus considerably. In the first paper I did, Occupational Science, I conducted a comprehensive literature review on the health and well-being outcomes of participating in sport, with the intention of determining whether the use of gymnastics would confer the benefits Sensory Integration claims. During this search I met with Gordon Patterson, at the time the head of the Sports Science School at a local tertiary institute. I found that my many discussions with him were invaluable for clarifying any areas of confusion and making links between what I was learning in occupational science and the literature regarding sports. Although there are many benefits to participation in sport, my review highlighted the psychological impact, particularly the effects on self-esteem and confidence. I published some of my findings the following year in a paper titled 'The Poorly Understood Occupation – Exercise' (Cox, 2002).

In July of that year, I attended the Sensory Integration Theory and Practice course and graduated as a trained sensory integration therapist. I took the opportunity to discuss my proposed research with the lecturer (Gretchen Dahl Reeves), who was positive about implementing the intervention in the gymnasium ("gym") environment. Immediately following this course, for my second Masters paper, I took a paper regarding the implementation of the occupational therapy process. In this paper I outlined how Sensory Integration could be implemented in a gym, focusing on how a therapeutic gymnastics programme could help children with dyspraxia develop improved perceived competence. I proposed that Sensory Integration theory would allow the environment to be set up in a way that afforded successful performance and that specific coaching strategies would be used to ensure the gymnasts developed perceived competence.



The following year I conducted a further literature review, this time investigating what expectations families of children with dyspraxia and other disabilities have regarding occupational therapy. I intended that this review would help me identify whether or not these expectations could be met through providing therapy in a gym. I concluded that some of the expectations could be met in the gym; in particular underlying skills (such as motor planning) and volitional aspects including social skills and perceived competence linked with the outcomes of exercise I had identified in the review I conducted the year before. I also published my findings of this review in a paper “‘Entering the Unknown?’: Identifying Potential Expectations of Paediatric Occupational Therapy held by Families’ (Hessell, 2004). In my final optional paper I chose to focus on identifying the therapeutic foundations of a gymnastics programme tailored to the needs of gymnasts with dyspraxia. The specific problems I aimed to address through the programme were praxis (in terms of the gymnasts’ motor planning difficulties), perceived competence/self-confidence and social skills. I identified that Sensory Integration, a model of coaching to enhance self-esteem (Paterson, 1997), a cognitive approach to enhance skill acquisition (Polatajko, Mandich, Miller & Macnab, 2001) and activity group intervention (Olson, 1999) would provide the theoretical foundations. Theorising that eventually other coaches might want to implement the therapeutic gymnastics group, I also provided an education session to a group of coaches regarding the theoretical foundations of the programme as part of the paper.

In my final year I determined which research approach I would use. The ethnographic approach appealed to me initially because it allowed a combination of observation and participants’ perspectives. Using a methodology that was conducted in the field over a period of time also suited my plans to coach the programme in the gym over several terms. I then explored which theoretical perspective I would be taking, and, settling on an interpretivist approach, I prepared to embark on my thesis. During the

process of writing my proposal, I began reflecting on my plans to run the group for therapeutic purposes. I had read several papers which identified that the proposed effects of Sensory Integration are questionable (e.g. Davidson & Williams, 2000; Polatajko, Kaplan & Wilson, 1992; Vargas & Camilli, 1999). I experienced a philosophical shift in that I now felt that participating in gymnastics was outcome enough without searching for ‘therapeutic’ benefits.

I decided that the gymnasts would participate in a gymnastics group for the purpose of participating in a gymnastics group and whatever the experience and outcomes from this natural experience were, I would document. My study shifted from a question of experiences and outcomes from a health perspective, to looking at the ordinary actions, beliefs and values that arise through participation in the gymnastics culture. Culture has been defined as “patterns of behaviour learned through the socialisation process, including anything acquired by humans as members of society: knowledge, values, beliefs, laws, morals, customs, speech patterns, economic production patterns etc.” (Christiansen & Baum, 1991, p. 850). This definition is somewhat contradictory, because although it identifies that culture is a pattern of behaviour, the meanings (knowledge, values, beliefs) associated with the behaviour are listed as examples of culture acquisition. Nonetheless, it is useful in identifying the scope of ideas encompassed by the term culture.

Throughout the fieldwork, analysis and writing of this thesis, I and my supervisors have had to be vigilant that the cultural perspective remained at the forefront and that I did not return to being the therapist who started out five years ago intending that the gymnasts’ participation would have therapeutic outcomes. Accordingly, I endeavored to behave as a normal coach, ensured that my actions did not distinguish the gymnasts with dyspraxia from other gymnasts, and evaluated the impact my therapeutic perspective or therapist actions might have had on the group. By staying

true to the methodology I selected, which I will describe after a review of the literature, the children's, whānau and coaches' voices may be heard without being interrupted by medicalised values of measurable outcomes, therapist/researcher as knowledge holder and impairment as poor health/wellbeing.

Prior to the methodology chapter, a review of the literature outlines the concepts on which I intended this study would build. Three findings chapter then describe the culture of the children with dyspraxia, their whānau and I as we entered and became part of the gym. This thesis then concludes with a summation of my findings and a discussion of the contribution my findings make to the literature.

### Literature Review

The literature addressing dyspraxia is extensive. For the benefit of readers not familiar with this condition, the chapter begins with a brief overview of relevant aspects of the condition. In the second part of this review, I investigate literature beyond the field of dyspraxia to identify the potential influences on the gymnasts with dyspraxia and their whānau as they participate in the community gymnastics group. The Canadian Model of Occupational Performance (Law, Polatajko, Baptiste & Townsend, 1997) is used to structure the discussion because it provides a useful framework for the elements this review identified that influence participation in any activity. An additional model regarding the factors that influence recreation and leisure participation of children with disabilities (King, Law, King, Rosenbaum, Kertoy & Young, 2003) is also used throughout the review as it identifies a variety of factors influencing participation. A further model of successful integration (van de Ven, Post, de Witte & van de Heuvel, 2005), which was developed from an exploratory study of adults with disabilities who have integrated into society, adds a qualitative dimension to the discussion. The review concludes by identifying specific gaps in the literature that this study addresses.

### Searching the Literature

To inform this review, multiple databases were searched: Allied and Complementary Medicine (AMED), Cumulative Index to Nursing and Allied Health Literature (CINAHL), ERIC, JSTOR, Journals at OVID, Te Puna, Ingenta, and PsychINFO. A search was also conducted via Google Scholar. Terms relating to dyspraxia (developmental dyspraxia, Developmental Coordination Disorder [DCD], clumsy, coordination) and treatment approaches commonly used with children with dyspraxia (Sensory Integration, Perceptual Motor, Kinesthetic) were used. To explore findings beyond the dyspraxia literature, searches using terms regarding gymnastics (sport,

gymnastics), the social model of disability (ecology, environment, social) and participation (integration, inclusion, culture, pluralism, outsiders, outsider status, disability) were also conducted. Several researchers identify that participation, integration and inclusion are, if not the same thing, closely related (Corbett, 1999; Fennick & Royle, 2003; van de Ven et al., 2005).

The Auckland University of Technology catalogue was also searched for many of the terms identified above. I searched the World Wide Web using the Google search engine, using the terms dyspraxia, DCD, cure, treatment, gymnastics and sport. To follow up promising lines of enquiry, I also searched for various authors and contacted some of these authors for their perspectives on areas about which I was unclear. I spent time searching the CanChild site, which is the website for the McMaster University Centre for Childhood Disability Research (where King and Law are published). I used manual methods of searching, looking at references lists from the papers I was reading, and searching journals from which relevant articles had been retrieved. As my focus on children with dyspraxia participating in gymnastics has spanned the five years I have been enrolled in postgraduate study, my search has been conducted over that timeframe.

### Defining and Treating Developmental Dyspraxia

As stated, dyspraxia has been discussed extensively in the literature; however, there is little consensus about the disorder and the term dyspraxia is not defined in the American Psychiatric Association's Diagnostic and Statistical Manual, 4<sup>th</sup> edition (1994). There is no consistent definition of dyspraxia, but definitions generally include difficulties with planning and executing skilled, non-habitual motor acts, even though the individual has normal intelligence (Chu, 1998; Davis, 1997; Gubbay, 1975). I decided to go against international trends and to target children with dyspraxia instead of DCD because of the meaning the terms hold in New Zealand. For this reason I also use 'dyspraxia'

throughout this thesis, although the literature is increasingly using the term DCD. In this thesis I take dyspraxia to be encompassed by DCD and have used the term ‘dyspraxia’ throughout. The lack of agreement does not end with the label. Indeed, there is debate about whether the children previously identified as dyspraxic even form a homogenous group (Mitchell, 1998).

Despite the apparent lack of homogeneity, a number of theories regarding the aetiology and treatment of the disorder have been proposed. The Sensory Integration approach (Ayres, 1979), Perceptual Motor treatment and the Process-oriented approach (Laszlo & Bairstow, cited in Mandich, Polatajko, Macnab & Miller, 2001) in particular have received continued attention. In addition, a wide range of other approaches using sensory stimulation (David Mulhall Centre, 2005), neurodevelopmental theories (DDAT, 2005), or nutrition (Stordy, 2000) have added to the wide-ranging perspectives on the cause and nature of dyspraxia. Cognitive approaches have also contributed to current understandings of children identified as having coordination and motor planning difficulties (Mandich, Polatajko, Missiuna & Miller, 2001).

The majority of publications concerning these approaches, and other literature regarding dyspraxia, seek to define the impairments associated with the condition by contrasting children with dyspraxia to the normal population (e.g. Hill & Wing, 1999; Mandich, Buckolz & Polatajko, 2003; Mitchell, 1998). The differences generally identified include poor integration and discrimination of sensory information, immature body scheme and awareness, and limited spatial skills (Chu, 1998). Poor motor planning and ideation leading to impaired motor execution, immature functional motor skills such as bilateral coordination, delay in development of laterality, reduced perceptual-motor integration and poor fine motor skills are also reported (Chu, 1998). A significant amount of this research has been conducted in clinics; however, there are some examples of studies exploring the difficulties children with dyspraxia demonstrate in

natural environments (e.g. Bouffard, Watkinson, Thompson, Causgrove Dunn & Romanow, 1996; Gubbay, 1975; Smyth & Anderson, 2000).

It has been determined that children with coordination disorders do not grow out of these difficulties (Dewey & Wilson, 2001; Losse, Henderson, Elliman, Hall, Knight & Jongmans, 1991; Polatajko, Fox & Missiuna 1995) and accordingly, a major focus of research has been on the treatment of dyspraxia. These treatments aim either to cause some change within the child to reduce dysfunction or to provide the child with strategies or techniques to reduce the impact dysfunction has. Although the approaches seeking to reduce impairment continue to be popular, and successful outcomes are at times reported (e.g. Schoemaker, Hijlkema & Kalverboer, 1994), it is becoming widely acknowledged that the proposed outcomes from motor or sensory based interventions are either minimal or equivalent to those achieved by any other intervention (Davidson & Williams, 2000; Polatajko et al., 1992; Vargas & Camilli, 1999). By implication, the theories supporting the various interventions are also not unequivocally supported by the empirical data (Mandich, Polatajko, Missiuna, et al., 2001). Accordingly, although I began my postgraduate studies intending to use gymnastics as a treatment for dyspraxia, this approach was not supported by existing literature. My decision to focus on participation in gymnastics as opposed to possible therapeutic effects was also influenced by a shift in my perspective from a medical to a social model of disability.

### Focus on Participation

The focus that much of the literature regarding dyspraxia takes - that it is an impairment caused by a group of attributes which vary from the norm - seeks to define the child through medical perspectives of disability. In contrast, the Social Model of Disability focuses on the disabling attitudes and environments that societies creates. This model is becoming increasingly accepted as a valid way of understanding the causes and

outcomes of disability. The World Health Organization has similarly shifted away from defining disability as equivalent to impairment, with ability to perform activities and to participate in environments as a focus of the International Classification of Disability, Functioning and Health (World Health Organization, 2002). The New Zealand Disability Strategy (Ministry of Health, 2001) also adheres to the Social Model of Disability stating:

Disability is not something individuals have. What individuals have are impairments...Disability is the process which happens when one group of people create barriers by designing a world only for their way of living, taking no account of the impairments other people have (p. 1).

This shift in understanding of disability, and the questions that have been raised about the efficacy of attempting to treat dyspraxia, informs the purpose of this study. Contrary to my original intent, it does not attempt to determine whether participating in gymnastics will ‘fix’ the participants.

Changing understandings of disability have informed a shift in the concepts of health and well-being towards a focus on participation. Participation is defined as “involvement in a life situation” (World Health Organisation, 2001, p. 14) and is proposed to be an innate need, related to health and survival (Wilcock, 1993). Participation in activities has been described as having a tremendous impact on the quality of people’s lives, with participation providing opportunities for social relationships, personal expression and development (King et al., 2003). Health, satisfaction, well-being, meaning and purpose can be derived from participation in meaningful activities (King et al., 2003; Lo, 1996).

Several studies have demonstrated that individuals with disabilities have reduced participation in a range of activities (MacArthur & Gaffney, 2001; Mancini, Coster,



Trombly & Heeren, 2000; Simmeonson, Carlson, Huntington, Sturtz McMillen & Lytle Brent, 2001). Within the social perspective of health, “‘handicap’ (i.e. the impact of disability) is precisely lack of participation” (Forsyth & Jarvis, 2002, p. 277). Of particular relevance to this study is the finding that children with movement difficulties have significantly reduced participation in the playground and during Physical Education (PE) classes (Bouffard et al., 1996). Furthermore, their lowered levels of participation have been proposed to detrimentally affect skill development, social interaction and health and fitness (Bouffard et al., 1996).

The participation of children with disabilities in life situations is the focus of a series of studies at the CanChild Centre for Childhood Disability, McMaster University in Hamilton, Ontario. These studies contribute to an understanding of what influences the lowered levels of participation that children with disabilities experience. Based on an extensive literature review, King et al. (2003) published a conceptual model of the factors affecting the recreation and leisure participation of children with disabilities. This multidimensional model identifies predictive factors (either direct or indirect) on participation, and outlines the potential relationships between each factor (see Figure 4). A key purpose of the model is to guide a proposed longitudinal study of the factors affecting the participation of children with physical disabilities. At the time of this literature review (October, 2005), the findings of the longitudinal study, ‘the Participate Study’, (a quantitative study of 427 children and youth with disabilities and their whānau, and an additional study of 354 school-aged children without disabilities) had not been published in a journal, but a copy of the final report to whānau and community partners is available on the CanChild website (Law et al., 2005).

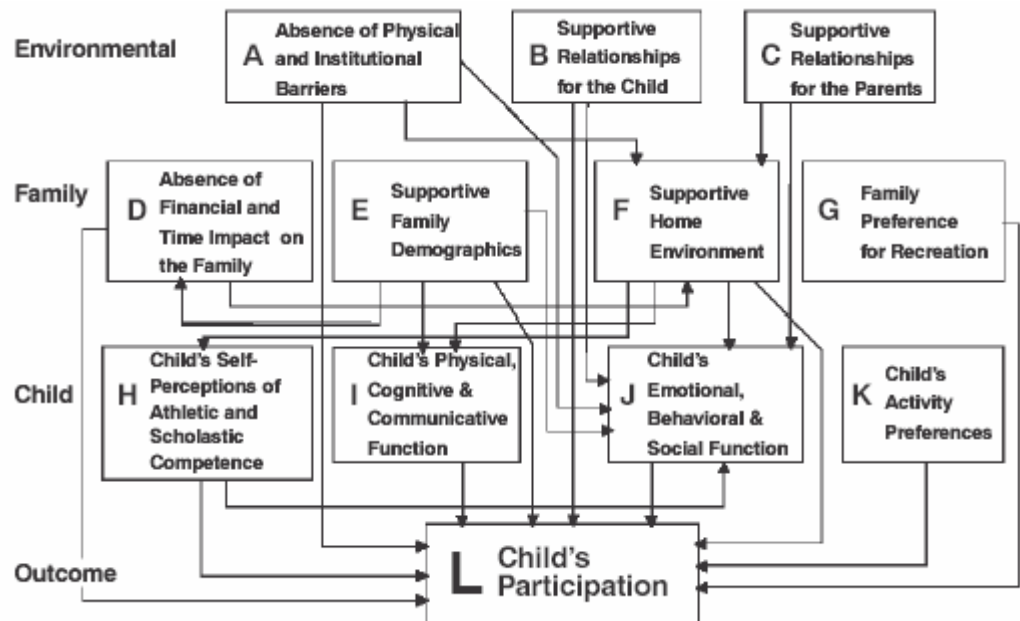


Figure 4: Conceptual Model of Factors Affecting Participation. From King, G., Law, M., King, S., Rosenbaum, P., Kertoy, M., Young, N. (2003). A conceptual model of the factors affecting the recreation and leisure participation of children with disabilities. *Physical & Occupational Therapy in Pediatrics*, 23(1), 63-84. Reprinted with permission of the author.

In keeping with King et al.'s (2003) model, the following sections of this literature review will explore the influence children, their whānau and their environments (physical and social relationships) have on their participation. An additional aspect that I will discuss, which is not described in King et al.'s model, is the influence the activity or occupation itself may have on participation. This review focuses predominantly on the impact these aspects have on participation, as opposed to the outcomes from participation.

In addition to the focus on participation, this study investigates participation in a community setting. This dimension means that I needed to look beyond participation in the activity, to investigate the environment where participation takes place. In New Zealand, there is a strong focus on people with disabilities participating in community environments with non-disabled people. The New Zealand Disability Strategy (Ministry

of Health, 2001) is a vision of “a fully inclusive society...where...disabled people are integrated into community life on their own terms” (p. 5). A major sports trust in New Zealand states that they provide grants to “enable young people with a disability to participate in inclusive sport and active leisure within their community” (Halberg Trust, undated pamphlet). Although these documents indicate the philosophical influences on the environment in which this study was conducted, the purpose of this review is not to critique the philosophical positions of either integration or inclusion, but to use the relevant literature regarding each to contribute to an understanding of participation. Where information is available, I have been specific about the people (children with dyspraxia) and occupation (gymnastics) to which this study relates. Participation is discussed here in terms of the influences the person, the environment (physical, social, cultural and institutional) and activity have on participation. These elements (the person, environment and occupation) comprise the Canadian Model of Occupational Performance (Law et al., 1997).

### The Person's Influence on Participation

The literature has identified that the characteristics of the person influence her or his participation. King et al. (2003) proposed that child factors, including the child's functional abilities, interpersonal skills, communication skills, self-esteem and motivation all influence participation. Functional abilities, including cognitive, communication and physical functioning, have been demonstrated to be “the most important direct predictors of children's participation” (Law et al., 2005, p. 9). These factors exert an influence because the nature and severity of the disability determines the “obstacles to functioning in society” (van de Ven et al., 2005, p. 321) that are experienced. As van de Ven and her colleagues explain, “functioning in society with a disability can take a lot of energy and time from a disabled person and may even be

painful” (p. 321). It is important to note that research has differentiated between the impact diagnosis, as opposed to functional difficulties, has on participation. A study of 427 children with physical disabilities that analysed the relationship between participation, diagnosis, physical function and demographic variables, identified that diagnostic category is not a primary factor in participation (Law et al., 2004). However, the study found that “demographic factors age and sex, and physical function were significant explanatory factors” (p. 159). Similarly Kirk (2005) reported that “social class, gender and disability are key barriers to the development of physical competence conceptions” (p. 251), with young people, girls and children from lower socio-economic groups being particularly underrepresented in community-based sports clubs.

As identified above, there has been little research focusing on the impact dyspraxia has on participation in natural environments. Nonetheless, two studies observing the playground activity of a total of 140 children with movement difficulties found that these children spent more time than other children alone, watching other children or not engaged in any activity in the playground (Bouffard et al., 1996; Smyth & Anderson, 2000). These studies demonstrated that children with dyspraxia do not participate in the playground in the same way that other children do, and that this difference is associated with isolation and exclusion. Both these studies propose that the deficit in participation is caused by the child’s lack of skills and poor coordination. The specific functional difficulties associated with dyspraxia have been found to be associated with impaired participation or performance in school through difficulties in PE, writing, handling equipment in Science, and art and crafts. However, “the impact of DCD on the performance of self-care activities has remained largely unevaluated” (Dewey & Wilson, 2001, p. 10).

Psychological characteristics have also been found to have an influence on participation. As with able-bodied children, the disabled child’s activity preferences

have been demonstrated to be important, directly influencing participation, while self-esteem impacts on enjoyment of activities (Law et al., 2005). These findings from the Participate Study are supported by qualitative research which has described the psychological characteristics of the person with a disability as an important influence on participation. Van de Ven et al. (2005) stated:

from the personal perspective, integration into society initially follows from the disabled person's choices to be a part of that society. This implies that the individual should have an open and interested attitude towards integrating with others and functioning in society. (p. 319)

A logical consequence of this influence of attitude and choice is that using a variety of strategies aimed at oneself and others would allow participation to be maximised. The influence individual characteristics, preferences and choices have on people's participation has also been explored with children and adolescents in the school setting. In-depth interviews with a purposive sample of ten students aged nine to fifteen, to explore their personal experience of being included in PE, found that the students' ability to decide, suggest solutions and insist on working towards their own goals promoted inclusion (Hutzler, Fliess, Chacham & Van den Auweel, 2002).

The influence personal attributes have on participation in sports and exercise has been well documented previously. Bouchard, Shephard, Stephens, Sutton and McPerson (1990) for instance, asserted that "those who are active tend to be self-motivated and possess self regulatory skills: setting personal physical activity goals, planning to reach them, minimising environmental barriers to implementation, and monitoring and reinforcing their actions" (p. 9). Similarly, children's perceptions of competence have been identified to be the strongest predictors of attraction toward physical activity (Weiss, 1993).

It may seem obvious at first that the characteristics of a person, including the functional implications of their disability, would have an impact on their participation. However, the New Zealand Disability Strategy (Ministry of Health, 2001) aims to change New Zealand from a disabling to an inclusive society through the elimination of physical and attitudinal barriers in the environment. The perspective that the Strategy reflects is one where the environment holds the key to participation.

### Environmental Influences on Participation

The Canadian Model of Occupational Performance acknowledged that “the environment influences occupation, and in turn is influenced by the behaviours of persons...[It] is dynamic and can have an enabling or constraining effect on the performance of occupations” (Law et al., 1997). As outlined above, the New Zealand Disability Strategy defines disability in terms of the way the environment is designed (Ministry of Health, 2001). Even if disability is not defined exclusively in terms of environmental barriers, it is generally acknowledged that “the problems of disability arise from the interactions of a disabled child with the environment” (Law, Haight, Milroy, Willms, Stewart & Rosenbaum, 1999, p. 102). A large proportion of the research literature regarding the involvement of people with disabilities in natural environments is in relation to inclusion in schools. As participation in this environment is compulsory, there is a demand for children with disabilities to be included. However, the focus of the research has been predominantly on measuring the individual’s level of participation or the outcomes for disabled children in mainstream settings (e.g. Duvdevany, 2002; Mancini, et al., 2000).

#### *The physical environment*

The physical environment can present a number of barriers to participation, including difficulties with transport, the availability of facilities, the additional costs associated

with having a disability and the suitability of programmes provided (King et al., 2003). Physical barriers to participation have been reported by adults with disabilities: “People with disabilities frequently have to face situations of inaccessibility...to buildings, pavements, elevators and so on” (van de Ven et al., 2005, p. 322). Parents of children with physical disabilities also identified many physical barriers, although they believed that access to community facilities had improved in Canada (Law et al., 1999). When physical environments are accessible, the intensity of children’s participation is significantly enhanced because the demands of the environment more closely align with their functional abilities (Law et al., 2005).

Geographical elements of the physical environment have been found to have an impact on the participation of students with disabilities in school. A survey of 2000 randomly selected special education teachers and 1000 teachers of students with mobility impairments in the United States of America found that students with physical disabilities, who attended schools with less than 150 students or schools located in school districts with a population over 10,000, had a statistically significant reduction in participation (Simmeonson et al., 2001). The authors did not offer any explanation for this finding. The impact of geographical features was more closely investigated in an ethnographic study of the social experiences of children with disabilities in Sydney, Australia. The study found that large distances between special schools meant that children who attend them live far away from the friends they make there, creating a barrier to socialising with them outside school hours (Baker & Donnelly, 2001). A similar barrier was found to exist in mainstream schools where the presence of a ‘special class’ can create geographical separation, while even classroom seating arrangements can reduce the participation of students with disabilities (Baker & Donnelly).

For children with dyspraxia, the barriers presented by the physical environment are either not as significant or not as thoroughly documented as for people with more significant functional difficulties, although objects in the environment have been found to present barriers. Bouffard et al. (1996) identified that “children with movement difficulties appeared to avoid the large and demanding playground apparatus” (p. 68). Barriers to participation of children with dyspraxia in modern classrooms have been suggested, in particular, the positioning and design of furniture (Kirby, 2001).

### *The social environment*

The New Zealand Disability Strategy states “attitudes have been identified...as the major barrier” (Ministry of Health, 2001, p. 7). The social environment is thought to be significant because “others in society play a very important role in the process of integration and therefore are partners in the process of integration” (van de Ven et al., 2005, p. 325). In particular, the stereotypes and attitudes of others have been suggested to have a limiting effect on the participation of children with disabilities (King et al., 2003). Conversely, socially supportive and non-discriminatory environments have been found to indirectly influence how intensely children with disabilities participate (Law et al., 2005). Parents of children with disabilities have “expressed the belief that social attitudes are the biggest handicap for their children” (Law et al., 1999, p. 105).

The whānau environment of people with disabilities exerts an influence on participation in employment, mobility in the community and participation in social activities, and is pivotal in providing opportunities for recreation (King et al., 2003). In this regard, King et al. proposed “a stronger family preference to engage in recreation will be related to greater child participation” (p. 78). Furthermore, a whānau orientation to activities (which was influenced by their income), has a significant direct impact on the child’s participation in recreational activities (Law et al., 2005), while whānau



cohesion affects the child's intensity of participation (Baker & Donnelly, 2001; King et al.; Law et al).

The role that adults outside the whānau, including teachers and coaches, have in promoting or preventing the participation of children with disabilities is also well documented. Children with physical disabilities view the influence that teachers and other staff have on their inclusion as significant (Hutzler et al., 2002). Teachers have been found to indirectly influence participation by affecting children's activity preferences (Law et al., 2005). In addition, competitive attitudes of coaches have been proposed to limit the participation of children in sports (Law et al., 1999), while coaches who are knowledgeable about disabilities have been found to promote integration (Fennick & Royle, 2003; Kristen, Patriksson & Fridlund, 2002). Studies have found that teaching styles influence children's motivation in PE (Morgan, Kingston & Sproule, 2005) and can promote or inhibit social participation (Baker & Donnelly, 2001). Teachers also exert an influence by acting as role models of attitudes and behaviours (MacArthur & Gaffney, 2001). Teachers themselves believe that professional development opportunities, and the support they receive from special education support workers influence their ability to include children with disabilities in PE (Morley, Bailey, Tan & Cooke, 2005). It is also possible that coaches influence a child's perceived competence. As identified previously, perceived competence has an impact on participation, and feedback from significant others is instrumental in the development of perceived competence (Harter, 1990). Indeed, Paterson (2000) has suggested that the influence of perceived competence extends beyond participation in sport: "there is mounting evidence that coaches can impact on the self-esteem of young athletes and substantial support for the notion that high self-esteem contributes not only to motivation in youth sport but to functional living" (p. 8).

Perspectives on the influence peers might have on participation are mixed. Children with disabilities identify their peers as being central, supportive or limiting influences on their participation (Hutzler et al., 2002). These children and their peers perceive that mainstream students play a key role in the integration of students with physical disabilities (Allen, 1997; MacArthur & Gaffney, 2001). This perceived influence is supported by quantitative data that demonstrate that “enjoyment of activities...increase[s] with higher levels of support from friends and classmates” (Law et al., 2005, p. 8). While parents of children with disabilities identify that although the attitudes of children without disabilities are much better than their parents, as they get older they can reflect the attitudes of their parents, creating barriers for children with disabilities. This potential negative impact was also demonstrated in a cross-cultural comparison of ethnographic data from a number of special and mainstream schools, which suggested that “the attitudes of...other children create difficulties and prevent full inclusion in ‘mainstream’ schools” (Davis & Watson, 2001, p. 685). A further ethnographic study of special and mainstream schools observed that “an obvious but pertinent finding was that, before a social experience even took place, children had to be in proximity of each other” (Baker & Donnelly, 2001, p. 76) and in situations of segregation, this proximity may not be afforded.

In my experience, the performance limitations associated with dyspraxia do not warrant formalized segregation as dyspraxia may be seen as a ‘hidden handicap’, with children’s limitations being mistakenly identified as laziness and lack of motivation (Rivard & Missiuna, 2004). Perhaps as a consequence, little research into peer influence on children with dyspraxia has been conducted. However, parents report that their children with dyspraxia have social problems resulting in them being left out, teased, or bullied (Davis, 1997; Mandich, Polatajko & Rodger, 2003). As described previously, playground studies have identified that clumsy children have fewer playmates, play less

often with other children at school, and may be teased or bullied (Bouffard et al., 1996; Smyth & Anderson, 2000). Interestingly, the researchers proposed that the cause of these barriers to participation could be attributed to the lack of physical skills of the child as opposed to the social environment itself. This attitude is apparent in schools and the wider community where “all too often a child’s deficits are blamed for unsuccessful friendships and social interactions. Such attitudes contribute to the unsupportive environment that sets many children up for social failure” (Baker & Donnelly, 2001, p. 82).

### *Cultural environment*

The impact culture has on participation is not well described. King et al.’s (2003) model does not explicitly refer to the influence of culture on the participation of children with disabilities in recreation and leisure activities. Indeed they identify that one potential limitation of the model is its application to children and whānau of various cultural backgrounds. There is also no reference to cultural influences in Law et al.’s (2005) study. This lack of attention may be attributed to a finding from a qualitative study by the same authors that “the culture of the family does not emerge as a significant factor in determining the occupation of the children” (Law et al., 1999, p. 107). Although some of the literature refers to the influence culture might have on participation, I found very little that focussed specifically on this aspect of participation. A previous ethnographic study of children with disabilities also reported “there has been little attention paid to the...cultural barriers that disabled children face every day” (Davis & Watson, 2001, p. 674). That study found that cultural notions of normality and difference strongly influence participation by creating practices of segregation and dependency. Such notions of difference mean that barriers to participation are only ever attributed to the child’s dysfunction, as they are the ones that are ‘different’. This view is evident not only in Davis and Watson’s study; a significant amount of the literature

regarding children with disabilities also subscribes to this perspective, suggesting a culture of blaming the person with the disability continues in the cultures from which the literature emerges. Although such notions represent the belief that disability resides within the person, van de Ven et al. (2005) found through such beliefs “each culture presents its own barriers and opportunities to people with disabilities” (p. 322) while Corbett (1999) acknowledges “it is surely rare for most cultural contexts to include everyone” (p. 54).

One study I located which focused specifically on the impact culture has on participation is an ethnographic study of a school that had reduced drop-out rates of students with learning disabilities (Miller, Leinhardt, & Zigmond, 1988). The five months the researchers spent in the school demonstrated that “schools can play an important role in affecting students’ academic engagement and overall integration into school life” (p. 482). A culture which provided a variety of accommodations throughout the school influenced on the students’ continued participation.

For children with dyspraxia, the cultural beliefs regarding physical skillfulness are especially significant. In Western culture, being ‘sportive’ has become the norm; “to behave in a sportive way, to be fit and suntanned, to be health conscious – all this becomes a behavioural standard” (Grupe, 1994, p. 20). It appears that this norm is especially significant for boys; a review of the literature concluded “in Western society ‘being a good athlete’ is a common standard for boys. Thus, physical incompetence may be criticised either at school or in the whole society” (Chen & Cohn, 2003, p. 69). Similarly in-depth interviews with twenty-two boys regarding masculinity and Physical Education (PE), found that they consider sport and PE to be highly valued and as “*the* site for the construction and display of hegemonic masculinity in school” (Bramham, 2003, p. 60, emphasis original). The boys who conformed to the Western concept of masculinity were highly valued by teachers and could be critical of boys who were less

committed or less competent in PE. The influence on participation is expressed by one of the students in Bramham's study who commented "they patronize you...and that slowly put me off sport" (p. 67). It appears that the sportive and masculine culture in schools might also affect girls' participation. The literature suggests that playgrounds dominated by football influence the activities in which girls engage in the playground, and that bullying and exclusion are ongoing issues in such playgrounds (Smyth & Anderson, 2000).

#### *Institutional environment*

Perhaps the least described aspect of the environment that my literature search encompassed was the institutional environment. Policy promoting the participation of people with disabilities is referred to in many studies; the New Zealand Disability Strategy (Ministry of Health, 2001) is an example. The Americans with Disabilities Act of 1990 was also intended to provide "a legal mechanism guaranteeing the right to barrier-free environments" (Kalscheur, 1992, p. 420). However, lower level supports or barriers, such as the policies or procedures of schools, clubs or other community facilities, are not so clearly defined. Although the emphasis on institutional influences on inclusion are seen as important (Cooper, 2004), observations in schools have revealed that legislation regarding the rights of children with disabilities to participate "as yet appears to have had little impact on everyday practices within schools" (Davis & Watson, 2001, p. 683).

Policies have the potential to create barriers to participation in recreation and leisure activities (King et al., 2003). Policy has been found to have an indirect effect through the availability of funding for resources that accommodate children with disabilities (Law et al., 2005). Parents perceive that policies tend to prevent participation by creating bureaucratic barriers such as time spent filling in forms and regulations for accessing services (Law et al., 1999; Pollock & Stewart, 1998). Two

ethnographic studies have specifically considered the influence of policy on participation in schools. One study found that policy accommodated the students and promoted their continued participation (Miller et al., 1988) while another identified that policy prevented integration (Law et al., 1999).

### Occupational Influences on Participation

At a theoretical level, there has been some discussion of the influence occupations may have on participation. There is some evidence that people “repeat engagement in the same or similar occupations” (Carlson, 1996, p. 144). This tendency is influenced, in part, by the self-perpetuating nature of occupations. Carlson proposed that perseverance can occur at several levels: continuing an activity for an extended period of time, repeating an occupation over several different occasions, or choosing one category of occupation (e.g. play) over others. Perseverance is seen as distinct from occupational habits, although these too are theorized to have an influence on participation: “Habits influence how a particular activity is regularly performed...how time is typically used; and...generate styles of behaviour that characterise a range of occupational performances” (Kielhofner, 1995, p. 68).

In relation to sports, one review of the literature identified that prior participation in sport is a determining factor in continued participation. In particular, participation during the early childhood years has been found to be essential for developing the skills and perceived competence required for participation later in childhood (Kirk, 2005). A related finding from a two-year study of 1,205 children was that “the predilection factor was the major predictor of free-time activities” (Hay, 1992, p. 197). Furthermore, children’s predilection for sport and recreation has been found to emanate from their parents’ participation in those types of activities (Law et al., 2005).

For children with disabilities, there is some evidence that the variety of activities in which they participate decreases as they get older. The Participate Study found that “the range of activities was less diverse for youth twelve years or older, particularly within recreational activities” (Law et al., 2005, p. 6), while older children’s participation was also found to be less intense. In contrast, however, one large-scale survey demonstrated fluctuations with age in participation in school activities (Simmeonson et al., 2001). Results indicated that children aged less than ten have lower participation scores, although scores for males decreased noticeably after age fourteen. Clearly the assessment of participation in the school environment is different from participation in recreation and leisure activities. Law et al. suggested that it is the changing demands of the activities that cause the fluctuations in participation. They state “given that some of the activities, such as pretend play, are more appropriate for younger children, it is not surprising that participation patterns among the older group of children differed from the younger age group” (p. 6). The frequency that children play fantasy games has been found to reduce with age, effectively decreasing the overall social participation of children with dyspraxia (Smyth & Anderson, 2000). Alternatively, Simmeonson et al. suggested that the low participation scores of younger children their study demonstrated “may reflect a developmental effect in that participation skills are likely to increase with age” (p. 60). Although these findings appear quite contradictory, they both provide evidence that the demands or opportunities occupations afford can influence participation. One could argue that these developmental influences are a person variable, however, the influence is still from the occupations afforded, as which occupations one engages in is related to age.

Beyond the age-related influence, the requirements of the specific occupations have an influence on the participation of children with disabilities. Teachers perceive that the participation of students with disabilities in PE is influenced by the type of

activity the class is doing (Morley et al., 2005). This perception has been supported by the findings of a large survey in the United States of America which showed that specific school activities influence participation rates of children with disabilities. For example only 2.3% of children with disabilities participate fully in school patrols (Simeonsson et al., 2001). Against the background of findings that suggest that children with a physical disability have reduced participation, the Participate Study found that the most common leisure and recreation activities among children with physical disabilities were T.V. watching, listening to music, playing computer/video games and crafts/drawing. In addition, compared to children without disabilities, these children participated in fewer activities and less formal activities (Law et al., 2005).

Although the impact of restricted participation in either academic or daily life activities is a criterion for the diagnosis of DCD (American Psychiatric Association, 1994), few studies have specified the activities that are affected (Geuze, Jongmans, Schoemaker, & Smits-Englesman, 2001). Participation of children with dyspraxia appears to be affected by the occupational opportunities available. As described previously, playground studies found that the prevalence of soccer in the playground influences the participation of boys with dyspraxia both positively and negatively, while fantasy games appeared to afford children with dyspraxia the opportunity to participate (Smyth & Anderson, 2000). Researchers at the CanChild Centre suggest that “children with DCD struggle with physical activities...sports involving ball skills or the manipulation of objects are particularly challenging” (Rivard & Missiuna, 2004, p. 1).

One sport, however, that has been identified as more accessible than other sports to people with disabilities is gymnastics (Rivard & Missiuna, 2004). The perception of gymnastics being accessible is shared by some PE teachers, provided the students have the prerequisite abilities (Morley et al., 2005). A pilot study of six children with developmental disabilities found that the three children who did gymnastics experienced



more integration than children at swim classes (Fennick & Royle, 2003). Indeed, gymnastics is being promoted internationally as accessible to people with disabilities. At the International Federation of Gymnastics (Fédération Internationale de Gymnastique) Conference in Belfast, 2003, a disabilities symposium identified that gymnastics is open to all (Smedley, 2003). British gymnastics has been developing a programme for gymnasts with disabilities since the 1980s (Kent County Council, 2005). A photo on their web site shows that their programme is suitable for gymnasts with a range of functional disabilities (Figure 5).



Figure 5: Gymnasts with Disabilities. From Kent County Council. (2005). *Kent gymnastics association: Gymnastics and movement for people with disabilities*. Retrieved September 28, 2005, from the World Wide Web: [http://www.kentsport.org/gymnastics\\_dis.cfm](http://www.kentsport.org/gymnastics_dis.cfm). Reprinted with permission from the Kent Sports Development Unit.

In New Zealand, there is evidence of the promotion of gymnastics for people with disabilities dating from the early 1990s. At the New Zealand Gymnastics Association General Gymnastics Annual Conference, a presentation on general gymnastics for people with special needs was given (New Zealand Gymnastics Association, 1992).

As well as the activity itself being accessible, occupations may also exert their influence on participation in a more subjective way. It has been proposed that occupations must be meaningful for people to choose to engage in them, with meaning ranging from a sense of obligation to feelings of enjoyment (Kielhofner, Borrell, Burke, An Ethnography of Children with Dyspraxia Participating in Gymnastics

Helfrich & Nygård, 1995). Consistent with this, the activity preferences of children with disabilities have been found to directly influence their participation (Law et al., 2005). Similarly, a range of studies, including self-reports from children, interviews with parents, and quantitative research, have found that experiencing fun during sport has an important influence on participation (Hay, 1992; Kristen et al., 2002; Weiss, 1993).

### Potential Outcomes of Participation

The focus of this study is on the experience of participation. Accordingly, I did not conduct an exhaustive search to determine the outcomes of participation. The literature does suggest, however, that there is likely to be some impact on the person as a result of their participation. As highlighted above, health and well-being outcomes are associated with participation in meaningful activities:

Several studies have demonstrated that well-being, social support and the chances of integration in society increase when children and adolescents with physical and intellectual disabilities are regarded as a natural part of the population, having the unquestioned possibility as well as the unhindered opportunity to pursue sport, leisure and recreational activities.

(Kristen et al., 2002, p. 140)

Beyond these general outcomes of participation, exercise has been found to influence cardiovascular, respiratory, metabolic and neuromuscular systems (Cox, 2000). It has also been found to have an effect on mental, affective and spiritual health and well-being, and to contribute to memory and attention development, energy variables, and emotional, self-concept and social development (Cox, 2002). In addition, the psychosocial health outcomes from participating in exercise, including small to moderately beneficial effects on anxiety, depression and some aspects of cognitive functioning have been highlighted (Biddle, 1995). Improved responses to proprioceptive

stimulation have been demonstrated in expert gymnasts, although it is unclear whether such effects are evident at lower levels of involvement (Vuillerme, Teasdale, & Nougier, 2001).

The recognition that participating in activities, particularly sports activities, provides some benefits to the participant has inspired some researchers to attempt to use sports as a therapeutic medium. For example, one therapeutic community-based exercise group for children with dyspraxia reported significant improvements in movement competence and ventilatory capacity (Peters & Wright, 1999). Similarly, a therapeutic karate group was developed for children aged five to seven with developmental disorders or delays (Hirsch Botzer, 1997). Another study of children with dyspraxia participating in rock climbing identified positive changes in motor skills and self-esteem compared to the control group (Hsieh et al., 2004). Because all these studies were small scale, their results cannot be reliably generalised. There are, nonetheless, a relatively large number of examples on the World Wide Web of sports being used for therapeutic purposes. Several sites even describe therapeutic forms of gymnastics which they propose will correct diagnosable conditions, including coordination problems (e.g. Dévény Anna Foundation, 2003, Kid Pro Therapy Services, 2005). The validity and generalisability of the proposed outcomes of therapeutic sports, however, have not been thoroughly examined.

### Gaps in the Literature

The characteristics of children with dyspraxia have been well studied and areas of dysfunction in natural environments have been explored. However, I did not uncover any studies that investigated children with dyspraxia learning to participate in normal occupations in natural environments. Although a cognitive approach focusing on learning meaningful occupations has been explored (Martini & Polatajko, 1998), such

studies have been conducted in clinics, which can be assumed to have quite different demands to participating in a community sports facility. In addition, studies regarding dyspraxia have focused on various aspects of the child's physical, cognitive and social dysfunction, with few having considered the whole child in her or his environment. In particular, the influence of the cultural environment on the participation of children with dyspraxia has not been discussed.

It is apparent that researchers have only recently begun to focus on the participation in recreation and leisure occupations of children with disabilities in their natural life situations. As noted in the introduction, prior to the research at McMaster University's CanChild Centre, there was no model for investigating participation in a holistic manner. As a result, most of the knowledge gaps identified by previous researchers focus on individual aspects of the child's dysfunction or singular barriers to participation. These include the social relationships of children with disabilities (Jenkinson & Hall, 1999), how they acquire skills over time (Chu, 1998) and the effect different types of accommodation within schools might have on drop out behaviour (Miller et al., 1988). The need to include parents' perspectives (Kristen et al., 2002), and exploration of the relationships between self-perception, culture, gender and social participation for children with dyspraxia (Chen & Cohn, 2003) have also been recognised.

Although researchers have investigated the influences of the person and the environment in studies of children's participation in recreation, leisure and sporting occupations, the third element of the Canadian Model of Occupational Performance (Law et al., 1997) – occupation – has been largely neglected. The Model of Participation in Recreation and Leisure (King et al., 2003) does not identify that the activity itself is a factor that influences participation, while the Participate Study (Law et al., 2005) has investigated participation in terms of general patterns of participation.

Although the researchers have suggested that the nature of the activity affects participation, particularly with the changes in the activities afforded as the child ages, detailed analysis of the affect of the activity is not given. Van de Ven et al.'s (2005) model of successful integration also looks at broad aspects of the environment and characteristics of the person, as opposed to the nature or characteristics of the activities. In addition, the nature of the activities chosen by or available to individuals who have experienced successful integration is not apparent. Studies of participation in the playground too have focused on overall patterns of participation as opposed to an analysis of the playground activities. Although these studies offer a picture of participation and make some reference to the influence that different types of play (e.g. fantasy versus physical) may have, a detailed investigation of what these different activities may or may not afford is not provided. There is some suggestion in the literature that the occupation itself and the way it is acted out and the meaning it holds in a particular culture does influence participation. Gymnastics appears to be particularly amenable; however, the influence of the activity itself on participation has not been well investigated.

Although it has been suggested that children's perspectives have not been included sufficiently in the literature (Woodgate, 2001), this review found several studies that included the child's perspective. The Participate Study (Law et al., 2005), for instance, focused primarily on the perspective of the children and their parents. However, few studies were located that include the perspective of the other partners in the process of inclusion in recreation and leisure activities. The need for the societal side of integration to be studied, in particular attitudes towards people with disabilities, has recently been identified (van de Ven et al., 2005). Although the perspective of teachers has been reported, this literature review has not found any studies integrating the coaches' perspectives of integration with the child's or their whānau.

The Model of Participation (King et al., 2003) and the Participate Study (Law et al., 2005) offer an analysis of causal pathways and trends in participation. However, the analyses of the literature and quantitative studies have not described how these factors play out in a specific situation, or how the influences may change over time. By exploring the participation of a small number of children with dyspraxia in a community gymnastics club through an ethnographic lens, this study seeks to describe the way that these factors, and any others the study unveils, are associated with participation for these children, in a medium sized city in New Zealand. Beyond the factors identified previously, the ethnographic perspective allows all the contextual forces that may affect participation to be revealed and, perhaps most importantly, ensures that the meaning that these forces hold for the participants is embedded in the revelation. In the next chapter I will explain why ethnography is best suited for this study and how the ethnographic methods reveal such meaning.

### Methodology and the Research Process

#### Selecting a Methodology

As I have previously identified, it was initially the multiple perspectives offered by ethnographic methods that appealed to me, but many research approaches would have allowed me to use these methods. So why did I choose to focus on the culture of children with dyspraxia, participating in a gymnastics group? As this was an initial, exploratory study, I wanted to access a broad range of information while also gathering enough detail to enable readers to have a comprehensive understanding of what transpired in the group. Beyond the appeal of the methods, by choosing ethnography, my observations and findings would come to be shaped by a cultural perspective. That is, I would include the knowledge, values, beliefs and customs of the group (Christiansen & Baum, 1991). I will define culture as the actions and meanings that are acquired through socialisation and that act as a force to generate meanings of thought and action (Yang & Fox, 1999). This study aims to uncover the culture that develops within a community gymnastics group involving children with dyspraxia. The research questions are: *What do children with dyspraxia and their whānau do in a gymnastics group, and what does it mean to them to participate?* The overarching question is: *What is the culture of a community gymnastics group in which children with dyspraxia participate?*

#### Ethnography

As I have indicated, ethnography was selected initially because it offers both the observer's and the participants' perspectives of what is done and what it means. Because it is an inductive approach, it is suitable for initial exploratory studies. In addition to this practical application of the approach, ethnographic methodology is

consistent with a number of philosophical foundations of this study which will influence what information is gathered and how it is interpreted.

Ethnography has been identified as the first example of qualitative research. It began as anthropological studies of exotic or primitive cultures that involved extended periods of participant observation (Hodgson, 2001). Ethnographic methods are now also used for focussed observations in local microcultures (e.g. Davis & Watson, 2001). Anthropology originated in the objectivist epistemological position, with claims that culture existed as an entity and laws or principles of culture could be uncovered; however, modern ethnographers tend to take a more interpretivist position (Crotty, 1998). The role of interpretation in classical ethnography, where the researcher must understand a foreign language, is self-evident. However, such interpretation, and thus an interpretivist approach, is also necessary in studies of microcultures within one's own society. This approach is needed because although the words, actions and environment of a microculture may not be foreign to the researcher, the meanings associated with these will be held in a unique way that distinguishes the group as a culture. As Hammersley (1990) argued, "we cannot assume that we already know others' perspectives, even in our own society, because particular groups and individuals develop distinctive world views" (p. 8). It is these unique world views that must be interpreted so that the researcher may gain an appreciation of an insider's perspective on the group. An interpretivist approach recognises however, that this meaning is being translated and that the researcher adds their own perspective through this translation.

Embedded within the ethnographic perspective that I am taking, are notions of the way culturally situated behaviours and meaning are developed and can be interpreted. The theoretical positions of symbolic interactionism, naturalism and holism which underpin ethnography are particularly relevant in this study. I will describe each



briefly, highlighting how they may be expressed in the methods I use and interpretations I make.

### Symbolic Interactionism

Symbolic interactionism proposes that humans are shaped by social forces, and that it is through the significant symbols of their culture that humans know how to behave and what the world means (Crotty, 1998). Language, gestures, actions, objects and even silences can hold symbolic meaning beyond literal interpretation. This meaning is held by the members of the culture, and consequentially, the researcher aims to uncover the meaning from the perspective of the participants. The behaviours and perspectives of the participants may be seen to represent significant symbols, but can only be understood within this broader cultural context. Methods that allow the perspectives of the participants to be expressed, such as unstructured and conversational interviews, and interpretation that seeks to uncover the participants' perspectives reflect this theoretical position.

### Naturalism and Holism

Ethnographers believe that the person's actions and beliefs cannot be separated from the natural context in which they occur, as the environment and the objects within the environment hold meaning for the person; it is upon the basis of this meaning that the person acts (Crotty, 1998; Laugharne, 1995). Ethnographers attempt to study cultures in their natural state, avoiding manipulation or control of the group or their environment. However, contemporary ethnographers recognise the influence their presence may have on the group, and extend the philosophy of naturalism to include the relationship participants have with the researcher (Laugharne). In addition to naturalism, ethnography is characterised by holism, which refers to viewing the culture as more

than the sum of its individual elements. Ethnographers therefore endeavour to study the culture as a whole (Laugharne). In this study, these theoretical positions mean that aspects of the participants or their environment will not be isolated, and reductionist perspectives are avoided.

The ethnographic approach and its philosophies of symbolic interactionism, naturalism and holism are most appropriate for the study of children within New Zealand's current political context. New Zealand's Agenda for Children (Ministry of Social Development, 2002) is the basis for policy that shapes the development of governmental services for children in New Zealand. The Agenda has a vision of ensuring that "all children have a say in the decisions that affect them and their views are given due weight in accordance with their ability and level of understanding" (p. 6). Consistent with the Agenda's emphasis on taking children's views into account, James (2001) suggested that the ethnographic approach is one that not only allows children to contribute, "it is the use of ethnography which has enabled children to be recognised as people who can be studied in their own right within the social sciences" (p. 246). The Agenda promotes the 'whole child approach' to understanding children. This approach "recognises that children cannot be separated from the 'key settings' in which they live and grow. These settings include parents, families and whānau, friends and peers, broader community settings and society at large" (p. 14). The approach highlights the importance of "focusing on the big picture, on the child's whole life and circumstances, not just isolated issues or problems" (p. 12). The values reflected in the Agenda closely align with the theoretical position of naturalism and holism.

### Research Design

The research process applied in ethnographic studies in which the theoretical positions described above are applied is, by necessity, emergent; "The unexpected twists and

turns in ethnographic research, which happen as the result of dealing with people in their naturalistic environment, prevent ethnography being a neat series of sequential stages” (Brewer, 2000, p. 57). However, a strategic plan may help guide, but not dictate, the structure of the research. The basic structure of the plan for this study was based on the steps of ethnography identified by Burns and Groves (1997) who highlighted the need to define the field, gain entrance to the field, access and select participants, and acquire informants. Ethnographers also need to become immersed in the culture and gather data. Following the exit from the field, the researcher must analyse the data, then define and report their findings.

### The Field

The gymnastics club (‘the Club’) in which the study would be conducted is one of only eight mega-clubs in New Zealand. It is situated in a city which has a relatively long history of participation in gymnastics (Stothart, 1982), although the Club was only founded in 1992 following the merger of initially two, then three smaller city clubs. The Club has approximately one thousand gymnasts enrolled throughout the year, with these gymnasts participating in artistic or rhythmic competitive gymnastics, display gymnastics, or general gymnastics. Over 90% of the gymnasts are doing general gymnastics, which usually involves either an introduction to the gymnastics environment and skills for children starting as young as two, or for older children, with the attainment of badges. The vast majority of gymnasts are primary school aged or younger and girls outnumber boys approximately 3:1. These statistics are consistent with national statistics of participation in gymnastics which show that the majority of gymnasts nationally are aged five to eight, and boys make up 27% of gymnasts (Sport and Recreation New Zealand, 2003). There is an adults’ class, where former gymnasts continue participating for their own satisfaction, and where non-gymnasts come to learn

skills, either to get fit or more recently, to be able to do stunts or tricks in other sports such as skateboarding or snowboarding.

The Club is situated in a large gym which was purpose-built in 2003 following many years of fundraising. The size of the building means that a large number of gymnasts can train at the same time. During the implementation of the study, the greatest number of gymnasts in the Club at one time was forty-five. The ratio of coaches to gymnasts is set at one coach for up to six gymnasts. As I described in the introduction chapter, I have been involved in the Club for many years and my father is the President of the Club. As there are no other large Clubs in the city in which I live, this association could not be avoided. However, his role is predominantly related to administration, with the day-to-day running of the Club undertaken by the Manager. The Manager was therefore the primary gatekeeper in that she could determine whether the group I was proposing would fit into the session timetable. The President (my father), also needed to give approval for the study.

### Gaining Entrance to the Field

Research conducted in New Zealand requires the approval of an ethics committee and, prior to formally approaching the gatekeepers in the field, ethical approval for the study was gained from the Auckland University of Technology Ethics Committee (see Appendix A). Although my study was not health related, I used The Guidelines for Health Research with Children (Ministry of Health, 2002) to ensure the children's interests were safeguarded. Prior to getting ethical approval, I had informally discussed my interest in conducting research in the Club with the President and Manager. It is perhaps four years ago that I initially suggested doing research in the gym, although it was not until midway through 2004, once ethical approval had been given, that I

clarified my commitment to the project and sought support for the project from the Manager.

Both the President and the Manager were extremely supportive of the study, even providing assistance with funding applications. However, some negotiation was required regarding the time the research group would run. It was necessary for me to fit in with the groups already using the gym as on some evenings the gym was near capacity. There were times when it was impossible to run the research group, as sessions such as the family session and the preschool class take up the entire gym, meaning that a more structured group could not be run at the same time. The Manager and I agreed that the best time would be when three other groups would be in the gym. This included a general gymnastics group for boys aged five and over ('the Boys' Group'), a group of junior competitive girls and senior competitive boys.

#### Accessing Participants

In my research proposal and application for ethical approval, I had proposed that I would select up to six children aged seven or eight who had been previously diagnosed with dyspraxia. As described previously, I chose the diagnosis of dyspraxia because of the interest in children with dyspraxia I have developed when intending to use gymnastics as a treatment. Despite Law et al.'s (2004) finding that diagnosis is not a significant factor in determining participation, I decided to select children who had been diagnosed as having dyspraxia. In my defense, the use of diagnostic labels continues to be meaningful to many whānau and colleagues in the context in which I work and live. I hope that I have managed to find some balance in the debate about the diagnosis and labeling of children with dyspraxia by identifying that the term dyspraxia was meaningful in the community the study was conducted and by including participants

who identified as having dyspraxia as opposed to measuring them to create a homogenous group.

I chose to define an age range because general gymnastics groups are usually grouped by age, and because I perceived it would be too difficult to coach gymnasts with vastly differing levels of development. I selected this age range based on my experiences: as a therapist I am aware that diagnosis is not often sought prior to age six, while as a coach I have seen that it is younger children who tend to participate in general gymnastics. I stipulated that the gymnasts were required to have at least one whānau member with them during the session (see Participant Information sheets, Appendices B and C). The participants were able to define whānau for themselves as my interest was only in the gymnasts having someone at the Club to support them, as other gymnasts do. The whānau members all ended up being parents, although a grandparent attended on one occasion. The participants were not required to pay fees for the two terms of the study, as I paid the Club hireage for the use of the gym and was not paid to coach. Fees for one child for the two terms would normally be \$120.00. I also stated in my proposal that other gymnasts and whānau in the Club during the sessions would be observed as the peripheral social environment, but that if any individuals or groups were seen to be having more than a peripheral involvement, I would invite them to participate in the study.

Another restriction I intended to place on who could participate was related to my employment, where I provide a school-based occupational therapy service to students with moderate physical disabilities. This service is in the same city as the Club, and I have had contact with a number of children with dyspraxia, several of whom would have met the other criteria to participate in this study. However, I perceived that a number of ethical and practical issues could make these children unsuitable for the research gymnastics group. My primary reason for excluding them was the possibility

that they, or more likely their whānau, might perceive that their participation or non-participation could influence the intervention they were receiving from me at school. For example, a child or their whānau may have thought that they would get preferential treatment in the school if they ‘helped me out’ by participating in the research group. Alternatively, whānau might believe that the gymnastics group was a substitute for the intervention I provided at school.

At the time that I proposed the study and gained ethical approval, I was the only occupational therapist providing the service in schools that children with dyspraxia were likely to access, so the impact of a negative experience with me as a coach would have potentially damaging consequences on the services available to them. I was, however, aware that any of the participants in the group were potentially eligible for the service, whether they were currently using it or not. Accordingly, I proposed that should any of these children present for treatment in the future, another therapist would be employed to provide school-based therapy if they chose to not have me as their therapist. This option for alternative service delivery had been organised previously when the school had employed a therapist to cover my caseload while I was on maternity leave.

An additional issue that I considered when proposing that I would not seek to access or include any children I was seeing at work, was that the children and their whānau would already have established a relationship with me as an occupational therapist. I had imagined that in the gymnastics group my role would be ‘gym coach’, and that my relationship with the gymnasts and their whānau would develop meaning around this role as opposed to my therapy role. I had thought the occupational therapist role, associated with concepts of treatment and health outcomes, would have quite different meaning to that of ‘coach’. It seemed possible that perceiving me as a therapist would have an impact on the parents’ beliefs about the experience and outcomes of the

group, and that these beliefs would shape the programme into an abnormal therapeutic version of gymnastics, risking the naturalism that is an essential aspect of ethnography. During my initial conversations with parents, I had said that I would be acting as a coach and the group would not be therapeutic.

As I considered it unethical to access children from my caseload, I decided to attempt to locate participants through the dyspraxia support group. There is an active national support group, with a local branch running sporadically. In February, 2003, the support group was advertised in a local newspaper, with the contact details for the regional coordinator provided. I made an initial telephone call to the coordinator to indicate my intention to conduct the research and discuss the possibility of accessing participants through their meetings. As ethical approval had not yet been granted for the study, I stated several times that my research had not yet been approved and provided very little information about the research. I did say that I hoped to run a gymnastics group for children with dyspraxia, but that I would provide more information when approval had been granted. The coordinator expressed an interest in the study and indicated that she would be happy to pass information to members of the group, although at this stage they were not meeting regularly. She also indicated that she was not sure there would be any children who met the criteria, but would find out if anyone in the support group would be suitable.

Once ethical approval was granted, my process for accessing participants and providing them with information was authorised. I again contacted the coordinator of the dyspraxia support group. During this phone call I was mindful of Hodgson's (2001) advice regarding the importance of researchers being explicit about their role, the purpose of the research and the requirements of potential participants, and endeavoured to make all these aspects clear. The coordinator stated that she had found some members of the group that met the age criteria, and she agreed to give these members



the information about my study. I then put in her letter box Information Sheets which invited parents to contact the Manager of the Club, who was acting as an intermediary. In a subsequent telephone conversation, the support group coordinator stated that she had been having difficulty finding participants in the age bracket who were not on my caseload. Nonetheless, two of the initial participants were informed of the study through the support group and another contacted me, but her son subsequently chose to play soccer for the term instead.

Other recruitment strategies involved advertising in a local newspaper (Appendix D) and putting posters in local libraries (Appendix E), again inviting potential participants to contact the Manager of the Club. I did not get any responses from the posters, but had two enquiries following the newspaper advertisement. I also brought the advertisement to the attention of physiotherapists and occupational therapists at the child development department of the local public hospital, and the special education group of the Ministry of Education. I had access to these therapists through monthly paediatric therapist meetings I attend. In addition to bringing the advertisement to their attention, I gave them the Information Sheets to show to potential participants. A number of these therapists contacted me informing me that they did not work with the group that I was targeting, since their paediatric service is for early (preschool) intervention. One therapist identified two potential participants to whom she gave the Information Sheets.

As my search for participants progressed, another service that may have been able to assist me with accessing potential participants was identified. The Specific Learning Disorder Federation, New Zealand (SPELD) is a private service which works with students with learning difficulties. One of the therapists I had contacted through the paediatric therapists meeting suggested a proactive teacher in the SPELD service who would be likely to be able to help me. I phoned this teacher and outlined my study

to her. She suggested that despite the fact that a number of the children she worked with had dyspraxia, none had been formally diagnosed with it, as the therapists at the hospital would not diagnose it. I enquired as to what it was about their behaviour that indicated that they had dyspraxia, but she did not elucidate. I then suggested that perhaps I would need to expand my target group to include children who had undiagnosed coordination disorders and said that I would contact her again if that occurred. Later on, I left a message on her phone asking her to contact me, but she did not return my call. Thus, of the various strategies attempted, only the support group, newspaper advertisement and contacting other therapists yielded prospective participants.

### Selecting Participants

Through the process of accessing participants, it became clear that I would need to review my criteria for inclusion and exclusion of participants in the study, primarily because, at times, these criteria had placed unnecessary restrictions on who I could select. If I had had a large population from which to choose, perhaps I could have maintained the criteria I initially proposed. In the event, I think that the difficulty I experienced in locating potential participants ensured that I critically reflected on the boundaries I had created. Through such reflection, I came to understand that the ethnographic approach cannot and should not be conducted with the intention of controlling variabilities. However, as I was still in the position of selecting participants, I needed to ensure that the control I did have would be used only to ensure the safety and well-being of the participants and not to manipulate the group to suit myself.

One of the criteria that I perceived to be creating a barrier to getting potential participants was that the children needed to have been diagnosed with dyspraxia. International literature is shifting away from the term dyspraxia to using Developmental

Co-ordination Disorder (DCD) (Dewey & Wilson, 2001; Polatajko, et al., 1995), a coordination disorder not necessarily associated with motor planning difficulties. However, I decided to target children with coordination difficulties using the term dyspraxia, as it remains the most commonly used term in New Zealand. At the outset of this study, in my practice, I had never encountered anyone diagnosed with DCD or heard any therapists or other health professionals discussing that diagnosis. The New Zealand support group is called the Dyspraxia Support Group and national dyspraxia conferences are held. As a consequence, I decided the term dyspraxia was most meaningful in this context.

Following the process outlined for accessing participants, it became clear to me that I was going to have difficulty locating six children diagnosed with dyspraxia within the age range. As discussed previously, the SPELD teacher had identified that a number of children who she thought had dyspraxia had not been formally diagnosed. Through my discussion with her, I began to consider that I might need to extend my selection criteria to include children who meet the criteria for DCD. This is a much more general diagnosis which includes children who have coordination but not necessarily motor planning difficulties. I informed the therapists that I was extending the criteria to include these children, and although none of the therapists were using the diagnosis, a therapist identified one child who met the criteria. This child eventually decided he did not want to participate as he preferred to play ball sports, and in the end, all the participants selected were diagnosed with dyspraxia. I expect that if I had advertised for children with coordination difficulties from the start, I probably would have had a greater number of potential participants from which to select. Further confusion with the use of the term dyspraxia was highlighted when a mother whose son had verbal dyspraxia left her details with the gym Manager following the advertisement in the newspaper. Although her son was diagnosed with dyspraxia he did not have the co-

ordination difficulties associated with dyspraxia so his mother decided not to pursue his participation.

I had also initially proposed that children who were on my caseload would be excluded for reasons discussed previously, however, the parent of a child who was on my caseload contacted the Manager of the Club following the newspaper advertisement. When I phoned her, I explained that I was not able to include children on my caseload for ethical reasons, but that I would contact her again if this changed. As I indicated, the primary reason for excluding these children was that they may be perceived as being in a dependent relationship to me. However, subsequent to submitting my proposal, the service employed another occupational therapist. This meant children and their whānau would have another option if the research process had been unpleasant for them. I also became aware that the therapists at the hospital could provide a similar service. As a consequence, the impact of the whānau or child having a negative experience with me as a gymnastics coach would not have quite the significant effect on their ability to access therapy as I had initially thought.

However, I had also suggested that children on my caseload should not be included because they would have already developed beliefs about my role as an occupational therapist, and I perceived that these beliefs could conflict with my role as a gymnastics coach. Development in my understanding of the ethnographic approach (which does not seek to control the complexities of the real world) led to my decision to reconsider involving the boy I see as a therapist whose mother had contacted me. I felt that my intention to be identified as a coach as opposed to a therapist was not necessarily going to occur, as the participants might perceive me to be a therapist whether there were children present that I had seen through the service for which I work or not. Indeed, I had no evidence that beliefs about therapists and coaches were different. The following is an excerpt from an e-mail to my supervisors demonstrating

the shift towards reconsidering the restrictions I had created: “The other reason I did not want to involve children I have already seen is that I already have a therapist relationship with them; however, I thought that if therapists are going to be running such groups in their own communities, it is highly likely that children they see in their role as O.T.’s [occupational therapists] are going to be involved” (7<sup>th</sup> July, 2004). Indeed most coaches at the Club are volunteers and have vocations outside their role as a coach. Following this discussion and after consultation with the other occupational therapist at my work, I decided to phone the mother and invite her and her son to participate.

An additional modification I made to the criteria I proposed for the selection of participants was regarding the attendance of a whānau member. I had indicated in the Information Sheets that a whānau member would be required to attend each time. This was primarily because it is the usual practice of the Club for the gymnasts to have a support person present, but also, I later reflected, because I had been trying to manipulate the situation into one where the parents would be able to form supports for each other while they were observing the sessions. This concept had developed following my reading of an article evaluating a therapy service which had found that support networks had spontaneously developed in the waiting room (Cohn, 2001). Unfortunately, through attempting to create this culture, a potential participant was lost. One of the participants identified a friend whose son might like to participate; however, after this friend read the Information Sheet, she decided that it would be too much for her to attend each time. When the participant explained this to me, she mentioned that she could bring her friend’s son. This is a common practice in the Club’s culture. I responded that I would be happy to revisit this requirement if her friend still wanted her son to be part of the study. However, after her friend was told this, she still chose not to participate.

Finally, an unforeseen situation caused me to question whether I should have made an additional exclusion. As the time for my group to begin drew closer, one of my colleagues identified that her son had dyspraxia and that perhaps he could join the group. I was unsure, if she or her son had a negative experience, whether they would still have access to services to meet his needs and how this would impact on our working relationship. Following discussion with my supervisors, I identified that, if it became necessary, alternative arrangements for therapeutic input were available for her son. Together, we determined that if I highlighted to her the risk of my observing and analysing her as a participant in the group then she could make the decision about whether she wanted to participate in the study or not. To make matters more complicated, one of the children she was seeing as a therapist was in the group. I emphasised that if she were going to attend she would need to identify strategies for being there in the role of ‘parent’ as opposed to ‘therapist’, in case the parent of the other boy sought interpretation of the group from an occupational therapy perspective. As it turned out, the parent of the other boy did not seek this information so the dilemma did not arise, but it became clear to me that the emergent nature of ethnography meant that situations I had not predicted would inevitably arise.

Following this long process of recruitment, I had four children diagnosed with dyspraxia and their whānau to participate in the study. All of the children were boys, one was turning seven during the study, two were seven and one was eight, nearly nine. One of the gymnasts was also diagnosed with Aspergers syndrome (although he did not continue with the group as I will discuss later), and another had speech dyspraxia and was diagnosed with attention deficit disorder with hyperactivity during the study. One of the gymnasts had been discharged from my caseload prior to the study and another was the son of a colleague.

I gathered ethnicity data following the conclusion of the study; of the three gymnasts who participated throughout, one gymnast identified as European and Ngati Maniapoto, another as New Zealand European and the other identified as Chinese. I had stated in my ethics application that, in keeping with upholding the principles of Te Tiriti o Waitangi, I would consult and collaborate with any members who identified as Maori. The mother of the gymnast who identified as being of Ngati Maniapoto descent, stated that she did not believe any special considerations needed to be made for him based on his ethnicity or iwi (tribe) affiliation. Two of the three boys came from professional parent whānau ake (immediate family), while one parent received income support.

#### Requirements for Attending

Although it became clear as recruitment progressed that I had needed to make a number of modifications to the selection criteria I had initially proposed, I also discovered that some of the criteria were essential and needed to remain as requirements for the participants to attend. Two of these criteria were challenged and found to be necessary, while another had not been considered initially, but developed as the culture emerged.

I had initially proposed that children with any additional diagnosis that I or their whānau thought might have an impact on their ability to participate in the group would be excluded from participating. It seems axiomatic that the children would need to be able to participate in the group if they were going to participate in the gymnastics group. I felt that it was important that the participants would have the potential to engage in the activities involved in the gymnastics group, both physically and socially. I did not want to diverge from the normal gymnastics activities contained in the Kiwi Gymfun programme (New Zealand Gymnastics, 1999, see Appendix F) I would be using and the children would be required to have the capacity to perform these activities, while also managing to participate in the group environment within the Club.

I believe that children with a number of disabilities can participate in gymnastics; however, I restricted the group to one diagnosis because I wanted to be able to run a group, as opposed to a collection of diverse individuals. Had the range of physical, intellectual or social functioning been too broad, I perceived that I would not have been able to set up the environment or coach the gymnasts as a group.

As it turned out, this exclusion was challenged and created an ethical dilemma. One of the first parents to contact me mentioned, when I told her of the exclusion criteria, that her son had a diagnosis of Aspergers Syndrome. She stated that his Aspergers was very subtle and she did not think it would affect his participation in the group. It was, however, evident on the first night of the gymnastics group that this boy's behaviour would mean that he required ongoing individual coaching. I was not immediately certain whether I should exclude him from the group and considered allowing him to join in one more session before I made a decision. After further thought and discussion with my supervisors, it was clear to me that the behaviours that had prevented him from participating in the group were typical of children with Aspergers Syndrome and were not going to be resolved through my providing another gymnastics session.

Having decided that the group would not meet his need for individual coaching, I wanted to identify how he might continue to participate in gymnastics since he had enjoyed the session and wanted to continue. It seemed unethical to remove the possibility of him engaging in gymnastics because he did not suit the study. The Club in which the research was being conducted also runs a special needs group, so I enquired of the coach of the group what diagnoses these children have. She identified that they had a child diagnosed with dyspraxia, two with Aspergers, one with Downs Syndrome, one who had been born prematurely and some others whose diagnosis she did not know. I also enquired about the day, time and cost of joining the group. In the special needs



group, the coaches train the parents to coach their children so that the children receive individual coaching. I thought that this group would be much more suitable for this boy.

The day after the first session, I phoned the mother and identified that her son “preferred to do his own thing” and that this meant he required one-to-one coaching that I would not be able to give him in a group environment. I suggested that the special needs group might be more appropriate, stating that there were children in the group with dyspraxia and Aspergers. She said that she had heard of the group but would be unable to go at that time. I informed her that there is funding available for carers to accompany children with disabilities to such activities and suggested some contacts for her to follow up if she was interested. I said that I would like to hear if she found any way her son could continue gymnastics. I have not, as yet, heard back from her.

The other inclusion requirement was for the children to be within the seven to eight year old bracket. As described previously, I had chosen to restrict the age range firstly because general gymnastics groups are usually grouped by age, and secondly, as with restricting my group to one diagnosis, I did not want to have to make too many modifications to accommodate widely differing abilities. My experience as a coach suggests that more than one year difference in age is a significant barrier to developing relationships and a cohesive sense of being a group. As the deadline for finding participants grew closer, I considered abandoning the age bracket, as both the dyspraxia coordinator and paediatric therapists said they were having difficulty finding people within that range. The Boys’ Group (the boys’ only general gymnastics group) that ran at the same time as the study group was mixed-age, although the boys are arranged into smaller groups based on age to work on equipment. In the end I decided not to expand the age bracket as I thought that the variation in ability across ages would have too great an impact on my ability to manage the boys as a group.

The final criteria that emerged as the group formed was that all the participants were boys. This was not my intention and I had not specified gender when proposing or advertising the study. I was aware that dyspraxia is diagnosed in boys significantly more often than girls and had this in mind when arranging to run the group on the same night as the Boys' Group. On reflection, it was very fortunate that I did not have any girls express an interest; the group would not have been appropriate for them, because, as I will discuss later, it became very much integrated into the Boys' Group. Nevertheless, gender may have created an additional barrier to recruiting participants. One parent had indicated that her son was not initially very enthusiastic, thinking gymnastics was more appropriate for girls. Another potential participant, who decided not to join the group, was not interested in gymnastics, his mother stating that he probably would have been keen if the sport had been something involving a ball. I wondered, as the recruitment process progressed, if gymnastics had not been the best choice of occupation for boys of that age. As identified above, boys are the minority gender in gymnastics in New Zealand and in the Club. However, as the field was already established I persisted with the selected occupation, and being male was established as a requirement for participation in the group.

#### Acquiring Informants

The ethnographic approach that I selected, aims to uncover the perspectives of the participants within the context of their culture (Crotty, 1998), which requires information to be gathered from members of the culture who act as informants. Some authors suggest that informants should be purposively selected, considering who is the easiest to access, and who has the knowledge that is most needed to access different aspects of participation and meaning (Morse, 1989; Thomas, 1993). Due to the small number of participants in the research group, all the gymnasts and parents acted as

informants, providing information through conversational interviews during the sessions and in more formal, unstructured interviews at the conclusion of the programme.

I had identified in the planning stages that if other members of the Club had more than a peripheral involvement with the group I would seek their participation as informants. During the initial sessions, it became clear that the coach of the Boys' Group was having an important role in the research, as the gymnasts with dyspraxia had joined in with her group. As she was the head coach of the established group, I then became an assistant coach, and if there were too many gymnasts in the Boys' Group I would be asked to take gymnasts without dyspraxia into the group I was coaching. These tended to be the younger and newer gymnasts, as the gymnasts with dyspraxia were also the newest gymnasts to the group. The head coach of the Boys' Group had taken the position of head coach to the gymnasts with dyspraxia, planning the warm up, stretches and circuits, and providing instruction and assistance to all the boys in the group, including the research participants, during the large group activities. When the gymnasts worked in small groups on the equipment, I took the lead coach role with the gymnasts with dyspraxia and the other gymnasts placed with me.

The Club management's approval was sought to invite the head coach to be a participant in the study. I discussed with her the rationale for inviting her to participate and provided an Information Sheet during the fourth session. She indicated that she thought it was most appropriate that she be part of the study as she perceived she was already part of it, and signed a consent form (Appendix G). She is an experienced coach who has only recently joined the Club, coming from a small town gymnastics club. She has worked with children with disabilities previously in schools and primarily coaches boys.

One of the other assistant coaches also became involved in the study, initially through videoing the sessions for me but also through interacting with the gymnasts

through the sessions. I sought her perspective on the group and on the culture of the gym in general through conversational interviews throughout the programme and during a formal interview at its conclusion. The assistant coach had also been involved with gymnasts with disabilities in the holiday programmes and gymnastics groups. The perspectives of the other gymnasts in the Boys' Group were also accessed to a lesser degree during the sessions.

### Immersion in the Culture

Engaging in the culture that is being studied is a key feature of ethnography (Yang & Fox, 1999). Although I have been a member of the Club in a variety of capacities for many years, I was involved in coaching the gymnasts with dyspraxia in the Boys' Group for two terms, or a total of eighteen hours. The amount of time I spent in the field for the study was dictated by the Auckland University of Technology requirement that, as a part-time student, I complete my thesis in two years.

Although some ethnographers enter into the process of immersion into the culture from a distant and naïve position (Laugharne, 1995), I was already a member of the broader Club culture and also had a number of preconceptions regarding children with dyspraxia. My association with the Club gave me access to the culture and my background knowledge of dyspraxia may have influenced how I coached the gymnasts. However, the danger in such involvement is that I might have been able to interpret and report my findings only from an insider's perspective, limiting the understanding anyone outside the culture could gain from the study. The use of a journal in which I reflected on my preconceptions and my developing understanding of the group while I was in the field and discussing my findings with my supervisors assisted in avoiding this limitation.

Despite my apparent immersion in the culture, I had had very little involvement with the Boys' Group prior to the study and I had never coached gymnasts with diagnosed coordination difficulties. I have most recently been involved in the Club as a parent of preschoolers, so could not claim to have any experience of being the parent of a seven or eight year old general gymnast. Even though I was a gymnast myself, my experiences as a competent competitive gymnast were likely to be quite different to the experiences of the gymnasts with dyspraxia.

Acting as a coach, I was able to become immersed in the culture as a participant. However, whilst being a coach, it was difficult for me to become immersed in the aspects of the culture which involve the whānau members or the gymnasts I was not directly coaching. I therefore arranged a research assistant to video these aspects, and to also video me as the coach working with the children. This was a valuable tool in allowing me to see aspects of the culture I could not observe during the session, and allowed me to become immersed as a participant while also being able to observe behaviour from a more distant position. These assistants signed confidentiality agreements to help protect the participants' confidentiality (Appendix H).

While videoing the group was invaluable, it needed to be carefully managed. To inform all members of the Club of the video, three signs in the entrance identified that there would be videoing and signaled that if they did not want to appear on the video they should tell the camera person. The President and Manager of the Club were not concerned about the use of the video and provided written support for the study (Appendix I) stating that they were happy for video taping to occur, and for me to observe any other people in the gym at the time of the group. Another consideration, identified by Maggs-Rapport (2000), is that while videoing is another data collection method available to ethnographers, the presence of a video camera may cause the members of the culture to behave differently. In this case, perhaps because coaches in

the Club occasionally use videos to assist with coaching, the gymnasts, parents, other coaches and I quickly became oblivious to its presence.

### Gathering Data

As outlined previously, ethnographic methods include the perspectives of the members of the group as well as the researcher's observations. Before data gathering could commence, the boys and their whānau were required to read the Information Sheets, and once I had checked their understanding of the study, sign a consent form. There were different sheets for the adults and children as the children would have been unable to comprehend all the detail in the adults form. Data gathering occurred primarily in the field during the eighteen sessions. As suggested by Mulhall (2003), data included the physical environment, the people (behaviour, appearance), the process of activities, special events, dialogue and everyday events. I planned to take some field notes (observations written in green, interpretations in black) while I was coaching but found it difficult to find time to take detailed notes during the sessions. Hodgson (2001) also identified the impracticality of writing notes immediately; however, I did carry my notebook around with me and wrote notes, while still at the gym, if I had had a detailed conversation with a participant. By reviewing the video of the session the same evening as the session I found I could write more detailed notes about the group. The high level of noise in the gym; however, meant that I was unable to hear what the gymnasts, parents, coaches and I said on the video. I therefore decided to take an audio recording of one session to capture the common-place dialogue that occurred during a session.

In addition to the field work, I interviewed the gymnasts, parents (three mothers and two fathers) and two of the coaches following the conclusion of the fieldwork, using unstructured interviews. The gymnasts were all interviewed in the presence of their parents, while two of the gymnasts decided to 'go and play' instead of

listening to their parents being interviewed. One of the gymnasts had verbal dyspraxia and tended to respond non-verbally or with single words. Although I prepared questions (Appendix J), consistent with ethnographic methods the interview picked up on and followed points that were of interest to the interviewees (Heyl, 2001). The gymnasts were all interviewed in their own homes, although they were given the option of being interviewed in the gym if they preferred. I have interviewed children formally and informally on many occasions through my work as an occupational therapist. A review of qualitative research with children (Woodgate, 2001) helped to inform my methods of interviewing. The parents' interview followed the gymnasts' and the gymnasts were given the option to stay or leave, with one choosing to stay. The interviews, offering the participants' perspectives, contribute to a form of triangulation. Information was gathered from three sources, the participants, recordings (video and audio) and my own participation in the study.

Prior to embarking on this study, potential risks to the participants during the data gathering process were identified. Children are identified as being particularly vulnerable, meaning that special consideration must be given to protect them from harm (Ministry of Health, 2002). In addition, when the researcher is acting as a participant, as I was, it is important to ensure that the participants are not at risk either physically or psychologically from having this dual relationship with the researcher. At the most basic level, the gymnasts needed to participate in an environment that met their physical and psychological safety needs. This need for safety meant that not only did the physical environment need to be stable and supportive, but that I had to ensure that as a coach, I guided them to engage in the environment in a manner that would not put them at risk of harm. As a result, when I found I could not easily divide my time between being a researcher and a coach, I had to choose to be a coach to ensure the safety of both the gymnasts I was coaching and other gymnasts in the Club. Although the gym is

designed to minimise risk, there is always the possibility of injury when engaging in gymnastics. However, this risk was not beyond the normal risk gymnasts would accept when choosing to participate, irrespective of whether or not the group was part of a research project.

The participants also needed to trust me as a researcher, believing that I would not compromise their rights to privacy and confidentiality when sharing their perspectives (Heyl, 2001). One advantage of acting as a participant observer is that the time spent together allows trust to develop and I felt that the participants did trust me and were able to share their beliefs and values with me in the field and during the interviews. While gathering information, a number of steps were taken to protect the participants' confidentiality. The management and coaches of the Club only knew the gymnasts on a first name basis and it was intended that members of the Club not directly involved in the research would not be informed that the participants had dyspraxia or that they were participating in research. However, during the fieldwork a number of coaches approached me to enquire about my research and it became clear that individuals other than those directly involved had become aware of it.

I had identified in the Information Sheets the possibility of the participants' confidentiality being breached, but having become aware that this had in fact occurred, I informed the participants that their confidentiality had not been upheld. On reflection, it was unlikely that other members of the Club would have remained unaware of the study. The coaches, management and highly involved parents know almost all the gymnasts and relate to each other on a personal level. Many of the people who approached me were very interested in the study, and most discussed research questions they had about gymnastics in general, such as whether there were any health and well-being outcomes from participating. They were also very interested in dyspraxia, asking detailed questions about the etiology, epidemiology and presentation, and several



commented that they thought they knew someone who fitted the description. Attempts to protect confidentiality were further potentially compromised as the gym is a public place, and observation by people not involved in the study was inevitable. Prospective participants were informed of this risk on the Information Sheets.

### Exit from the Field

My departure from the field was set for the end of the second term, which happened to also be the end of the Club year. At the end of the year, the Club put on its traditional prize-giving and display for the whānau of the gymnasts. Each group in the Club spent approximately five weeks preparing their display for the night. The gymnasts with dyspraxia participated in the Boys' Group display. As a result, during the last weeks of the study they spent more time participating in the larger group and being coached directly by the head coach. The end of year display was an appropriate way for us all to depart from the field, while the gymnasts were able to return to the group next year if they choose, with one of the assistant coaches agreeing to continue if required to provide supportive coaching such as I had. In a way I did not exit from the field. I still attend the family class with my children and see the coaches at Club events, although I am not coaching formally at the moment due to my commitment to completing my thesis.

### Analysis of Data

Analysis of the data occurred initially during the data gathering process, with themes emerging expressing beliefs, values and common ways of doing things from my field notes and gaps in the data being identified. The more formal analysis, however, occurred following the interviews which I recorded and transcribed. By printing each interview on different coloured paper, the contribution of each participant could be

identified when each interview was cut up and grouped into statements expressing common beliefs and values, which were then grouped together into themes. I then returned to my field notes to explore support for and contradictions to the themes I had identified. This analysis resulted in several of the themes merging and others being further clarified. My supervisors' support was essential in enabling me to reach a deeper level of analysis and to ensure that my findings would be accessible to a broader audience than members of the Club. Having three people interpret both some of the raw data and my interpretations, demonstrates another type of triangulation (which enhances trustworthiness of the study). My analysis allowed me to group my findings into the three final findings chapters that comprise chapters four, five and six. Following the analysis of the data, I returned to the literature to investigate previous contributions to the concepts I identified and to allow a synthesis of the findings from this study and previous research for the final chapter of this thesis.

### Outcomes

Ethnographic research aims to provide detailed description of the culture to enable understanding of the people being studied (Burns & Grove, 1997; Byrne, 2001). The outcomes of this study are described further in the final chapter of this thesis, but through using ethnographic methodology it is intended that the reader will be able to gain their own understanding of the participants' experience of participating in the gym group. This experience is conveyed in one way through direct quotes from the participants which were gathered both during the sessions and in the interviews.

Although many ethnographers use pseudonyms for their participants so that a more complete picture of the roles and beliefs of individual participants can be appreciated, I have chosen to use 'gymnast' to identify when statements have come from any of the gymnasts with dyspraxia and 'parent' and 'coach' likewise. I chose not

to use pseudonyms because of the small population from which the gymnasts were drawn, as the use of pseudonyms would allow a pattern to occur that would identify each individual. This identification would compromise their confidentiality. However, at times quotes from my field notes and the audiotape have been used in which pseudonyms have been applied to allow them to be understood. Different pseudonyms are employed for each quote to reduce the chance of participants being identified. I have at times distinguished between the head coach and assistant coach, but generally have identified both coaches as a 'coach' and the parents, both mothers and fathers, as a 'parent'.

Quotes from my field notes have also been used and excerpts from the video further illustrate what happened during the sessions. Photographs are inserted to show readers the space and some of the objects and activities occurring in the Club. These photographs were taken once the sessions had finished. The pictures include my own children and other gymnasts in the Club (but not the participants of this study). As the gym is considered public domain I was not required to seek permission to take these photographs. By using multiple methods of presenting my findings – direct quotes, my interpretations and visual media – the trustworthiness of my findings is further enhanced.

### Reporting the Outcomes

The most comprehensive description of the outcomes of my findings appears in chapter seven: Conclusion. During the write-up of my draft, I presented my findings to a small group of lecturers, fellow students and occupational therapists at the Auckland University of Technology. From this group I learned that participation is a strong focus of research with children and the audience agreed that the focus on the activity itself is lacking in the literature. I intend to present a summary of my findings to the participants

of the study, perhaps in a reader book form for the gymnasts. I will also report to the Club, including the coaches in the study and the New Zealand Gymnastics Association who provided funding for the hire of the gym and mileage to the sessions. A presentation to the dyspraxia support group and my colleagues who assisted with accessing participants will also provide an opportunity to share my findings, and might be a good opportunity to present to the parents who participated in the study. A description of the study and my findings may also be of interest to the National Dyspraxia Support Group which runs a biennial conference. I hope to publish my findings in a peer reviewed journal such as the New Zealand Journal of Occupational Therapy in which I have previously published two related papers (Cox, 2000; Hessel, 2004).

### Significance of Research

How significant this study proves to be largely depends on how the findings contribute to the literature. As I had been working towards this study for three and a half years of postgraduate study prior to entering the field, I had some background on the literature available regarding occupational science, models of occupational therapy, dyspraxia, sports and leisure, coaching and expectations of whānau of children with dyspraxia. The formal process of reviewing the literature was conducted after the analysis of the data but prior to drawing conclusions.

In the next three chapters I will present my findings from the fieldwork and interviews. The first of the findings chapters describes the boys with dyspraxia and their whānau as they entered the Club. In the second chapter I discuss the boys' experience of becoming gymnasts, and in the third findings chapter describe the beliefs and values the participants developed about doing gymnastics.

### Entering the Club

The night of the first gymnastics session I was feeling rather nervous. The success or failure of this first night would set the stage for the involvement of boys with dyspraxia in gymnastics for the next two terms and possibly beyond. I had many questions, would the boys' join in and would they be able to do gymnastics? Most importantly for me, would they have a good time so they would come back? This first findings chapter describes the perceptions and behaviours of the boys with dyspraxia and their parents as they entered the Club and the coaches' role in encouraging the boys to learn the norms of the Club.

### First Impressions



Figure 6: The Gymnasium

Entering into the culture of the Club, the participants, particularly the boys, are faced with an enormous challenge. To make sense of this foreign environment, they have to enter into and find their way through the new building (Figure 6), make sense of the unfamiliar objects and people with which they will have to interact, and observe the strange activities these people are doing, knowing that they may be required to do the same. Within a short space of time they are required not only to understand this new place, but also become part of it. Of course, there may be some aspects which are not

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entirely alien, as people are known to bring their experiences with them and attempt to apply their prior knowledge in the new environment (Kielhofner et al., 1995). This first section of chapter 4 describes the participants' behaviours and beliefs as they entered the Club and highlights how past experiences influenced their interpretations of the situation, to then influence their behavioural choices.

The dominant perception of the boys with dyspraxia and their parents was that the gym was “big”. Indeed, by New Zealand standards the Club and its building is big. It is the third biggest club in New Zealand in terms of numbers of gymnasts and is situated in a large (1000 m<sup>2</sup>), purpose built building. Large clubs such as these are a relatively recent development in New Zealand, with the Club being formed in 1992 when a number of smaller clubs attached to schools joined together to pool resources and improve facilities (e.g. Figure 7).



Figure 7: A School Hall as a Gym (From Outram School. [2005]. *Board of trustee news*.

Retrieved 18<sup>th</sup> December, 2005, from the World Wide Web: <http://www.outram.school.nz/bot/news.htm>. Reprinted with permission of Author.) and The Gym.

There are other smaller scale clubs in the city and, other than the YMCA, these remain attached to school and church halls. Prior to 2003 the Club had rented a warehouse but after many years of fundraising the current building was constructed. It was designed to accommodate the increasing numbers of gymnasts and the wide variety of equipment required for the range of gymnastics activities the Club offers. The number of gymnasts

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already in the gym on the night the boys with dyspraxia started added to the impression of the Club being big. On the evening that they were participating, there were three other groups in the gymnasium totalling around fifty gymnasts: the senior boys group, which consisted of three to four boys, aged approximately seventeen to nineteen; a large group of competition level girls aged about eight to thirteen; and the Boys' Group of around twenty boys, with ages ranging from five to twelve.

The parents' perception of the size of the gym was informed by their own experiences of gymnastics. In addition to gymnastics clubs in school and church halls, gymnastics has a long history of being part of the New Zealand school curriculum (Stothart, 1982). It was not unexpected then that two of the parents reported they had done gymnastics at school. These parents contrasted their perception of the gym with their own childhood experience. One parent reported:

Where we did it was just like in empty classrooms in the school...we had a vault, a beat-board [Figure 8], a mat and I think that was it. And we had a stick sort of four by two that we put on the ground that we could use as a beam.



Figure 8: Beat Board and Vault/Box

In comparison to a classroom, the gym certainly would seem large. The parents appeared to perceive the size of the gym as being positive, which contributed to their overall impression of the 'professional' nature of the Club.

- Stephanie: What had you thought the building was going to be like?  
 Parent 1: Yeah, I was impressed with it.  
 Parent 2: It's a good facility, it's good how they've got that deck so you can look down from the viewing area...It's good how you don't have to move stuff around, it's ready to use all the time. The parking was good.
- Parent: I didn't think it'd be as big; I was impressed with how professional it all seemed.

The boys with dyspraxia also commented on the size of the building and the amount of equipment. When asked during the interviews following the conclusion of the study what they thought of the gym when they first arrived, they said:

- Gymnast: Big.
- Gymnast: It was really cool. I liked it 'cos it was really big.
- Gymnast: A bit big.

Although the boys did not report that the size of the gym was intimidating, the behaviour of the boys who had not been to the Club prior to the first session suggested that the size of the building combined with the amount of equipment and number of gymnasts could be a barrier to their participation. One of the boys expressed his fear as a reluctance to be parted from his mother:

- Stephanie: Was it hard having mum going upstairs at the start?  
 Gymnast: (Nods).  
 Parent: You didn't want me going up the stairs in the beginning did you!

Indeed, the boys looked up to where their parents sat regularly during the initial sessions (Figure 9). Another of the boys with dyspraxia became very tearful and clung tightly to his mother when he entered the Club. Although the boys had all given their informed consent to join the study, and knew they would be coming to a gym, it was clearly not what they had expected. The boys also reported some experience of gymnastics at school; so again, in comparison to their school halls the gym would appear big.





Figure 9: The Upstairs Parent Viewing Area

It was not only the size of the gym that was foreign, the equipment also appeared to have a significant influence on the parents' and boys' initial impressions of the Club. The parents had based some of their expectations about what their sons would be doing on the equipment they had used at school and found that the equipment in the Club exceeded their expectations. Just as the parent in a previous quote identified the limited amount of equipment available, the other parent who had done gymnastics at school reported:

When I did gymnastics at school there were a few mats thrown round, a horse to jump over, a balancing beam and that was about it. I wasn't quite thinking of rings and parallel bars [Figure 10] and stuff like that.



Figure 10: Rings and Parallel Bars

The boys too identified the comparatively limited amount of equipment when they had participated in or observed gymnastics at school:

Gymnast: My little sister went to gymnastics at the school, except they don't have that much gymnastics things.

Stephanie: What did you have when you did it at school?

Gymnast: Don't know. Did that. (gestures)

Mum: What?

Gymnast: Did that.

Mum: Roll?

Gymnast: (Nods)

Stephanie: Just on the mat was it?

Gymnast: Yeah.

Stephanie: Where did you go when you did it at school?

Gymnast: Just at my school hall, it was just a few, they've got like, beams and stuff like that.

This limited amount of equipment relates to the need for most gyms to double as either a school or church hall so that every night the equipment has to be taken out and set up, then stored away again. This dramatically limits the amount of equipment that can be used. In contrast, the space available in the Club allows equipment to be permanently set up, which means that a large and varied amount of equipment can be used.

It appeared that the parents' only previous experience of an environment like the gym was when viewing the Olympic Games, as two of the parents made reference to the Olympics when discussing their perception of the Club. One parent commented that the Club is:

Very professional, like they're training up Olympians or something... they've got everything there.

The boy who became tearful when he entered the gym had also appeared to make the connection between the appearance of the gym and high level gymnastics. His mother reported:

When he saw what he thought were the big girls there doing all the stuff, like doing cartwheels on the beam and that, he had just a mild freak out thinking he would be expected to do the same thing.

As noted previously, I was expecting that I would be running a group for boys with

dyspraxia; however, on the first night, when the Boys' Group started doing their warm up, one of the boys with dyspraxia spontaneously joined in and another followed. One of the coaches from the Boys' Group perceived that the anxiety the boys with dyspraxia expressed may have been related to their joining a group that was already established:

Probably it was quite a frightening experience for them suddenly coming into a big group that was already together.

As the gymnasts in the Boys' Group had been doing gymnastics together for at least a term prior, they had already developed some skills and had learned the structure of the sessions and expectations of the coaches. It is not, however, unusual for gymnasts to join a group part way through the year, and over the course of the study approximately six other boys joined the group. However, it appears that it was not just the size of the gym that was intimidating, it was also the expectations that the boys with dyspraxia perceived the members of the Club would have for them, particularly with regards to the skill performance.

In summary then, when the boys with dyspraxia and their parents entered the Club they reflected on their previous experiences of gymnastics. They identified that the gym was big, and the parents reflected that in contrast to the halls or classrooms in which they had done gymnastics, the Club was "impressive" and "professional". While for parents this apparent professionalism instilled confidence in the Club, it initially created stress for boys who perceived that the expectations placed on them in an environment that appears to be designed for the elite may be set too high. Fortunately, there was an enticement in the gym that allowed the boys to overcome this initial pressure and to start having a good time.

#### Enticements

Although the gym was clearly not what the boys with dyspraxia had expected when they gave their consent, none of them joined in unhappily. They quickly overcame their

initial fears and the equipment in the gym seemed to play an important role in enticing them to join in. Rather than giving the gym a frighteningly professional appearance, the equipment created an initial impression of a playful environment.



Figure 11: Ladders, Slides and Ropes

Objects such as bars, ladders, slides, ropes (Figure 11) and trampolines are common in playgrounds, while fat mats, rings and vaults may not be so familiar but may be easily interpreted as something fun to jump on, swing on or climb over (e.g. Figure 12). One of the coaches commented that a child's first impression of the gym is typically that it is a playground:

(If) they've never really been in a gym before there's all this play equipment everywhere, well obviously the first thing everyone thinks is to go and play on everything.



Figure 12: Bars and Beam Stations looking like Playgrounds

This seeming playground appeared to arouse the gymnasts' interest in the activity and allow them to overcome their initial trepidation. One parent provided a comparison with her son's experience at another club:

There's one at the YMCA...he thought it was boring, he just didn't like it...he did some gymnastics there but nothing ever like they did here. I mean the equipment's nothing [like] what they've got down there.

In contrast to the YMCA, the range of apparatus at the Club appeared to be an exciting aspect of the gym for the boys with dyspraxia and they initially interacted with it as though it were playground equipment. They ran over the box tops, jumped and crashed onto fat mats, and threw and kicked the balls. (Video 1)

As well as being impressed by the equipment, the parents perceived that the equipment in the gym encouraged the boys with dyspraxia to attempt a boarder range of skills than they had anticipated:

Parent: I was amazed by the amount of equipment that was there for a start, it was just huge...I wasn't thinking that they'd use equipment 'cos I didn't know what kind of equipment they had either and I thought maybe they'd just do the basics. I mean really what they did was the basics, but it was more advanced than what I thought, than just the basics, which I thought was forward rolls, backward rolls, handstands.

Parent: I hadn't taken the kids to gymnastics before so I wasn't really...I wasn't quite thinking of rings and parallel bars and stuff like that.

Parent: I suppose I expected quite a lot of forwards rolls.

In their own experiences of doing gymnastics at school, the parents perceived that the equipment had only permitted them to perform "basic" skills. In contrast, the equipment at the Club provided much greater movement opportunities and challenges.

Although the boys with dyspraxia perceived the equipment as a stimulus for play, and the parents saw it as offering much greater opportunities than they had had, the wide range of equipment in gym does not make it a 'free for all' playground. In order to fit in with the other members of the Club, the boys' behaviour needed to

conform to the expectations of these members with regards to how the equipment will be used. Initial coaching sessions focussed on modifying the boys' use of the equipment to be more appropriate from the perspective of the members of the Club. The coaches and other gymnasts expect that the equipment will be used in specific ways that are associated with the progressive development of gymnastics skills. For example, there are a number of foam wedge mats which are used for rolling down. On the first night, one of the boys with dyspraxia tipped the wedge up onto its wide end, then pushed it over, falling down on top of it as it went. I told him "the wedges are not for crashing!" (Figure 13).



Figure 13: A Wedge and the Wedge being Tipped Over.

One of the coaches from the Boys' Group suggested that an important focus for coaches in the initial gymnastics sessions is ensuring that gymnasts acquire a shared understanding of how gymnastics equipment should be used:

I think it was really important that those first probably about 5 weeks it was kind of like 'this is the gym, and at the gym we do gymnastics'. Kind of getting them to know what the equipment [is for], like 'this is where we jump, this is where we walk on the balance beam'.

Fortunately the modification of the boys' behaviour did not extinguish their interest in the equipment and the enticement to participation that this interest kindled.

The equipment has special significance for members of the Club, and the focus on the equipment extends beyond an introduction to the gym to become a prominent feature of the organisation of activities. For example, coaches are taught to build gymnastics classes around skills or attributes such as ‘rotations’ and ‘statics’ through coaches training (Canadian Gymnastics Federation, 1986) and the Kiwi Gymfun programme (New Zealand Gymnastics, 1999). Despite this training, stations tend to be constructed around matching equipment and coaches will often name the station according to the equipment used in it, such as ‘beams’ as opposed to ‘statics’. It is likely that the instructions in the manual were developed to accommodate the many environments where gymnastics are practised which do not have access to the range of equipment the Club has. However, in the Club the retention of this language suggests the symbolic value the members of the Club place on the equipment.

Acquiring the language of the setting through learning to name equipment was important for the boys with dyspraxia. It not only allowed them to understand other members of the Club but was a necessary part of starting to gain some control over their participation:

Gymnast:	What is a vault?
Stephanie:	That is the vault; we also call it the box or the horse.
Gymnast:	Can we go on the vault?

In addition to acquiring the language, the boys with dyspraxia also increasingly used the equipment in a manner that would be perceived as ‘appropriate’ by the members of the Club, demonstrating that they were becoming integrated into the culture. They rolled down the wedges, bounced on the beat boards, and climbed or jumped over the vaults (Video 2). This change or adaptation was important in relation to others accepting the boys with dyspraxia into the group. By choosing to act in a way that is consistent with the expectations of the group, the symbolic value that the group holds in that behaviour is shared and membership in the group is established (Persson, Erlandsson, Eklund, &

Iwarsson, 2001). By choosing to roll down the wedge instead of tipping it up, the gymnasts with dyspraxia are communicating to the group that they are endeavouring to learn gymnastics skills; a pursuit that is met with certain approval from the other members of the Club. Indeed, as the boys with dyspraxia became familiar with the equipment and their awareness that they needed to use it in a predetermined way developed, they immediately noticed if there was equipment present that did not belong there. For instance, within ten minutes of entering the gym for the fourteenth session, one of the boys spotted a boogie-board (which is not a usual item on gym equipment) and demanded “[What is] that?”

Over the two terms, the interest the boys with dyspraxia had in the equipment developed from associating it with the playground to being identified as a highly valued aspect of gymnastics. When they were asked what they like about gymnastics, the boys responded by naming or describing their favourite apparatus:

- |            |  |
|------------|--|
| Stephanie: | What bits did you like most at the start?  |
| Gymnast:   | Well, I liked, ‘cos we did the rings, I liked the rings but I also liked trampoline. |
| Stephanie: | What was one of your favourite things about gym?                                     |
| Gymnast:   | Those. (gesturing)   |
| Stephanie: | You liked going on the bars? That was pretty fun wasn’t it?                          |
| Gymnast:   | (nods)   |
| Stephanie: | What else did you like about coming to gymnastics?                                   |
| Gymnast:   | This. (gesturing)  |
| Stephanie: | What was that one? Show me again.  |
| Gymnast:   | That (gesturing) that.   |
| Mum:       | The hanging one?   |
| Gymnast:   | Yeah.  |
| Stephanie: | And the rings, oh okay.  |
| Stephanie: | What were your favourite things that you liked to do there?                          |
| Gymnast:   | The vaulting [Figure 14] and the beam and the rings and the bars.                    |





Figure 14: Vault Station

It seems that the variety of equipment, as well as creating an interesting environment, offered the gymnasts a range of opportunities to find something they were able to do and enjoyed. It is possible that their interest in a certain apparatus develops from an aptitude in the skills the equipment demands. For example, a slow and steady person may prefer the beam, while a bouncy, busy person might prefer the vault. Kielhofner et al. (1995) point out that “we are more likely to enjoy what we can perform with some level of proficiency when skill is involved in the performance” (p. 48). In my own experience of gymnastics, it is common for gymnasts to give preference to certain equipment over others. I preferred the floor and the vault, while my friend liked the bars and beam best. One of the parents noticed that her son had a tendency to behave this way that reflected such preferences:

Things that he can achieve, he’d sort of like, go back to that apparatus.

A Boys’ Group coach perceived that this variety in equipment makes gymnastics an ideal sport for children with any level of ability:

If you don’t enjoy doing the balancing beams then lots of kids love jumping or rolling or swinging on the bars, whereas, let’s say you’re doing soccer, it’s like, ‘this is the ball, you have to kick it’. So I think it just gives a wide range of people a lot of variety and lots of different things to try.

To sum up, the gymnastics equipment is a central focus for the members of the

gym. The boys with dyspraxia quickly developed an interest in the equipment, initially as a form of playground equipment, allowing them to have a sense of the familiar within a predominantly unfamiliar environment. Following the enticement to participate that the equipment offered, the coach's role was to ensure that the gymnasts conformed to using the equipment in an 'appropriate' way. Using the equipment in a way that the members of the Club deemed appropriate, expressed shared symbolic value, which is important for becoming part of a group. The boys with dyspraxia learnt the names of the equipment, which allowed them to understand the other members of the Club and to start expressing their preferences and choices. The equipment afforded a range of activities, and the boys with dyspraxia found that specific equipment was easy and enjoyable for them to use. This apparatus became the highlight of their experience.

### Behaving Like Gymnasts

As described previously, entering into the unfamiliar environment of the gym began, for the boys with dyspraxia, with trepidation and was followed by the mistaken interpretation of the gymnastics apparatus as playground equipment. Once they entered the gym, they had to begin behaving like gymnasts if they were going to be accepted by the other members of the Club. These expectations went beyond their use of equipment; for instance, the 'Club Safety Rules for Gymnasts' states:

Gymnasts are to warm-up and train without interfering with other Club members. Interference may be such behaviour as inconsiderate running through and into equipment areas, removing mats or equipment without the coach's agreement, excessive noise and/or rowdiness.

The process the boys with dyspraxia needed to go through in developing into gymnasts occurred in two ways which reflect their initial perceptions of the Club; Firstly, through overcoming their anxieties and participating in the activities, and secondly, behaving as the members of the Club expect.

Although every child takes time to get used to being in the gym, the particular

aspect of the process to which any gymnast needs to get accustomed is individual. For example, some gymnasts are hesitant about joining in the warm up game, while others are reluctant to try certain equipment. At the start of the Boys' Group session, a large group game was used to get the gymnasts muscles warmed up and to practice some basic skills such as landings and balances. Over the two terms, I observed that several of the younger gymnasts did not initially join in with the games. One of the boys with dyspraxia did not join in until week thirteen. Equally, although the equipment held a high degree of appeal, just as gymnasts have favourite equipment, most have equipment they dislike. This aversion was more extreme for two of the boys with dyspraxia; one boy did not get onto the high beam until the second term and another would not go upside-down on the bars at all.

The coach's role in managing gymnasts who avoid participation is firstly to encourage the gymnast to join in through requesting their participation, assuring them that they are safe and can manage the task, making the activity look fun and being patient. All of the coaches take on this supportive role with a gymnast they are encouraging to participate.

Field notes: The coach and the assistant coach ask the gymnast if he will join in. The coach says 'I could get you a pretty hoop' and laughs. I run around joining in the warm up game. The activity is to jump through the hoop. I say to the gymnast 'you know how to do this, I've seen you. Would you like to try?' He shakes his head (no). He watches the whole time. The coach says 'do you want to have a go at that?' he shakes his head (no).

This supportive style of coaching was the dominant style I used with the small group I coached at the stations (the boys with dyspraxia and the other gymnasts who were placed with us). Perhaps because of this, most of the participants perceived that I was a rather 'soft' coach:

Parent: You probably made gym a lot easier for him than if it was a normal class.  
Stephanie: So what was I doing, do you think, that made it easier?

- Parent: I think you were too soft on them (laughing loudly).
- Coach: Those two mums ... I heard them saying 'oh she's just so calm' ... I thought you were quite patient which is probably what you needed to be with those kind of, with those boys.
- Parent: I think that your personality was perhaps more approachable than a couple of the other coaches there.
- Coach: I think you would probably shine in the area where you are working with kids that needed a lot of one-on-one and support. You showed a lot of patience.

Perhaps my style did appear 'too soft' and the parents would have liked to have seen the boys lined up, taking their turns and following my instructions. The parent's reaction of laughing following her statement that I was perhaps too soft on the gymnasts highlights an issue with my methods that I had considered but could not identify a way to avoid. The parents, coaches and gymnasts had developed a relationship with me that may have meant they would not want to give me negative feedback about their experiences. Although the participants were not in a dependent relationship to me when I conducted the interviews, the relationship we had developed could have continued to exert an influence. Fortunately, the data I gathered during the interviews seemed to include some of the participants more negative experiences, but these tend to be followed with laughter to reduce any of their or my discomfort. With regards to whether my coaching was too soft, I perceived that the necessity of making the gymnasts feel safe with me to encourage them to join-in, overshadowed my desire to keep them in line.

The 'soft' style of coaching involves requesting modification of behaviour and redirecting the gymnast if he does not meet the request as opposed to enforcing rules which, if they are not obeyed, results in discipline. The following is a sample from the audio tape I took of a session where I am trying to demonstrate an activity at the vault station (pseudonyms have been used for the gymnasts):

- Stephanie: You have to run up, you have to (pause) you have to jump up, jump hands and feet. Should I show you?
- James: Yip.

- Stephanie: And then do a stretch star jump and land still, okay? So it's like this. Can I show you? Guys?...Richard, Richard you need to hop out the way. Tom?
- Richard: Tom!
- Stephanie: (clears throat) Hop out the way for a second. I want to show what you have to do on this one.
- James: Tom!
- Stephanie: Alex, Richard, can you stay off the? (Laughs) Okay, alright, how about you guys all come down with me to this line here. Then you can see what to do.

Despite my frustration at being unable to move the gymnasts off the piece of equipment I was trying to use, I continued to request that they get out of the way and eventually redirected them to join me on the line. The gymnasts did not seem to comprehend what I was saying to them. It appeared that I needed to be specific and that asking them to 'get out of the way' was not helpful. Perhaps they were not aware of what 'way' I was talking about. Adapting my instructions to be more specific instruction; 'come down with me', had the effect I desired. Clearly disciplining the gymnasts in this situation would have had no benefit and fortunately the soft coaching style available for the coaching role could accommodate the gymnasts' need for supportive coaching when they were entering the Club.

The boys with dyspraxia were perceived by the coaches to take longer than the other gymnasts to work through this process of getting used to the gym: one of the Boys' Group coach's suggested that usually the process takes two to three weeks, but it took the gymnasts with dyspraxia closer to six weeks. Although my style of coaching was attributed by some of the participants to my personality, the other coaches and I perceived the style chosen to be a mix of personality and a response to the needs of the gymnasts:

- Coach: I've got to admit as a coach I relate better to working with boys, there's a lot less fuss...Just personality wise I find the boys quite exciting and interesting...[the gymnasts with dyspraxia required] individual attention that was pertinent to their needs.

Coach: But then when [the other coach] came along it was much easier 'cos she's quite strict...you've got to be really weary of body language...especially with the little kids.

The coaches perceived that if the boys with dyspraxia had not had available someone using the soft style of coaching, they may not have successfully joined in:

Coach: I don't think it would have worked unless there was another coach that was just there to give up the time, to give a little bit extra I suppose.

Coach: They would have floundered...It would have been more distressing for them, I'm sure, because they wouldn't have had an easing in, in those groups, because the other coaches would have had other challenges to mind as well. They wouldn't have been able to give them the same individual attention that was pertinent to their needs as you did.

The parents also perceived the need for a supportive style of coaching:

Parent: I think the fact that if you make a mistake nobody makes a big deal out of it, you're just, 'Oh try that again'. It's not 'you did that wrong!' Or yelling at them...I know a kid goes to karate and they get yelled at when they do something wrong. [My son is] not going there.

Parent: [My son] does get anxious, so if somebody was what he sees as being nice, then it makes a big difference. 'Cos he feels like he can, it's okay to you know, ask or to talk with them.

When discussing the style of coaching I was using with a coach from the Boys' Group, I asked what she thought of my permitting one of the gymnasts to continue to sit out during the warm up. This is the response I recorded in my field notes:

She said that if she didn't know he had a diagnosis she would 'tell him to join in or go upstairs'. I said I thought I was much more tolerant because I knew they had a diagnosis. She said she would be too.

This comment suggests that the needs of the gymnasts are influential also in determining the style of the coach. It is unclear to what extent coaches' perceptions of the needs of the gymnasts are influenced by knowledge of a diagnosis, but it appears that knowledge of a diagnosis may make coaches more accommodating.

However, being supportive was not the only style of coaching used by coaches in

the Club. The coaches perceived that, in order for the gymnasts to be safe and to encourage the development of skills, some of the boys' free play needed to be suppressed. Safety concerns include issues such as gymnasts getting in other gymnasts' way (for example, if a gymnast is trying to run up to the vault board and another gymnast steps onto the runway) or interfering with a gymnast while they are on the equipment, such as pushing someone when they are on the beam. The two younger gymnasts with dyspraxia tended to take longer to learn the rules related to safety. They did not seem aware of the boundaries of each station, even when I had described them, and I found it necessary to create physical boundaries using hoops and other objects to try and keep them out of the way of the other gymnasts. A coach commented on one of these gymnasts' difficulty with learning these rules:

[He was] running out onto the vault strip and that kind of stuff because he had no idea that there were other people around him doing things. The other gymnast did that a bit too...they were running around heaps...They run out on the vault strip. They don't know that there's a girl lining up about fifteen metres away...I guess I'd probably tell the other boys, 'you can't do this because she's going to be running down there', but I saw that you told [him] once and he still didn't click on and then he ran back out again, so I'm not sure how that works.

It may have been that my instructions were not sufficiently clear, but as I will discuss in the next chapter, there were other factors at play with his not remaining at the station.

The boys with dyspraxia were not the only gymnasts engaging in unsafe behaviour, with the Boys' Group in general tending to be noisier and more difficult to keep within the boundaries than the other groups in the Club. This behaviour necessitates a different coaching style: the tough coach. The tough coach provides much more direct instruction. Strict commands are given as opposed to requests and these commands are given in a loud voice, often highlighting behaviours that will not be tolerated. The following excerpt from the audiotaped session demonstrates the way the head coach instructed the boys in the tough coach style:

Coach (audio): On the islands, you have to be doing something; on the

heart you have to be spinning round; ... in the hoop you have to be doing star jumps; and those things there, we'll put them further apart, you have to be doing leap frogs... Excuse me, you need to keep quiet.

For some of the boys with dyspraxia and their parents, this coaching style appeared intimidating:

- Stephanie: Was she [the coach] like me, or different from me?  
 Gymnast: Different.  
 Stephanie: What was it that was different about her?  
 Gymnast: She had a much louder voice and it was really noisy.  
 Stephanie: So would you like her to be your coach?  
 Gymnast: No.  
 Stephanie: Why not?  
 Gymnast: Because she's a noisy person.
- Parent: A couple of the other coaches there...could be seen as a little bit scary...quite sort of directive and like, 'do this now' and then 'do that now'.

The coaches highlighted the necessity of this approach by describing the lack of discipline in the group before the current head coach, who uses a tough coach style, was put in charge. The Boys' Group had historically been lead by coaches who used a softer style, and this resulted in a rather unruly group that did not achieve a great deal:

- Coach: We went through a stage where it was really hard 'cos all the boys didn't listen at all. But then when [the coach] came along it was much easier 'cos she's quite strict...she doesn't let the boys muck around at all...whereas the other coaches they'd just kind of say 'don't do that, that's not cool'...and keep repeating themselves and nothing was changing.
- Coach: Well, basically you're dealing with children in a physical environment, and one that could be highly dangerous, so you've got to keep discipline...It was very unstructured before I took it over and the bottom line is, if it's not a structured session and they're mucking around and in lines and waiting for turns or hassling each other it's not really fun. Whereas, if they're on equipment all the time and they're kept busy, it is much more fun.

Within my own group, I needed to adopt the tough coach role at times and threatened the boys occasionally that they would have to go upstairs to sit with their parent if they did not follow my instructions or got in the way of other gymnasts. The boys did



respond to these threats in the short term, but other influences, which will be discussed further, probably had a greater influence on modifying their behaviour.

Although the tough coach places demands on behaviour, she is not a dictator. Strict commands are actually negotiable. Filling in some of the gaps from the audiotape quote above where the coach lists her demands of what the gymnasts will do on each piece of equipment, it becomes clear that she is perhaps not as strict as she initially appears.

- Coach: ... in the hoop you have to be doing star jumps, and those things there, we'll put them further apart, you have to be doing leap frogs,  
 Gymnast: Can I keep running around?  
 Coach: (to gymnasts) or you can keep running around, if you are on a piece of equipment you can be safe...  
 Gymnast: I'm going to keep running around.  
 Coach: That's fine, that's your choice as well.

The coach later reflects that her "bark is a lot worse than her bite" and while her 'barking' helps to keep it clear to the gymnasts who is in charge, allowing the gymnasts to make choices and to make a contribution, empowers them and encourages them to feel good about what they are doing. As well as allowing flexibility, the tough coach also tends to use humour to frame a serious comment in a non-threatening way, or to ensure that a friendly and fun relationship is maintained.

- Coach: The other day they were mucking around, it was supposed to be a fun night, I said 'right, this either gets very safe or we are moving on to where you are sitting down and I'm reading you nursery rhymes'.

Once the gymnasts realise that the tough coach is not to be feared, and that she will be reasonable and funny, they develop a friendly relationship with her:

- I've got a pre-comp[etition] group of five and six year olds and I've got to admit that they sat there looking at me wide eyed and absolutely (gasp) for the first few weeks. But they're now accustomed to me and they come bouncing in happy to see me.

The coaches perceive that the most successful coaches combine the tough and soft coach:

- Stephanie: So, what then makes a good coach for coaching the boys do you think?
- Coach: Somebody with a fair bit of patience, somebody with a really good sense of humour. I think those would probably be the two major factors, sense of humour, patience and the ability to run a disciplined programme.
- Coach: You've probably got to [be] quite sympathetic... You've got to show some power though, so that you are in control and that they can't do their own thing.

To summarise, once the boys have entered the gymnasium, they are required to learn to behave like a gymnast if they will be permitted to continue to join the group. The boys with dyspraxia, particularly the two younger ones, took longer to fit with the norms of the Club than other gymnasts. Gymnast behaviour is encouraged to comply through two styles of coaching: the supportive coach and the tough coach. The supportive coach's role is to encourage the gymnasts to participate through providing an accommodating style of coaching, involving being patient and requesting appropriate behaviour. This was the style I predominantly used to coach the boys with dyspraxia. One of the other coaches noted that knowledge of a diagnosis could make her more accommodating than she usually would be. The tough coach style is essential for ensuring safety and to encourage the development of skills. Although the head coach demonstrated both styles, one predominated. The style that each coach uses was seen as associated with their personality, but seemed to be also influenced by the needs of the gymnasts. The difficulties the boys with dyspraxia had in following instructions appeared to be related to their understanding of the instructions, as opposed to deliberate choices to obey or disobey. This meant that a redirective approach to coaching was more appropriate than a disciplinary one. Although the parents desired more discipline, it was acknowledged that the soft coach style was essential for making the boys with dyspraxia feel safe.

To conclude this chapter, the process that the boys with dyspraxia went through when

they entered the gym for the first time began with feelings of trepidation. The size of the building and the level of competence of the other gymnasts left them feeling that they could not meet the high expectations that the professionalism of the Club appeared to demand. The parents also interpreted the Club as being professional, but rather than finding it intimidating, they were impressed. The boys' initial fears were overcome by the presence of a wide range of equipment, which they appeared to associate with a playground. The equipment quickly became a focus of their attention, while the coaches, parents and other gymnasts also held the equipment in high regard. The coach's role in enabling the boys to join in involves two styles of coaching. One style is supportive and is used to encourage the gymnasts to overcome their fears, while the other is tough and reduces the amount of playing the gymnasts do on the equipment. All the coaches demonstrated the use of both styles, although the head coach favoured the tough style and I tended to be more supportive. The predominant style each coach used was interpreted by some of the participants as being related to her personality, while others perceived it to be a response to the gymnasts' needs. The supportive role I took on may have been a response to the tendency of the boys with dyspraxia to take longer to overcome their fears, while their ability to abide by the rules was also delayed and required accommodation. Ultimately, the boys with dyspraxia successfully entered the culture of the gymnasium, setting the stage for refinement of their skills and behaviour to allow full participation in the group.

### Becoming a Gymnast

Following their entrance to the Club and introduction to the Boys' Group, the boys with dyspraxia (to be referred to from here as 'gymnasts with dyspraxia') needed to behave like gymnasts. As noted previously, modification of the gymnasts' interactions with the equipment was needed when they entered the gym to encourage them to use it to develop gymnastics skills instead of for free play. Although the equipment is held in high regard in the Club, it is only seen, even more importantly, as a means to an end for developing gymnastics skills. However, it is not enough to achieve only the most highly valued aspect of the sport, so the gymnasts with dyspraxia needed to behave in the ways that fitted in with the other members of the Club if they were to be considered part of the group.

#### "He Can Walk on the Beam Better"

Doing gymnastics or being a gymnast required that the gymnasts with dyspraxia move beyond a successful entrance into the group to participating in the activity of gymnastics through the development of gymnastics skills. Skill performance is very important in gymnastics, and unlike other sports in which a goal can be scored or a time, height or distance achieved, success can only be determined by the acquisition of increasingly difficult skills and the perfection of those skills. In the Boys' Group, this achievement was measured through the Kiwi Gymfun badges. This section focuses primarily on a cultural interpretation of developing gymnastics skills.

As discussed previously, the gymnasts' main interest was in the equipment; however, all of the gymnasts expressed the desire to learn specific gymnastics skills over the course of the two terms. They requested that they be taught a variety of skills including forwards and backwards rolls, cartwheels, handstands and flips. In addition to these requests, in order for them to participate in the session and to receive a badge

when the rest of the group did, they needed to learn gymnastics skills. Such skills included forwards rolls, jumping on the beat-board and walking on the beam. Direct teaching of these skills, through coaching, is the main process through which these skills are acquired. For the gymnasts, the defining feature of a good coach is their ability to teach skills:

- Stephanie: What do you think a good coach does?  
 Gymnast: Teaching us.
- Stephanie: Which one did you like the best of the other coaches?  
 Gymnast: You.
- Stephanie: ...What made me a good coach do you think?  
 Gymnast: You told us how to do it, 'cos I didn't know how to do stuff and you also told us how to try to and make your body straight on the rings, which was really helpful.

Given the importance of skills, it is not surprising that the level of skill acquisition is seen to be intimately related to the gymnasts' overall success as a gymnast. The gymnasts, their parents and the coaches perceived the gymnasts' attainment of skills as their measure of achievement:

- Coach: They would say, 'wow, I just got a forwards roll' so they did achieve something...One of them did a cartwheel in another coach's group, but he came to tell me, and told the other coach and it was a really big achievement.
- Parent: I remember this one girl...trying for ages to get this forward handstand into a forwards roll thing, and she couldn't get it, and last night she got it!

Indeed skill attainment was not only perceived informally as the standard of success, it was the only measured outcome of progress.

From an outside perspective, the acquisition of skills appears to be the purpose of participation in gymnastics; however the coaches and parents actually interpret skill acquisition as the manifestation of something more important: attribute development. In particular, the attributes of balance and coordination were valued by the parents, while strength and fitness were also important to the coaches. For the adult participants, walking on the beam is valued as a demonstration of balance; jumping on the beat board

provides evidence of spring; a cartwheel shows coordination and so on. This interpretation of skill acquisition as attribute development is apparent throughout the broader gymnastics culture, as well as within the interpretations of the adult participants in this study. As identified previously, the Kiwi Gymfun cards, which were the focus of my coaching, arrange gymnastics skills into six Dominant Movement Patterns. These movement patterns - landings, statics, locomotion, swings, rotations, and springs - are described in the New Zealand Gymnastics Association Junior Introductory Coaching Manual (Canadian Gymnastics Federation, 1986) as the “lowest common movement denominators” (p. 46). As such, they are the focus of general gymnastics, to ensure “competency with the unique pattern of movements that make up gymnastics” (p. 46). (See Appendix K for details regarding the components of each Dominant Movement Pattern). The Manual proposes that a Dominant Movement Pattern is developed through engaging in gymnastic skills and exercises, and that these skills and exercises will therefore develop the physical and motor attributes inherent in each Dominant Movement Pattern:

Many *physical attributes* such as flexibility, strength, power and endurance are necessary for successful participation in gymnastics. Conversely, these same attributes can be enhanced by gymnastics. This is also true of *motor attributes* such as speed, co-ordination, agility and spatial orientation (Canadian Gymnastics Federation, 1986, p. 14). (Italics original)

The focus on Dominant Movement Patterns and the attributes with which they are associated, suggests that it is not specific gymnastics skills that coaches are aiming to develop: it is the underlying attributes which may be expressed by skill development. Accordingly, the coaches in this study perceived that gymnastics promotes the development of attributes:

Coach:            You’re wanting them to...improve their coordination, balance, all those sorts of things...the main impetus would be ‘let’s make these guys stronger and fitter’.

The parents too interpreted their son’s achievement of skills as the method for and

expression of attribute development:

Parent: [My son's] balance certainly improved on the beam didn't it!

Parent: Better coordination, slightly better coordination...his performance at the gym was improved.

Parent: I've always wanted [my son] to do something like that [gymnastics] for his coordination.

My philosophy embarking on this study was to investigate participation in the activity of gymnastics for the purpose of participation in gymnastics. I intended that the boys with dyspraxia would learn to walk along a beam so that they were walking along a beam, and that they would learn to do a forwards roll so that they could do a forwards roll. However, it appears that for the coaches and parents it is not the skill that holds the value; rather, it is the assumption of the underlying abilities, such as the planning, timing, sequencing, strength, coordination, balance and stability requirements of gymnastics that are important.

As I discussed in the introduction, my rationale for focussing on skill development and participation in gymnastics as opposed to stimulating or evaluating changes in the boys' attributes, was that there is little consistent evidence to suggest that any intervention can make such changes. However, the coaches and parents perceived that doing gymnastics did improve the gymnasts' balance and coordination. Does this then provide evidence for the development of these attributes or is there an alternative interpretation?

With skills being the only measure of development in gymnastics, it is difficult to determine with any certainty whether any change in attributes occurred. Achievement of skills and development of attributes certainly have an association with each other: engaging in activities such as moving pianos requires strength and develops strength; walking requires and develops flexibility; long distance running relies on and improves endurance. Surely then, walking on the beam has the same association with balance?

For the gymnasts with dyspraxia, the relationship between skill acquisition and the development of attributes was not so obvious. It appeared that, in some situations, while these gymnasts had the attributes, they could not demonstrate the associated skill, and at other times, they could demonstrate a skill without appearing to have the attributes on which it depends.

The first situation described above, where the gymnasts with dyspraxia appeared to have the attributes but could not demonstrate the skill, was most common. The gymnasts would be observed during their free play demonstrating an attribute such as balance and coordination to land safely. ‘Landing’ is one of the Dominant Movement Patterns and landing safely on one’s feet is a skill that is taught and tested in the Kiwi Gymfun programme. However, despite the gymnasts demonstrating the ability to land on their feet during free play, they could then not demonstrate the skill during the session. Similarly, one of the gymnasts could do an entire skill, a forwards roll, spontaneously, but would become irretrievably confused about the direction he should be going in when he was asked to do one. His ability to perform it spontaneously indicated that he had the body tension, coordination, timing and balance to do a forwards roll, yet he could not bring these attributes together to perform the skill on demand (Video 3 and 4)

Even with my prior knowledge of dyspraxia, I found it difficult to understand the discrepancies between what I thought the gymnasts with dyspraxia had the capacity to do and what skills they could perform. I had said to the mother of one of the gymnasts “I think he is quite capable” of doing many activities and suspected that he was choosing not to. I later reflected in my field notes:

Some of the things I would have thought he could do but he wouldn’t do them. I thought it was due to his [lack of] attention or willingness to cooperate, but when I have seen him try, he has had difficulty figuring it out or bringing the actions together.

One of the coaches also identified this inability to turn their attributes into skill



development and made a very detailed, and as I perceive, accurate evaluation of the difficulties the gymnasts with dyspraxia had, although she had no prior knowledge of the disorder:

Processing the information and then having to try and do it, it was much more of a challenge for them. I mean in the main group there are boys who are physically not that well developed, but they still found it much easier to achieve simple things than these guys did.

The explanation for this apparent discrepancy does lie in the boys' diagnosis. Dyspraxia is typified by difficulty in forming a plan of action as opposed to being a problem with motor coordination (Chu, 1998, p. 133). Arguably, the gymnasts with dyspraxia had the capacity to perform the skill (i.e. the motor attributes) but could not formulate a plan to execute it correctly.

In the other situation, in which the skill is performed but the attributes are not demonstrably developed, was less obvious as attribute development was not assessed. As an underlying aspect of skills, attributes were not observed separately from the skills. However, I did see a gymnast develop the ability and perhaps the attributes to do a skill on the bar, but then not be able to use the attributes I perceived were required to perform the same skill on the beam. It was my belief, when entering the field, that gymnastics would not significantly influence the gymnasts' attributes and that the lack of evidence for the development of some attributes through intervention is evidence of the limited influence skill development has on these attributes. During the eighteen sessions, I did not see any evidence that the attributes of balance and coordination, or indeed any attributes, were measurably improved in any of the gymnasts. However, as the development of attributes was not formally tested and was therefore impossible to differentiate from the acquisition of skills in the gymnasium, I asked the parents whether the attribute development they believed had occurred had been evident in any other environment:

Parent: His teacher's noticing now that when they're doing things

his coordination's got better. He's not so, all over the show any more...he used to run and trip over his own two feet. He doesn't do that much any more. His coordination's improved and she's noticed that.

- Stephanie: So what sort of things do you think he's got out of it then?  
 Parent: Better coordination, slightly better coordination.  
 Stephanie: Have you noticed that in any sort of...  
 Parent: Day to day stuff?  
 Stephanie: Yeah.  
 Parent: Oh no. (laughing)
- Parent: I can't really say really glaringly that I've noticed...I'm fairly confident it probably has had a positive effect on his motor skills.
- Stephanie: One of the other parents that I was interviewing said 'oh I think his coordination's improved' and I was like 'oh so have you seen any evidence of that?', 'no!' (laughing)...
- Parent: You feel like it should've after all those nights of carting them off there. (laughing)
- Stephanie: He can walk on the beam better, we came to the conclusion, so that was alright, that was something.
- Parent: Oh [my son's] balance certainly improved on the beam didn't it. But I can't say I see him running around and balancing on beams around here.

Although all the parents had the belief that there had been, or ought to have been, some change in physical development, there were no specific, first person examples given of this change. None of the parents really committed to the claim that attribute development occurred, while one parent's tentative suggestion that slight development had taken place was followed with a very certain, and slightly amused 'no' when asked if this suggestion had any evidence.

The other coaches however are certain that the development of attributes through participation in gymnastics occurs:

- Coach: The balance beam, obviously I think it's good for everything, just general balance in life...skateboarding, surfing you need balance for all that kind of stuff...stunts...relays...jumping high for high jump...I guess you can just take it all and use it in your general life.
- Stephanie: Do you see that, so you see that there's transference then to other sports?
- Coach: Definitely, most of the boys that come into this sort of

general gymnastics session are not, could not seriously look at doing gymnastics as a competitive sport...You would be making them stronger and fitter hoping that they would then start to excel in some of the other sports they get involved with, which they would obviously be better at than gymnastics.

The development of underlying attributes is clearly perceived by coaches and parents as an important outcome of doing gymnastics, although it is not clear that such development occurred during the two terms that the gymnasts with dyspraxia participated. It also appears that these gymnasts did not always have the ability to use their attributes to perform skills and that skill development may have occurred without the changes in attributes being evident. Perhaps over a longer timeframe, such changes would have been evident, or maybe it is a feature of dyspraxia that skill development does not translate into attribute development in the same way it does for the rest of the population. In either case, the parents and coaches beliefs about the relationship between skills and attributes were tested by their experience of seeing the gymnast with dyspraxia in the gym. Fortunately, as attributes were only a covert aspect of the gymnasts' development, a lack in such development did not obviously differentiate the gymnasts with dyspraxia from the other gymnasts.

Indeed, the consensus amongst the coaches and parents was that the gymnasts with dyspraxia could develop the skills that the other gymnast could, but it took them longer and required more effort.

Coach: It took them a while to click onto what you were doing... they don't seem too different to the other guys in the group; probably just learn a little bit slower.

Parent: He didn't do too much worse than them but I think he had to try harder to do as well as he did. You know, he was consciously thinking about and concentrating whereas the other boys were horsing around a lot and they didn't seem to have to try so hard.

Parent: He improved a lot on the beam, in the end. I noticed.

Parent: Even, some of the games.

Parent: Oh, you could tell he was different, but I didn't think it was that major, that bad. I mean, he was doing most things.

During the two terms I felt that although their progress in learning skills took a long time or required extra effort, it was extremely satisfying when the gymnasts did achieve them. I remember fondly the first time (during week eight) that one of the gymnasts who had previously declined to, finally got up onto the high beam. As a measure of their success, all the gymnasts with dyspraxia achieved the Level One Kiwi Gymfun badge, while the older boy also achieved the Level Two badge. Despite these levels being below the majority of the other gymnasts in the Boys' Group, the coaches, parents and gymnasts with dyspraxia perceived that this was a significant achievement:

Coach: That's probably one of the main things that at the end of the term or the year; they could say that got a certificate or a badge.

Coach: We do Kiwi Fun Gym for the younger ones...there are set things we are working towards. And I think parents need that as much as the children, in fact possibly more so, to justify the children being there. They've got to see a benchmark being gained...but I was quite surprised at the reaction when we did do those two little Kiwi [Gym] Fun, two levels of Kiwi [Gym] Fun at the end of the term, at how pleased, even some of the very older boys were at getting that recognition and knowing that they had achieved this.

Stephanie: Did you talk to your dad a bit about it, did you?

Gymnast: ...When I got home I told him that I'd earned a badge...

Parent: You took the badge in to show the class.

Stephanie: Do any of your friends or any of your family know you've been doing gymnastics?

Parent: ...You told someone you got the badge and the certificate.

The development and achievement of gymnastics skills was seen as very important in the Club and to be seen as a gymnast, the gymnasts with dyspraxia needed to develop gymnastics skills. Skills are the only formal measure of success in the Club, while achieving skills during training is also seen by the members of the Club as being informally related to the overall success of the gymnast. The development of skills is

interpreted by the coaches and parents as an expression of an improvement in physical attributes; the relationship between skills and attributes is unclear for the gymnasts with dyspraxia. Fortunately, attribute development was not assessed. As the gymnasts with dyspraxia developed skills, albeit more slowly than the other gymnasts (the gymnasts with dyspraxia received level one and two badges, while the other gymnasts achieved levels five and over), they were able to successfully participate and gained Kiwi Gymfun badges, along with the other gymnasts.

### Working in the Group

Although the development of skills is the only measured achievement in gymnastics, participation in general gymnastics requires much more than competent skill performance. During a general gymnastics session, the gymnasts are practising skills for only a small proportion of the time, and even when they are performing skills it is in an environment with many other gymnasts with whom they must share space and the coach's time. The gymnasts are required to adhere to the expectations the members of the club hold regarding where they will go, what they will do and when they will do it. In order for the gymnasts with dyspraxia to be part of the group, they needed to be able to adapt to meet these requirements.

### Following the Routine

As soon as the gymnasts enter the gym, they are required to behave in a way that enables up to 60 children to work cooperatively in the same space. The Boys' Group session is run in a particularly structured manner, basically to the following routine: when the gymnasts walk in the door, they remove their shoes, socks and jumper which they store in the lockers (Figure 15).



Figure 15: The Lockers

Following this, if their session has not started, they wait, sometimes upstairs with their parents, but generally with the rest of the boys in their group. The waiting gymnasts tend to band together on the stairs, and as soon as the floor is cleared of gymnasts from the previous session and the coaches are near the floor, they all rush down and sit in a group on the mat. The gymnasts talk amongst themselves, and when the coach sits on the floor in front of them they quieten down and answer when their name is called from the roll. The roll call is followed by instruction from the coach about what the warm up activity will be. This is either a group game or a more traditional warm up involving running to music, some gymnastic skills and stretches. When the coach starts the music, the gymnasts begin running in a circle around the edges of the floor, all in the same direction.

From time to time the music is stopped and the coach calls out an instruction with a demonstration, such as “balance on one leg”, “go around jumping now”, “front support” and so on. The gymnasts copy her, with varying degrees of success, then the music starts and they run around the floor again (Video 5). The warm up tends to end with a few quick stretches before the coach divides the gymnasts into smaller groups (of about five) and allocates a coach to each group. These small groups are then distributed

amongst the stations.

Each station is a grouping of equipment. There is no physical boundary to the station, but all the bars tend to be grouped together, as do the beams (Figure 16), while the vaults, box tops and beat boards make a station, and the wedges and other mats are grouped together for rolling.



Figure 16: Beam Station

When the gymnasts arrive at a station, their coach spends some time instructing them about what they are to do on the equipment. The gymnasts are expected to stay within this grouping of equipment for approximately ten minutes, until the head coach changes station, indicating to the other coaches it is time to change. The coach then informs the gymnasts that it is time to move on and the gymnasts are required to leave the equipment they are on and move directly to the next set. The rotation of stations always occurs in a clockwise direction.

At a station the gymnasts are expected to attempt to perform specified activities on the equipment at the station. The process of instruction tends to occur when the group arrives at the station and during the activity, so instructions are often repeated and become individualised as each gymnast's performance is observed. If a gymnast is awaiting instruction while the coach is focussing on another gymnast, he is expected to

stand quietly, continue with another activity or copy another gymnast, as the coach cannot provide individualised instruction to five gymnasts at the same time. As a consequence, cooperation between the gymnasts is seen as important:

Coach: In general gym it's more about working in groups, group activity, getting on with other people...you work together, you help each other out.

The gymnasts are expected to cooperate with each other, accommodating and supporting each other within the shared space.

When there is approximately five minutes to go, which may or may not be once all the stations have been completed, the coach or assistant coach calls all the gymnasts in the Boys' Group together to do stretches. This involves the gymnasts sitting in a large circle and copying the coach, doing the same stretching routine each time. The coach repeats the same instructions at every gym session and usually discusses the need for stretches to be uncomfortable. The gymnasts sit quietly during this time and copy the coach or each other, achieving varying degrees of success. At times, a gymnast or coach will quietly repeat the instructions to another gymnast if they are not in the correct position. Once the stretches are completed, the gymnasts all rush off to the lockers to put on their socks and shoes, are collected by their parents and leave.

Children with dyspraxia are known to have difficulties with completing tasks and being organised, and can also have social skill difficulties (Miller, Missiuna, MacNab, Malloy-Miller, & Polatajko, 2001). With this knowledge, I was unsure whether the gymnasts with dyspraxia would be able to fit into the structure of the group, or if their behaviour might prevent their participation. As discussed previously, the gymnasts with dyspraxia did take longer than the other gymnasts to fit in with the way things are done in the gym but generally, they managed the routines well. Although they avoided some activities, they did not seem to have difficulty following the more overt, large group aspects of the structure. They sat on the mat for the roll call, moved around the stations



appropriately and followed the stretching routine (Video 6). This ability contrasts with the participant with Aspergers who did not continue with the group. During the warm up he ran around in circles, apparently oblivious to the fact that the other boys had all stopped following the coach's instruction. Even when given direct instruction from me he would not stop running. He was unable to follow the other boys around circuits, did not interact with the other boys at all during the session and required constant one-to-one instruction. Following the first session, the person videoing asked me "What was up with that boy?" It was clear that he would require individual direction to participate in gymnastics.

For the gymnasts with dyspraxia, although they could manage the overt structure, when the demands on them became more specific or subtle, as they did at the stations, they had more difficulty. In contrast to the warm up and stretches, the demand on the gymnasts to follow the coach's instructions are much greater at the stations. The gymnasts need to stay within a small area, the boundary of which is not marked out, and are required to follow specific instructions to act in a certain way at a certain time, while considering what the other Club members are doing.

The gymnasts with dyspraxia appeared to have difficulty with following my verbal instructions. The eldest of the three preferred to look at the play gym cards and follow the instructions from these instead of listening to my instructions. He was not, however, able to interpret the instructions directly from the card and approached me frequently for further explanation, demonstration and clarification. Although the eldest gymnast's behaviour was subtly different to a typical gymnasts, the difference in the behaviour of the two younger gymnasts' with dyspraxia was far more apparent to participants and other members of the Club:

Parent:	These guys are running all over the place, you don't know if they heard...I think the others listened to instructions a lot better.
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Coach: I think one of them [another gymnast] said ‘Oh, why is he running around? He shouldn’t be running around you know’. And then asked me why he was running around...cos you were saying something like ‘Stop running around’ or something, and I was like, ‘Oh he’s just not listening to Steph’.

Both the coach and parent attributed the differences in the younger gymnasts’ behaviour to an inability to listen to my instructions. The parents of these two gymnasts reported that their sons tend to have difficulty with listening. The demands on the gymnasts’ listening skills are high: instructions for the use of equipment are primarily given verbally, feedback as to their success is verbal too, and information regarding where the gymnasts should go and when is also spoken. In addition to this demand to listen, the coach’s voice is competing with the noise generated by the rest of the gym. I had been hoping to hear what I said to the gymnasts and some of the parents’ conversations during the sessions on the video tapes, but the background noise was so great I could only pick out a word here and there. It is therefore likely that, if a gymnast had difficulty with listening, providing instructions verbally in a noisy environment would not be the most useful strategy.

Fortunately, other coaching techniques are available, and by emphasising the visual aspects of coaching, some accommodations could be made for the gymnasts’ difficulties with listening to my instructions. Demonstration of a skill or aspect of a skill is common coaching practice in gymnastics, especially in general gymnastics where the gymnasts are unfamiliar with the terminology that describes equipment, body positions and movements. On the first night, when attempting to describe to the gymnasts with dyspraxia what they would be doing on the station, it became clear to me that they were not paying attention to my explanation and that I needed to show them what to do. This practice continued beyond the first night, and all the adult participants identified that I did more demonstration with my group than the other coaches did with theirs:

Parent: You’d show them how to do it, whereas a lot of times

they'd just tell you how to do it and [my son] doesn't learn like that, he's a visual learner.

Coach: You do have to demonstrate things, but you probably had to demonstrate more.

Coach: [You have to] show them physically what shape you want their body to get into, whereas with the more competent gymnast you can say, 'Well, I want you to do a dish' and things like that and they can just click.

Stephanie: I noticed I did have to do a lot of demonstrating and make sure I wore my gymnastics clothes. [So I would be comfortable demonstrating the skills]

Coach: Yeah you do...these kids with short attention spans learn very visually; luckily gymnastics coaching is a very visual thing anyway.

Parent: There was more effort required on your behalf, more demonstration.

Parent: You used a lot more physical demonstration.

Although the proportion of demonstration was a difference between the other coaches and me, as with the coaching styles, enabling the gymnasts with dyspraxia to participate did not require me to behave in way that was inconsistent with gymnastics coaching. The demonstrative aspect of the coaching only needed to be amplified in comparison to the other coaches.

It appeared that my approach to coaching at the stations had some success in getting my message across, as I felt that the gymnasts with dyspraxia began to follow some of my instructions and respond to my feedback. This perception was confirmed by the person who taped the first session, but did not do any further taping until the sixth session. I asked him what he thought of the gymnasts immediately after he had taped the sixth session:

Video Person: Different

Stephanie: In what way?

Video Person: They pay more attention, yeah, it was good.

It is unclear whether there was some change in the ability of the gymnasts with dyspraxia to listen or their ability to pay attention. Indeed, from observing their

behaviour it was impossible to distinguish between what they did not hear, what they did not listen to, what they did not understand and what they could not do. For example, the instruction might be “walk along the beam and jump off at the end” which requires that the gymnast get up onto the beam, walk along the beam and jump off. Such instructions seem straightforward, but the gymnasts with dyspraxia sometimes had difficulty following instructions such as this. It is possible they did not hear, or they did not understand the instructions. It is also possible that the subtle aspects, such as which direction to walk along the beam, to pause if someone is going more slowly in front of you, or even to do the activity promptly were missed. A gymnast who did not think he could do this activity would also be reluctant to follow such instruction. Such difficulties resulted in increased behaviour that was uncooperative and not in accordance with my instructions, which could easily be attributed to not listening to my instructions.

Although the person doing the videoing had interpreted that the gymnasts’ ability to pay attention had improved, there was no indication from the parents the gymnasts’ capacity to attend, tendency to pay attention, or ability to listen had improved. There was certainly no strong evidence that such a change had occurred within the gym; rather, it seemed that the gymnasts had developed a repertoire of things they knew how to do and knew what they were called. This knowledge and ability meant that they were engaged in more appropriate activities with the group for more of the time, irrespective of whether their ability to listen to instructions or pay attention had improved. Following one of the sessions, one of the coaches identified that one of the gymnasts with dyspraxia had been to the gym with his school prior to the study. The coach had seen him during this visit and she said that he had such difficulty following instructions that she had wondered if he had difficulty understanding English. By the eighth session, she felt that he was significantly more able to follow the instructions.

## Working at a Station

In addition to following instructions, the two younger gymnasts with dyspraxia had particular difficulty with understanding where the boundaries of the stations were and for the first few weeks often had to be told to get off equipment they were not supposed to be on. The gymnasts without dyspraxia generally developed an awareness of the need to remain within this boundary without intervention from the coach. A coach from the Boys' Group perceived that one of the gymnasts with dyspraxia did not seem aware of the boundaries of the stations or that there were other gymnasts working around him:

Coach: [The gymnast] would run out onto the vault strip and that kind of stuff because he had no idea that there were other people around him doing things.

I tried a number of techniques to assist the gymnasts with identifying the boundaries, including putting out extra equipment to better define the area, verbally identifying the equipment before we started, and pointing out and describing the hazard of going onto the equipment that other gymnasts were using around us. I noted in my field notes:

I ended up setting up more equipment with the hope that the objects would stimulate some action and contain them in the circuit by providing visual directions and boundaries. For example, I put five or so hoops in a line leading from a beam to a box top (e.g. Figure 17).



Figure 17: Hoops used to Define the Vault Station.

This strategy did not prevent the gymnasts going out of the station entirely, and I needed to continue to be aware of where each gymnast was and what he was doing. I found myself frequently calling them back to the station and occasionally had to threaten them with sitting out or going upstairs for a short time (threats I have heard the other coaches using). As the gymnasts' skills developed and they required less demonstration, I was at times able to position myself next to equipment on which incorrect use would pose a hazard, or to use myself as a boundary to guide the gymnasts into the area in which they were supposed to stay.

Over the two terms, the gymnasts' ability to remain within the boundaries of the station improved considerably. Although they did at times leave to get other equipment to bring back, they seemed to have developed an understanding of the groupings of the equipment and that they needed to remain with that equipment until I told them it was time to move on. The development of the concept of the station allowed them to name the stations and then make choices about which group of equipment we should start on. I noted during the thirteenth session that one of the assistant coaches asked the two younger gymnasts which station they would like to start on:

[A gymnast] says 'Are we starting on the vault station?' [Another gymnast] says 'We should start on the roof'. They all laugh.

The ability to name and chose a station demonstrates that the gymnasts had understood the groupings of equipment as a station. That the gymnast's comment about starting on the roof was taken by all the participants to be a joke suggests that by week thirteen this understanding was certain enough to allow it to be manipulated for humour.

Only one of the gymnasts with dyspraxia demonstrated difficulties with social skills that had an impact on his participation in the gym. He had difficulty at times cooperating with the other gymnasts at the same station, which often required intervention from me to ensure turns were taken, and that space and equipment were made available and used appropriately. At times however, his inability to share the

space appropriately culminated in pushing. During the interviews one of the other gymnasts discussed this gymnast's behaviour:

Gymnast: He sometimes knocked me off the beam and he sometimes hit me when I was doing the vaulting.

Such behaviour had the potential to turn this gymnast into an outsider. As any coach would, I always intervened in situations involving hitting or pushing, and, using the tough coach style, would tell the gymnast that he would have to go upstairs for five minutes if he misbehaved again. As with adapting my coaching to accommodate the gymnasts' difficulty with listening, being particularly vigilant about what each of the gymnasts was doing and ensuring that there was an activity at each station that all the gymnasts in the group could do helped to reduce such behaviour.

Other than the few instances of pushing, the gymnasts in the Boys' Group were generally helpful and friendly towards each other. During the stations, when there was a large mat, mini-tramp or box to be moved, the gymnasts in my group would all take a side to help move it, without being asked, and often without being needed (Video 7). They shared the equipment without complaint, played together and did not injure each other most of the time. As time went by, the gymnasts with dyspraxia developed an understanding of the expectations of the coaches, to the point where they, along with gymnasts in the Boys' Group, were keeping other gymnasts in line. For example, when a new gymnast without dyspraxia joined in with our small group, he played with the powdered chalk at the bars station. The chalk is intended for use by the competitive gymnasts who put it on their hands when they are on the bars to stop their hands slipping. I noted in my field notes:

I have to tell [the new gymnast] to stop using the chalk, [a gymnast with dyspraxia] says 'naughty' to him.

Underlying many of the coaches' beliefs regarding expectations for behaviour is the need for gymnasts to be safe within a busy environment where a degree of risk is

encouraged. Climbing onto a beam requires an understanding of the safe ways to mount and dismount, and while coaches will try to persuade the gymnasts to challenge themselves, this challenge is always graded and supported to promote safety. However, if a gymnast is not paying any attention to the coach, it is impossible to provide this grading and support. The other expectations are also essentially safety considerations. For example, running into a station where another gymnast is training could result in a serious injury to either or both gymnasts. In addition, climbing on equipment which is not properly set up, or attempting an activity the gymnast is not yet ready for, are risks of leaving the boundaries of the station. Pushing and hitting are obvious safety issues, but cooperation when using equipment is also vital if gymnasts are going to avoid injury in the gymnasium.

In summary, in order for the gymnasts with dyspraxia to participate in general gymnastics class they needed to adhere to a number of expectations members of the Club had regarding their behaviour. These expectations have developed from the need for gymnasts to be safe in an environment where they are challenged to take supported risks and where there are many other children engaged in physical activity. The gymnasts with dyspraxia were generally able to meet these expectations, although they did have difficulty with the less overt aspects, such as the boundaries of the stations, and had particular difficulty with listening/attending to my instructions. To accommodate these difficulties I provided more demonstration than most coaches would, and spent time drawing the gymnasts' attention to hazards and boundaries by providing visual cues and identifying hazards before they started on a station. By my being aware of what each gymnast was doing (as far as possible) and trying to ensure each gymnast had an activity they could do at a station, the gymnasts seemed to remain within the boundaries for longer. However, if unsafe behaviour was repeated, I would occasionally threaten that the gymnast would have to go upstairs for five minutes. As the gymnasts



developed an awareness of the expectations placed on them, their inappropriate behaviour decreased. They developed a repertoire of activities they could do on the equipment without being reliant on my instructions, they understood the grouping of equipment into stations, and they even began to enforce the behavioural expectations with other gymnasts.

### Fitting In

Although the previous two sections of this chapter have focused on the attributes, skills and abilities of the gymnasts with dyspraxia, the overall purpose of this chapter is neither to determine the attributes of gymnasts with dyspraxia nor to define them in terms of what they can or cannot do. Rather, its purpose is to describe the ways in which the gymnasts with dyspraxia demonstrated and experienced being part of the Boys' Group during the gymnastics sessions. In the previous parts of this findings chapter I have identified some of the accommodations I made for the gymnasts with dyspraxia and some of the ways that the gymnasts adapted to fit with the demands of the group. The final part of this chapter looks at the aspects of gymnastics and the Boys' Group that allowed the gymnasts with dyspraxia to combine with the group.

### Gymnastic Skills

As discussed previously, the gymnasts with dyspraxia had more difficulty than the other gymnasts learning gymnastics skills. This resulted in them taking more time to learn skills and reduced proficiency in performing a skill once learnt. This was not unexpected given the nature of the boys' disability. The significance of these differences was to some extent reduced by the range of skills the gymnasts in the Boys' Group displayed, the process of progressive skill teaching, and the skills themselves.

The gymnasts with dyspraxia learned a range of gymnastics skills during the

eighteen weeks of the study. Alongside the other gymnasts in the group, they observed, attempted and repeated activities laid out on the Kiwi Gymfun cards. The gymnasts were observed learning how to use the equipment and perform skills by watching other gymnasts, watching and to a lesser degree listening to the coaches, and by looking at the cards. They learned to modify what they could already do with guidance from the coach, try things they believed they could not do and to refine skills they reported they had attempted previously at school.

As identified previously, had the research been conducted in a group where the other gymnasts were performing much more advanced skills, or the rate of progression expected was high, the gymnasts with dyspraxia may not have fitted into the group so easily. However, features of the Boys' Group made it more accommodating. The Boys' Group is a mixed age group, with participants ranging from five to twelve years old. There are other groups within the Club which boys in this age range could attend; the boys' and girls' mixed general gymnastics classes and the competitive stream. The head coach explained that to enter the competitive stream, boys are required to demonstrate a level of natural ability and some specific attributes such as good shoulder and hip flexibility. Some of the youngest boys from the Boys' Group may go on to do competitive gymnastics; however the group does not function as an introductory competitive class, so the prerequisites for a competitive gymnast do not apply.

In the Boys' Group, the combination of mixed ages and indiscriminate access means that there is a wide variety of ability within the group and this variation meant that there were other gymnasts whose skill performance was similar to the ones with dyspraxia:

Parent: There were some of the other boys that weren't in the dyspraxic group that, I mean there was one boy there that [another parent] and I thought was dyspraxic.

Gymnast: I thought there'd be really really good people at gymnastics...

Stephanie: And what did you think of the other people...?

Gymnast: That they were normal.

Coach: It was probably a positive taking some of those very quiet younger boys into your group who would have actually struggled in any of the other groups anyway because they were so young.

This wide variation of ability meant the gymnasts with dyspraxia could be seen to be within the range as opposed to being judged in a dichotomy of able or disabled. As the coach pointed out, having the gymnasts with dyspraxia within the group, other less competent gymnasts, such as the younger ones, could be better accommodated. This range was fundamental in allowing the gymnasts with dyspraxia to join in. In setting up this study, I had planned on running the research group at the same time as the Boys' Group only to ensure that the participants would not see gymnastics as a girls only sport. Since I had not previously coached on the same night that the Boys' Group train, I was surprised at the range of abilities displayed in the Boys' Group. For some time, the only way I could articulate how I felt about the range of abilities was that "boys are weird". Coming from a background of defining normal versus abnormal in my role as a clinic based occupational therapist I was surprised at how much variation from the 'norm' was the norm in the group. At the end of this chapter I will discuss in more detail the significance that this variation had, but suffice to say the range of abilities was wide.

Although the large group was comprised of widely varying abilities, the gymnasts were grouped together roughly according to ability for the stations. As identified previously, the smaller group I coached during the stations was comprised of the gymnasts with dyspraxia and one or two gymnasts from the bigger group, though generally the younger gymnasts. While each of the smaller groups were grouped roughly according to skill level and although each group had gymnasts of varying age and size, the age, size and ability tended to be related. This method of grouping made it

quite natural that the gymnasts with dyspraxia would be grouped together, and the parents and coaches perceived that there were benefits to having the gymnasts with dyspraxia together in a group:

- Parent: I think it was good for him to mix with children that were similar to him, that have dyspraxia as well...I think if he went, if I had taken him along and enrolled him in a gymnastics group he wouldn't have been able to do some of the things the other children were doing and he would have felt a bit left out. A bit, not so confident. Being with the children with dyspraxia really helped him 'cos they were struggling as well, it wasn't just him and he wouldn't feel so bad if he couldn't do something.
- Coach: I think possibly if you'd split them up and had one in each group it would have been more distressing for them I'm sure because they wouldn't have had an easing in. And in those groups because the other coaches would have had other challenges to mind as well.
- Parent: Ideally of course I always feel it's better for kids just to participate in with their peers without sort of being pulled out into a group like that...I felt that there was a benefit to being in a smaller group though...probably he wouldn't have had as much success as quickly I don't think...some of those [other] boys had quite strong personalities. You could see and they knew each other quite well, so they tended to dominate the groups.

When I was attempting to recruit participants, two parents commented that their sons had participated in gymnastics previously and it had not been successful. One commented that "It was a nightmare because he couldn't do any of the activities" and the other said that her son was too hyperactive and only wanted to play. Presumably these parents were comparing their sons with the other gymnasts in the group and found them wanting. If the level the activities were pitched at could accommodate a less competent child, or if all the gymnasts were hyperactive and played, it is likely that the parents would not have identified their sons as unsuccessful. The importance of the gymnasts being able to perform at a similar level to those around them cannot be underestimated and will be discussed further. However, as one of the parents identified, it is important that the grouping is with children the gymnasts can identify as peers and

not exclusively based on diagnosis.

The gymnasts with dyspraxia made no mention of being with other gymnasts with dyspraxia. Two of the parents identified that their sons are not aware that they are different. For the purpose of this study, I wanted to explore the culture that developed when a group of gymnasts with dyspraxia participated in gymnastics in a community gymnastics club. However, the diversity of skills and behaviours both the gymnasts with dyspraxia and the gymnasts in the Boys' Group expressed meant that it was preferable to have gymnasts without dyspraxia in my group. Given more time, it would have been appropriate for the gymnasts with dyspraxia to go into other groups as their skill level increased. In many ways, the set of gymnasts I coached evolved into an introductory group in the Boys' Group as opposed to a separate session for children with dyspraxia.

While the significance of the difference in skill level of the gymnasts with dyspraxia was somewhat diluted by the range of gymnast in the Boys' Group and the composition of the small groups, the difference did have some impact. As discussed previously, the demonstrative aspect of my coaching was highlighted. In addition, the gymnasts were performing below the level of their age peers. The eldest gymnast recognised that the other gymnasts of a similar age had completed higher level badges:

Gymnast:	I only knew the little group, 'cos I only wanted to.
Stephanie:	Why is that?
Gymnast:	'Cos I thought the other group seemed too hard... 'Cos they got higher badges, way higher badges so I thought that they'd be too hard.

As this gymnast said, he preferred to stay with the group I was coaching because he perceived that the other groups would have been too difficult.

Clearly this gymnast did not feel that the group I was coaching was too difficult. It may have been that the process of skill teaching in gymnastics enabled all of them to learn skills at a level they felt comfortable with. Skill teaching in gymnastics is highly

structured, with correct progression seen as essential in successful performance. Although the coaches in this study did not discuss the importance of structured skill teaching, the literature and my own experience suggest it is greatly valued. The Introductory Coaching Manual states “*Key skills* are presented so that the ‘technically correct’ performance is not overlooked...The other skills that are presented are progressions to or variations of the *Key Skills*” (Canadian Gymnastics Federation, 1986, p. 46, italics in original). Other coaches in the Club commented that good performance is closely linked to correct technique. This very structured style of coaching is related to the meaning skills have in the gymnastics culture and may have had an influence on the ability of the gymnasts with dyspraxia to learn the skills.

Perhaps the best way to demonstrate the value and meaning that skills hold in gymnastics is to contrast them with another popular children’s sport, soccer. In soccer, the aim of the game is to get the ball into the opposite goal while preventing the ball going into your own. There are a number of skills that may help to achieve this aim including dribbling the ball, kicking goals and passing. Coaches can offer tips and hints to improve these skills, but ultimately the skills are only a means to an end. In contrast, performing skills in a very specific way is the ultimate goal in gymnastics. The height of the leg during a kick is not necessarily important in soccer, but the exactness of skill performance in gymnastics can include a minor detail such as this. Although focusing on such detail may be viewed as pedantic and perhaps restrictive, with positive coaching, attending to small details can mean that even an approximation of part of a skill can be recognized as a success. For example, in an attempt to do a forwards roll where the child does not manage to roll over the top of their head, they can still be complimented on how they position their hands, or tuck their chin, or push off their feet. In the same regard, feedback about what to do next can focus on one element of body position instead of the entire skill. For children who have difficulty mastering skills,

such as the gymnasts with dyspraxia, such a detailed focus on skills meant that they received positive feedback and could work towards small, specific goals. Because of this strong focus on the process of skill development as opposed to the outcome, a culture is created of trying again, working on a skill repeatedly and persisting with difficulty.

Another element of the skills themselves that may have influenced the success the gymnasts with dyspraxia experienced is that the sensation of doing the skill provides positive feedback, even though the skill may not be mastered. If I use the forwards roll again as an example, when children can manage to tip their body over their head, they feel as though they are doing a forwards roll. Although they may have received help by rolling down a wedge or their technique could have resulted in their going sideways instead of forwards, the children will feel as though they have done a forwards roll. To contrast this again with soccer, although children may feel they have kicked a ball well, if it does not get into the goal they receive immediate negative reinforcement.

Finally, the individual nature of gymnastics may also have made it more accessible to the gymnasts with dyspraxia. The gymnasts need to work independently, as most of the equipment can only be safely used by one gymnast at a time and only one of the seventy two Kiwi Gymfun Level Cards is not individual. As a result gymnasts can work at their own pace, at their own level without relying on or being relied on by other members of the group. For the eldest gymnast with dyspraxia, the individualised nature of gymnastics meant that he could be challenged within this small group even though he was more competent than the younger gymnasts. In the context of team sports, the individual's success is dependent on the other team members' performance so the impact of less competent performance is more significant. One mother described a degree of discrimination against her son where his performance was seen to be compromising his soccer team's success:

- Parent: Because he may not have been as good as the others on the team, they didn't let him play sometimes as long as the other kids. I noticed that other parents when they were subbing on and off they always took [my son] off, and let other kids on and that sort of thing.
- Stephanie: What about the other sports as well?
- Parent: Swimming is not probably so noticeable because it's individual...there's still a range but they're just working at the level they are so it's probably not as noticeable.

In the above situation, the other team members had a vested interest in the boy with dyspraxia not participating, as his performance was seen to reduce the success of the team. This situation cannot be generalised to all the gymnasts with dyspraxia participating in the study. One of the gymnasts plays soccer successfully and identified the sport as something he is really good at doing, and successful participation in soccer has been identified elsewhere in the literature regarding dyspraxia (Smyth & Anderson, 2000). However, in comparison to team sports, gymnastics encourages the other gymnasts, coaches and parents to have less invested in the rate of the gymnasts' development and allows them to progress at their own pace.

Because gymnastics is so individualistic, it has the potential to be highly modified. However, the differences in the ability amongst the gymnasts with dyspraxia to learn skills were not so significant that they required a special or adapted gymnastics programme. They were able to achieve within the norm of the other gymnasts, and along with the other gymnasts in the Boys' Group, could perform the activities required for the Kiwi Gymfun badges. Due to the wide variation in ages, there were even boys in the bigger group who were achieving Level One and Two badges as the gymnasts with dyspraxia were. The success the gymnasts with dyspraxia had in achieving the badges may have been influenced by my decision to focus on the Kiwi Gymfun badges. I had envisaged that, due to their motor planning difficulties, the gymnasts with dyspraxia would need to be taught the skills directly and as a result our group did the Kiwi Gymfun Activities throughout the two terms. In contrast, the other gymnasts in the



Boys' Group only began badge testing halfway through the second term. This variation in coaching may have reduced the impact the difficulties with learning skills the gymnasts with dyspraxia had. Had I not coached them with this focus, they may not have been able to perform the specific skills the badges test.

Ultimately, the participants perceived that the impact of the reduced skills that the gymnasts with dyspraxia displayed was so minimal that you probably would not notice that they were different to the rest of the group unless you were watching closely:

Parent: I think the abilities were all, all pretty around about the same level.

Stephanie: Do you think that anybody just watching, do you think that anybody would have seen that they were different?

Coach: No. I don't think so because in most classes there's somebody who will obviously run around more, somebody who will be really shy and won't want to join in, someone that will cry running off or want their mum or, you get all of the things. So they would have thought, 'well obviously he likes running round' or 'he doesn't want to join in 'cos he's missing his mum' or 'he doesn't like the game'. You might have even seen some of the other boys not want to join in, 'cos it's just going to happen with whichever class you take. So no, I don't think anyone would have noticed.

Parent: If they were watching they probably would have noticed that they weren't quite as good as the others...Only if they were watching, they might not have even been watching.

Parent: I think if they weren't separated out you probably wouldn't really notice it. They would just be absorbed into that range of skill.

I too perceived that the gymnasts fitted in well with the rest of the group and noted in my field notes while the gymnasts were doing their stretches:

[A gymnast] and [another gymnast] do not appear any different from the rest of the group and are fully involved.

To summarise, although the gymnasts with dyspraxia took a long time to learn gymnastics skills, the range of ages and abilities in the Boys' Group, the progressive skill teaching, the internal feedback from attempting a skill and having a group of gymnasts with dyspraxia, meant that they were able to perform within the range of skills

in the group. While the differences in the way the gymnasts with dyspraxia learnt skills meant that the demonstrative aspect of my coaching was highlighted, they did not require a modified programme and all the adult participants concluded that, in the context of the Boys' Group, the differences between the skill level of the gymnasts with dyspraxia and the other boys in the group was not obvious. It is also possible that the approach I took of focusing on the Kiwi Gymfun activities throughout the two terms put the gymnasts with dyspraxia at an advantage for achieving the badges they may not have had with another coach. Having the gymnasts with dyspraxia grouped together meant that I could anticipate their difficulties and promote their skill development.

### Group Participation

In addition to the difficulties the gymnasts with dyspraxia had with skill development, their ability to fit into the behavioural norms of the Club was potentially compromised by the difficulties they had with listening and their reduced awareness of the physical boundaries of stations. Fortunately, the degree to which the coaches' expectations of behaviour were met by any of the gymnasts in the Boys' Group was modest. The 'basic formula' outlined in the previous section, where gymnasts wait quietly, everyone runs in the same direction, gymnasts only go on the equipment they are supposed to and so on, was challenged by many gymnasts, not just the ones with dyspraxia. The boys in general tended, from time to time, to play on the equipment before their session had started, talk over the coach, not respond to their name being called, run in the wrong direction, not follow the coach's instructions, crash into each other, misuse equipment, go on equipment outside their station, do the activity incorrectly, interrupt, push in, run in front of others and not leave the floor when their session had ended. The extent to which the Boys' Group did not meet the expectations of the coaches meant that they were perceived by some members of the Club to all be abnormal:

Coach: They're the type of kids that can't sit still and can't stand still...You've got to get used to the fact that when you are talking to the group they're not all going to be sitting there looking at you. They're going to be fidgeting....They [members of the Club] assume the behaviour they're displaying is abnormal, and it's not, it's perfectly normal behaviour.

This coach perceives that boys in general do not conform to the behavioural expectations of the members of the Club, so the gymnasts in the Boys' Group were seen by her to be "perfectly normal". However, the general tendency of boys to be defined outside society's concept of normal appeared to be heightened within this group:

Coach: The composition of the boys only group...they're not the standard. They're off the wall boys. They're the boys that are possibly real pains to their classroom teachers.

Parent: It was a different sort of group.

As with the diversity of skill levels within the group, the range of behaviours displayed by gymnasts within the Boys' Group was varied and encompassed the difficulties the gymnasts with dyspraxia had with meeting the coaches' expectations. This variation meant that they could combine with the group more easily than if we had been working alongside other groups in the gym:

Coach: [In] one of our other sessions where you've got a lot of quite little kids that are very disciplined and go from group to group and do exactly what they're told, I think they would have stood out far more in that sort of environment.

While perhaps the behaviours the gymnasts with dyspraxia displayed were not different to the other gymnasts, they tended to conform less often than the other gymnasts in the Boys' Group. The parents identified specifically that their sons had difficulty listening, and, as discussed earlier, the inability of the gymnasts with dyspraxia to listen was identified by other gymnasts ("oh, why is he running around, he shouldn't be running around you know"). My perception was that as the gymnasts with dyspraxia developed an awareness of what was expected of them in the gym, and their skill level increased, it appeared that they were listening more. As noted previously, it

was difficult to distinguish between what they could hear, what they were listening to, what they understood to do and what skills they had developed.

Another element which accommodated the difficulties the gymnasts with dyspraxia had with listening was that the Boys' Group was particularly non-competitive. Even in group games, which would give the appearance of being competitive, a lack of regard for the rules or the outcome meant that gymnasts and coaches did not expect anyone to act competitively (Video 8). The gymnasts with dyspraxia did not always seem to attend to the head coach's instructions for the group games, but the way the games were played meant that the difference would not have been obvious to a casual observer:

Field notes:      None of the boys with dyspraxia seem to hear the coach's instructions but participate fine because no-one seems to be monitoring adherence to the rules.

In addition to ignoring the rules, the 'winner' of a game was never identified. This non-competitiveness appeared to be influenced by the variety of ages and abilities in the group. The gymnasts demonstrated awareness that the different sizes and abilities of gymnasts needed to be accommodated; some of the older boys spontaneously took on leadership roles to assist the younger or less able gymnasts (Video 9):

Parent:              Most of them were really tolerant, like that day that [her son] couldn't do something, the game that they were playing, and one of the boys helped him...I think the main reason they were tolerant was because there were children of all ages and all different abilities that they didn't judge people.

The help that the older gymnasts gave the younger and less able gymnasts was not only a reflection of the group's tolerance of difference, it also provided additional individualised instruction to a gymnast if the coach's instructions had been missed.

Although the behaviour of the gymnasts with dyspraxia was accommodated and supported in the larger group, the safety issue of remaining at the station with the smaller group could not so easily be compromised. Children's ability to remain within

the boundaries of the station appears to develop with age and, despite my protests, the younger gymnasts within our group often joined the gymnasts with dyspraxia when they absconded to play on other equipment. The number of gymnasts not where they were supposed to be in the gymnasium was added to by siblings of gymnasts who had escaped their parents upstairs to play on the equipment. The number of children on equipment not accompanied by a coach meant that it was not often obvious that the gymnasts with dyspraxia were not where they were meant to be. Unless they were in someone's way, or someone was watching closely, it would not be obvious that they were not on the equipment they were instructed to be on. In fact, I could at times extend the station to include equipment that they were not supposed to be using. For example, two gymnasts left the beams to get some hoops, and although they were not originally part of the station, I integrated the hoops into it, encouraging the boys to walk along the beam with their hoops held above their heads, or to climb through the hoops while on the beam, or to jump off the beam into the hoop.

In addition to this degree of flexibility with the equipment included in a station, the difficulty the gymnasts with dyspraxia had with remaining at a station was accommodated by the short amount of time they were expected to remain in one place.

One of the parents noted:

Parent:                   At gymnastics it was good because they only spent a certain amount of time each time on the different activities and that's usually about [her son's] attention span.

By rotating around the stations every five to ten minutes, the gymnasts' interest appeared to be rekindled with each change, and if there was a station a gymnast tended to avoid, within a short space of time the station would be left behind and he would have the opportunity to try something else. This regular variation was balanced with a high degree of repetition within the station. As discussed previously, because the activities done on each piece of equipment are continued until gymnasts achieve to

some degree, each gymnast had the opportunity to progress at his own pace and to develop a repertoire of activities at each station that he could successfully attempt.

To conclude, the type of gymnasts in the Boys' Group meant that the degree to which all the participants met the expectations of the coaches was varied. The impact of the difficulties experienced by the gymnasts with dyspraxia with listening and remaining within the boundaries was reduced by the nature of the group and the structure of the session. In particular, the non-competitiveness of the group meant that differences in behaviour were not highlighted. Rotating regularly around the stations and having plenty of opportunity to develop skills also enhanced the degree to which the gymnasts with dyspraxia fitted in.

#### Awareness of Difference

As noted previously, there was a blurred distinction between able and disabled in the group. Having a coach whose vocation is an occupational therapist and is acting as a researcher, and having a group of gymnasts diagnosed with dyspraxia potentially added to the 'abnormality' of the group. So how different was I? Was I so different that I was something other than a gymnastics coach? Was I so different that the other coaches would have had difficulty coaching the gymnasts with dyspraxia? Were the gymnasts still seen as different despite their ability to fit in with the group?

As the coach I was more patient and provided more demonstration than the other coaches, but something I was mindful of during the gymnastics sessions was whether these differences in my coaching could be attributed to my being an occupational therapist. I reflected during the sessions on whether my occupational therapy training resulted in behaviour that was not consistent with the role of the gymnastics coach.

After the fourth session I noted in my journal:

I don't seem to have much time to be an O.T. [occupational therapist] or indeed a researcher when I am coaching.

Following this comment, I make no mention of being an occupational therapist at all. Despite my initial intention of running a therapeutic gymnastics class, as the terms progressed, I became increasingly aware that there was no need to apply my therapy knowledge. It was my impression that I had acted as any other coach and this was confirmed by the response from parents and coaches:

- Stephanie: Do you think I've been an occupational therapist much?  
 Parent: ... I didn't even know you were an occupational therapist till about three weeks ago (laughing).
- Stephanie: I didn't know if I was being an OT [occupational therapist] or being a gym coach...  
 Coach: Yip, gym coach definitely.
- Stephanie: Was I being an occupational therapist or was I being a gym coach?  
 Parent: You were being a gym coach.
- Stephanie: Did you see me as doing anything that a gym coach wouldn't do? One of the things that I need to be aware of is, I'm trained to be an occupational therapist, did you see me being that?  
 Coach: No, nothing.
- Stephanie: Was I being something other than a coach, a gymnastics coach?  
 Parent: I don't think you were being anything other than a gymnastics coach.

None of the parents or coaches perceived that I was doing anything a coach would not do. One of the parents identified that he had expected more "hands on" than I had provided. He reflected later during the interview that perhaps this would have fitted with his perception of treatment and although he perceived that perhaps his son required this type of assistance, I did not provide it during the sessions. However, some aspects of my coaching seem to compliment the practices of an occupational therapist. For example, a coach and parent stated:

- Coach: I think you would probably shine in the area where you are working with kids that needed a lot of one-on-one and support.

Parent: I could see an occupational therapy way of doing things coming out. If I wasn't a therapist myself then I probably wouldn't have.

I also perceived that there was a great deal of crossover between acting as a therapist and acting as a coach. In particular, breaking down and grading activities, providing constructive feedback, setting goals with the children and taking a whole child perspective seem to be features of both roles. Although I was not acting outside of the coaching role, as discussed earlier I did more demonstration and needed to be more patient than the other coaches to meet the needs of the gymnasts with dyspraxia. So does this difference in my style make me the only person who could coach gymnasts with dyspraxia, or did the other coaches think they would be able to manage?

Stephanie: Having seen them now, if there was a new group of boys with dyspraxia starting next year do you think that you could manage that?

Coach: Probably more than I could have if I'd never seen how this one's gone...they don't seem like too different to the other guys in the group. Probably just learn a little bit slower, which even if some kids have not been told that they've got dyspraxia there's probably more of them out there...I'd just know that I would have to give a lot of time and energy into making sure they were okay.

Stephanie: My boys are thinking about coming back next year...So, without me, how do you think they'll go?

Coach: I think they'll be fine.

This feedback suggests that despite some differences in my coaching style, within the gymnastics sessions I was acting as a gymnastics coach rather than as an occupational therapist. I think that the role of the coach and the way the environment was set up accommodated the needs of the gymnasts with dyspraxia, allowing their participation and skill development without therapeutic intervention.

It is likely however, that aspects of the research group were influenced by my perspective of dyspraxia and knowledge of occupation, even if my coaching style was not. Deciding to do the Kiwi Gymfun activities throughout the two terms, for example, was influenced by my belief that children with dyspraxia have difficulty transferring



skills. One of the parents perceived that I was able to grade the activities more subtly for the gymnasts to achieve. Perhaps my awareness of sensory hypersensitivities which are associated with dyspraxia made me less inclined to insist that the gymnasts go upside down on the bar if they appeared fearful. From my observations, I believe that an experienced coach would be able to do this grading and would respond to the gymnasts' hypersensitivities as well as I could. The fact that the gymnasts with dyspraxia were able to achieve without my having acted in any significant way as a therapist suggests that they could be managed by a gymnastics coach, giving the other coaches who participated the assurance that they would be able to manage such gymnasts. Indeed, following my experience coaching these gymnasts, I have become aware that rather than my being able to contribute to the coaching by being an occupational therapist, coaching has a considerable amount to offer occupational therapy knowledge and practice. In particular the progressive skill teaching, positive feedback, group work, analysis of the activity and approaches to enhancing motivation.

Despite the accommodating nature of the Boys' Group, having a diagnosed disability could have meant the gymnasts with dyspraxia were seen as different. Did having a diagnosis make them seem different from the rest of the gymnasts in the Boys' Group to the members of the Club? The adult participants perceived that other members of the Club did not notice that the gymnasts with dyspraxia had a disability:

Parent: I noticed that they didn't seem to look at his disability that much. I don't know if they said anything down there, but it didn't seem as if they noticed it.

Coach: The other boys never looked down on them...I think that a few of the times the boys wondered why I was videoing...But I don't think that they clicked on that it was dyspraxia...I didn't have anybody ask me if they were different...I don't think anyone would have noticed.

Coach: They just seemed like part of the class at the end.

As discussed above, this anonymity was afforded by the variety of abilities and

attributes of the gymnasts in the Boys' Group in general. The variety led some of the parents to define other boys in the group as diagnosable as well:

Parent: There were a couple that I thought might have some attentional problems...that seemed just that little bit different.

Parent: There was one boy there that [another parent] and I thought was dyspraxic.

Initially there was some confusion about who the participants in this study were, as two of the parents thought a gymnast not in my group had dyspraxia. I had noticed one of these more unusual boys too and commented in my field notes:

One other boy's behaviour is a bit unusual; he makes strange noises, does not follow instructions and has difficulty.

The head coach identified that there had indeed been gymnasts within the bigger group who had diagnosed disorders. Interestingly, the coach did not see them as disabled:

Stephanie: The other kids in that group, do you know if any of them have got diagnoses of any description?

Coach: We've had...oppositional defiant disorder, which basically means 'will not do as told'. I thought it was a pretty normal disorder for most boys. I thought you could blanket them with 'will not do as told' (laughing)...We've got at least one other that's ADD.

The other coaches' beliefs regarding the range of 'normal' meant that they had expected the gymnasts with dyspraxia to be much more different than they were:

Coach: I probably expected more dysfunction than there was, so I was sort of mentally preparing myself for the absolute worst...A lot more physical dysfunction and I wasn't sure about their ability to mix in and be part of the group.

This coach perceived that the variety within the Boys' Group encompassed such abnormal behaviour and that it was perhaps the type of group that would attract and could accommodate boys that stood out even amongst boys:

Coach: We do have some of those more challenging behaviours in that group and that's probably because we cope with them and they fit, whereas if you put them into one of our other general classes they'd stand out like sore toes.

Having a diagnosis was clearly no barrier to being part of the group. However, it appears that this finding may not be generalisable to all other gym groups, as the Boys' Group is accommodating, inclusive and a bit 'different' itself. In many ways the majority of the boys in the Boys' Group displayed behaviours which were judged to be a bit 'abnormal' which created anonymity for the gymnasts with dyspraxia and allowed them to fit within the range of the group.

To conclude this chapter, the development of gymnastics skills is highly valued in the Club and the gymnasts with dyspraxia needed to achieve some skills to become members of the Club. As expected, the gymnasts with dyspraxia took longer than the other gymnasts to develop skills, but over the two terms they were able to achieve the first levels of the Kiwi Gymfun badges. For the adult participants, the value the skills held was that they were an expression of underlying attributes. However, the relationship between attribute and skill development was unclear for the gymnasts with dyspraxia. In addition to being supported by more demonstrative coaching, it seems that the progressive nature of skill teaching and the immediate sensory feedback provided by attempting skills enabled the gymnasts with dyspraxia to experience success. In addition to learning skills, the gymnasts had to follow the routines and behave as the members of the Club, expected to fit in with the group. The two younger gymnasts with dyspraxia had particular difficulty with learning to remain at the station. Developing skills on the equipment at each station seemed to be the most significant influence on their ability to remain at the stations, although the quick rotations around the stations meant that the demand was reduced. The non-competitive culture, lack of conformity of many of the gymnasts in the Boys' Group and presence of several gymnasts with dyspraxia in the group meant that the gymnasts with dyspraxia did not stand out as different. Within the Boys' Group the relevance of a diagnosis was reduced and the concept of able versus disabled was challenged by the range of abilities and behaviours in the group; a range

which encompassed the gymnasts with dyspraxia. Despite my background as an occupational therapist and the accommodations I made for the group, adult participants did not believe that I was acting as anything other than a coach.

### Doing Gymnastics

This final findings chapter provides a closer investigation of the participants' values and beliefs regarding the participation of the gymnasts with dyspraxia in the community gymnastics group. During the analysis, themes emerged regarding having fun, developing confidence and getting fit. These themes correspond with all the aspects of a person identified in the Canadian Model of Occupational Performance (Law et al., 1997) which outlines the dynamic relationship between persons, environment and occupation. In this model the person is comprised of emotional (fun), cognitive (perceived competence) and physical (fitness) elements.

#### Having Fun

From the ages of six to twelve, children are most likely to choose activities which are fun (Papalia & Olds, 1995). Children with dyspraxia are commonly reported to dislike sport (Davis, 1997; Mandich, Polatajko, Macnab et al., 2003; Losse et al., 1991) or do not participate in sports (Missiuna, Rivard & Bartlett, 2003). Prior to starting the sessions I had perceived that having fun was going to be an important aspect of the group and would largely determine whether or not the gymnasts with dyspraxia had participated successfully. Given these opposing views, how important then was it that the gymnasts with dyspraxia had fun? Did they have fun? If so why? And how did having fun influence their choice to participate?

#### The Importance of Fun

Ensuring the gymnasts were having fun was the primary concern of the parents:

Stephanie: What were you thinking those first few times?

Parent: I just wanted to make sure that he had fun.

Parent: I just wanted him to have fun.

The coaches too perceived that having fun was an essential element of the gymnasts'

participation and that having fun had an influence on the gymnasts choosing to attend:

- Stephanie: What do you think the boys think they're doing here?  
 Coach: Playing... They're only coming back if they're having fun.
- Coach: Most of the guys that are in the general gym class, the boys' class, are there to have a good time... just to really have fun.

Fun is identified in the Junior Introductory Coaching Manual (Canadian Gymnastics Federation, 1986) as one of three aspects which define the purpose of gymnastics. The manual states:

It should be obvious that if children do not enjoy a gymnastics class they will not continue voluntary participation in it...if a class is not an enjoyable experience, the amount of control and effectiveness you will have is limited...For these reasons and for the satisfaction of the children, we feel that you must first strive to 'make gymnastics fun'. (p. 8)

In contrast to the adults, the gymnasts with dyspraxia did not articulate their expectation that gymnastics would need to be fun for them to continue to participate. However they did chose to come to the sessions throughout the two terms and appeared enthusiastic to join the group when they arrived each time. One of the gymnasts usually said "more" at the end of a session and his mother said "he will really miss it [gymnastics] when it is the holidays". Another parent reported that her son wanted to go to the gym each time and if he had not enjoyed it, he would not have wanted to go. Although the gymnasts did not identify fun as a determinant in their participation, they all identified it as an important outcome:

- Stephanie: What did you think about coming to gymnastics?  
 Gymnast: Fun.
- Stephanie: What was it like then on your first night that you came?  
 Gymnast: Fun, I was worried, but then it was fun.
- Parent: It's been a lot of fun hasn't it?  
 Gymnast: Yeah.

As discussed previously, when the gymnasts with dyspraxia were asked what they liked or what was fun, they all named equipment. However the games at the start of the class and the stretches were also seen as fun:

Gymnast: I really liked the games at the start, they were fun...  
Doing the stretches was fun, I really really liked doing the stretches.

Gymnast: I liked those tag games.

The parents also perceived that the gymnasts had had fun doing gymnastics, although they were not specific about what it was that was fun:

Parent: So that was my main hope, that he'd have fun, which he did.

Stephanie: What do you think it was that was appealing about going?

Parent: Having fun.

Parent: Fun.

At the end of one of the interviews one of the parents asked what benefits I thought the gymnasts with dyspraxia had got out of participating in the group. I reflected:

Stephanie: I was really relieved that they had a good time; I had no idea what was going to happen. I mean it could have been a complete disaster; they could have just sat there, or cried. That would have been a bad thing from my perspective.

What was Fun?

The gymnasium clearly afforded the gymnasts with dyspraxia the opportunity to have fun, but it is likely that their experience was more complex than the availability of novel equipment, group games and stretching. So what was it that made gymnastics fun? Only the eldest gymnast articulated what it was that made certain elements fun, stating that it was the challenge that he enjoyed:

Gymnast: Doing the stretches was fun, I really really liked doing the stretches.

Stephanie: Why did you like doing those?

Gymnast: 'Cos they're a challenge to do and you've got to keep practising until you can do them and then practise other ones.

This gymnast appeared to have particularly short hamstrings, as did several of the other gymnasts in the Boys' Group, and found the stretches difficult. It is interesting then that an area he found something difficult should be a highlight of the experience. Indeed, as

discussed previously, most gymnasts tended to avoid equipment and activities they found difficult. It may have been that sitting and stretching is less threatening than working on equipment which one is not confident, while mastering a difficult, but safe skill is fun. Weiss (1993) identifies “perceived mastery of skills, being with and making friends, positive team interactions, support from parents and coaches, and receiving external rewards all contribute to feeling good” (p. 206). It appears that all these elements were available to the gymnasts within the gym, and all contributed to their experience of fun. In addition to the elements Weiss identified, the gymnasts appeared to get pleasure from playing on the equipment. Perhaps at a more basic sensory level, there was fun to be had jumping off the vault and crashing onto a fat mat (Figure 18), rolling down a slope or swinging upside-down on the rings.



Figure 18: Kids having fun

Although the gymnasts did not state that these aspects were fun, the audiotaped session recorded some of the sounds the gymnasts made using the equipment, which demonstrated they were having a good time: (pseudonyms have been used)

Philip [as he's running around]: Woo hoo, woo, woo hoo...  
 Tom: Use the good one, woo hoo...  
 Paul: Yeah haaa...  
 Matt: Cool!...  
 Paul: Funnn...

However, as much as the gym afforded the opportunity to have fun, it also had elements

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which could compete with or suppress enjoyment.

The aspects which most threatened the experience of fun for the gymnasts' with dyspraxia appeared to be their delays with mastering skills and their difficulties with behaving as the coaches and other gymnasts expected they should. The beams station did not appear to be much fun for the gymnast who would not get up onto the beam. He would avoid going on the beams and as a consequence would go on equipment he was not supposed to and got in the way of other gymnasts. In this situation he was not behaving as I thought he should and as a consequence I threatened that he would have to go upstairs to sit with his mother if he did not remain within the station. In a more subtle situation, the older gymnast's skill level was not the same as some of his age peers and had he been grouped with these gymnasts the challenge may have been too great to allow him to succeed. In comparison with the skill level the other gymnasts demonstrated, he may not have gained the enjoyment from mastering the skills that he did.

These threats were reduced by several aspects of the gym and in particular the Boys' Group. The accessible equipment and my supportive coaching style allowed them to develop gymnastics skills, while the diversity of skill levels within the group and the range of achievement recognised by the Kiwi Gymfun badges meant they could perceive themselves and be perceived by others as competent:

- |            |  |
|------------|--|
| Coach:     | When we were handing out the [Kiwi Gymfun] certificates you could see how happy it made them, to get that.         |
| Stephanie: | Do any of your friends or any of your family know you've been doing gymnastics?                                    |
| Gymnast:   | No.  |
| Parent:    | Yes they do, you told someone you got the badge and the certificate.   |
| Stephanie: | Who did you tell that to?  |
| Gymnast:   | My family...Just my grandma and granddad and stuff like that.  |
| Coach:     | We do Kiwi Fun Gym for the younger ones...[it is] a huge sense of achievement for these boys...And I think parents |

need that as much as the children, in fact possibly more so to justify the children being there. They've got to see a benchmark being gained.

- Parent: You took the badge in to show the class, remember? When you got it....You took it in. Did you show it to them for news?
- Gymnast: No, I forgot.
- Parent: He meant to, yeah he took it in to show them...
- Stephanie: Did you talk to your dad a bit about...going along to gymnastics?
- Gymnast: I told him when I'd done something, like when I'd done a handstand on those rings and when I'd done a flip, when I got home I told him that I'd earned a badge.
- Stephanie: And what did he think of that?
- Gymnast: He thinks that I was good.

The structured sessions, the flexible expectations of the coaches and the non-competitiveness of the other gymnasts provided an environment where their difficulties with conforming to expectations did not stand out and provided them with anonymity within the group. Had the Boys' Group been run in a way that placed higher demands on the gymnasts, or if they had been required to work alongside disproportionately competent gymnasts, the initial trepidation the gymnasts with dyspraxia felt when they entered the gym might have been reinforced and they might not have chosen to return.

Whether or not the gymnasts chose to return to gymnastics once the research concluded could be seen as a measure of how much the gymnasts enjoyed participating. Once the study had finished, continuing would be free of any feelings of obligation to me as the researcher. In addition, choosing to continue would not have some sense of needing to seize a rare opportunity, which may have influenced the gymnasts' experience during the research. All the parents and gymnasts indicated that they would like to continue beyond their participation in the study; however, the decision to continue beyond the two terms of the research was more complex than how much fun the gymnasts had. For example, the mother of the gymnast who expressed the strongest desire to continue perceived the financial cost as a barrier they had not had to face over the course of the study:

- Parent: Is it seventy [dollars] a term?  
 Stephanie: I'm not sure.  
 Parent: We can get that, beg, borrow and steal. He loves it.  
 Stephanie: So is the cost a bit of a barrier though?  
 Parent: Yes and no, it's doable, we can do it. Make mum pay for it!

Although she was enthusiastic about being able to find the money, this was an element that did not need to be considered by the participants during the study, but which has the potential to prevent their continued participation, whether they 'love it' or not. One of the other gymnasts explained that he had to weigh up continuing gymnastics with his intention of trying other sports following the study:

- Stephanie: Do you think that you would like to keep doing gymnastics?  
 Gymnast: I'm not sure 'cos my dad, he did Judo and I was thinking about doing it...Except I like gymnastics as well...  
 Parent: You can only do so many things.

This gymnast, although he did enjoy gymnastics, perceived that there were other activities he might also enjoy and value for additional reasons, such as his father's interest. The other gymnast's decision about whether or not to continue was influenced by the conclusion of the study and the associated change in coach:

- Stephanie: Do you think you would like to keep doing gymnastics more?  
 Gymnast: No.  
 Parent: He said yes if you were the teacher. I said you weren't going to be the teacher so he said no! (laughing)

During the interview this gymnast described a dislike for the other coach's loud voice. It is unclear whether he perceived that I was an essential element in his having fun or that the other coach would detract from his enjoyment. It is possible that I did do something that another coach would not or could not have done, but this is purely speculation. Any other coach may have modified their style or techniques they used to accommodate the gymnasts with dyspraxia in the same way I did. Indeed, the coaches both identified only one occasion where a gymnast did not participate successfully, indicating that they are effective at adapting to the needs of the gymnasts. Following the conclusion of the

interview the parent indicated that her son may continue when she learnt that another coach would take the small group around the stations.

To summarise, having fun was seen as an important outcome for the gymnasts with dyspraxia by their parents and coaches, acting as one factor that would influence whether the gymnasts chose to continue doing gymnastics. Despite children with dyspraxia tending to disliking and avoid sports (as noted above), all the gymnasts apparently had fun doing gymnastics and particularly enjoyed the equipment and group games. The difficulty the gymnasts with dyspraxia had with mastering skills and meeting the expectations of the members of the Club had the potential to compromise their fun. However, the equipment, games, coaching styles, other gymnasts in the Boys' Group and the range of abilities recognised by the badges afforded the gymnasts with dyspraxia the opportunity to have fun, influencing their desire to continue when the research concluded, although other factors may prevent this from eventuating.

“That’s him coming out of his shell”

As noted previously, the gymnasts with dyspraxia entered the unfamiliar environment of the gym feeling unsure about the expectations of them and their ability to meet those expectations. This insecurity was interpreted by the parents, coaches and myself as a lack of confidence. The literature commonly reports that children with dyspraxia have reduced confidence or perceived competence in relation to physical activities (Chu, 1998; Miller, Reisman, McIntosh & Simon, 2000; Mitchell, 1998), so this was not unexpected. However, I was not certain how this would affect their participation.

#### Perceived Competence in the Gym

Various aspects of the gym challenged the confidence of the gymnasts with dyspraxia. Although the equipment was a highlight of the experience for the gymnasts, using it all

in the way the coaches expected was an area in which the gymnasts initially felt unsure. One of the gymnasts refused to go on some equipment including the high beam, the trampoline and the parallel bars. Another would not go upside-down on the bars. The gymnasts also made comments regarding their ability to perform skills on equipment including “That’s too high” and “Hard”. One of the gymnasts found the warm up the most intimidating aspect of the sessions and, as noted earlier, declined to participate until the thirteenth week. He was encouraged by all the coaches to join in and, although he appeared to enjoy watching, he would say “too hard”. Before the first session, one of the other gymnasts with dyspraxia was also intimidated by the other gymnasts in the Club, perceiving that they would be much more competent than him:

Gymnast: I thought there’d be really really good people at gymnastics.

The gymnasts in the small group I coached tended to stick together during the first weeks. During the roll call they would all sit next to me, while the younger ones also paired up during the warm ups. Although the older gymnast participated with the larger group during the warm up, even when given the option he chose to remain with the same small group during the stations. In addition, all the gymnasts with dyspraxia initially looked to their parents for support and during the first sessions they looked up often and waved out to their parents or just checked that they were still there. During the second week one of the gymnasts became concerned when he could not see his mother, who had gone to the toilet, and I could not draw his attention back to the activity until she returned. This initial dependence on parents was not however isolated to the gymnasts with dyspraxia. One of the coaches identified it as normal behaviour which one could expect in any group of young gymnasts:

Coach: In most classes there’s...someone that will cry running off or want their mum or...doesn’t want to join in ‘cos he’s missing his mum.

One night I noticed that a new boy in my group, aged five, also looked up and waved to

his parents. During the night of this session I asked the gymnasts in my group why they looked up at their parents during the class. The new gymnast, who did not have dyspraxia, said “in case they leave me here”. A gymnast with dyspraxia said “gone”, while another denied that this was the reason but did not articulate any other. As with other aspects of joining in, I observed that the gymnasts with dyspraxia remained reliant on their parents’ presence for longer.

The parents of the gymnasts with dyspraxia perceived that their sons had reduced confidence generally, and hoped that as well as having fun they would develop confidence through participating in gymnastics:

- Parent: A year ago he wouldn’t have ever climbed up on top of the beam...climbing over that ladder thing [pictured in figure 19]... I hoped he’d get over some of those fears that he’s got. That’ll give him a bit more confidence.
- Parent: Getting into a new environment and seeing how that would help increase his confidence, meeting new people in social situations.
- Parent: I think I was hoping that it might just be good for his confidence...because I knew he’d be going into a really different environment.



Figure 19: Children climbing over ladder

The parents’ expressed concerns focused on two domains of perceived competence, physical and social competence (Harter, 1990). The mother of the gymnast who tended

to avoid the equipment that challenged his physical skills, hoped he would develop confidence using it. The parents whose sons avoided interacting with people they did not know, hoped that being exposed to a different environment with new people would increase their confidence in social situations.

The other coaches also perceived that the gymnasts with dyspraxia lacked confidence. One of the coaches identified that one gymnast's lack of confidence had an influence on which activities he would attempt:

Coach: [He] probably wouldn't want to try everything because he wasn't so secure with where he was.

One of the coaches believed that the gymnasts' confidence was an accurate reflection of their competence at performing skills:

Coach: I think that they were joining in to the utmost of their ability really; the littler one was making some really sensible decisions about his own safety when things became boisterous.

However, as noted previously, the discrepancy between the gymnasts with dyspraxia's attributes and their skills made it difficult to distinguish between 'what they could not do' and 'what they did not know how to do'. What the gymnasts found fun or avoided contributed to 'what they did not want to do', while the gymnasts' reduced confidence added 'what they did not think they could do' to the mix.

### Developing Perceived Competence

Despite children with dyspraxia being typified as lacking confidence in their physical abilities, the gymnasts appeared to develop a perception of competence over the two terms. They more readily used the equipment, joined in the warm up, interacted with gymnasts in the bigger group and did not look to their parents as often. Their confidence on the equipment appeared to be related to the repertoire of skills they had learned, which was also influenced by the interest they had in that piece of equipment. This was

highlighted with one of the gymnasts on the beam. It is unclear what prompted his avoidance of the equipment, but during the first term he would not get onto the beam, was not interested in the beam and did not develop skills to use it. However, during the eighth session, I instructed him to walk along the beam (as I had many times before) and he held out his hand for me to help him. While holding onto my hand he walked along the high beam [as in Figure 20]. It appears that something had changed within this gymnast to make him feel that he could, or would, attempt the walk. It seems most likely that it was the development of confidence which enabled him to finally get up onto the beam. In a situation where a gymnast declines even to attempt an activity, his decision cannot be based on feedback from a failed attempt, at least not in this context (i.e. “I have been on the beam and fallen off, so I don’t want to go on again”). Rather, it is his perceived inability which prevents his participation.



Figure 20: Walking on the Beam Holding Hands

No one aspect of the Boys’ Group can be singled out as being responsible for the change within this gymnast. However, it seems likely that one factor was that he had developed trust in me as a coach and perceived that I was there to help him. I had

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continued to press him to attempt the activity, but his decision to finally attempt it may have also been that he saw attempting an activity in gymnastics as non-threatening. His mother noted during the interviews:

- Parent: No way did he want to go near that beam, he didn't want to hang off those rings, he wanted to stand there and watch and he wouldn't join in any of the warm ups. Now he's started doing that...that's him coming out of his shell, it means he's more confident. He's a bit funny sometimes 'cos he doesn't want to do things in case he does it wrong...he thinks he's going to get in trouble, I don't know where he gets that from.
- Stephanie: So what do you think helped him then to come out of his shell or to get more confident in the club?
- Parent: I think the fact that if you make a mistake nobody makes a big deal out of it, you're just, 'Oh try that again, just try that again' It's not 'you did that wrong!'

Clearly the progressive nature of skill teaching discussed previously had an influence, but at the time that this gymnast let me hold his hand to assist him on the beam, I certainly interpreted it as being evidence as a development in the trust he felt in me, as much as in his own abilities. I noted in my journal:

He holds out his hand for me. This is the first time he has permitted me to touch him. Wow!

The Junior Introductory Coaching Manual (Canadian Gymnastics Federation, 1986) highlights the importance of the coaches' support in allowing the gymnasts to develop confidence: "can you think of anything more important than the way a competent teacher/coach can help students overcome fears and inhibitions by being compassionate and then energize these same students to reach beyond their known ability?" (p. 131).

Although I have already discussed the potential impact of progressive skill teaching on skill development, this approach also means that coaches do not expect gymnasts to get a skill right the first time and as a consequence, do not give gymnasts negative feedback if they do not initially succeed. The focus is always on refining skills which seems to naturally lead coaches to give positive, corrective responses. The following sample from the audiotaped session gives an example of this kind of feedback

that I gave gymnasts while we were at a vault station: (pseudonyms have been used)

James, show me what you can do on here. I want to see three jumps and then land still, one two three and then land still, beautiful! That's that done! Well done! Okay, you've got to start in the green hoop remember James, you too Robert... You start from this side and you just go step up and land. Step up, and land, very nice... James, two feet onto here, James, so you've got to go two feet onto there okay and jump straight off again, two feet onto this okay? Two feet, that's better. Three jumps on there, good one Alex, and bounce straight off again now. That's excellent, that's really difficult that one! Derek come back down. Good two feet jump James, very nice. Good Alex, yip. Right, I think we are going on to beam.

As the coach's feedback aims to refine skills, not to measure right or wrong, winners or losers, capable or incapable, the gymnasts are able to feel confident that they will not get criticised. They can then feel safe in the relationship they have with the coach and have the confidence to attempt activities which they may think they will not succeed at.

All the parents perceived that their son had developed confidence doing skills and using the equipment:

- Parent: Along the beam, I could see his confidence, in getting up there.
- Parent: He's like 'I can do this and other guys can't do this'.
- Parent: When he was going over the vault he didn't want to do that at first, the first five or six times he didn't want to do it, and now he's good at it.
- Parent: He's actually gone and done something really different and done well and really enjoyed it and actually felt really confident about what he's done... he's come back and said 'oh, I'm really good at it' you know, felt really positive about what he's achieved.

The gymnasts' achievements were predominantly about conquering equipment as opposed to developing named skills such as forward rolls and cartwheels. Perhaps given more time to learn these skills, they would have featured in the gymnasts' achievements as well.

### Confidently Taking Part

In addition to developing confidence on the equipment, as the terms progressed, the gymnasts with dyspraxia all began to interact with gymnasts beyond the small group for the stations. This change was again interpreted by myself and the other participants as being influenced by the gymnasts' growing confidence. The gymnast who lacked the perceived competence to join in the warm up games, joined in after the thirteenth week, as noted previously. By the end of the two terms, he went so far as to report that he thought the group games were "fun". The head coach commented on the change all the gymnasts went through as they became more confident:

- Coach: They were pretty much like a satellite on that first night, although we tried as much as possible to have them in. Probably it was quite a frightening experience for them suddenly coming into a big group that was already together. They definitely looked as if they were a satellite moving around us, basically.
- Stephanie: And, so did you see that change?
- Coach: Oh definitely, yeah, very much so...they were opting to be partners with anybody in the group. It didn't have to be somebody that was in their little nucleus so, I think it was quite a huge change.

The parents too noticed that the gymnasts with dyspraxia developed more confidence interacting with people with whom they were unfamiliar:

- Parent: It was good for him to do something without his friends or his peer group there with him...and have some success and actually enjoy it. Because he's always been really reluctant to try things like that in the past...I think it's made him more confident.

During the end of year display, which the Boys' Group did along with all the other groups in the club, the gymnasts with dyspraxia chose any of the gymnasts from the Boys' Group with whom to partner up (Video 10). As well as highlighting the inclusion that had developed, their involvement demonstrated their belief that they were part of the group and were good enough to join. This change in their participation could be attributed to the gymnasts' development of skills, understanding of expectations and increased confidence. However, it was essential that the culture of the Boys' Group

enabled the change. From the first session, the head coach expected that the gymnasts with dyspraxia would be part of the larger group. After the first session I noted in my journal:

She appeared happy for them to join in and did not treat them differently to any other boys in her group. It seemed most natural for them to join in with the others...She said she had thought they would join in.

Her expectation was shared by the other coaches and the gymnasts with dyspraxia could fit in sufficiently for this expectation to be upheld. Her expectation and the behaviour described above, which was associated with her belief that the gymnasts with dyspraxia would participate in the group, provided role modelling for the other gymnasts in the group. Her belief, combined with the other coach's belief and my belief that the gymnasts with dyspraxia could participate set the norm for the group, apparently influencing the other gymnasts' in the Boys' Group and almost certainly had an influence on the gymnasts' own perception of their ability to be included equally.

Another indicator of the growing confidence the gymnasts with dyspraxia had in taking part was that they looked to their parents less frequently during the second term. The eldest gymnast's mother would leave at times to catch up on things such as filling the car with petrol and he did not demonstrate any distress at her leaving. The gymnast who was most concerned about his mother's presence also looked to her less and for one of the sessions during the second term was accompanied by his grandmother for one session instead. His mother identified this change in his ability to be more independent over the two terms:

Parent:           The first term especially, every five minutes he'd be looking up to make sure that I was still there. And I'd try to get his attention to say I'm going downstairs, and he'd be like 'okay', 'cos he knows I won't leave him. Towards the end, he didn't do it so often, like every half hour he'd glance up and give me a wave, not so much towards the end.

Having the parents sitting away from the gymnasts probably initially increased the

gymnasts' anxiety. However, it is possible that by having the parents off the floor they were, to a degree, 'out of sight, out of mind'. The necessity of developing independence from one's parents was highlighted by a story a coach told about a gymnast in another group who never had the confidence to be separated from his mother:

- Coach: His mum always sat down on the actual floor, so she was down with him, kind of following him around because he always seemed to look to her for affirmation, like, 'you're doing well son'.
- Stephanie: So how long did he last?
- Coach: Probably about a term. He seemed clumsy as in the way he did things...he was kind of away with it the whole time, he'd sit in a daze...I think he really did need the one-to-one support. His mum was there the whole time. She could have probably pushed him into doing a bit more, but it seemed like he was probably quite attached to her...he was made to feel welcome, but...his confidence wasn't there.
- Stephanie: So how do you think he would have gone in my group?
- Coach: I don't think he would have wanted to join in.

In contrast, the gymnasts with dyspraxia's ability to separate from their parents and to develop a trusting relationship with the coach was an important attribute that enabled their participation.

The relationship with the coach was important not only for developing skills but also for behaving in accordance with expectations of the members of the Club. By desiring and receiving positive feedback from the coach, the gymnasts learn to acquire the behavioural norms. Interestingly, one of the other coaches perceived that the gymnasts' development of confidence in their skills was as significant in influencing their behaviour as the relationship with the coach:

- Coach: I had one that particularly is challenging in terms of behaviour, to control from the behaviour point of view. And he achieved finally to do a cartwheel that was recognisable as a cartwheel, and his behaviour is improving slightly. I think the achievement of the cartwheel had a far greater impact on his behaviour than all my kind of 'don't do that, don't do this, come here, sit down', 'cos he suddenly realised, 'oh I'm not useless, I can do this'.

This change was also noticeable for the gymnast who would not initially go on the

beam. When we were at the beam station during the first few weeks, he would often go on equipment he was not supposed to, run out in front of other gymnasts, push other gymnasts and not follow my instructions. By the end of the second term, although the beams still did not appear to be his favourite station, he had developed the confidence to get on the beam and had a repertoire of activities he could do on it. He was doing more of the activities on the beam that I expected him to do, and as a result, was not spending as much time doing what he was not supposed to do (Videos 11 and 12). As Persson et al. (2001) have explained, the choices individuals make, with regards to performance of an occupation, communicate the symbolic value they attribute to that occupation. Moreover, this choice will link him or her to the group if it is “acceptable to cultural norms or ideologies” (Persson et al., 2001, p. 9).

The expression of confidence within the gymnasium was a positive development for the gymnasts and an important element in their participation in the group. However, the parents and other coaches perceived that the gymnasts’ confidence in the gym had an effect on them outside the gym:

Parent: He used to avoid the monkey bars [at school] like the plague, wouldn’t go near them ‘cos he fell off them once, but since he has been going to gymnastics he’s confident to try things. I went down to the school about three weeks ago at lunchtime, and just watched him...and he was trying more things. He wasn’t scared to climb up big ladders onto the play equipment. Before he wouldn’t do it. He’d climb down the ladder on his bum, easing his way down. But he’s not doing that now. I’ve noticed his confidence has greatly increased there. Also here at home he still can’t skip with the skipping rope, he’s a lot better than he was, and I think also, cos you did that at gymnastics, he tries harder to try and do things, a bit more focused...He’s been out playing with that [his skipping rope] and normally he’d get mad and throw it, but he’s not doing that so much any more...He’s trying to climb the trees in the garden and he’s never done that before!...Other kids are doing it and now he’s more confident to try doing it himself.

Parent: I think he probably now realises that he can actually go and try something new without having to have his friends there and still enjoy it. It can still be fun and not too scary.

Parent: That was a big test for him I think because normally when we go somewhere I'm with him. I stay with him, and with me being able to go upstairs he now knows that I'm not going to run away and leave him there. I am going to stay if I say I'm going to stay.

The examples the parents gave of the generalisation of this confidence suggests that the gymnasts' perceptions of competence were not gymnastics specific. They perceived that some internal change had occurred within the gymnasts that was transferable to other settings. The head coach perceived that in addition to developing confidence, gymnastics can have an effect on other aspects of cognitive development.

Stephanie: So you see that there's transference of gymnastics skills?...  
 Coach: With all their cognitive development, definitely. I've worked with quite challenged children doing gymnastics, exercise programmes, and it does make a huge difference to what they achieve in other areas.  
 Stephanie: What sort of things have you seen them achieve in?  
 Coach: Just improving basic skills like reading and writing, which I know sounds bizarre but it does, it helps them focus at school or their coordination helps, they go out and participate in general PE classes at school more comfortable, they feel more confident.

Although the coach perceives that there is a link between gymnastics and academic success, she wonders whether this too has a link with confidence.

In summary, throughout the first term the gymnasts with dyspraxia either avoided aspects of the session, expressed anxiety or fear, or looked to others for support. These behaviours were interpreted by the parents, other coaches and myself as an expression of low self-confidence. Through the second term, these behaviours were reduced and the gymnasts attempted activities they had avoided, had fun and became more independent of their parents and the small group I coached. The parents perceived that the confidence the gymnasts had developed generalised to other areas of their lives.

## Fitness

During the first half of the first term, the two younger gymnasts with dyspraxia had difficulty maintaining a consistent level of activity for the hour-long session. They tended to have bursts of energy which alternated with resting. This resting took the form of lying, usually face down or curled up on their sides, on one of the fat mats for one to two minutes. During the fifth session the video person/coach commented:

Coach:            They curl up in a little ball; that was weird, I mean interesting.

Then in the twelfth session she again reflected that in the group that I took around the stations:

Coach:            Most of the boys are pretty buggered by the end.

Her comments suggest that this behaviour is not common among gymnasts as she perceived it to be “weird”. Although it did not stand out to me at the time, I agree with her that it is not a behaviour I have noticed before in other gymnasts. One of the parents commented during the first term, that she saw gymnastics as a good place for her son to burn off some energy, and that this resulted in a change in behaviour the next day:

Field notes:     She says that he’s really well behaved on Thursdays because he’s so tired.

It may be that the gymnasts’ fatigue is not simply a reflection of physical fitness. The noisy, busy, demanding, unfamiliar environment could tax the gymnasts’ energy as much as the physical exertion. I certainly felt tired following the sessions, although I had done very little running, if any.

The gymnasts with dyspraxia did not appear unfit and were not overweight, so why would they need to lie down and why would doing gymnastics make them so tired? The gymnasts with dyspraxia did not offer any explanation for needing to lie down, nor did their parents. It may have been that in doing the videoing, the video person was focussing more closely than anyone else on the gymnasts with dyspraxia. Her explanation for the behaviour, that the gymnasts were “buggered”, presumably meant



that the gymnasts were fatigued. As noted previously, the younger gymnasts with dyspraxia were seen to run around more than the other gymnasts at the stations, so it may have been that they were having difficulty modulating their level of activity. It is also possible that the level of activity required was more demanding for these gymnasts. It has been proposed that children with dyspraxia find physical activity more fatiguing due to low tone (Rivard & Missiuna, 2004). Whatever the cause, the gymnasts' need to lie down reduced over the two terms and eventually they were not lying down at all. It appeared that the gymnasts had developed some fitness or could modulate their level of activity better to allow them to continue through the hour. The amount of running around had certainly reduced, as the gymnasts were remaining at the stations for longer.

In addition to having the opportunity to develop fitness during the sessions, the mother of the eldest boy reported that he had developed an interest in doing exercises for fitness and flexibility as a result of participating in gymnastics:

Parent: I think it got him thinking about doing sort of exercise type things 'cos the gymnastics seemed very much like exercises as opposed to games...I think it's got him thinking about that and what he can do to improve his skill level and made him want to actually improve his skill level for things like strength and flexibility.

The head coach also perceived that strength and fitness were an important outcome she expected from the gymnasts' participation:

Stephanie: What do you feel like you're trying to achieve for the boys in that group?  
Coach: Basically just physical development...I was a little surprised...at just how weak in their upper bodies these young boys are at ten, eleven, they can't support their own body weight and that says to me that they haven't been doing a lot of physical activity. So my main purpose would be physical development. Make them capable of swinging on a bar and supporting themselves on the bar...The main impetus would be 'let's make these guys stronger and fitter, and more capable of doing other things in other sports'.

I also share this belief that gymnastics can make one fitter and stronger. As noted earlier, I still do gymnastics. The reasons that I do gymnastics includes keeping fit,

improving my muscle strength and mastering skills (although I am attempting to master skills I used to be able to do as opposed to new skills). These objectives are the same as the aims that the eldest gymnast with dyspraxia had; perhaps this is a shared meaning for gymnasts from late childhood.

### Friends and Whānau

The support that the social environment offered was also seen as an important aspect of the participation of the gymnasts with dyspraxia, although the participants had differing views on which elements of the social environment were important. The relationship between the gymnasts with dyspraxia and the other gymnasts with the Boys' Group was identified by all the participants as a reflection of their inclusion. The parents were of course another aspect of the social environment, and their participation had some influences on their perceptions of their sons and themselves.

Friendships represent one of the most critical social relationships experienced from middle childhood (MacArthur & Gaffney, 2001). One of the gymnasts with dyspraxia expressed that he had developed a friendship through participating in the Boys' Group and his mother noted that he talked about this friend often:

- Stephanie: Did you have any friends in our gym group?...
- Gymnast: I don't know.
- Parent: Yes you do, you talk about him all the time...[Another gymnast]!
- Stephanie: Did he become one of your friends did he?
- Gymnast: (nods)
- Stephanie: I saw you guys having lots of fun. Did lots of playing didn't you?
- Gymnast: Mmm hmm. (in agreement)

The assistant coach also commented on the development of this friendship:

- Coach: I just thought it was really special how [a gymnast] and [another gymnast] became friends.

Friendship was a very important aspect of gymnastics for me; however, neither of the other gymnasts reported that they had developed a friendship, although they did like the

gymnasts who were part of the Boys' Group:

- Stephanie: Did you like the boys who were there?  
 Gymnast: Yeah.  
 Stephanie: Would you like them to be there again, those same ones?  
 Gymnast: Yeah, some of them.
- Stephanie: So if you did come back to gymnastics again, would you want it to be with the same people or with different people?  
 Gymnast: I'm not quite sure, 'cos I'm more used to the same people.  
 Stephanie: So you kind of like the same people?  
 Gymnast: Yeah.

None of the gymnasts appeared to develop very close relationships and there was no indication that they interacted with each other outside of the gym. It may have been that friendships did not develop due to the relatively limited time over which the study was conducted, but it is also likely that the nature of the friendships that developed were influenced by gender norms. One of the coaches noted that girl gymnasts tend to relate to each other on a much more personal level than the boys. As opposed to being particularly attached to the boys in the Boys' Group, it may have been that they felt safer with people they knew. It is possible that the safety they felt within the group developed into a degree of dependence, particularly on the small group I coached. One of the gymnasts stated:

- Gymnast: I only knew the little group, 'cos I only wanted to.  
 Stephanie: Why is that?  
 Gymnast: 'Cos I thought the other group seemed too hard.

Fortunately, because the composition of the small groups that went around the stations did not remain the same each week, other gymnasts from the larger group could be introduced to widen the associations the gymnasts with dyspraxia had in the Club. As well as broadening the social group of which the gymnasts with dyspraxia were part, having other gymnasts in the group introduced new skills and allowed the group as a whole to be extended:

- Stephanie: Did you start talking to some of [the gymnasts from the Boys' Group] by the end?  
 Gymnast: Not really.

- Stephanie: I saw you talking a wee bit to [another gymnast].  
 Gymnast: Yeah, [that gymnast] is the best I think.  
 Stephanie: He was very nice wasn't he?  
 Gymnast: Yeah.  
 Stephanie: Was it nice having someone like him in our group that time?  
 Gymnast: Yeah, I liked having [that gymnast] in my group.  
 Stephanie: What happened when he was in our group, what was different?  
 Gymnast: I got to do some stuff that he was doing which was a bit harder.

Halfway through the second term the Boys' Group began practising their end of year display. This practice was done with the whole group and took up to half the session. Joining the whole group provided an increased opportunity for the gymnasts with dyspraxia to interact with the Boys' Group and was an important influence on their and their parents' perception of their being part of the group. One whānau initially perceived the gymnasts with dyspraxia as somewhat separate from the Boys' Group:

- Parent 1: To me it sort of, I thought that, although they were part of it, they were still separate. 'Cos were they doing the same things as what the other groups were doing?  
 Stephanie: Yeah, it was the same badges, they were all doing a variety of different levels. What about you [father], did you see them as being part of the big group or separate?  
 Parent 2: Probably separate.  
 Stephanie: What about you [gymnast]? Did you think you were part of that big group or did you think you guys were a separate little group?  
 Gymnast: A separate little group.

Although this whānau saw the gymnasts as separate, when they reflected on the gymnasts' participation in the display at the end of the year, they identified that the separation was perhaps a belief they had brought with them into the gymnasium which was not so evident in that context:

- Stephanie: What about during the display, were you just a separate little group or were you part of the bigger Boys' Group in the display?  
 Gymnast: The bigger Boys' Group.  
 Stephanie: What did you guys think during the display, did they seem like a separate group?  
 Parent 1: No, no.  
 Stephanie: Did they seem like part of the bigger group?

Parent 1: Yeah, yeah.

Parent 2: Yeah...

Parent 1: It was probably just that I had in my mind that it was separate, whereas if maybe we didn't know and we just, they always just went along, then maybe we would have seen a different part.

The coaches also perceived that the end of year display was a good demonstration of the gymnasts' inclusion:

Coach: The coolest thing was...that end of year display, I thought that was really good. Because they felt so important, which they were, and they felt like they were involved in something and all these people are watching, pretty cool!

Coach: Well, all but one of them actually coped with joining in that display reasonably well, and I think was enjoying it, was getting something out of it, but the other, the third member was possibly getting something out of it but couldn't actually connect and be part of the display as itself.

The participants perceived that the gymnasts with dyspraxia were part of the group, although the head coach did not think that one of the gymnasts had really connected with what the group was doing. Another of the parents had a different slant on their level of integration:

Parent: I think it was good they all sat there together at the beginning and the end, and then throughout different times the other children would come and work with the kids with dyspraxia...the so-called normal children could see that these kids could do it; there wasn't anything physically wrong with them.

This statement suggests that this mother continued to see the gymnasts with dyspraxia as separate, as it was not that the gymnasts were participating together, it was as though the other gymnasts were acting in a coaching capacity. It also suggests that she thought the other gymnasts were aware that the gymnasts with dyspraxia were different, an awareness that the other participants did not report.

Irrespective of whether the parents saw their sons as being part of the group, they all had the opportunity to see their sons being successful and perceived that they

measured up quite well compared to their prior conceptions and in light of the behaviour and abilities of other gymnasts in the group:

- Parent: Initially I was trying to observe how he would listen...I was quite surprised actually, he did quite well...[It was] quite good to see him try new things. I think he took on the challenge quite well, didn't sort of shirk it.
- Parent: That game where they had to put the ball between their legs, I didn't think that he would be able to do that, but yeah, so that was quite exciting.
- Parent: [The gymnasts in the Boys' Group] seemed like they kind of horsed around a bit and didn't seem to have to try so hard, whereas [my son] was quite focussed I felt, and was really trying to do well, wanting to succeed, which is why I think he's really done well.

As well as reflecting on their son's success, one of the parents found herself reflecting on her own abilities, having seen her son doing gymnastics. She had noticed that he had difficulty doing the stretches and stated:

- Parent: I always thought I had short hamstrings because I had dislocated hips as a baby, but seeing [my son] has made me think it might be genetic.

It is unclear what impact this understanding would have had on the parent, but the opportunity to redefine herself and her abilities through observing her son was an unexpected outcome. Although none of the other parents identified a belief like this, I have had a similar experience. My daughter was required to do a 'fun run' at school recently. Her teacher told me my daughter was usually last as she preferred to stop and pick flowers or look for fairies. I despised long distance running at school and after her teacher told me about her avoidance I am now claiming it as a genetic, as opposed to environmental issue (as few of the children would have experienced long distance running as five year olds). Although my argument is purely speculative, it is interesting to reflect on my beliefs regarding the strengths and weaknesses I share with my children.

As much as the previous finding was unexpected, a finding I had anticipated

would come from the group was that the parents would talk to each other, providing opportunities for an informal support group. This, however, did not happen. Two of the parents did talk to each other, but this was because they had met each other previously at the local dyspraxia support group. One of these parents reported that she received useful information and support from talking to the other parent during the gymnastics sessions:

Parent: [Parent 3] was great to talk to because she's been through similar things that I'm going through and we help each other out and talk about things like that...[my son] was doing something and I wasn't sure if that was a dyspraxic trait, and I'd say 'does [your son] do this' and she'd say 'nah, but he does this'...and we'd talk about things like that. But there were similar things that they both did. She'd tell me about the help that [her son] was getting at school and asking if [my son] was getting the same help and I'd say 'no'...It opened my eyes up to know that I'm not alone with a child like him, which was great. And like, when [my son] was diagnosed with ADHD, I told [the other parent] he was being assessed to be diagnosed; she was really good. Like the next week 'how did it go?'. It was, to know that you're not sort of alone in the way that your children are behaving and getting feedback from other parents, it's good.

None of the other parents expressed any such support, and other than the two who talked, the parents sat alone. This was not a behaviour limited to the parents in the study; occasionally parents of other gymnasts who appeared to already know each other would sit together, but most parents sat by themselves. One of the coaches commented on the parent culture in the gymnasium in comparison to a smaller club she had coached in:

Coach: I don't know the parents...whereas in the previous club I knew them all personally. I spoke to them on a regular basis when they came to pick their children up and we'd have a short conversation. I miss that. I understand that when you're dealing with bigger numbers that it's harder to manage and have that rapport, but, perhaps that's one of the sacrifices you make when you start getting bigger, but I think it makes a difference to the culture in the club. There's far more misunderstandings with parents, 'cos parents are almost seen to be kept at bay.

She perceived that the professionalism of the Club detracted from the social opportunities provided to parents in small community gymnastics clubs:

Stephanie: What are the sorts of things that you think the club does to keep parents at bay?

Coach: Well, the insistence that they sit upstairs, and again I realise that that's, given the size of the club and the number of children on the gym floor, it is a necessity. But again, in a small club where there's only say ten to twelve gymnasts working in a club environment, the parents are sitting on the side, right on the floor. They're invited to come in and help with stretching, they're invited to come in and help. I was in a club where gear had to be put in and out and I know that's a hassle, and a pain and everything else, but it does actually make for a very socially interactive group of people because they're constantly having to come and help and talk to the coaches and do things and it's more, the social integration is far stronger. But, you've got a trade off here, there's a lot more kids coming through here, so that's got to be good and one of the sacrifices you make is that small social network function.

Perhaps the social support I had envisaged would occur in a smaller club. Not only did the parents not have to work together, it is possible that they were not even aware of who the parents of the other gymnasts in the group were. They did not meet each other on the first night as they all arrived at different times and there were parents of gymnasts from the other sessions sitting upstairs at the same time. Although the parents did not develop the support group I had imagined they might, they were participating in the experience of being the parent of a gymnast as the other parents in the Club were. They were not included in any sort of group, but they were not excluded either and this was consistent with the established culture of the Club.

In summary, the social environment was seen by the participants to be an important influence on the gymnasts' participation in the group. The gymnasts with dyspraxia liked being with the other gymnasts in the Boys' Group, although they preferred to stick with the small group I coached at the stations. The end of year display appeared to play an important role in enabling the gymnasts with dyspraxia and their



parents to see them as part of the Boys' Group. The parents however continued to have varied interpretations of the gymnasts' integration. In observing their sons at gym, the parents reflected that they performed better than they had expected. One parent even reframed her perceptions of herself. I had expected the parents to form a social network, but this did not happen. Such networking may have been prevented by the size and professionalism of the Club.

To conclude this chapter, doing gymnastics held significant meaning for the participants in terms of the affective experience of the gymnasts (having fun) and the cognitive outcomes, particularly with regards to perceived competence. Having fun was seen to determine whether the gymnasts would choose to return to gymnastics. The gymnasts with dyspraxia appeared to have reduced confidence when they entered the Club; however, their confidence in the gym was seen to develop over the two terms. In the gym their increased confidence appeared to improve their participation in the group, and the parents and coaches perceived that the influence extended to environments beyond the gym. A central belief about doing gymnastics, expressed by the coaches and older gymnast, was that doing gymnastics improves physical aspects such as fitness, strength and flexibility. Each of these aspects was seen to have an influence beyond the gym. The fitness that the gymnasts developed through participating in gymnastics was believed to influence their participation in activities beyond the gym. The social environment was also seen as a significant determinant in the gymnasts' participation in the group and reflected their level of integration. The parents and coaches had various perspectives, however, on the degree to which integration had occurred. In having all the elements of the person outlined in the Canadian Model of Occupational Performance (Law et al., 1997) a complete picture of the gymnast identity, in the minds of the boys, their parents and coaches, has been offered.

### Conclusion

This thesis explored the culture that developed when three boys diagnosed with dyspraxia participated in a boys' general gymnastics group at a community gym club. To uncover this culture, what children with dyspraxia and their whānau did in the community gymnastics group, and what it meant to them to participate, were explored with the question: what is the culture of a community gymnastics group in which children with developmental dyspraxia participate? This chapter begins with a review of my findings before describing how these findings may contribute to various bodies of literature.

Although I set out to create and then investigate a gymnastics group for a small number of boys with dyspraxia in a community gym club, it evolved that these gymnasts became included with and eventually integrated into a boys general gymnastics group ("the Boys' Group"). As a consequence, the concept of integration is a focus of this conclusion. There are many definitions of integration, but the one that best reflects the process of cultural integration uncovered during the process of analysis is "the making of a whole new culture by the combination and adaptation of two pre-existing cultures" (Department of Maori Affairs, cited in McIntyre & Gardener, 1979, p. 439). Aspects of the original cultures remain, although both groups have also changed. Although this might appear to be a rather outdated definition, in terms of its original publication in 1962, it comes from a pamphlet regarding the integration of Maori and European cultures which I studied as a high school student. It is likely that these studies encouraged me to see the process of participation and inclusion of the gymnasts with dyspraxia and their whānau as being best described as a process of cultural integration.

### Review of Findings

When the gymnasts with dyspraxia and their parents entered the Club, they initially

sought to connect and compare the foreign environment with their previous experiences of gymnastics. For the parents, the Club seemed impressive and professional in contrast to the school halls where they had done gymnastics as children. The gymnasts found the size of the gym intimidating at first, but connected with the equipment, which they appeared to associate with playgrounds. The gymnasts' interest in the equipment fits with the norms of the Club and through learning the names of the equipment the gymnasts reflected the acquisition of the values and beliefs other members of the Club hold for the equipment. However, some modification of the gymnasts' perception of the equipment being for free play was required in order for them to be integrated into the group. Thus an important role of the coach was to define, in the initial sessions, what was culturally appropriate use of the equipment. Gymnasts typically develop preferences for some equipment over others, and by the end of the two terms the gymnasts with dyspraxia all had favourite equipment. The variety of equipment available in the gym was seen to accommodate the range of abilities the gymnasts had, and afforded the gymnasts the opportunity to have equipment on which they could perform appropriately.

To support the integration of gymnasts into the culture of the Club, the coaches employed two coaching styles, the soft coach and the tough coach. The parents attributed the style each coach used to their personality. The coaches believed that the style they used was also a reflection of the gymnasts' needs. I was primarily a soft coach and although the parents perceived that I could have been tougher, the coaches and I believed that the gymnasts with dyspraxia and some of the younger gymnasts from the Boys' Group needed a gentler introduction than was afforded by the other coaches. By having a coach using the soft style predominantly, the group changed to accommodate the needs of the gymnasts with dyspraxia and, as a consequence, the needs of some of the other gymnasts in the group were better met. The tough style of

coaching pressed the gymnasts to behave in the way members of the Club expect. The gymnasts in the Boys' Group appeared to need this style of coaching to keep them in line, and while the group I coached required more accommodation, I also employed the tough coach style at times to promote their integration and safety.

The gymnasts with dyspraxia needed to learn gymnastics skills to be seen as gymnasts; the adult participants believed that the acquisition of skills was important as it expressed development of a gymnast's underlying physical attributes. These were valued because of the assumption they would increase competence in physical activity in general. The coaches (including myself) observed that, for the gymnasts with dyspraxia the relationship between developing skills and possessing specific attributes was unclear and might not have the causal relationship expected. Although there were no specific examples of improvement in the physical attributes in the gymnasts, the parents maintained a vague belief that improvements in coordination, balance and motor planning had occurred as a result of participation in the gym group. Irrespective of whether such changes had occurred, the gymnasts developed a sufficient number of skills to be awarded badges and certificates from the Kiwi Gymfun programme with the rest of the gymnasts in the Boys' Group. By coaching the skills associated with the programme throughout the two terms, the gymnasts with dyspraxia may have had an advantage they would not have had with another coach. The adult participants perceived that, even with this possible advantage, it was more of a challenge for the gymnasts with dyspraxia to develop skills than for the other gymnasts in the Boys' Group.

The broad range of abilities in the Boys' Group was seen to reduce the significance of the lower level of skill the gymnasts with dyspraxia displayed. This diversity was created through an indiscriminate enrolment process and mixed age range. The gymnasts performing at the lower end of the range within the group - some new gymnasts, young gymnasts and the gymnasts with dyspraxia - appeared to be better

accommodated by being grouped together with a supportive coach. Progressive skill teaching and the individual nature of gymnastics also helped accommodate the gymnasts. These aspects of gymnastics meant that differences in ability did not detract from other gymnasts' success in the same way it can in team sports, providing a culture in which each gymnast could develop at his own pace. Ultimately, the adult participants believed that a casual observer would not have noticed the gymnasts with dyspraxia as being different from the rest of the Boys' Group.

As well as developing skills, the gymnasts with dyspraxia needed to abide by the behavioural norms of the culture to be accepted into the group as gymnasts. The demands of conformity in the culture were seen by the coaches to be based primarily on safety requirements. Behaviour was partially regulated by a structured routine that all the gymnasts in the Boys' Group followed. This structure appeared to support the gymnasts' ability to conform by providing predictability. The large group warm up and stretches included the gymnasts with dyspraxia, and during this time the demand on them to perform and act in a way that was consistent with the group was greater than when they were in the small groups for the stations. Although at times the gymnasts with dyspraxia did not conform to the coaches' demands, the non-competitive values and beliefs of the other gymnasts and coaches, and the behaviour of the other gymnasts meant that their lack of conformity was not seen as significant enough to cause them to be perceived as outsiders.

When the gymnasts were divided into small groups for the stations, the demand for cooperation was increased. The gymnasts needed to share the equipment, take turns, wait and keep out of the way of the other gymnasts. One of the gymnasts with dyspraxia had difficulty initially cooperating at the stations, but generally the gymnasts managed to work together and they quickly fitted into the Boys' Group culture of helping me and each other. The gymnasts were expected to remain within the boundaries of the station,

which were culturally but not physically defined. The younger gymnasts with dyspraxia took longer than the other gymnasts to learn to remain within these boundaries, and the coaches and other gymnasts identified that they were “running all over the place”. The adult participants interpreted this behaviour as difficulty with listening to instructions. Through my coaching I was able to accommodate the gymnasts difficulty with remaining at the stations to a degree; however, the gymnasts had to adapt to remain within the boundaries, and I needed to act as a tough coach at times to press them to change. As the two terms progressed, the ability of the gymnasts with dyspraxia to remain within the boundaries improved and they remained at the stations without additional prompts. In addition to my demand that they remain at a station, it appeared the gymnasts developed a repertoire of activities they could do at a station. The short amount of time the gymnasts were required to remain at a station was also seen to accommodate their difficulties with remaining within the station boundaries.

The gymnasts were accommodated by the larger group as the gymnasts in the Boys’ Group were seen to be generally non-conformist and were seen as “abnormal” by some participants and other members of the Club. In addition to the Boys’ Group having a culture in which there was a broad range of ability, the coaches’ beliefs regarding the boundaries between abnormal and normal were blurred. The coaching role allowed specific accommodations such as my style and specific skill teaching to enable the gymnasts with dyspraxia to participate successfully in the group. Despite the accommodations I made, the parents and coaches perceived that I was acting within the normal coaching role and the other coaches believed that they would be able to coach the group. However, it is likely that my prior knowledge of dyspraxia resulted in my choosing to coach the Kiwi Gymfun activities throughout the two terms, rather than spending the first term focussing on general skills as the rest of the Boys’ Group did.

The coaches and parents believed that other members of the Club, including the

other gymnasts in the Boys' Group, did not perceive the gymnasts with dyspraxia to be disabled even though they had a diagnosis. It is possible that there were other gymnasts in the group who had diagnosable conditions. Indeed, the head coach reported that they had had gymnasts in the group who had been given diagnoses, although she continued to see these gymnasts as being within the range she defined as normal. She did note however that she made some allowances for behaviours when she had knowledge of a diagnosis. The coaches believed that the Boys' Group attracted gymnasts who were unusual and suggested that other groups in the Club may not have been as accommodating.

As well as becoming integrated into the group, the participants in the study valued the gymnasts' affective, cognitive and physical experiences of participating in the group. These experiences were seen to support the gymnasts' integration by changing them in a way that meant they fitted better with the norms of the group. In addition, the change was believed to enhance their participation in physical activities beyond the gym. One of the main aims of gymnastics is that gymnasts have fun. The adult participants hoped that the gymnasts with dyspraxia would have fun and recognised that positive affective experiences at the gym were important in determining whether the gymnasts would choose to continue to participate. Although children with dyspraxia are identified in the literature as not enjoying sport, a highlight of the experience for the participants was the fun the gymnasts had. Experiencing success, positive social interaction, external rewards and sensory pleasure all contributed to the gymnasts having fun. The culture of accommodation and support offered through my coaching and aspects of the Boys' Group such as the structure and non-competitiveness were also important in ensuring the gymnasts with dyspraxia had fun.

The coaches believed that in other gymnastics groups the demands placed on the gymnasts with dyspraxia might have been too great and they might not have chosen to

return. The gymnasts reflected on whether they would return after the conclusion of the study and, although they all wanted to, there were many influences on whether they would.

The gymnasts with dyspraxia were initially unsure of their ability both on the equipment and in comparison to other gymnasts. The coaches and parents perceived that these gymnasts lacked confidence, but that their confidence increased over the two terms and appeared to be related to acquiring skills. The development of a trusting relationship with me as the coach, associated with giving them positive feedback and opportunities for success, also contributed to their development of confidence, particularly on the equipment. As their confidence grew, participation in the group and the activities also increased. The coaches' expectation that the gymnasts with dyspraxia would participate afforded the gymnasts the opportunity to see themselves as part of the group and as capable as other gymnasts. The coaches also identified that as the gymnasts' confidence grew, their behaviour became more aligned with the coaches' expectations of behaviour. The parents believed that the confidence the gymnasts with dyspraxia gained in the gymnasium transferred to other contexts. One of the coaches also perceived that academic improvements could also occur following participation in gymnastics.

The gymnasts with dyspraxia initially had difficulty with maintaining the level of physical activity required for the full hour, and for the first few weeks were observed during the first sessions lying down. One of the coaches identified that lying down was unusual behaviour. Children with dyspraxia are known to find physical activity fatiguing, but eventually the gymnasts were able to continue for the full hour. The coaches' believed that the gymnasts' fitness had improved, although it may have been that they were modulating their level of activity better.

The social environment was seen to be a reflection of, and an influence on, the



gymnasts' participation in the group. The development of friendships was identified as important by the coaches, although only one gymnast with dyspraxia identified that he had made a friend. The other gymnasts wanted to stay with the same group of boys if they were going to continue with gymnastics after the study concluded. An important outcome for the parents was that they had the opportunity to see their son being successful and measuring up well compared to the other gymnasts in the Boys' Group. However, they expressed a variety of beliefs about whether or not their sons were integrated into the group. The parents' participation in the parent culture did not involve a high level of social interaction with other members of the Club.

### Contribution of this Study

#### Support for Previous Findings

This thesis described the gymnasts with dyspraxia and their whānau as they entered the Club, learned to be gymnasts, acquired the identity of gymnasts and integrated into the Boys' Group. The concepts becoming, being and belonging have been used previously to frame experiences of people with disabilities (King, Cathers, Polgar, Miller MacKinnon & Havens, 2000). The support for previous studies that this thesis offers fits within these three concepts, while the influences or outcomes of the gymnasts' cultural integration into the group will be linked throughout.

#### *Becoming*

One of the first steps in becoming a gymnast was choosing to do gymnastics. Several potential participants did not join the study as they did not want to do gymnastics, preferring ball sports instead. As these same children did not participate in the research, it appears that the children's activity preferences have a direct influence on their participation as identified in the Model of Recreation and Leisure Participation of Children with Physical Disabilities (King et al., 2003). Whānau preference for

recreation has also been identified in the Model as an important influence. All the parents in this study expressed a personal interest in physical activity, with two of the six reflecting on their own experiences of gymnastics as children. Three of the parents in this study participate in physical activities including golf, yoga and Judo, with their children. Although the parents and I did not discuss their motives for participating in physical activities with their children, parents' commitment to their children has been found to be expressed in engaging in shared, or family, occupations (Segal, 1999).

The role that the gymnasts with dyspraxia played in becoming gymnasts was evident in this study. One gymnast's immediately joined in the warm-up with the larger group, while one of the others did not participate until week thirteen. The eldest gymnast was offered the opportunity to go around the circuits with another group, but preferred to remain with the group I coached. The importance of the individual's desire to be integrated has been identified in van de Ven et al.'s (2005) model of successful integration. Aspects of the person, including perceived competence (Weiss, 1993) and physical skills (Bouffard et al., 1996; Smyth & Anderson, 2000), have also been proposed to influence participation in activities and integration into social environments. The adult participants perceived that these factors all influenced the gymnasts' participation. In particular, the development of a repertoire of activities the gymnasts either wanted, knew how or had the confidence to do influenced their participation and integration into the group.

Beyond an individual perspective, this thesis argues that the activity of gymnastics, as it was played out in the culture studied, was particularly accessible to the gymnasts with dyspraxia. Thus, the boys with dyspraxia could successfully become gymnasts because of the progressive teaching, variety of equipment and individual focus. This finding reinforces other research suggesting gymnastics is a sport that is particularly accessible to children with dyspraxia. Children with developmental

disabilities have been shown to successfully participate in community gymnastics groups involving three gymnasts (Fennick & Royle, 2003). Researchers have also suggested that gymnastics in particular is a successful activity choice for children with dyspraxia (Rivard & Missiuna, 2004). In my study, the coaches suggested that not every gymnastics group would accommodate the gymnasts with dyspraxia. Indeed one of the parents in the study and another, who decided not to participate, described experiences of their son unsuccessfully participating in gymnastics. Although gymnastics may be amenable to integration of children with dyspraxia, it is the contextual elements, and in particular the culture of the group, that ultimately affords their participation.

### *Being*

To be gymnasts, the boys with dyspraxia needed to develop gymnastics skills. The parents and coaches in this study perceived that the gymnasts with dyspraxia acquired gymnastics skills over the duration of the study. Consistent with their diagnosis, they began with an observably lower level of physical competence than other gymnasts of a similar age. In addition, they learnt skills at a slower rate than the other gymnasts and required more effort. However, the gymnasts with dyspraxia did acquire skills. Other studies have demonstrated that children with dyspraxia can acquire motor skills (Peters & Wright, 1999; Schoemaker et al., 1994). A previous study of children with dyspraxia has demonstrated the effectiveness of task specific interventions (Wilson & McKenzie, 1998) and it may be that by teaching the specific Kiwi Gymfun activities, the gymnasts' skill development, as measured by their achievement of Kiwi Gymfun badges, was enhanced.

In addition to a measure of how successful a gymnast was, the value the adults saw in skills was that they were an expression of underlying attributes. There has been considerable debate regarding the relationship of attributes to skills (Peter Wilson, Personal communication, 15<sup>th</sup> December, 2005). Researchers have been arguing

recently that the concept of abilities should be replaced (Burton & Rodgerson, 2001). The new taxonomy proposed by Burton and Rodgerson helps to elucidate the observations the participants made of the skills the gymnasts with dyspraxia displayed. Burton and Rodgerson identify that the dominant view of movement skills and motor abilities is that abilities underlie a variety of movement skills. This is the perception that the parents and coaches conveyed when they suggested that balance and coordination had been, or could be, improved through participation in gymnastics. Although expert gymnasts have been found to have superior balance responses in their ankles, indicating significant improvement in proprioceptive abilities through specific training (Vuillerme et al., 2001), Burton and Rodgerson argue that abilities can generally only be inferred from skills. They add that “persons with different attributes can successfully perform a skill using different movement forms and movement strategies” (p. 357). They suggest that balance, strength and flexibility should not be viewed as underlying traits that influence all skill performance, but rather as motor skill foundations that have the potential to be limiting in the context of a specific skill.

The new taxonomy does support the concept of a general motor ability (GMA) that underlies the performance of all motor skills. Burton and Rodgerson (2001) define problems with GMA as reduced efficiency in solving motor problems. The head coach supported this concept when she identified that “Processing the information and then having to try and do it, it was much more of a challenge for them [the gymnasts with dyspraxia]”. This description is almost identical to Burton and Rodgerson’s definition. They state “we believe that coaches, physical education teachers, and other movement experts can fairly accurately estimate other person’s GMA after observing them perform some actions requiring complex interactions with the environment” (p. 361). The observations of the head coach in this study supports Burton and Rodgerson’s belief.

Burton and Rodgerson (2001) also proposed that the movement skill foundations

may be modified with practice. This proposal supports the parents and the coaches' belief that such change could occur following participation in gymnastics. The Junior Introductory Coaching Manual (Canadian Gymnastics Federation, 1986) proposes that these foundations, which they define as attributes, can be enhanced by gymnastics participation. The alternative perspective, that the changes observed are related to confidence in movement, has also been supported by other studies. Mandich, Polatajko et al., (2003) concluded from their qualitative research with children with dyspraxia and their whānau that "the children gained confidence as they mastered their goals and, as a result, they were more willing to try new activities believing they could master them now" (p. 593). Similarly, following physiotherapy, children with dyspraxia have been found to perform better on motor skill assessments, but the researchers wondered whether developing the confidence to attempt motor tasks had a significant influence (Schoemaker et al., 1994).

The potential influence confidence has on participation in sport has been well documented (Biddle, 1992; Ferron, Narring, Cauderay & Michaud, 1999; Martines, 1993; Primeau, 1996) and the parents and coaches believed that the gymnasts with dyspraxia developed confidence on the equipment. This confidence was believed to transfer into other sporting and recreation areas of the boys' life. There is some evidence to suggest that perceptions of competence are domain (e.g. physical, social) but not location specific (Harter, 1990). Developing confidence was identified in two of the therapeutic sports group studies (Hsieh et al., 2004; Peters & Wright, 1999). Many of the children in Peters and Wright's study "were fearful of working on apparatus" (p. 212), and the parents reported very similar outcomes to this study. That is, they stated "He has come out of himself more...He's doing his own thing and thinking for himself" (p. 212). It remains unclear whether the developments in confidence or motor skill foundations were responsible for the changes the participants observed in the gymnasts

with dyspraxia.

Although developing skills and confidence were seen as important by the participants, the most strongly conveyed expectation that the adults had was that being a gymnast would be fun. The parents expressed the desire for the gymnasts to have fun, while the coaches perceived that fun experiences are important determinants in whether gymnasts continue to participate. The gymnasts with dyspraxia reported that they had fun and all wanted to continue. Barriers to continuing included the cost of the classes, the desire to start new activities, and perceiving the other coaches as not being as supportive as me. Having fun has been identified elsewhere as an important influence on choosing to continue to participate in sport and recreation activities (Hay, 1992; Kristen et al., 2002; Weiss, 1993), while being happy has been described as a characteristic of success, with links to achieving goals (King et al., 2000). The aspect of fun was also highlighted in two of the therapeutic sports groups described in the literature review (Hirsch Botzer, 1997; Peters & Wright, 1999). Having fun has been associated with activity preference (Kielhofner et al, 1995; Law et al., 2005); the gymnasts in this study did express preference for some equipment and activities over others and appeared to have more fun doing the activities they preferred.

An initial potential barrier to the boys with dyspraxia being gymnasts was the difficulty they demonstrated with maintaining the level of activity required for the hour-long session. It has been proposed that children with dyspraxia fatigue faster than the rest of the population when participating in sports (Rivard & Missiuna, 2004). One of the therapeutic sports group studies identified that the children were unfit at the start of the programme (e.g. they appeared breathless), but after ten classes they were “audibly less out of breath” (Peters & Wright, 1999, p. 221). The researchers found a significant increase in ventilatory function at the end of their study. The gymnasts with dyspraxia in this study also initially demonstrated difficulty with maintaining their level of activity

throughout the hour-long classes. As described, they would regularly lie down on the mats during the session, and one of the coaches identified this as unusual behaviour although the parents and gymnasts did not identify it as significant. It was unclear, however, whether this was related to inability to pace their activity levels or a lack of cardiovascular fitness. Either way, after a period of participating, none of the gymnasts with dyspraxia were lying down during the sessions.

### *Belonging*

The New Zealand Disability Strategy (Ministry of Health, 2001) and the Halberg Trust (undated pamphlet) promote the participation and integration of individuals with disabilities into community sport and recreation activities, and this study provides an example of the integration they promote. The outcome of integration has been described previously as functioning ordinarily without getting special attention, mixing with others, and taking part in society (van de Ven et al., 2005). These features were evident in this study as aspects of the gymnasts' inclusion into the Boys' Group. I aspired to act as a 'normal' coach, and the expectations regarding equipment use, skill development and behaviour were the same for the gymnasts with dyspraxia as the other gymnasts in the Boys' Group. The parents and coaches identified that the gymnasts with dyspraxia would not appear diagnosably different from the rest of the group to a casual observer. However, by selecting who could and could not participate during the recruitment of participants, I may have restricted the range of difference present. The gymnasts perceived that they were part of the Boys' Group when they participated with the other gymnasts in the large group activities, particularly the end of year display. Although the gymnasts with dyspraxia did stand out at times (e.g. when others perceived them to be running all over the place) the coaches continued to perceive this behaviour as within the range of normal and expressed this belief to the gymnasts.

Feeling accepted by others as part of the group has been identified as leading to

a sense of belonging (King et al., 2000). Despite the parents identifying that the gymnasts with dyspraxia were part of the group, they had different perspectives on the gymnasts' integration. One parent concluded that the involvement of gymnasts without dyspraxia in the small group at the stations was to help the children with dyspraxia. Another perceived that the gymnasts with dyspraxia were separated out into the group that I coached, and the whānau of the other gymnast believed that he was separate, although they suspected that this was their perception because that was what they were expecting. The adult participants also perceived that the gymnasts with dyspraxia benefited from being grouped together. One of the coaches noted that the professional nature of the Club created a culture in which parents were 'kept at bay'. Perhaps this separation had the effect of preventing the parents from developing a shared understanding with the coaches, other parents, and perhaps even the gymnasts, regarding integration.

The importance of coaches or significant others, such as teachers, in participation has been described previously (Fennick & Royle, 2003; Hutzler et al., 2002; Kristen, et al., 2002; Law et al., 2005). In particular, coaches who are knowledgeable about disability (Fennick & Royle, 2003) and who do not subscribe to the belief of normal versus different (Davis & Watson, 2001) have been found to have a positive influence on participation. Being believed in by others has also been identified as a key factor in successful life experiences (King et al., 2000). The coaches of the Boys' Group appeared to have a significant influence on the gymnasts with dyspraxia belonging with the group. The head coach was knowledgeable and experienced in working with people with disabilities, and the assistant coach had also been involved with gymnasts with disabilities in the Club. These coaches expressed the belief that, within the culture of the Boys' Group, the behaviours that other members of the Club may define as abnormal were within the range of normal. This belief resulted in the



coaches perceiving the gymnasts with dyspraxia to be part of the group and that I was seen, therefore, as just another coach. When the class was full, gymnasts without dyspraxia were placed in the group I coached, directly enhancing the integration of the groups. The contribution of the coaches' role modeling was also evident in the integration of the group I coached. The effect on inclusion of teachers' role modeling has also been described previously (MacArthur & Gaffney, 2001).

In addition to describing the gymnasts' integration into the Boys' Group this study adds to the discussion of factors that influence participation. The Model of Participation in Recreation and Leisure Activities by Children with Physical Disabilities (King et al., 2003) and the Participate Study (Law et al., 2005) focus predominantly on factors that permit or promote initial participation, and identify trends in participation in a sample of the Canadian population. My study provides an example of what happened when three New Zealand children, one of Maori-European, another of New Zealand European, and one of Chinese descent, did participate in gymnastics and demonstrates some of the ways in which participation may be influenced. The functional abilities of the gymnasts with dyspraxia were not vastly different from each other; indeed, the differences between the functional abilities of the gymnasts with dyspraxia and some of the other gymnasts in the Boys' Group were not seen to be vastly different. It seems likely that, had the participants had more significant functional limitations, their experience of participation and inclusion would have been reduced. As it was, I felt that the boy with Aspergers Syndrome need individualised coaching, as the functional implications of his disability prevented him from participating with the group. The other coaches also described occasions where behaviour prevented a child's participation.

### New Findings

This study contributes to emerging understandings of children with disabilities

participating in a recreational activity by providing an in-depth, longitudinal view, including multiple perspectives. Using an ethnographic methodology, what the participants did during the sessions and the meaning they attributed to their participation is described. The findings of this study contribute to an understanding of gymnastics as it was acted out in a boys' general gymnastics group. An example of integration has been described, demonstrating the ways in which gymnasts with dyspraxia acquired skills and norms of the group, and identifying the accommodating nature of the group.

Other studies have explored participants' perspectives of their participation in recreational activities; however few studies have observed the participants doing the activities. The exceptions are the playground studies by Bouffard et al. (1996) and Smyth and Anderson (2000) who proposed a link between physical skills, participation and integration from their observations. Even these studies have not emphasised the influence the activities themselves, as they are acted out, and the meaning they hold, may have on participation and integration. The therapeutic recreation studies (Hsieh et al., 2004; Hirsch Botzer, 1997; Peters & Wright, 1999) provided a more detailed focus on the activities, although these activities had been modified for health outcomes. In-depth analysis of natural recreation activity has been largely neglected.

As noted previously, the literature has suggested that there is something about gymnastics that makes it particularly accommodating for people with disabilities (Fennick & Royle, 2003; Rivard & Missiuna, 2004). It has been proposed that this is because it is a sport where the environment is relatively stable. That is, the individual nature of gymnastics means the child does not have to manoeuvre around other people, and they do not have to respond to objects that move, such as balls (Rivard & Missiuna, 2004). My study identified several additional features of gymnastics, as it was played out in the Boys' Group, which made it accommodating for the gymnasts with dyspraxia. The playground-like equipment enticed the boys to participate, coaching styles could

adapt to needs of the gymnasts, and the skills were achievable and taught progressively. Achievement was skill-focussed, as opposed to outcome focussed, and measures of success were broad enough to encompass a wide range of ability. The range of equipment allowed the gymnasts to find something they enjoyed and used successfully. In addition to the individualistic nature of gymnastics meaning the gymnasts did not have to negotiate around other moving children, measures of achievement could be tailored to the gymnasts' needs and the gymnasts did not compete with each other or depend on each other for success. The repetitive structure of the sessions also seemed to enhance the participation of the gymnasts with dyspraxia. The combination of large and small group activities increased the gymnasts' participation by providing them with opportunities to take part with the group while receiving sufficient individual attention to develop skills.

Other aspects of the culture of the Boys' Group in which the study was conducted also appear to have been influential in the participation of the gymnasts with dyspraxia. The wide range of ages, and variation in skill level and behavioural conformity of the gymnasts in the Boys' Group enhanced the ease with which the gymnasts with dyspraxia integrated into the group. Attitudes of the coaches regarding the range of normal and abnormal meant that they encouraged the gymnasts to take part and provided positive role models for the other gymnasts. It was not just the attitudes, but also the actions that the coaching role encompassed that allowed the gymnasts with dyspraxia to participate successfully. Although the researchers in therapeutic recreation studies seem to have perceived it necessary to contribute medical or rehabilitative knowledge or techniques to the coaching, I found that the role of the gymnastics coach was sufficient to enable the successful participation of the gymnasts with dyspraxia.

One of the beliefs the parents and coaches held was that the gymnasts with dyspraxia developed confidence that transferred into other environments. The boy who

had started swinging on the bars at school provided the most concrete example of this transference. This transfer may have been related, at least in part, to the place gymnastics has in the wider cultural context which has led to the presence of gymnastics equipment in the playground, and vice versa, playground equipment in the gym. Gymnastics has a long history in New Zealand (Stothart, 1982), and elements of gymnastics are evident in the school physical education curriculum and in school playground equipment. As noted in the introduction, gymnastics was first introduced into the New Zealand curriculum in 1908 (Stothart, 1982) and remains a sport children participate in at school. Indeed, when my daughter started school in July 2005, gymnastics was the sport in which she began in Physical Education. Many school playgrounds have bars, beams and climbing ropes in them (Figure 21).



Figure 21: A School Playground with Bars in Foreground.

Within the gym, the changing philosophy of sport to focus on fun and participation (McConnell, 2001) rather than competition, has influenced the development of gymnastics recreational programmes and has introduced equipment such as ladders and toys into the gymnasium. In turn, this equipment enhances the links with the playground that were already evident. By conquering fears to go on the bars in the safe and supportive environment of the gym, these same fears may be more easily

overcome in the playground. Perhaps, as discussed above, the gymnasts did develop motor skill foundations, they may have developed confidence in their motor abilities, or it may have been that the process of approaching skill development in a structured and achievable manner encouraged them to attempt activities without the outcome focus. In addition to the development of confidence, the coach believed that cognitive development was a potential outcome of participating in gymnastics. Such development has been reported in the literature regarding participation in sport in general (Biddle, 1992), but such development has not been widely described.

It appears that the symbolic value of the equipment also has a broader cultural significance beyond the gym and the playground. Particularly for non-athletic individuals in Western society, the ability or inability to overcome the challenge gym equipment provides, epitomises their perceived success in the athletic domain. In a recent American reality television programme, a contestant in 'Joe Average' summarised his feelings in a group discussion prior to meeting the bachelorette: "I haven't been this nervous since I had to climb the rope in gym class" (Repeat, April 1<sup>st</sup>, 2004, Channel 2, 1.05pm). All the contestants nodded in agreement. In contrast to a safe and supportive environment, the competitive and threatening situation that the contestant in 'Joe Average' found himself in during gym class was so frightening that he carried the memory of it with him for many years.

On the contrary, the gymnasts with dyspraxia had fun doing gymnastics. Aspects of fun described elsewhere include mastery of skills, social support and receiving external rewards (Weiss, 1993). An influence on having fun not identified in the literature is the pleasure that the gymnasts demonstrated when they were on the equipment. This fun appeared to be related to sensory experiences of jumping, crashing, rolling and swinging.

I have described ways in which the Boys' Group itself and the coaching styles

accommodated the gymnasts with dyspraxia. The gymnasts were also seen to change by developing skills and modifying their behaviour. In addition, the culture of the Boys' Group itself was changed by the participation of the gymnasts with dyspraxia. This aspect of integration has not been well described in the literature regarding the inclusion of people with disabilities into society. The change in both groups involved in integration is a key element of the definition ("the combination and adaptation of the two pre-existing cultures" [McIntyre & Gardener, 1979, p. 439]). Although the need for the non-disabled group to change is described in the New Zealand Disability Strategy (Ministry of Health, 2001) and some examples of societal changes that influence integration have been given (van de Ven et al., 2005), the changes that occur in community groups when individuals with disabilities participate has been largely unexplored.

In this study, the changes to the group evolved primarily through the 'soft' coaching style I predominantly used. As the gymnasts and I were seen to be part of the Boys' Group, other gymnasts who did not have dyspraxia were included in the small group I was coaching. As described, these tended to be the newer and/or the younger gymnasts as the head coach perceived that the style I was using for the gymnasts with dyspraxia would better meet the needs of these gymnasts. As a consequence, I ran what could be seen as an introductory group within the Boys' Group. This group meant that the gymnasts, either with or without dyspraxia, who may have found some of the boisterous and dominating gymnasts in the group overwhelming, could be better supported. One of the other coaches identified that she was more tolerant of gymnasts if she was aware that they had a diagnosis. A search of the literature did not uncover any description of the influence knowledge of diagnosis has on coaches. In addition, the coach implemented the Kiwi Gymfun badges following my lead and felt that this approach was surprisingly beneficial for all the gymnasts in the group.

The coaches of the Boys' Group also reported changes as a consequence of the inclusion of the gymnasts with dyspraxia. They stated that they had learnt what children with dyspraxia are like and felt more confident including gymnasts with dyspraxia in the future. Although the coaches had experience coaching children with disabilities prior to this study's implementation, their confidence may have been enhanced in part by my behaving as a 'normal' coach and not using any therapeutic techniques. Although I entered into the field intending to act as a coach as opposed to a therapist, this was much easier than I expected. I did not find that I needed to use any therapeutic techniques to enable the gymnasts with dyspraxia to participate. I also perceived that there was a high level of crossover between acting as a therapist and acting as a coach. In particular, breaking down and grading activities, providing constructive feedback, setting goals with the children and taking a whole child perspective seem to be features of both roles. The parents and coaches did not appear to have constructed any therapeutic meaning to my actions as a coach, although one parent's comment that he had expected more "hands on" and the coach's perception that I would excel in one to one situations may reflect some of the beliefs and activities associated with a therapist role. Perhaps as a consequence of using the coaching role successfully to involve the children with dyspraxia, the management of the Club have asked me to speak to them about integration of children with disabilities into gymnastics groups, and other coaches have discussed with me their desire to integrate children with disabilities into their groups.

The parents' experience of observing their children doing gymnastics also has the potential to contribute to the literature. My literature review did not uncover details regarding the motivation of parents of children with dyspraxia who take their children to sports and recreation activities. Expectations that their children would have fun, the beliefs about the coach and one parent's reflection on her own abilities were expressed

by the participants in this study. Another expectation the parents held was challenged by their participation in the study; they perceived that their sons had performed better than they had anticipated.

### Contrasting Findings

Because the gymnasts with dyspraxia mixed with the Boys' Group, much of this conclusion has focussed on integration. The one study I located that provided a thorough ethnographic analysis of integration found, as I did, that accommodations were made to enable participation of the minority group (Miller et al., 1988). In Miller et al. study, high school students with learning disabilities came to expect accommodation at all times. The students were not required to engage in the learning process and did not feel challenged. The authors concluded that "accommodation...may increase the holding power of a high school. Yet...may unintentionally limit students' level of academic engagement...and ultimately limit the usefulness of the students' school experiences" (p. 484). This finding suggests that accommodating gymnasts to allow engagement carried potential negative consequences. However, adapting aspects of the Boys' Group to meet the needs of the gymnasts with dyspraxia did not seem to remove challenges to their development, and perhaps increased their participation. The demands for the gymnasts to follow instructions, keep within the boundaries of the station, use all the equipment, join in the warm up, take turns, line up, attempt and develop skills, and cooperate in a small and large group remained. In contrast to expecting accommodation, the gymnasts with dyspraxia developed to meet the demands of the group; their skill level improved, their behaviour aligned itself better with the expectations of the members of the Club and they joined in with the warm up, stretches and end of year display.

Another contrast with previous research is with regards to the expressions of



masculinity in sport (Bramham, 2003). Bramham's study found "For some, competition permeates all forms of physical activity and there is incomprehension and resentment against individuals who do not engage seriously" (p. 62). However, the boys in the Boys' Group did not demonstrate highly competitive attitudes. As discussed previously, this difference is perhaps due to the individual nature of gymnastics which does not encourage such attitudes. The boys in the Boys' Group were identified by the participants in the study and other members of the Club as tending to be 'abnormal', so it is possible that they were unlike other groups of boys in respect to their levels of competitiveness as well. The wide variety of ages and abilities may also have contributed to the boys' tendency to act cooperatively and to support each other.

One of the messages in the literature that this study does not support is that children with dyspraxia do not enjoy (Losse et al., 1991) or do not participate in sports (Missiuna et al., 2003). Of course, the gymnasts in the study must have had some attraction to sport, as they chose to participate and, as identified in the findings, they all enjoyed gymnastics and wished to continue. In addition to gymnastics, two of the participants played soccer and one took swimming lessons. One of the boys hoped to start Judo in the New Year, while in the past, one boy had tried golf and the other had joined athletics. This high level of participation may be explained by the parents having a preference for sporting activities. It could also be that sport is inextricably linked with life in New Zealand (McConnell, 2001), with 93% of boys participating in at least one sports or physical activity (Sport and Recreation New Zealand, 2005), whereas the majority of studies regarding dyspraxia have been conducted in other countries where perhaps the focus on sport is not so great.

#### Limitations and Further Research Requirements

One perspective that was not captured, but which might have made a useful contribution

to this study, was that of the gymnasts from the Boys' Group who did not have dyspraxia. Their perspective was gained to some degree through observations in the field and reports from the coaches. However, interviews with them would have added their perceptions of the inclusion of the gymnasts with dyspraxia and would have offered further depth to understanding the beliefs and values of gymnasts in the Boys' Group. It has been identified that the attitudes of others have an important influence on the integration of people with disabilities (van de Ven et al., 2005), although I located only one study that presents an in-depth exploration of the perspectives of children's peers (Allen, 1997).

It is not necessarily the intention of the ethnographic approach to provide generalisable findings; however, it would be useful to be able to examine which features of the group might be present in other settings and how unique the culture of the Boys' Group may be. It would be interesting to see further ethnographic studies of a variety of gymnastics groups to determine whether all gymnastics groups are as accommodating as the one in this study. The features of the Boys' Group that seemed to make it unique in the Club include the mixed age range, the single gender, and the non-competitive focus. The coach noted that there are not many boys' only general gymnastics groups in New Zealand. The coaches, including myself, were also unique in many ways. I am a trained occupational therapist who was acting as a researcher. The head coach is experienced in working with people with disabilities and the assistant coach has worked with gymnasts with disabilities. The Club too may have been particularly accommodating as they run a group for gymnasts with disabilities and have children with disabilities regularly attending their holiday programme. The participants also had a specific and perhaps unique range of functional limitations. It would be interesting to investigate the potential for inclusion of children with a broader range of ability and disability in gymnastics groups.

In addition to further studies of gymnastics, the use of the ethnographic approach in investigating other recreational and leisure activities that children with disabilities participate in would add to understandings of the meaning of participation for the participants. By using the ethnographic approach, the multiple perspectives of the children with disabilities, their whānau and the members of the club, organisation or group, along with the environmental factors and the aspects of the activity itself, can be investigated, as they were in this study.

Some of the findings from this study would benefit from further investigation. In particular the development and transference of confidence the parents perceived the gymnasts with dyspraxia experienced could be examined more closely. The gymnasts' perspectives of initial barriers to participation and apparent development of confidence beyond the gym would add to the discussion. It would also be useful to clarify whether it was the development of fitness or improved modulation of activity levels that resulted in the improved endurance the gymnasts demonstrated. The gymnasts would have been able to contribute to this understanding by describing how they felt during the initial sessions (e.g. "puffed" or "it was too noisy") and comparing this feeling to how they managed later in the study. The gymnasts' perspectives on the skills they gained and what value skills had to them would also have been beneficial. In addition, it would be useful to investigate the parents' perspectives on their sons' fitness and ability to modulate their activity level. A study conducted over a longer period may clarify whether boys develop friendships in gymnastics or other recreation activities.

Another aspect of the group that does not appear to have been well explored in the literature is the influence of being a therapist while acting as a coach. Perhaps this statement is misleading, because I and my supervisors initially perceived that I would have to be aware that I was 'being a coach' in the group and that I would need to leave 'being a therapist' out of my role. However, I did not feel I had the time or the need to

act as a therapist and on further reflection I am not sure that the two roles are so distinct that I had to restrict what I was doing as a coach in comparison to what I would have done had I been there as a therapist. The whānau and coaches perceived that I was being a coach, although one of the parents had thought that I would be more ‘hands on’ and reflected that perhaps this is what he would have expected of a therapist. Further exploration of what therapists do and what coaches do, and the different meanings these roles hold for children and whānau, would add to the understanding of both roles including how each may best support participation of children with disabilities in sports activities.

The whānau factors described by King et al. (2003) were not specifically sought out in this study. These include financial and time restrictions, supportive whānau demographics including parents’ education, employment and income, supportive home environment and whānau preference for recreation. As described previously, socioeconomic status of the whānau, based on their occupation, indicated that this may have been a factor in continued participation with the parent from the lower socioeconomic group identifying the financial cost of continuing with gymnastics as a barrier to returning. One of the other parents identified the limits of time, with her son already participating in one sport and hoping to begin another. Whānau preference for recreation was alluded to, but as the focus of this study was on participation in the culture of the Club as opposed to the whānau process of deciding whether or not to participate, these features of the whānau were not thoroughly investigated.

### Implications of the Study

This study has a number of implications for the Club in which it was conducted and for individuals and organizations beyond the gym. The Club in which the fieldwork occurred can now identify the elements of a gym group that enable inclusion of

gymnasts who have reduced coordination. In particular, the mixed age group and the expectations of the coaches were existing elements of the Boys' Group that enhanced the participation of the gymnasts with dyspraxia. The introductory group that evolved, which allowed the gymnasts with dyspraxia and new gymnasts an extended time to develop skills and learn how to behave, could be continued and perhaps replicated in other groups. This study also shows parents of children with dyspraxia who are considering gymnastics that their children can participate successfully, but that they may need to seek out a group which has an accommodating culture.

The knowledge and skills associated with the coaching role and occupational therapy, and the similarities perceived in the two roles suggest that exploring the links between sports and occupational science would benefit the participation of children with disabilities in sport. In contrast to studies of therapeutic recreation, this study has demonstrated that a community sports club can offer the support required to enable participation without the need for therapeutic input. Indeed, the knowledge that could be gained through sharing theoretical literature and research regarding such topics as motivation, progressive coaching and skill acquisition may benefit occupational therapy practice beyond sports activities.

In addition to the support the coaches offered, other elements of the Club's culture and the group which facilitated inclusion may be replicated in environments beyond the gym. For example, developing more supportive, introductory groups in Physical Education (PE) or school sports groups, or exploring mixed age PE sessions are possible applications in schools. For therapists aiming to enhance the health and well being of their clients, this study has demonstrated that participation in a natural occupation available in the community can afford health and well being outcomes from the perspective of the participants. In a context where space is often limited in clinics,

health services could look to utilise sports clubs as venues for addressing issues such as reduced confidence and motor skills and motor foundations.

Finally, for proponents of participation in sport by children with disabilities, this study provides a positive example of such participation and highlights the essential role the culture of the group has. The influence that the activity itself has, as it is acted out in the context of the culture, has also been identified as a key element that may enable successful participation, and should be considered by organisations and individuals who investigate or promote participation.

### Conclusion

The purpose of this study was to provide a description of three boys with dyspraxia and their whānau participating in a community gymnastics group. This description includes the participants' perspectives of their involvement and the researcher's observations of the participants and other members of the Club as they acted in the environment. A number of common behaviours and interpretations were offered by the participants as they entered the Club and fitted in with the group. By describing the Boys' Group into which the gymnasts with dyspraxia were introduced, the way that the gymnasts with dyspraxia were required to change to fit-in, and the way that the group accommodated difference a description of integration is offered. Aspects of the physical environment, in particular the equipment, had a significant influence on the participation of the gymnasts with dyspraxia and their whānau. The range of equipment encouraged the gymnasts' participation, while the size of the gym impressed the parents, but in some ways seemed to limit their participation. The activity of gymnastics enabled successful participation through progressive teaching, individualised, skill focussed measures of success and immediate sensory feedback. The parents and coaches believed that the gymnasts' experience of doing gymnastics continued to have meaning beyond the gym.

In particular they felt that the confidence they developed and underlying physical attributes were positive outcomes. Ultimately, the boys with dyspraxia and their whānau entered and became part of a gymnastics group which accommodated and included them. As a result of their participation, the group changed in ways that let them, and other gymnasts without dyspraxia, be even more successfully accommodated.

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## Appendices

## Appendix A: Ethical Approval

## M E M O R A N D U M



## Student Services Group – Academic Services

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To: Clare Hocking  
 From: **Madeline Banda**  
 Date: 29 April 2004  
 Subject: 04/64 The culture of a gymnastics programme for children with dyspraxia

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Dear Clare

Thank you for providing amendment and clarification of your ethics application as requested by AUTECH.

Your application was approved for a period of two years until 29 April 2006.

You are required to submit the following to AUTECH:

- A brief annual progress report indicating compliance with the ethical approval given.
- A brief statement on the status of the project at the end of the period of approval or on completion of the project, whichever comes sooner.
- A request for renewal of approval if the project has not been completed by the end of the period of approval.

Please note that the Committee grants ethical approval only. If management approval from an institution/organisation is required, it is your responsibility to obtain this.

The Committee wishes you well with your research.

Please include the application number and study title in all correspondence and telephone queries.

Yours sincerely

**Madeline Banda**  
**Executive Secretary**

**AUTECH**

CC: 9701458 Stephanie Hessel

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From the desk of ...  
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## Family/Whanau Information Sheet

26<sup>th</sup>

April, 2004

**Project Title** The culture of a gymnastics programme for children with developmental dyspraxia

### Invitation

As the family/whanau member of a child diagnosed with dyspraxia, you, your child and your family/ whanau are invited to participate in my research. Please read the following information, which will provide you with details about this research. If you think you would like to participate, please phone Robyn at the Hamilton City Gymnastics (**07 849 4546**) and leave a message so that I may call you back.

### What is the purpose of the study?

The purpose of this study is to investigate a general gymnastics programme for children with Developmental Dyspraxia. General gymnastics is the non-competitive form of gymnastics that focuses on the development of fundamental gymnastics skills. New Zealand has a vision of inclusion for people with disabilities, and children with dyspraxia are commonly left out of important activities of childhood, such as sport and P.E. due to their difficulty with co-ordination. Previous studies with children with developmental dyspraxia have focussed on the underlying aspects of the child's difficulties, and the effects of therapy on these components. The essence of occupational therapy is to allow people to do what they want to do, so instead of looking at the parts of the child and how these parts may be fixed, I want to help your child to be part of the fun, and valued sport of gymnastics. I plan on using a number of techniques that should make it easier to take part than if they were in a gymnastics class without an occupational therapist as a coach. It is important to note that I am not going to be investigating the health benefits of participating in gymnastics, I just want to see what happens when your child gets the opportunity to be part of something that his or her co-ordination difficulties might sometimes be a barrier to.

### How are people chosen to be asked to be part of the study?

People who respond to my advertisements and phone Robyn at the Gymnasium will of course be the group of people I can select the participants from. Some families/whānau may be approached by other people to invite them to be part of the research. If you know anyone who you think might be suitable, please bring the study to their attention and pass this information on to them.

Your child will need to be aged 7 or 8. If your child has any diagnosis in addition to developmental dyspraxia that you or I think may have an impact on their ability to participate in the gymnastics group, then they may not be invited to participate. I ask that all the children have been diagnosed by a health professional (preferably and occupational therapist) prior to their involvement. I will be unable to assess them, as this would impact on my ability to act as a researcher and gymnastics coach as opposed to a health provider. Due to ethical considerations, families/whānau of children who have been seen by the researcher in her role as occupational therapist for the moderate needs contract will not be invited to participate in the study due to potential conflict of interest.

Interested family/whanau members should phone Robyn at Hamilton City Gymnastics on 849 4546, and leave contact details for me to ring you back. When I ring you I will tell you more about the study and ask you questions about your child's age, diagnosis and ethnicity (as I will need to seek advice regarding cultural variations in my interpretation of my observations).

### What happens in the study?

The children will be doing general gymnastics with six other children who are diagnosed with dyspraxia. The family/whanau of the children are invited to watch the session, as parents commonly do in general gymnastics. I will also be the coach of the group, and there will be a research assistant to video the participants. This video will help me to observe myself and the areas of the gymnasium that I cannot observe while I am coaching. The definition of



'family/whanau member' is open to the interpretation of the participants, and could include parents, caregivers, siblings, grandparents and others.

**What are the discomforts and risks, and how will these be alleviated?**

Participation in the gymnastics programme study will be conducted in a manner to bring more good than harm. The gymnastics environment is designed to minimise risk to the gymnasts. The purpose of the study is to identify the experience of the gymnastics programme, with the intention that the programme and the study findings may be used for the benefit of the participants. There is the potential for temporary discomfort through injury in gymnastics, however, I will be using the recommendations in the Principles for Coaching for sport safety, and will ensure activities are appropriately graded through the use of the Kiwi Gym Fun and Playgym cards. Some family/whanau members will be invited to participate in interviews that take between sixty and ninety minutes. The experience of discomfort will be reduced in such interviews through the use of a comfortable environment of the interviewee's choice, and clarification from the researcher that the interview may be stopped at any time the participant wants.

**What are the benefits?**

Your child will have the opportunity to participate in gymnastics. I will use techniques from the occupational therapy and sports science literature to make your child's participation more successful. The study has grown out of the vision of New Zealand as an inclusive society, which values people with disabilities and strives to improve accessibility in the community. This means that you child has the right to participate successfully in activities of childhood, including sport and recreation.

**What compensation is available for injury or negligence?**

Your child will be eligible for ACC compensation in the event of injury in the programme.

**How will my privacy be protected?**

Your identity will be protected in the reporting of the study, you will be referred to as family/whānau members, and your child will be referred to as a gymnast. The information provided in the interviews will not be disclosed to other participants. Management of the gymnastics club whose permission is required to use the gymnasium will be given only the necessary information regarding the purpose of the group and the characteristics of the sample. For example, it is not necessary for the club to have the names or diagnosis of the participants. However, anonymity is not guaranteed; it is possible that the staff and other members of the club will become aware of the gymnastics group as being a research group. Measures to reduce the chances of people identifying the group as anything other than an 'ordinary' general gymnastics group will be put in place, such as asking the management to not identify the group as a research group, or its participants as being different from the general gymnastics population. Also, on the timetable the group will be identified as a general gymnastics group, not as a research or special needs group. The gymnasium is a public place, and observation from people not involved in the study is likely. There may be other gymnasts and their families/whānau, or coaches and club management in the gymnasium at the time the group is running. When videoing is occurring they will need to be notified of this. If there are other people in the gymnasium, and they are found to have an impact on the group, they may be approached to be part of the research. In this situation they would become aware that the gymnastics group is involved in research. The smallness of New Zealand makes the task of maintaining confidentiality one worth considerable thought. For example, the gymnastics club in which the study is to be conducted is one of only eight mega-clubs in New Zealand, and it is the only large gymnastics club in the city the study is to be conducted. As only six to ten percent of the population are affected by dyspraxia (Chu, 1998), the potential number of participants is small. I will remain aware of these potential compromises on confidentiality and will take all possible measures to protect your and your child's identity.

**How do I join the study?**

If you are interested in participating please phone Robyn at Hamilton City Gymnastics on 849 4546 and leave a message with your name and number.

**What are the costs of participating in the project?**

The study will be conducted over two gymnastics terms, which are generally nine weeks. The children will be asked to give eighteen hours of their time to the project. If any of the children would like to express their experience through another media, such as drawing, they may do so

in additional time, but this is not a requirement of the research. Family/whanau members will be asked to also give eighteen hours, with key informants (members who are selected for interviews) being required to give an additional sixty to ninety minutes for interviews, with a further half hour to review their transcripts. Throughout the duration of the study participation is voluntary, for both the children and their families/whanau. Participants will need to provide their own transport to the gymnasium, which is located in Te Rapa. It is not uncommon for gymnasts to car pool, but remember, each child should have a family member with them for the session.

#### **Opportunity to consider invitation**

After you have considered this invitation please contact Robyn at the Gymnasium as soon as possible. This will need to be before the 12<sup>th</sup> of April (the first weekend of the school holidays).

#### **Opportunity to receive feedback on results of research**

I will present the findings to all the participants if you wish. Additional media, such as pamphlets, designed for adults and children, will be developed if the gymnastics group has been found to be successful. You will be provided with these to further enable you to be further informed of the results. It is hoped that the findings will be published in the New Zealand Journal of Occupational Therapy, and this report would be made available to those of you who would be interested. I may also present the findings at the Dyspraxia conference and/or the New Zealand Occupational Therapy Conference.

#### **Participant Concerns**

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Clare Hocking, Senior Lecturer at the Auckland University of Technology on 09 917 9999 extension 7120

Concerns regarding the conduct of the study should be notified to the Executive Secretary, AUTEK, Madeline Banda, [madeline.banda@aut.ac.nz](mailto:madeline.banda@aut.ac.nz), 917 9999 ext 8044.

**Researcher Contact Details:** Stephanie Hessel, please contact through Robyn at the Gymnastics club

**Project Supervisor Contact Details:** Clare Hocking, Senior Lecturer at the Auckland University of Technology on 09 917 9999 extension 7120

**Approved by the Auckland University of Technology Ethics Committee on** 29 April 2004  
**AUTEK Reference number** 04/64

## Gymnast Information Sheet

26<sup>th</sup> April, 2004



### Invitation

My name is Stephanie, and I am going to be coaching a gymnastics class. As well as coaching the class, I am going to be studying it. It is important that you know all about the gym class so that you can decide whether you want to be in it or not.

A few questions you might like to know the answers to before you choose to do this gym class.

### Why am I doing this study?

I want to know what it would be like for children with dyspraxia to be in a gymnastics group. Sometime kids find it hard to do things in P.E. and to play sports, but I'm going to make the gymnastics a little bit easier for you to do. When you are in this gymnastics group I will want to find out what it is like for you and your families for you to be part of it.

### How are people chosen to be in the study?

If you are aged 7 or 8 and find it difficult to do some of the things other kids can do in PE, then if you would like to you could be part of the gymnastics group. There can only be 6 kids in the class though for my study. If you miss out this time, I hope that I will be able to coach the class next year, and that if you wanted to you could be in it then.

### What happens in the study?

You will be doing gymnastics with 6 other children. I will be your coach, and your family/whanau will be sitting and watching. I will also have a helper who will video me and you and your family/whanau, just so that I can look at it later to see what happened when I wasn't looking.

### Could you get hurt?

There are always lots of soft mats in the gym, and I have gone to some classes to learn how to make gymnastics safe. Someone from your family will always be in the gym while you have your class. As part of the study, I might want to ask some of the kids who have been in the gym class some questions. If you agree to do this we can finish when you've had enough.

### What are good things?

You will get to do gymnastics, and I'll change things a little bit if I need to make it easier for you. I believe that you should be able to do things like sport if you want to. I did gymnastics when I was a little girl, and I thought it was so great that I still do gymnastics.

### Will people know that I'm in a study?

It's important that people don't know that you are in the study if you don't want them to. This means that when I write up my study I will not put your name in it, and I will not tell other people the things you have said and done. There might be other people in the gym, and they might see you there. Although I will not tell people that you are part of a study and that you find doing PE hard, it is possible that other people in the study might tell them. Also, if the other people in the gym have a lot to do with you or your families while you are doing the gymnastics, I might ask them if they would like to be part of the study too. If I did that, then I would be telling them that the gymnastics group is part of a study. I will also need to tell the other people if I am videoing them.

### How do I join the study?

If you want to be part of the study you can let your mum/dad/caregiver know, and they will ring me.

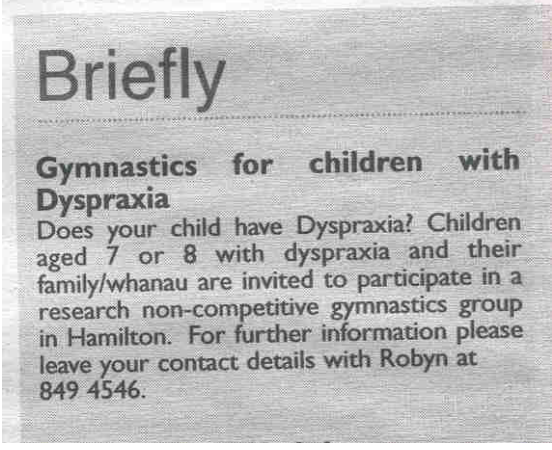
### What would I have to do?

The study will be done for two gymnastics terms, which are usually nine weeks. This is the same as the school terms, but you have a week off before the school holidays start. You will need to come to a gym session each week, which will go for one hour.

### Will I tell you what I found out in the study?

When I've finished the study I'd like to meet with all the people who were in it, and tell you what I found out. I'd also like to make a pamphlet to tell other children and parents about what it's like to be in the gymnastics programme, and I'd like to show that to you first.

## Appendix D: Newspaper Advertisement

A newspaper advertisement with a grey background. At the top, the word "Briefly" is written in a large, bold, sans-serif font. Below it, a horizontal line of small dots separates the header from the main text. The main text is in a smaller, bold, sans-serif font and reads: "Gymnastics for children with Dyspraxia". Below this, in a regular sans-serif font, is a paragraph: "Does your child have Dyspraxia? Children aged 7 or 8 with dyspraxia and their family/whanau are invited to participate in a research non-competitive gymnastics group in Hamilton. For further information please leave your contact details with Robyn at 849 4546."

**Briefly**

---

**Gymnastics for children with Dyspraxia**

Does your child have Dyspraxia? Children aged 7 or 8 with dyspraxia and their family/whanau are invited to participate in a research non-competitive gymnastics group in Hamilton. For further information please leave your contact details with Robyn at 849 4546.

Does your child have

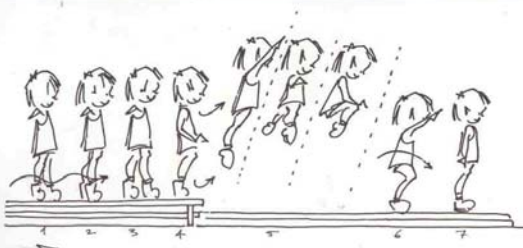
# Dyspraxia?

Children aged 7 or 8 with dyspraxia and their family/whanau are invited to participate in a research non-competitive gymnastics group in Hamilton.

For further information please leave your contact details at 07 849 4546

## Appendix F: Kiwi Gymfun Cards

**1.9 BENCH WALK AND JUMP** 1



**WHAT TO DO**  
Walk along the bench stretching high on the toes. From the end of the bench an optional jump is performed to land and stand still.

**MOVEMENT EMPHASIS:**  
Locomotor balance and landing

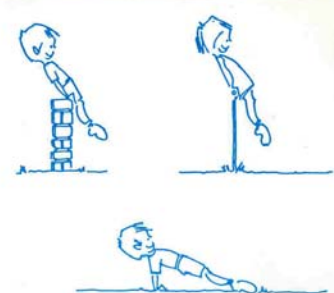
**WHAT TO LOOK FOR**

- Walk high on toes
- Straight back
- Head upright
- Land to stand still — hold 2 seconds

**WHAT ELSE**

Can you walk with your hands on your shoulders?  
Can you walk fast/slow along the bench?  
Clap under your knee whilst you walk?  
Can you vary your height whilst you walk?  
Try stepping over a rope.  
Who can walk through a hoop without stopping?

**2.1 REAR SUPPORTS** 2



**WHAT TO DO**  
Two rear supports are shown: One on a raised surface such as a low bar or stage, the other on the ground.

**MOVEMENT EMPHASIS:**  
Supports for body tension.

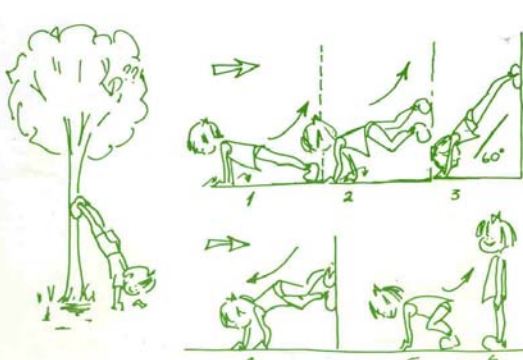
**WHAT TO LOOK FOR**

- Straight extended body line; head-shoulders-hips-feet
- Neutral head position
- Legs together
- Tight body in slight 'banana' or 'dish' position
- Press down from the shoulders to assist the support
- Fingers always point towards the feet

**WHAT ELSE**

Can you stride your legs, straddle your legs while in rear support on the bar?  
Can you bounce your legs apart-together in rear support on the floor?  
Who can turn from rear support to front support? Watch hands position!  
Try raising one leg high in the air.  
Who can travel sideways on the hands?  
On the floor, can you walk your feet around like a clock?

**3.6 WALKING UP THE WALL** 3



**WHAT TO DO**  
From front support, walk up the wall while walking the hands in until the body angle is about 60 degrees as in figure 3.

**MOVEMENT EMPHASIS:**  
Inverted support (conditioning for handstand).

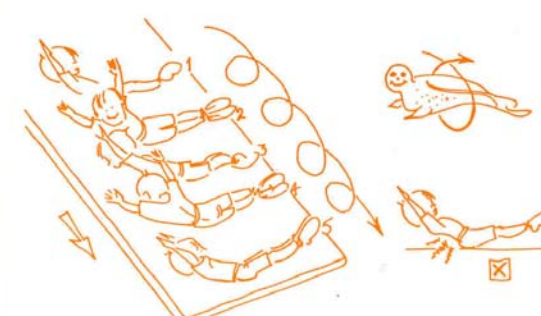
**WHAT TO LOOK FOR**

- Straight arms with fingers inwards
- Dish chest for controlled ascent/descent
- Pelvis tilted in with hips straight
- Head neutral, ears between arms
- (3) — Hold this position for 2-3 seconds

**WHAT ELSE**

Can you mark time with your toes on the wall?  
Can you mark time with your hands?  
In threes or fours at the wall, play tunnel relay, that is - left hand person gets down and crawls under the tunnel formed by the others and then walks up to handstand at the right.  
Walk up onto a box or beam. Who can walk along on hands and feet?  
Who can walk around a corner of the gym?

**5.4 SEAL ROLLS** 5



**WHAT TO DO**  
Do a series of 8 'seal rolls' along the mat. A choice of either - 8 continuous rolls along the mat or - roll to the left and to the right...to a total of 8 rolls.

**MOVEMENT EMPHASIS:**  
Rotation along the long axis, conditioning for dish.

**WHAT TO LOOK FOR**

- Legs and shoulders do not touch the mat
- Keep the arms together above the head
- When facing upwards, hide the tummy and look at the feet
- Keep the legs and feet tight together
- Keep head neutral with ears touching arms

**WHAT ELSE**

Can you seal roll holding hands with a partner?  
Can you hold your partner's ankles and seal roll together?  
Start in tuck sit with hands on knees, extend straight and seal roll sideways to tuck sit and then back again.  
Can you start in kneeling, arm under and seal roll to kneeling again?



## Consent to Participation in Research

Title of Project: **The culture of a gymnastics programme for children with dyspraxia**

Project Supervisor: **Clare Hocking**

Researcher: **Stephanie Hessel**

- 
- ☐ I have read and understood the information provided about this research project (Information Sheet dated 26<sup>th</sup> April, 2004.)
  - ☐ I have had an opportunity to ask questions and to have them answered.
  - ☐ I understand that if I am selected to be interviewed, and I agree to be interviewed, the interview will be audio-taped and transcribed.
  - ☐ I understand that the gymnastics classes will be video-taped.
  - ☐ I agree to allow aspects of these video's that include myself or my child to be shown in the context of professional presentations.
  - ☐ I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
  - ☐ If I withdraw, I understand that all relevant tapes and transcripts, or parts thereof, will be destroyed if I so wish.
  - ☐ I agree to take part in this research.
  - ☐ I wish to receive a copy of the report from the research.

Participants signatures: .....

Participants names: .....

Participant Contact Details (if appropriate):

.....  
 .....  
 .....  
 .....

Date:

**Approved by the Auckland University of Technology Ethics Committee on 29<sup>th</sup> April, 2003 AUTEC Reference number 04/64**

Note: The Participant should retain a copy of this form.

## Appendix H: Research assistant confidentiality agreement



## Research Assistant Confidentiality Agreement

**Title of Project:** The culture of a gymnastics programme for children with dyspraxia

**Project Supervisor:** Name: Clare Hocking Qualifications/registration: MHSc(OT), NZROT

**Researcher(s):** Stephanie Hessel

I understand that all the information I see and hear while videorecording the research gymnastics group is confidential and any information I receive regarding the group may not be discussed with anyone other than the researcher. I will not disclose the names or diagnosis of any of the participants, repeat any statements they have made, or disclose any information that could identify the group as a research group. I understand that the contents of the tapes can only be discussed with the researcher. I will not keep any copies of the videotapes nor allow third parties access to them while the work is in progress.

Research assistant's signature:

.....

Research assistant's name:

.....

Research assistant's contact Details:

.....

.....

Date:.....

**Project Supervisor Contact Details:** Clare Hocking  
Principal Lecturer  
School of Occupational Therapy  
Auckland University of Technology  
Private Bag 92 006  
Auckland 1020

email clare.hocking@aut.ac.nz  
phone 64 9 917 9999 ext 7120  
fax 64 9 917 9991

**Approved by the Auckland University of Technology Ethics Committee on 29 April 2004**  
**AUTEC Reference number 04/64**



## Appendix I: Gym support for the study and use of video

10 March 2004

To Whom It May Concern:

Stephanie Hessel has approached us asking permission to hire the gymnasium from the 20<sup>th</sup> of July to the 14<sup>th</sup> of September or 30<sup>th</sup> of November for the purpose of conducting research. We understand that this research is part of the requirement for the completion of her thesis for the Master of Health Science at Auckland University of Technology. She has indicated that there will be up to six gymnasts participating, and members of their family will accompany them. We also understand that video taping of the participants will occur during the research; a clearly visible notice informing coaches, gymnasts, their families and other members of the public that video taping is occurring satisfies our requirements regarding this.

She also has permission to observe other gymnasts, coaches and families in the gymnasium at the time of her research group. We are happy to take initial calls from families who might like to take part in the gymnastics group.

If you have any further questions regarding this, please contact \*\*\*\* \* on [Phone number]

Yours Sincerely,

\*\*\*\* \*

President

## Appendix J: Interview Questions

Gymnasts:

What did you think about coming to gymnastics before you started?

Was it like what you thought it would be?

Tell me about what you have enjoyed doing at gym.

Was there anything you didn't enjoy?

What is it like now we are finishing the group?

Do you think you would like to keep doing gymnastics?

If so why/why not?

Tell me what you thought about the other boys in the group.

What makes a good coach?

Can you think of anything that makes me the same as other coaches?

What about anything that is different about my coaching?

Do any of your friends or family or other people know you have been doing gymnastics?

What do they think about it?

Have you done any of the things you learnt at gym anywhere else or any time I wasn't your coach?

What was that like?

Parents questions:

What had you expected when you brought (name of child) to gymnastics?

And what had you hoped for?

What do you think it was like for (name of child)?

What kind of gymnast do you see (name of child) as being?

Tell me what it is like being a parent of a gymnast?

Tell me about what all this has been like for you?

What did you think of the other people in the gym?

What kind of gymnastics club do you think it is?

Tell me what you thought about the gymnastics building?

How would you describe my coaching style compared with the other coaches at the gym?

What have been the important things for you doing this?

## Appendix K: Dominant Movement Patterns

Landings:	Landings on the feet
	Landings on the hands
	Landings with rotation
	Landings flat on the back
Static Positions:	Supports
	Hangs
	Balances
Locomotions:	Locomotions on the feet
	Locomotions in support/balance
	Locomotions in hang
Swings:	Swings from hangs
	Swings from support
	Combination of swings
Rotations:	Rotations around the transverse axis
	Rotations around the anteroposterior axis
	Rotations around the longitudinal axis
Springs:	Springing from one leg
	Springing from two legs
	Springing from two hands