
**Body Experience and Identity Development in Young Adults with a Physical
Disability**

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BA (Hons)**

**Submitted as a partial requirement for the degree of Master of Psychology (Clinical)
at the University of Tasmania**

I declare that this thesis is my own work and that, to the best of my knowledge and belief, it does not contain material from published sources without proper acknowledgement, nor does it contain material which has been accepted for the award of any other higher degree or graduate diploma in any university


Claire Woolley

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Literature Review

Body Experience and Identity Development in Young Adults with a Physical Disability

Abstract

Living with a physical disability can have effects on a person beyond the physical restrictions that they face as a result of an impaired body. One area that has not been previously explored is the experience of young adults who have a disability in relation to the development of their identity, according to the model identified by Marcia (1966). Marcia proposes that adolescents and young adults will fall into one of four identity statuses, characterised by the presence or absence of exploration and commitment. Marcia's research has inspired hundreds of empirical studies and some vigorous debate. There is a growing body of literature that suggests that the experience of chronic illness may either enhance or impede the development of a person's identity, however it remains to be seen whether there is a similar effect for people with a disability. Given that the fundamental aspect of a physical disability is the fact that one's body is impaired, it is therefore logical to also consider the multidimensional aspects of how a person with a disability experience's their body. Most research exploring body experience has explored appearance and aesthetic related concerns. This includes the idea of appearance schemas that organise and guide how people process information about their appearance. Hargreaves and Tiggeman (2002) state that appearance schemas vary in the degree of strength, elaboration and accessibility for each individual. It may therefore be that having a disability alters a person's appearance schemas. Furthermore, appearance may not be the sole facet of body experience that is meaningful for people with a disability (Potgieter & Khan, 2005; Taleporos & McCabe, 2005; Yuen & Hansen, 2002), therefore this raises the possibility that research into schemas has neglected other diverse areas of body experience. Considering that issues to do with the body are an

important aspect of adolescent development, it may be that a person's body experience has an impact on identity development, particularly for people with a disability.

The broad categorisation of physical disability can include physical impairments that have been present since birth, as well as those that have been acquired later in life. This literature review aims to bring together and explore two aspects of living with an acquired or developmental physical disability that are pertinent to adolescents and young adults: the development of identity and body experience.

The first section defines and describes some of the more common physical disabilities that occur in young adults. The next section reviews Marcia's (1966) identity status theory, and is followed by a review of research specific to identity in a health and disability context. Body experience is then defined and discussed from a cognitive-behavioural perspective, focusing on the possible role of schemas for appearance, functionality, trust and connection to one's body. Specific research into body experience in relation disability is then discussed. The following section looks at the relationship between identity development and body experience in adolescents and young adults with a physical disability. The literature review concludes with a summary of the current status of research and a discussion of directions for future research.

Living with a Physical Disability

Taleporos and McCabe (2005) define physical disability as 'a condition where a person experiences significant deviation or loss in their body function or structure that results in physical limitations in their physical activity that may effect their participation in life, depending on the context within which they live' (p. 638). This definition is based on the World Health Organisation's International Classification of Functioning, Disability and Health (2001), which emphasises that any definition of

disability should not simply rely on physical impairment and bodily structures, but should also take into account activities, participation and societal perspectives.

A physical disability can either be present since birth as a result of genetic abnormalities, pre-natal or perinatal conditions (eg, injury during birth), or acquired later in the lifespan as a result of trauma or medical conditions. The issues an individual with an acquired versus developmental disability faces can be different, but this does not necessarily mean that living with a physical disability is easier or harder as a result of the age of acquisition. Three of the most prevalent forms of physical disability are spinal cord injury, spina bifida and cerebral palsy.

Spinal cord injuries usually occur when sufficient force causes the spinal cord to be compressed, lacerated or stretched, although disease or infection can also result in the same symptoms as a traumatically acquired spinal cord injury. Spinal cord injuries are classified according to the vertebra where the damage occurs.

Quadraplegia (also referred to as tetraplegia) affects all four limbs and torso, while paraplegia affects the legs and torso below site of injury. An injury can be complete, which results in loss of all motor and sensory function below the level of the injury, or incomplete, when some functioning is retained. In Australia the age group most frequently involved in new spinal cord injuries is 15-24, with 27% of new injuries occurring in this age group in 2003-04 (Cripps, 2006).

Spina bifida is another physical disability that results from damage to the spine, however this is from congenital abnormalities rather than trauma. Spina bifida is a result of incomplete closure of the spine, which leaves various portions of the spinal cord exposed. A bulb of exposed material is referred to as the meningeal sac, and the

level of disability is the result of the amount of nerve material displaced into this bulb. If a meningeal sac is present and no nerve elements protrude into it, and there is no presence of neurologic disability, it is referred to as a meningocele. If nerve elements are in the sac, or neurologic disability is present, it is a myelomeningocele. Disorders associated with myelomeningocele lesions include paralysis of the legs, and lack of bowel and urinary sphincter control. Spina Bifida affects 0.5-0.7 per 1000 births in Australia (Spina Bifida Association of Western Australia, 2005).

One in every 400 children born in Australia is affected by cerebral palsy (Cerebral Palsy Tasmania, 2005), defined as 'neurological impairments resulting in a disorder of movement and posture, due to a defect or lesion of the immature brain' (Denhoff, 1966, in Ashman & Elkins, 1998). Cerebral palsy is not a single condition, but describes a group of conditions, with the common link being neuromotor damage occurring during an individual's early years of life. It is a wide and varied condition, dependant on what area of the brain is damaged. The most common type of cerebral palsy is spastic cerebral palsy, referring to stiffness or tightness in the muscles when the brain is incapable of suppressing the impulses to the muscle which prompt it to contract. The muscles may remain in a state of spasm or tension for a period of time, and movements may be jerky and uncontrolled instead of smooth. Symptoms of athetoid cerebral palsy include fluctuating muscle tone with uncontrollable, jerky, irregular twisting movements, particularly around head and neck. Involuntary movement is present most noticeably when the individual starts to move, but also while at rest. The least common type of cerebral palsy is ataxic, with a lesion in the cerebellum resulting in a disturbed sense of balance and depth perception. It is not uncommon for individuals with cerebral palsy to have a mixture of the above three subtypes.

The presence of a disability does not diminish the uniqueness of the individual's character, however there may be common experiences shared by those with a physical disability that are related to their physical condition (Patterson, DeLaGarza & Schaller, 2005). These experiences may be related to the individual, the environment or the nature of their disability. Livneh and Cook (2005) describe some of the factors most frequently implicated in the ability of an individual to cope effectively with a disability. These include the degree of functional limitations; and the extent to which the performance of daily activities, social roles, and vocational tasks are impeded. Other factors may be related to uncertainty and unpredictability of the medical and rehabilitative course, the psychosocial stress associated with the medical condition; the impact of disability on family and friends; the incurred financial losses; and the impact of condition-related stigma and other attitudinal barriers.

Sociocultural attitudes also have an effect on the lives of people with a physical disability, including an emphasis on physical integrity, athletic achievement, 'body beautiful', personal appearance, youth, and related physique-associated qualities. Other attitudes such as emphasis on personal achievement and productiveness, commonly associated with the ability to be vocationally competitive and gainfully employed may have a negative impact, as will the adoption of social norms that view disability as a social deviance, that leads to status degradation, marginality and deviance (Livneh & Cook, 2005).

Dunn (2000) notes that people who do not have a disability can hold different attitudes towards people who do have a disability. Unfavourable or ambivalent

attitudes ranging from disgust, curiosity or ignorance may be linked to the ‘just world hypothesis’, being the belief that people with a disability must somehow be deserving of it. Conversely, some perceivers attribute highly favourable traits to people with disabilities, resulting from a view that their ability to overcome impairment is ennobling or indicative of outstanding personal success. However, both these overtly negative and positive attitudes are distorted views of people with disabilities, as they place undue emphasis on people’s disabilities rather than abilities, and fail to see that disability is simply part of a person’s whole self.

The early experiences of children with a disability, be it developmental or acquired, ‘casts the future for adjustment to their residual impairment, development of self esteem, relationship potential and future vocational choices’ (Bibb, 1990 cited in Patterson, DeLaGarza & Schaller, 2005, p.179). In early childhood, a disability may limit both the choices and the activities of a child. For example, a child with a disability may have fewer opportunities to interact with children who do not have disabilities. Moreover, he or she may be restricted in the types of activities due to physical limitations or overprotective parents, and may spend more time with treatment regimens, depending on the nature of the disability. Furthermore, according to Patterson et al., the onset of disability in adolescence can be extremely stressful as this is a time that young people want to be similar to their peers, yet may find their peer group membership disrupted by disability.

Marcia’s Identity Status Theory

For both healthy individuals and those with a physical disability, transitions in the life cycle present different challenges as people age. Erikson’s (1968) theory of

development and identity formation proposes eight stages throughout the lifespan, each of which is marked by a psychosocial crisis that must be negotiated (See Table 1). Erikson's conception of crisis involves a struggle between two opposing tendencies that leads to a transition in development. Stage five is titled Identity versus Role Confusion, and occurs during adolescence. Identity is 'a coherent sense of one's meaning to oneself and to others within that social context. This sense of identity suggests an individual's continuity with the past, a personally meaningful present and a direction for the future' (Marcia, 1994, p. 70). It is during this stage that individuals struggle to integrate all the identifications made in the previous four developmental stages into a coherent, individual and personal identity. This identity equips the adolescent to proceed into Erikson's sixth stage, early adulthood.

Table 1

Erikson's Stage Theory

Stage	Age	Psychosocial Crisis
Stage 1	First year of life	Trust versus Mistrust
Stage 2	Second and Third Years	Autonomy versus Shame and Doubt
Stage 3	Fourth to Sixth Years	Initiative versus Guilt
Stage 4	Age 6 to Puberty	Industry versus Inferiority
Stage 5	Adolescence	Identity versus Confusion
Stage 6	Early Adulthood	Intimacy versus Isolation
Stage 7	Middle Adulthood	Generativity versus Self Absorption
Stage 8	Late Adulthood	Integrity versus Despair

Marcia (1966) further explored identity development from the foundation of stage five of Erikson's theory by proposing four modes or statuses of identity, distinguishable by the variables of crisis and commitment. An adolescent's crisis involves the process of engaging in an exploration of choices in areas such as vocation, ideology and sexuality. Most literature has now replaced "crisis" with the term "exploration", as it better reflects the processes involved and does not carry the possible negative connotations associated with the term "crisis". Commitment is a personal investment made by the individual in these choices, be it with or without undergoing exploration. The most advanced of Marcia's statuses is that of identity achievement, being a state wherein an individual who has undergone a process of exploration and has made well informed commitments. A foreclosed individual is firmly committed to identity defining directions based on the values of their culture or significant others, yet has not undergone a personal exploration period. Moratorium is a period in which the individual is exploring their options yet has so far made no firm commitments. Identity diffusion is the status in which an individual has experienced neither the exploration nor commitment required for identity formation, and has little interest in doing so. Figure 1 demonstrates where these statuses fall in relation to exploration and commitment.

	<u>Commitment</u>	
	<i>Yes</i>	<i>No</i>
<u>Exploration</u>	<i>Yes</i> Achievement	Moratorium
	<i>No</i> Foreclosure	Diffusion

Figure 1. Marcia’s identity status in relation to the variables of exploration and commitment.

Originally the statuses were promoted by Marcia as a continuum of identity development, however recent debate in the field has suggested that there is not necessarily a hierarchical transition from lower to higher statuses, and that identity can progress in variable pathways (Meeus, Iedema, Helsen & Vollebergh, 1999). Whilst achievement and diffusion can be regarded respectively as the most and least advanced statuses, according to Waterman (1999) moratorium and foreclosure should not be differentiated as more or less advanced than the other.

Marcia (1987) indicates that each of Erikson’s stages of development should not be taken in isolation, as they have both precursors (for example identity issues during the trust-mistrust stage) and consequences (for example identity issues in the generativity stage). Whilst the precursors to identity exist in prior developmental stages, the crucial and perhaps critical period for the formation of identity first exists in adolescence. Childhood identifications, social appraisals, unique abilities and needs, physiological development, and the positive and negative results of social experimentation can all contribute to the adolescent’s identity.

Children usually enter adolescence with an unformed sense of identity. However according to Erikson's theory, if adolescents enter adulthood without some notion of identity, their future development is impeded (Kreipe, 1985). Although there are opportunities for identity refinement later in the lifespan, adolescence and young adulthood provide the optimal conditions for initial resolution due to the convergence of individual physical, cognitive and psychosexual changes with relevant social sanctions and expectations (Marcia, 1994). Literature now suggests therefore that identity should not be regarded as a static concept.

Antecedent conditions related to the process of identity development include family stability, emotional closeness or distance from parents, the psychological environment of school programs, psychosocial development during prior stages, and a variety of cultural interests (Waterman, 1999). Kroger (2000) reviewed a large portion of research related to cognitive and personality variables, family communication patterns, styles of intimacy and peer interaction associated with each of the identity statuses. Individuals in achievement and moratorium statuses have been shown to have higher levels of moral reasoning, intimacy, ego development, self-esteem, personal autonomy and more adaptive defence mechanisms than those in the other statuses. Adolescents in moratorium have consistently been shown to have the highest levels of anxiety and openness to new experience when compared to the other three statuses, whereas foreclosed adolescents show the highest levels of authoritarianism, use of external locus of control and normative approaches to personal problem solving and decision making. Adolescents in diffusion rely more on nonadaptive defence mechanisms and have demonstrated lower levels of intimacy, self-esteem, personal autonomy and ego development. These results are

theoretically consistent with the identity status approach, and provide support for the validity of the theory.

Marcia (1994) comments that historical and societal changes are reflected in the patterns of identity statuses in males and females. When initially investigating identity in the 1960s it appeared that achievement and moratorium were the most positive statuses for men, whilst achievement and foreclosure were more positive for women. However, by the 1970s and 1980s research indicated that patterns for females were similar to those of males. Marcia suggests this is due to increased social support for independence in many aspects of females' lives allowed for moratorium and the exploration of identity choices becoming less threatening, and foreclosure decreasing in social desirability. It is generally accepted in Australian society that females should have the same opportunities as males, and this social context is optimal for both sexes to be able to thoroughly explore and commit to identity defining directions. Waterman (1999) suggests that there have been few, if any gender differences observed in ideological identity domains, however females tend to handle relationships with others more reflectively, which has implications for interpersonal identity domains.

The status approach to investigating identity has been the basis for much theoretical and empirical writing since it was first proposed by Marcia in 1966, with Waterman (1999) estimating that over 500 articles, papers and dissertations using the identity status paradigm have been published, and that it is discussed in virtually every text book in the area of adolescent development. The original methodology for determining an individual's identity status was the conduction of a semi-structured interview by a trained researcher, investigating the domains of occupation, religion

and politics (Marcia, 1966). This approach has developed over time to include greater variety of domains, with a frequently utilised measure being the Identity Status Interview (Waterman, Besold, Crook & Manzini, 1987), with an extensive list of questions looking at exploration and commitment in relation to family issues, personal relationships, recreation/leisure, occupation, politics and religion.

As the identity status paradigm grew in prominence, researchers began to recognise that the interview classification method was not optimal for all situations. Each interview must be conducted by a trained researcher, and because its semi-structured nature leaves room for individual interpretation and unconscious bias the status allocation is somewhat subjective. This is also an expensive and time consuming way to conduct research, and likely restricts the number of participants in such research studies. Therefore, several authors turned their attention to developing pencil-and-paper measures to assess individual's identity development processes and to categorise them according to Marcia's statuses.

The Objective Measure of Ego Identity Status was first published in 1979 by Adams, Shea and Fitch for use in research or clinical and educational applications. Its most recent edition (the Extended Objective Measure of Ego Identity Status II, or EOMEIS-II) was published in 1986 with 64 items that participants rate on a six point scale from agree-disagree. Each item corresponds to one of the identity statuses, in interpersonal (friendship, dating, sex roles, recreation) and ideological (politics, occupation, religion, philosophical lifestyle) categories.

The Ego Identity Processes Questionnaire (EIPQ; Balistreri, Busch-Rossnagel & Geisinger, 1995) is a more recent tool, and differs from the EOMEIS in that it

measure the variables of exploration and commitment, rather than the explicit identity statuses. The domains measured by this tool are similar to the EOMEIS, being ideological (politics, religion, occupation and values) and interpersonal (friendships, dating, gender roles, and family). There has been limited work exploring the appropriateness of these tools in comparison to each other, and under which circumstances either tool should be used. Both have been shown to have adequate reliability and validity (Balisteria et al; Adams, 1998; Schwartz, 2002; 2004). Schwartz (2004) suggests that the EIPQ is more appropriate for making contrasts between the identity statuses, while the EOMEIS-II should be used when the objective is to consider continuous measures of identity status. However, the authors of the EIPQ concede that they are yet to refine the methodology of converting exploration and commitment scores into status classification (Balisteria, Busch-Rossnagel & Geisinger), which suggests caution for those using the tool for this purpose. Measurement of identity has lagged behind the theoretical progress of the field (Schwartz, 2001), and hence there is still scope for the development or revision of pencil and paper methodology.

In 1988 Cote and Levine provided a comprehensive critique of the identity status paradigm by identifying ways in which it diverges from Erikson's theory, in particular that it covers only a small area of Erikson's work, a number of Erikson's concepts are not integrated into the paradigm, and it is generally not considered psychodynamic in nature. Cote and Levine also feel that some of the Eriksonian terminology used is inappropriate. For example, Marcia's use of the term *moratorium* emphasises the stage of individual deliberation and conscious decision making, however in Erikson's writing *moratorium* is a period of time rather than a stage, and is not necessarily synonymous with exploration. Cote and Levine

acknowledge that Marcia's model is regarded as the most appropriate for empirical investigation of identity due to its solid research base, however they conclude that all four statuses are, to some extent, terminologically and conceptually inconsistent with Erikson's ideas, and the theory should therefore not be considered as Eriksonian.

Waterman (1988) has responded to Cote and Levine's critique. He emphasizes that his own work and that of other researchers into the identity status paradigm was inspired by Erikson's pioneering work, however has now taken a course that could be considered largely independent of Erikson's theory. Waterman lists points of commonality between Erikson's theory and identity status research, for example the construct of identity itself as a sense of individual meaning within a social context, the domains in an individual's life that provide the context for forming identity, and the idea that the framework for forming a sense of identity is principally relevant to adolescence and young adulthood. Points of difference between Eriksonian theory and current identity status researchers include the viability and utility of a psychodynamic framework¹, the identity status paradigm explicitly addresses more conscious aspects of the task of identity development; and most obviously there is no mention in Erikson's writing of identity statuses. The current identity status approach emphasizes operational definitions and testable hypotheses, and has hence been subject to extensive construct validation research. Waterman therefore concludes that the understanding of identity has been enhanced by cognitive developmental, social learning, object relations, family systems and humanistic theories.

A further critical evaluation of the identity status approach occurred in 1999, with *Developmental Review* dedicating an entire issue to the topic. As was the case with

¹ Many identity status researchers ignore or explicitly reject psychoanalytic concepts

Cote and Levine (1988), van Hoof (1999) feels that the identity status model is under-representing the construct of identity, with her particular focus being on a perceived lack of temporal-spatial continuity. In addition, van Hoof claims there are shortcomings in the validation of the identity statuses, and reviewed and interpreted numerous cross-sectional and longitudinal studies to suggest that either the identity statuses are not sensitive enough to measure identity formation or approximately 50% of university student samples and one third of adult samples (age >23) are still in the identity statuses that they were in when they entered early adolescence.

Berzonsky and Adams (1999) respond to van Hoof's (1999) critique with optimism regarding the convergent and discriminant validity of the identity statuses. They point out limitations with much of the literature referenced by van Hoof, in that identity was established through interview, participants were only assessed twice, and outcomes were domain specific, rather than considering overall identity or the ideological/interpersonal differentiation. Their alternative interpretation of the results of these studies is that domain-specific status assessments increase the unreliability of overall status assignments. They also offer extensive evidence regarding the validity of the EOMEIS (Adams, 1999) as a quantitative measure of identity².

Berzonsky and Adams (1999) do however concur with van Hoof's assertion that 'identity status researchers hold and have made conflicting claims about the development of identity statuses' (p. 574) and concede that identity researchers should abandon a strongly sequential stage conception. According to Berzonsky and Adams 'the postulation of a developmental sequence does not imply that everyone

² Consideration should be given to the fact that Adams authored the EOMEIS and was also joint author of this (Berzonsky & Adams, 1999) article.

progresses at the same rate or that everyone necessarily progresses through the entire sequence' (p. 576). Their position is that development does occur in terms of diffusion-foreclosure-moratorium-achievement for some individuals, whilst for others there is stability or regression.

Waterman (1999) again strongly defends identity research from the criticisms levelled by van Hoof, in an even more assertive manner than he did regarding Cote and Levine's criticisms in 1988³. He reasserts his stance that identity research only claims to represent a portion of Erikson's theory, discusses the idea that identity develops in individuals, provides support for the claim that Marcia's statuses have been amply validated. He also points to flaws in the design elements of the studies that van Hoof references, for example restricted age ranges and a failure to differentiate the length of time intervals in longitudinal research. Waterman does however feel that the identity statuses are only one of a multitude of ways in which identity can be conceptualized and operationally defined, and encourages researchers who do not resonate with Marcia's statuses to pursue their own directions to develop alternative conceptualizations.

Schwartz (2005) recently offered his opinion on limitations and gaps in the identity literature, and suggested 'recommendations for expanding and refocusing' research (p. 293). He noted a reliance on university samples restricted the age range of identity research to the consolidation stages of identity, and felt that early and middle adolescence could provide important information about the antecedents to and correlates of identity. He also suggests comparisons between university students and

³ Waterman claims that van Hoof misrepresented his views on identity, did not recognize 'the richness and subtlety of ... theorizing or research' (p. 592) and was 'a one sided effort to tear down an established body of theoretical and empirical work' (p. 592).

those of the same age who do not attend university to confirm the role of education and socioeconomic status in identity development. Schwartz points out that very little identity research has been longitudinal, and information has been limited to specific points in an individual's lifespan. Longitudinal research that maps the course of identity development could examine the relationships of identity to positive and negative life outcomes and to examine social and contextual conditions associated with successful or unsuccessful identity development. Schwartz also feels that research is lacking on applied areas of identity that have greater relevance and practical application than the current literature provides. Examples he suggests include health risk behaviours, immigration and terrorism, and there are numerous other areas that would have specific clinical utility, including the great potential for exploration of health and disability related conditions. Berzonsky and Adams (1999) have also commented on the potential for research in the contextual influences on identity. Schwartz (2004) has at times been critical of aspects of the identity status paradigm, however his article demonstrates the potential that the paradigm has to remain a practical and relevant foundation of development.

In summary, although some authors have been critical of aspects of identity status theory, particularly the debate over whether it is an Eriksonian theory, it remains a popular theory within which to explore identity development in adolescence and young adulthood. It appears that discussion has concluded that the theory should be considered an offshoot of one aspect of Erikson's theory of development, not a 'pure' Eriksonian theory as there are some inconsistencies in the concepts and terminology used by Erikson and Marcia. There is much potential for future research into identity status using Marcia's model, however researchers need to ensure they are using consistent terminology and theoretical concepts.

The Effects of Illness and Disability on Identity Development

Researchers have investigated specific factors that may influence identity development, and one of these areas of investigation has been the role of health and medical complications. Results have indicated that in some cases the presence of a chronic illness during adolescence may enhance identity development, as the adolescent is prompted to explore their choices earlier and/or more thoroughly as a result of the challenges presented by their illness. For example, Burbury (2002) investigated a sample of adolescents with a chronic illness, most of whom had diabetes, and found that their identity development was more advanced than a matched sample of healthy control participants. However, other researchers have found that the challenges presented by chronic illness prevent thorough exploration or commitment to identity defining issues, and therefore identity development is impeded. Gavaghan and Roach (1987) reported that adolescent cancer patients had difficulty negotiating the tasks of identity development, resulting in significantly less developed identity levels than matched healthy peers. Similarly, Woolley (2003) found that adolescents with asthma were more likely to be in the identity diffusion category, compared to a matched sample of healthy peers. The results of research into adolescents with HIV by Hosek, Harper and Robinson (2002) are interesting in that their entire sample fell into either the diffusion or achievement identity statuses. The findings described above have revealed contrasting findings, with some reporting enhanced identity development and others demonstrating identity development is impeded by the presence of various chronic illnesses.

Since the results of research into identity development in individuals with a chronic illness have not been homogeneous, it may be that the unique characteristics of differing illnesses is important in influencing identity, for example the degree of control an individual has over their illness. Identity development in individuals with a physical disability presents similar issues as those of chronic illness, such as the possibility that disability is viewed as a catalyst to explore identity sooner and in more depth, leading to enhanced levels of identity, or that disability may impede identity development as the individual is overwhelmed by the additional challenges they face as a result of their physical impairment.

As appears to be the case for chronic illness, the mere presence of a physical disability may not be the sole influential factor in identity development. It is likely that issues such as whether the disability is acquired or if it is a developmental disability present from birth are be crucial in how identity development progresses. Research conducted into identity in individuals with a disability has primarily used qualitative methodology and explores issues that are sociological in nature such as ‘the politics of difference’ (Humphrey, 1999). This research has tended to focus on the specific issues faced by people with disabilities, rather than how individuals with a disability negotiate the normative identity developmental tasks of adolescents and young adults, for example, Humphrey (1999), King, Cathers, Polgar, MacKinnon and Havens (2000), and Olney and Kim (2001). No research to date has addressed identity for people with any form of disability in relation to Marcia’s four identity statuses.

Differences have been shown in some areas between individuals with acquired and developmental disabilities, and these differences have been attributed to the fact that

individuals with an acquired disability have experienced a proportion of their life as an able bodied person, whilst those with a developmental disability have not. If born with a physical disability, the individual undertakes all their developmental tasks with a more or less impaired body. Antle (2004) promotes the view of DeLoach and Greer (1981) that children growing up with a physical disability are more likely to have a positive sense of themselves than their peers who have acquired a disability, because their physical differences are normal to them. However, these authors do point out that as children grow into adolescence they may be more susceptible to internalizing the negative views of other people related to their disability.

Adolescence may prompt increased reflection on physical differences and comparison with able bodied peers (King, Cathers, Polgar, MacKinnon & Havens, 2000). Nevertheless, individuals who were born with a physical disability, unlike those with an acquired disability, have no source of comparison *within* themselves. Over their lifetime, adolescents with a developmental disability have had much opportunity to consider the implications that having a physical disability may have on their future, even though some may have chosen not to do so.

When a disability is acquired, the potential changes to pervasive aspects of an individual's lifestyle may result in challenges to exploring identity defining issues, which inhibit the beginning or continuation of a progression through Marcia's stages. After an initial period of acute hospitalization/rehabilitation, persons with an acquired physical disability generally reintegrate to varying degrees into the community. This reintegration involves re-establishing previously existing roles and relationships, as well as developing new ones (Charlifue & Gerhart, 2004).

O'Connor, Young and Johnston Saul's (2004) qualitative research with individuals who had acquired paraplegia, found that participants clearly differentiated their life

into 'before' and 'after' their disability, with a spinal cord injury abruptly halting life as they had known it and forcing them to encounter a new way of experiencing the world. According to Martz (2004), future time orientation may be altered by the acquisition of a disability, resulting in foreshortened sense of future, which may impede or enhance willingness to explore or commit to identity defining issues.

Kroger (1996) illustrates theoretically how regressions in identity development can occur in response to extreme environmental stressors, as an individual becomes disillusioned or cannot connect with their previous identity defining decisions. Therefore even if an individual has reached a particular identity status, the acquisition of a disability may negate the relevance of their previous identity, and result in a regression. For example, their chosen occupation may no longer be achievable due to physical limitations, which may result in a re-exploration of options, making a decision based on the desires of significant others, or a lack of interest in exploring or committing to new options. The individual may stay in this regressed identity status. Alternatively, after an initial period of re-exploration (crisis period), the individual may be able to adapt to the changes disability presents and return to their pre-disability identity level, or even progress to a more advanced identity status. The role of identity regressions has so far been under-researched. Although it has been demonstrated that identity change is not necessarily unidirectional (Meeus, Iedema, Helsen & Vollebergh, 1999), there has been no research investigating the role of major life events (such as the acquisition of a disability) in the development or regression of identity statuses. In particular, it is not clear how the pattern and rate of identity development differs for those who have experienced an identity regression and those who have a more smooth identity development path. This would require a large and diverse group of participants

willing to commit to longitudinal analysis of their identity, and this complexity may be a factor in the lack of current research into factors relating to identity regression.

The majority of research into the acquisition of disabilities has tended to focus on the presence or absence of negative affect, with the most studied psychological issue amongst persons with spinal cord injuries being depression (Elliot & Kennedy, 2004). However the idea that positive changes involving a revaluing of priorities and greater appreciation of life can occur following disability acquisition is receiving increased research interest (Rybarczyk, Nicholas & Nyenhuis, 1997). O'Connor et al. (2004) suggest that the most critical aspect of the experience of living with a physical disability revolves around the struggle to maintain a holistic sense of self, inclusive of the physical impairment but not being defined by it.

Adjustment to acquired disability has traditionally been thought to be a linear sequence of stages, for example shock, denial, distress and acceptance (Kendall & Buys, 1998). However, Yoshida (1993) has suggested that adjustment is better explained as a recurrent process, characterized by ongoing sorrow. Yoshida proposes that following the acquisition of a disability individuals alternate between periods of time where they acknowledge only their pre-disability identity at one extreme, and only their new disability identity at the other extreme. Yoshida's theory suggests that the acquisition of a disability results in the individual exploring their identity in Marcia's moratorium stage, until they eventually proceed to identity achievement, having an understanding of the permanent limitations of their disability whilst 'appreciating and nurturing their total selves' (p. 232). Yoshida's 'pendulum' theory would not be highly applicable to people with a disability that has been present all their life, as they have not had the experiences of an able bodied person and therefore

not having these two competing identities to swing between. This would suggest that the development of identity in individuals with a developmental disability follows a smoother path without the obvious trauma of acquiring a disability likely to trigger a regression. It may however proceed more slowly or more rapidly than for individuals who do not have any physical disability or chronic health condition. Yoder (2000) proposes that barriers to identity development come in many forms, and acknowledges that physical limitations may result in difficulties in the identity development process in many domains, and hence prevent or impede identity achievement. It may be however, that individuals who are able to overcome barriers find their identity development processes enhanced.

Body Experience

The most fundamental aspect of physical disability, whether it be developmental or acquired, is that the body deviates from what is generally considered to be 'normal'. Fallon (1990) claims that of all the ways people think about themselves, none is so essentially immediate and central as the image of their own body: the body is experienced as a reflection of the self. This is further asserted by Corbin and Strauss (1987), who state that 'one is more than one's body, yet it is through the body, and the contact that one maintains with the environment through it, that one quite literally 'is'' (p. 252). The experience of one's body is an important factor in developing identity and self-concept, particularly in adolescence where notable physiological changes occur, even in healthy individuals (Erikson, 1968). Individuals with a disability have a body that functions in an impaired way, and may also be aesthetically different, both of which can influence how the individual thinks about themselves and interacts with their environment.

Body image is a complex and multidimensional concept that is difficult to define and is subject to many theoretical explorations of its nature and origins. Cash and Pruzinsky (2004) indicate that there has been little effort to integrate the diverse lines of thinking and research into body image, and that the majority of investigation into body image has been in the direction of understanding weight-related concerns, particularly amongst women with eating disorders. There has been less exploration into the multidimensional aspects of the body as they apply to health-related issues or to medical conditions, encapsulated by the term *body experience*. Body experience incorporates the aesthetic, yet also takes into account perceptions, thoughts and feelings about bodily functions and sensations, one's sense of bodily integrity and health, and connectedness with the body.

The body has been thought of from theoretical perspectives as diverse as neuropsychological (Kinsbourne, 2004) and psychodynamic (Krueger, 2004), however such theories can be complicated and impractical to research objectively. Cognitive behavioural approaches are well established and supported in many areas of psychology, with measurement of cognition proving to be relatively simple with the establishment of reliable and valid tools. Cash (2004) proposes a cognitive-behavioural model that is appealing as it draws upon traditional ideas about the body as well as contemporary empirical research into body experience (see Figure 2).

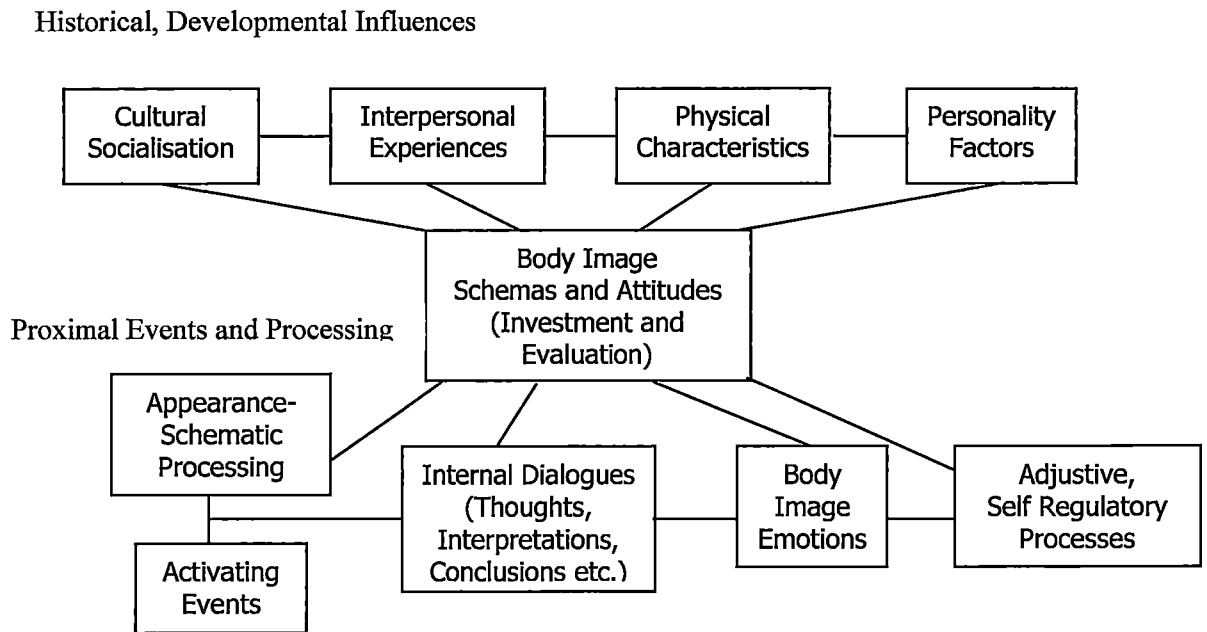


Figure 2. Cash's (2004) cognitive behavioural model of body experience.

The model is based on the idea of self-schemas, which Markus (1977) describes as 'cognitive generalizations about the self, derived from past experience, that organize and guide the processing of self-related information contained in an individual's social experience' (p. 64). Cash differentiates between historical, developmental influences and proximal events and processes as important in the shaping of self schemas about the body. Historical and developmental influences such as cultural socialisation, interpersonal experiences, physical characteristics and personality factors are unique to each individual, and also differ between groups. For example, people with a physical disability have different physical characteristics than those without a disability, which may impact on the other historical and developmental influences, as well as directly influencing their self schemas. Proximal events and processes are unique to individuals as they occur in the mind, for example someone's internal dialogue about their body, and these also play an important role in the

formation of body schemas. Although far-ranging, the model has been primarily applied to research and therapy related to the aesthetic element of body experience.

Markus, Hamill and Sentis (1987) indicate that whilst there are universal schemas within which all individuals process information (for example age) there are also particularistic schemas that are more specific to each individual (for example introvert/extrovert). According to Markus et al., individuals who are highly schematic for a particular self-dimension will show a greater cognitive involvement in the domain, display greater cognitive sensitivity to the domain, more elaborate encoding of stimuli in the domain and produce more associations and inferences. Appearance is an example of a schema that is both universal and particularistic, in that everyone develops appearance schemas to some degree but there are individual differences in the strength, elaboration and accessibility of these schemas (Hargreaves & Tiggeman, 2002). These authors maintain that people who develop highly elaborate schemas that link appearance with implications for the self show a particularly strong impact for appearance related information on perceptions, thoughts, affect and behaviour. It is likely that other aspects of body experience will result in schemas of differing elaboration, and therefore may have a strong impact on the life of the individual, including their identity.

Measuring Body Experience in Individuals with a Physical Disability

Research into body experience schemas is primarily focused on the appearance dimension (for example Cash & Labarge 1996; Cash, Melnyk & Hrabosky, 2004; Farchaus-Stein, 1996). However, this raises the possibility of schemas related to other dimensions of body experience that vary in their degree of elaboration

according to an individual's health status. Taleporos and McCabe (2005) maintain that the impact of physical disability on body image and body esteem has largely been neglected by both disability and body image researchers, and there has been no investigation of specific schemas relevant to the body experience of people with a physical disability. Although appearance is an important factor (Reeve, 2002), the concepts of functionality, trust and connectedness to the body are also of primary concern and not specifically delineated in Cash's (2004) cognitive behavioural model. Aesthetics, functionality, trust and connectedness can be further differentiated according to the importance an individual places on the specified aspect, and how satisfied the individual is with the specific element of the body. So, for example, a young adult may be dissatisfied with their appearance, however if appearance is of low importance to them it is unlikely that this dissatisfaction will have a major impact in their life.

Taleporos and McCabe (2002) used a combination of quantitative methodology (The Physical Disability Sexual and Body Esteem Scale, devised by the authors) and qualitative methodology to explore body esteem, referring to the overall positive or negative evaluation of the body, in people with a physical disability. The authors indicate that body esteem was affected in various ways by physical disability, and that feedback from the social environment may be a major contributing factor to this. They also suggest that bodily dissatisfaction in people with a physical disability may more likely be due to the functional limitations or pain that the disability causes, rather than any altered appearance their disability creates.

A more recent study by Taleporos and McCabe (2005) uses quantitative methodology to investigate the relationship between severity and duration of

physical disability to body esteem. The results suggest that individuals with more severe physical disabilities experience lower levels of body esteem than those with milder disabilities or with no physical disability. When looking at specific aspects of the body, participants with a physical disability devalued their functioning, upper body, lower body and general aspects of their body such as weight and shape, to a greater extent than did participants without a disability, with the only exception being no difference much the two groups 'liked' their face. The duration of physical disability was not shown to be related to body esteem.

The large sample size obtained by Taleporos and McCabe (2005) for this research (748 participants with a disability) adds credence to their results, however the self categorization of participants into severity of disability categories (mild, moderate or severe) and a failure to take into account differences between individuals who have experienced a progressive disability and those whose disability had a sudden onset are factors that may be limitations. There currently does not appear to be a universal classification system or questionnaire that can be self administered to determine level of physical disability. Although Taleporos and McCabe asked multiple questions related to level of disability, it is clear that it can be a complicated process to obtain a comprehensive and accurate disability classification.

Stensman (1989) compared body image experience in varying situations in two groups of individuals with a physical disability: those with developmental cerebral palsy and those with an acquired spinal cord injury. The definition of body image employed in this study was 'a psychological experience of the appearance of the body, its adequacy, and its external expression of the person's personality' (p 28). Although this definition emphasizes appearance, it does demonstrate an attempt to

broaden thinking beyond an exclusively appearance based evaluation. The researcher used a combined methodology of visual analogue scales and qualitative interviewing to compare positive or negative body image in situations such as being outside, taking a shower, or having a full length photo taken. Stensman concluded there was no difference in satisfaction/dissatisfaction with the body between the two groups, noting that this result differed from what he expected from clinical experience.

Yuen and Hanson (2002) defined body image as ‘the integration of how one actually looks with how one thinks one looks’ (p. 289) and used the Multidimensional Body Self Relations Questionnaire (MBSRQ, Cash, 1995) to look at differences in this construct between individuals with ($n=30$) and without ($n=30$) an acquired mobility disability (AMD). The MBSRQ measures multidimensional aspects of body experience including orientation to and importance of appearance, health, illness and weight. It therefore extends beyond the definition of body image used by Yuen and Hanson. Their research suggested that individuals with an AMD were more oriented to their appearance and evaluated their health less favourably than did able bodied control participants.

The MBSRQ is a good example of a research tool that attempts to identify multidimensional aspects of body experience. However, with the exception of the two appearance subscales it is a fairly ‘health based’ questionnaire. Although some individuals with a physical disability may have other health conditions or medical complications, a disability is more about function than health. It is not unusual for an individual to be entirely healthy whilst still having a physical disability. It is likely therefore that there are other aspects of body experience in physical disability that are as relevant, or more so, than health.

Wenninger, Weiss, Wahn and Staab (2003) developed a short scale related to body image to be used specifically for patients with cystic fibrosis. Although the authors use the term “body image”, their scale extends beyond aesthetic considerations of the body, with their three domains being trust, evaluation and importance. Their analysis identified body image/experience as an important predictor of patients’ health related quality of life, and the authors noted that a patient’s feelings about their body can potentially influence self management and compliance motivation. Although this scale was developed specifically for use with cystic fibrosis patients, the issues identified are relevant to the experienced of those with other conditions, including physical disabilities.

Previous research related to the body in individuals with a physical disability has generally failed to consider body experience as a multidimensional construct with the possibility of differing schemas related to importance and satisfaction. Also, the current measurement tools available that attempt to look at multidimensional aspects of health still do not capture the entirety of the experience of one’s body when having a physical disability. Qualitative research has suggested that individuals with a physical disability may feel that their non functioning body parts are no longer part of them, which create feelings of disconnection to the impaired parts or to their body as a whole (Potgieter & Khan, 2005; Yoshida, 1993; Stensman, 1989). However the concepts of disconnection and trust in one’s body have not been investigated in a quantitative manner. Also, the focus on adolescence and young adulthood has been missing in previous research concerning body image and disability. Stensman (1989), Taleporos and McCabe (2002, 2005) and Yuen and Hanson (2002) all used a wide age range in their research, with participants aged in their twenties to sixty year

olds. Therefore, while these researchers have clearly identified some important issues related to the body in individuals with a physical disability, they have not investigated these issues related to the unique context of adolescence and young adulthood.

Disability, Body Experience and Identity Development

The body plays an important role in the developmental tasks of adolescence and young adulthood, as this is a period of the lifespan where notable physical changes occur (Erikson, 1968). This process may be complicated by the presence of a disability (Rybarczyk, Nicholas & Nyenhuis, 1997). Whereas it is claimed that a young child with a physical impairment does not perceive themselves as ‘defective’ because their body is what is normal to them (Krueger, 1984), adolescents become preoccupied with body, body awareness and normalcy, as they compare themselves to their peers. Adolescence is also a time when many youth begin to establish independence from their parents, and the functional limitations resulting from a physical disability may hinder this process. This heightened awareness of one’s body may therefore result in highly elaborated body experience schemas.

Trieschmann (1988) indicates that visible disabilities alter a person’s social stimulus by sending a message of physical impairment to those around them, as well as reducing perceptions of physical mastery when their body will not perform in the way that they desire. Imes, Clance, Gailis and Atkeson (2002) write about chronic or life threatening illness that can result in a feeling of being betrayed by one’s body, which has implications for psychological functioning. The inference of body failure must be integrated into an individual’s sense of self (Corbin & Strauss, 1987), and

may therefore be an influential factor in the individual's level of identity development.

Changes in body experience are central to the adjustment process faced by individuals with an acquired disability (Rybarczyk & Behel, 2002), as they come to terms with the fact that their body has changed to what is now considered abnormal. People with a developmental disability have never experienced a body which is considered normal, therefore their body experience is likely to contribute to the formation of their identity in a different way. The importance and satisfaction an individual places on the varying aspects of their body experience will vary, which will influence the role that the body plays in the formation of their identity (Watson, 2002). For example, if an adolescent with a physical disability has highly elaborated schemas regarding the importance of functionality, and they are extremely dissatisfied with their personal functioning, this is more likely to influence the development of identity than in a person who does not place importance on bodily functioning. However, there is yet to be research that explicitly delineates the relationship between body experience schemas and identity, for people with or without a disability.

Current State of Research and Future Directions

Marcia's Identity Status Theory (1966) has been the subject of much research, however there has been a lack of applied research (Schwartz, 2005), and the area of health and disability provides many opportunities for such research. The limited published results currently available have investigated some specific chronic illnesses, and suggest that the experience of chronic illness does not universally

enhance or impede identity development. It has been suggested (eg Woolley, 2003) that specific factors associated with an illness or its symptoms, for example pain, predictability of illness course, or stigma, may play a role in the resultant course of identity development, however no research has looked specifically at such factors. The body is a particularly important factor in the developmental tasks of adolescence, so it may be that one's experience of their body directly influences their identity development.

Although there has been disparate research looking at various aspects of identity in people with disabilities (eg Humphrey, 1999; King, Cathers, Polgar, Mackinnon & Havens, 2000; Olney & Kim, 2001), there have so far been no studies using Marcia's Identity Status Theory to investigate identity development in adolescents and young adults with a disability. The broad experience of disability can be further considered in terms of disabilities which affect physical functioning, and whether these disabilities have been present since birth or were acquired later in life. Research should therefore explore whether the presence of any form of disability impacts on identity development, and also look at more specific factors related to disability symptoms and acquisition.

It has been noted that measurement in the identity status field has lagged behind theoretical progression in the field (Schwartz, 2001). There are currently two questionnaire based tools available, with the EOMEIS-II (Adams, 1986) providing a score to classify individuals into one of the four identity statuses, and the EIPQ (Balistreri, Busch-Rossnagel & Geisinger, 1995) giving a score for the variables of exploration and commitment. There has been insufficient research to support one approach as being superior to the other, or in which circumstances each tool should

be used, and this is something that should be addressed to provide a clear methodological approach for identity researchers.

The majority of research investigating issues of the body is in relation to appearance concerns and eating disorders in young women. It is clear that when considering physical disability the term body image does not encapsulate the breadth of experience of those with a bodily impairment. Research in this field of disability and health conditions is still developing, and hence has lacked a unified theoretical background. A great deal of this research has been qualitative, and the quantitative work that has been conducted has tended to use instruments developed for a healthy, able bodied population or specific scales developed by the researchers and with varying levels of exploration of reliability and validity. There is clearly a need for a well constructed questionnaire that measures body experience, either specifically tailored for use with people who have a disability or health condition, or that can also be used with the general population. Such an instrument needs to be well researched with regards to reliability and validity, and promoted so as to create some unity within this field of research.

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Empirical Study

The Relationship Between Body Experience and Identity Development in Young Adults with Acquired and Developmental Physical Disabilities

Abstract

The aim of this study was to investigate whether the identity status and body experience of adolescents and young adults differed according to their disability status. Seventy-two participants aged between 18 and 30 were recruited, meeting the criteria for one of three groups: having a physical disability that has been present since birth ($n=18$); having a physical disability that was acquired after the age of ten ($n=18$); or having no physical disability or chronic health condition ($n=36$). The three groups were of equivalent age and gender distribution, and the two disability groups did not demonstrate significant differences in their level of bodily impairment, methods of mobility or restriction to activities of daily living. All participants completed self-report questionnaires that yielded scores on Marcia's (1966) four identity statuses and multidimensional aspects of body experience. The first prediction, that the three participant groups would demonstrate different patterns of scores for the four identity statuses of Achievement, Moratorium, Foreclosure and Diffusion was not supported. The only consistent difference in identity was that the acquired disability group scored significantly higher on the moratorium status than the control group, suggesting that people who have acquired a disability are more likely than people without a disability to be exploring their identity but are yet to make firm commitments to identity defining directions. There is a lack of previous research investigating identity for people with a physical disability, however the results of this study suggest that the impact of disability on identity can not be explained by a simple enhancement or impediment model. Regarding the second area of research, there was some support for the suggestion that there would be fundamental differences in the body experience of the three groups. The groups did not differ in how important they felt that the multidimensional aspects of body

experience were to them, and also how oriented they were to aspects of body experience. However, young adults with an acquired disability were less satisfied with, and evaluated more poorly, the diverse aspects of body experience as compared to people of a similar age who have lived with a physical disability all their life, and people who did not have any disability. Additionally, the developmental disability group evaluated their fitness significantly more poorly, had significantly less trust in their body, and were significantly less satisfied with their level of functioning and trust, than the control group. Finally, it was demonstrated that the relationships between body experience and identity are stronger, more consistent and more complex for young adults with a physical disability when compared to people without a disability. These findings suggest that the concept of body experience schemas, which has previously been almost solely investigated in terms of appearance, may be expanded to include concepts such as functioning, trust and bodily connection for people who have a disability. Further, these body experience schemas may be related to identity in different ways for people who have a physical disability and those without a disability.

Physical disability can be defined as ‘a condition where a person experiences significant deviation or loss in their body function or structure that results in physical limitations in their physical activity that may effect their participation in life, depending on the context in which they live’ (Taleporos & McCabe, 2005, p. 638). This definition emphasizes that a physical pathology can have varied and wide-ranging implications for many core aspects of an individual’s life, and any consideration of disability should be multidimensional and contextual.

People with physical disabilities face practical limitations to their lifestyle due to altered functioning, for example the use of a wheelchair can limit access to some buildings. They may also face some attitudinal barriers and negative stereotypes which can have a big impact on their ability to participate in society to their full capability. The stigma of a physical disability is often greater than that of other chronic illnesses or health conditions as it is most often a highly visible condition, and the impaired body is seen as a sign of destruction or failure (Harrison & Kahn, 2004).

It is feasible that a person with an acquired disability may face very similar practical barriers to someone who was born with a disability. For example, a disability that causes leg paralysis restricts or prevents the ability to walk irrespective of the type, cause or label of the disability. Therefore, differences between groups of people with acquired or developmental disabilities are more likely to be found in areas related to the psychological experiences of disability such as personal and emotional development.

The most obvious difference between these two groups is the fact that whilst individuals with a developmental disability have been living with their disability since birth, and it is therefore their normative experience, people who have acquired a disability will have undertaken various life experiences as an able bodied person. This raises issues of how people who acquire a disability adjust not only to their altered physical capacity, but also to the possibility of changed societal expectations and environmental limitations. It is unclear to what extent the experiences of having a disability in early childhood impacts on the adolescent experiences of identity.

It is of particular interest to explore the experiences of adolescents and young adults who are living with a physical disability, as adolescence is a period of the lifespan where notable physical and emotional changes occur. The onset of puberty can be challenging due to the competing demands of a transition from childhood to adulthood. There is an emphasis on normalcy and comparison with one's peers. It is traditionally a period where one develops interest in romantic relationships, considers options regarding career aspirations and seeks to assert a level of independence from their parents. A child with a physical disability or chronic illness often requires a higher level of parental intervention and involvement than other children, and therefore the evolution to adolescent independence may be more challenging. Even if an adolescent with a disability is able to obtain a level of independence from their parents, there is often still certain tasks that cannot be performed autonomously, such as issues related to accessibility and transportation. A degree of reliance on one's peers or romantic partners is often necessary, and hence creates a different dynamic in such relationships.

A well established theory of adolescent development is Marcia’s Identity Statuses model. Marcia (1966) proposes that adolescents and young adults fall into one of four identity statuses: achievement, moratorium, foreclosure, or diffusion, as displayed in Figure 3. These statuses are differentiated by the presence of *exploration* of choices in areas such as vocation, relationships and ideology; and *commitment* through making a personal investment in these choices, be it with or without exploration.

		<u>Commitment</u>	
		Yes	No
<u>Exploration</u>	Yes	Achievement	Moratorium
	No	Foreclosure	Diffusion

Figure 3. Marcia’s identity status in relation to the variables of exploration and commitment.

A great deal of research has investigated the precursors and antecedents of identity development, however Schwartz (2005) suggests that research is lacking in applied areas of identity that have greater relevance and practical application than the current literature provides. The investigation of health and disability conditions in relation to identity would be one such area of applied relevance. There has so far been no published investigations of disability in relation to Marcia’s identity statuses, however some researchers have investigated the impact of specific chronic health conditions on the statuses. Some authors have found adolescent identity development

to be impeded by the presence of a chronic health condition (for example Burbury (2002) in a sample of primarily diabetics, Gavaghan & Roach (1987) in a sample of cancer patients) whilst others have found identity development to be more advanced (eg Woolley 2003 in a sample of asthmatics). Hosek, Harper and Robinson (2002) found that their entire sample of adolescents with HIV fell into either the achievement or diffusion identity statuses, representing the two extremes of identity.

The results of these studies seems to suggest that adolescents with a chronic illness may be prompted to explore their identity sooner and/or in more depth than their healthy peers as a result of the challenges presented by the presence of their illness, or conversely their identity development is impeded as a result of these challenges. It is not clear what aspect of living with a chronic illness provokes differential identity development. It may be that illness-specific factors play a role (for example symptoms, illness course, predictability of the illness), however the current research literature is not extensive enough to provide a definitive explanation.

There is likely to be some similarities in the experience of people with a chronic illness and physical disability, in that they both result in compromised physical functioning. It may therefore be that identity development in adolescents and young adults with a physical disability is similarly impeded or enhanced. In addition to the mere presence of a disability, the experience of having lived a portion of one's life without a disability may prove to differentiate the results of those with acquired or developmental disabilities.

As mentioned previously, adolescence results in significant physical changes, and the experience of one's body in adolescence has been researched extensively. Research

has primarily focused on issues of weight and appearance in young women, often in relation to eating disorders, noting that it is a period of the lifespan where it is common to compare oneself with peers and media representations of the body. The presence of a physical disability in adolescence may complicate this process, as one's body is quite obviously 'different' to the majority of their peers and the images portrayed in the media (Rybarczyk, Nicholas & Nyenhuis, 1997). It would therefore appear to be logical to investigate issues specific to the body of those with a disability, as well as taking into account how these experiences may be different to adolescents who do not have a physical disability.

The term *body experience* is favourable to the more common *body image* when considering the role of the body in a health and disability context, as it takes into account not only appearance but also broader perceptions, sensations and feelings about health, functionality and bodily integrity. Body experience should therefore be regarded as a broad and multidimensional concept. Aspects of body experience include an individual's appearance, being aesthetic features that are visible to others; physical functioning including levels of strength, endurance and the performance of tasks of daily living; being able to trust in one's body to perform as and when required; and the level of connection or estrangement an individual feels regarding their body.

When considering the multidimensional aspects of body experience, it is important to not only consider how satisfied an individual is with a particular aspect of their body, but also how important this aspect is to them. For example, an individual may be very dissatisfied with their physical appearance, but if appearance is not an important factor in their life it is unlikely that this dissatisfaction will cause distress or

disruption to their life. Conversely, an individual who has the same amount of dissatisfaction with their appearance and places a high level of importance on their looks will likely be more distressed by this aspect of their body experience.

The experience of one's body and identity may be interrelated. Aspects of psychological functioning have been shown to contribute to, or be influenced by, one's identity development, for example moral reasoning, intimacy, self esteem, personal autonomy, anxiety and locus of control (Kroger, 2000). Since body experience is a crucial aspect of adolescent development, it is therefore reasonable to assume that how an individual feels about their body may also contribute to their identity development. Changes in body experience are central to the adjustment process faced by individuals with an acquired disability (Rybarczyk & Behel, 2002), as they come to terms with the fact that their body has changed to what is now considered abnormal. People with a developmental disability have never experienced a body which is considered normal, therefore their body experience is likely to contribute to the formation of their identity in a different way. The importance and satisfaction an individual places on the varying aspects of their body experience will vary, which may also influence the role that the body plays in the formation of their identity (Watson, 2002).

Research looking at body experience in those with a physical disability has been limited, and studies that have been conducted have tended to be exploratory rather than follow a consistent theoretical basis. The terminology and definitions used by different authors exploring issues to do with the body in physical disability have varied widely. These include body image as 'a psychological experience of the appearance of the body, its adequacy, and its external expression of the person's

personality' (Stensman, 1989, p. 28) or 'the integration of how one actually looks with how one thinks one looks' (Yuen and Hanson, 2002, p 289) or the use of the term body esteem, being an overall positive or negative evaluation of ones body (Taleporos and McCabe, 2002), In addition, the majority of research has been conducted with an unrestricted adult age range, therefore failing to identify any issues specific to adolescents or young adults. Previous research also does not look at the impact that body experience may have on other aspects of psychological wellbeing.

Aims and Hypotheses

The aim of this research is to explore potential differences in the experiences of young adults with a physical disability as compared to young adults of the same age and sex who do not have any disability or chronic health condition, in relation to identity and body experience. Further to this, the present study seeks to explore whether young adults who have a physical disability that has been present since birth, and young adults who acquired a physical disability in late childhood or adolescence are different in terms of their identity and body experience, or have similar experiences.

From previous research in the area of chronic illness it is unclear whether disability might result in less advanced or more advanced identity development compared to persons without a disability. Moreover, there is no previous research to suggest whether an acquired disability might differentiate identity status in comparison to a developmental disability. The present study therefore explores whether people with a disability demonstrate different patterns of scores on the four identity statuses of Achievement, Moratorium, Foreclosure and Diffusion compared to people without a

disability. Particular patterns of scores will indicate whether any of the three groups in the present study are more advanced in their identity development (scoring significantly higher on Achievement and significantly lower on Diffusion) or less advanced in their identity development (scoring significantly higher on Diffusion and significantly lower on Achievement), than the other groups.

Differences in how young adults who have an acquired disability, developmental disability or no disability feel about their body are also investigated in the present study. These differences may be demonstrated in the areas of appearance, functionality, trust, connection, fitness, health and illness. However due to a lack of previous research and formulated theory in the area this aspect of the research is exploratory, and no specific hypotheses can be confidently made.

In addition, this study will investigate whether it is simply disability status that predicts an individual's stage of identity development, or whether body experience also plays a moderating role in the development of identity. The importance of and satisfaction with bodily appearance, function, trust and connectedness are likely to contribute to identity in different ways. It may also be that body experience contributes to identity in different ways according to an individual's disability status.

Method

Participants

Participants for this study were recruited firstly by advertisement and word of mouth from the University of Tasmania and disability support organizations in Tasmania. Universities and various disability support organizations in all other states of Australia were also contacted to advertise for participants. Individuals with an acquired physical disability or a developmental disability were recruited initially. They were then matched for age and sex with participants who did not have a physical disability.

Criteria for inclusion of participants in the two physical disability groups were:

- (1) aged between 18 to 30 years inclusive
- (2) a physical disability
 - (a) present since birth or before the age of two years
 - or
 - (b) acquired after the age of ten years,

Exclusion criteria for the physical disability groups were:

- (1) presence of any form of brain injury that would prevent comprehension or completion of the questionnaire package
- (2) presence of any other injury, chronic illness or temporary health condition.

Participants were included in the control group if they did not have any physical disability, injury, chronic illness, temporary health condition or brain injury, and matched the participants for age (within one year) and sex.

A total of 72 participants were recruited that met the criteria from one of these three groups. There were 18 participants in the acquired disability group (6 male, 12 female), 18 participants in the developmental disability group (6 male, 12 female), and 36 participants recruited as controls (12 male, 24 female).

Materials

This study examined identity status and body experience in all three participant groups. Three questionnaires were administered in a counterbalanced order to measure these variables for all participants. Questionnaire packages also contained an introductory letter, an information sheet, a personal details sheet and a reply paid envelope. For the two groups of participants with a physical disability, a series of questions designed to ascertain the nature and extent of the participant's disability was also administered. All materials provided to participants (information sheet, introductory letter, personal details sheet, questions pertaining to disability status, and questionnaires) are shown in Appendix A.

Demographic Information

Participants were asked to designate their age, gender, occupation, level of education completed and relationship status.

Disability Demographic Information

As there was no appropriate questionnaire previously published the researchers designed a series of questions for participants in the two disability groups to ascertain the extent of disability and impairment.

The *Health and Disability* questionnaire was designed to gather basic information about the health of participants. They were asked about the presence, name and age of acquisition of any physical disability, as well as being asked to provide a brief description. Participants were also asked to indicate the presence/absence of any brain damage in terms of thinking, memory, concentration or language; other permanent disability, chronic health condition, temporary injury or short term illness, as well as provide a brief description if applicable.

The *Mobility* questionnaire was designed to ascertain how each participant's mobility is affected by their disability. Participants were asked a series of yes/no questions regarding their ability to walk independently and use of assistant technology to ascertain all of the methods used for each participant to move from place to place. They were subsequently asked to choose the one method that they used most for mobility.

In the *Daily Functioning* questionnaire participants were presented with eight tasks of daily living (eating, personal grooming, bathing, dressing upper body, dressing lower body, toileting, transfers, and writing) and asked to mark each of those that were impacted on by their disability. Participants rated how much their disability affected these activities, on a scale of 0 (not at all affected, I perform this task independently) to 10 (greatly affected, I cannot perform this task without a great deal of assistance). The individual scores were totaled to give each participant a daily functioning score ranging from 0 to 80, with higher scores indicating greater disability effect on functioning.

The *Control of Body* questionnaire asked participants to designate whether any of 16 listed body parts were affected by their physical disability. Participants rated how much their disability affected these body parts on a scale of 0 (not at all affected, entirely under voluntary control) to 10 (greatly affected, have no voluntary control). The individual scores were also totaled to give each participant a control of body score ranging from 0 to 160, with higher scores indicating less voluntary control over the body.

The Extended Objective Measure of Ego-Identity Status-II (EOMEIS-II).

Individuals can be differentiated into one of Marcia's four identity statuses using interview or pencil and paper questionnaire methodology. Questionnaire methodology was selected for the current research as it provided ease and cost-effectiveness of administration, with participants able to respond privately and anonymously in the location of their choice, without the necessity of having to meet with the researcher. This also allowed participants from other parts of Australia to be involved in the research.

The EOMEIS-II (Adams, 1986) was the instrument selected to measure identity status in the present study. This 64-item questionnaire requires participants to respond to statements on a 6-point scale from strongly agree to strongly disagree. Each statement reflects one of Marcia's four identity statuses that have been previously described: Achievement, Moratorium, Foreclosure and Diffusion. Thirty two items represent ideological identity, with domains of occupation, politics, religion and philosophical lifestyle, and 32 items represent interpersonal identity in the domains of friendship, dating, sex roles and recreation. The 64 items can also be taken together to give an overall score for each identity status. There are 16 specific

items related to each particular type of status, constituting status subscales. A significantly elevated score on an identity subscale determines an individual's identity status. Thus, participants scoring one standard deviation above the mean or higher on a status subscale are considered to fall into the corresponding identity status, provided that all remaining subscale scores fall below their respective cut-off points. Adams outlines rules for categorizing individuals who do not fall into a pure identity category using this method. These scoring rules apply for overall identity status, or the differentiation between ideological and interpersonal identity. The continuous scores on EOMEIS-II subscales can also be used for analysis.

The EOMEIS manual summarizes 20 studies investigating the reliability of the questionnaire. Test-retest reliabilities are reported as ranging from .63 to .83, and internal consistency estimates measured by Cronbach's alpha reported to range from .67 to .77 (Adams).

The Multidimensional Body-Self Relations Questionnaire

The Multidimensional Body-Self Relations Questionnaire (MBSRQ - Cash, 2000) was used to measure body experience in the current study. It is designed to measure the attitudinal and perceptual experiences of one's physical body. Participants are required to rate 64 items such as "before going out in public, I always notice how I look" on a 5-point response scale, ranging from definitely disagree (1) to definitely agree (5). The MBSRQ has been used extensively and successfully in a wide range of body image research. Cash (2000) indicates that internal consistencies range from .75 to .91, and test-retest reliabilities range from .71 to .94 for males and females on the subscales used in the present study. Seven of the ten subscales were used in the

present study, validated by Cash, Brown and Mikulka (1990) as measuring the following constructs:

1. Appearance Evaluation – feelings of satisfaction or dissatisfaction with one's physical appearance. High scores indicate positive and satisfied feelings with appearance. Low scores indicate a general unhappiness with physical appearance.
2. Appearance Orientation – the extent of investment in one's appearance. High scores are indicative of an individual placing more importance on how they look and investing more time in grooming behaviour. Low scores are indicative of apathy about appearance.
3. Fitness Evaluation – feelings of being physically fit or unfit, body competence and physical conditioning. High scorers regard themselves as physically fit and competent, whilst low scorers do not regard themselves as physically fit.
4. Fitness Orientation – extent of investment in being physically fit or athletically competent. High scores are indicative of individuals who value their fitness and are actively involved in activities. Low scores indicate a lack of value placed on physical fitness and its incorporation into everyday lifestyle.
5. Health Evaluation – biological integrity, feelings of physical health and /or the freedom from physical illness. High scorers feel they are in a state of good health. Low scorers feel unhealthy and vulnerable to illness.
6. Health Orientation – biological integrity, extent of investment in a physically healthy lifestyle. High scorers try to lead a healthy lifestyle, low scorers are apathetic about their health.

7. Illness Orientation – biological integrity, extent of reactivity to being or becoming ill. High scores are indicative of alertness to personal symptoms of physical illness and are likely to seek medical attention. Low scorers are not especially alert or reactive to the physical symptoms of illness.

Body Experience Visual Analogue Scales

A series of ten visual analogue scales were designed by the researchers to measure aspects of body experience relevant to participants with a physical disability which were not adequately addressed by the MBSRQ or any other currently available body experience measure. Participants were asked to make a rating along a ten centimeter line to indicate how *important* four aspects of body experience were to them personally: appearance, functionality, trust and connection. Participants were also required to indicate how *satisfied* they were with these same four aspects of body experience. In addition, participants were required to rank the *level* of trust and the *level* of connection they had with their body. The visual analogue scales were scored by measuring the distance from the left anchor point to the point marked by the participant.

Visual analogue scales have been used extensively in social and behavioural sciences since the 1920s, and are generally considered to be a valid and reliable measurement tool when constructed appropriately (Wewers & Lowe, 1990). These authors point out that it is crucial that a clear and careful description of the phenomena being measured is provided to the participant to maximize their ability to conceive the line as a personal perception of an abstract concept. Butler (1997) suggests simple visual analogue scales with only end phrase anchor points are more appropriate than more complex scales with multiple labels and anchor points. Horizontal rather than

vertical scales have been shown to produce a more uniform distribution of scores (Scott & Huskisson, 1976), and lines shorter than 100mm tend to produce greater error variance (Revill, Robinson, Rosen & Hogg, 1976). The visual analogue scales developed for this research were horizontal lines with end phrase anchor points and a definition of each variable being measured.

Procedure

This study was approved by the Human Research Ethics Committee (Tasmania) Network. The study was advertised at the premises of various organizations, in newsletters, on websites and via email (see Appendix A). Individuals who responded to the advertisement were sent a questionnaire package.

The participants were informed by information letter contained in the questionnaire package that the purpose of the study was to investigate the effects of experiencing a physical disability on an individual's identity and body experience, and to explore whether there is a difference between those who were born with a physical disability and those who acquired it at a later period in the lifespan.

Participants were asked to divulge some personal information such as their age and sex, as well as information about the nature of any physical disability. No other personal information was sought. Questionnaire packages were fully self administered. Packages were then returned anonymously by participants to the School of Psychology, or were posted in a reply-paid envelope.

The questionnaire packages were distributed to a total of 184 participants, with 90 returned. Eighteen of the returned questionnaires were not included in the analysis as

their demographic information failed to meet the inclusion criteria, leaving 72 participants in the study. Consent was implied through the completion and return of the questionnaires, and the questionnaires were identifiable by a number only. The questionnaires were hand scored by the author.

Results

Data from this study were analysed using the SPSS computer package, with SPSS output data contained in Appendix B. Preliminary analyses were performed on participant characteristics to determine whether the groups were comparable in terms of their demographics. The identity status and body experience data were then analysed for between-groups effects. Further correlational analysis was then conducted to assess relationships between variables for the different groups. An alpha level of .05 with Bonferroni adjustment was used to determine statistical significance for all analyses.

Preliminary Analysis

Group Differences in Participant Characteristics

Both the developmental and acquired disability groups consisted of 12 females and 6 males, who were individually matched for age and sex with non-disabled participants, initially creating two control groups. The mean age of participants in each group is shown below in Table 2. There was no significant difference in age between the four groups $F(3, 68) = .009, p = .99$.

Table 2
Mean Age in Years and Standard Deviations for Disability and Control Groups

	Acquired Disability	Developmental Disability	Acquired Control	Developmental Control
Mean	24.50	24.50	24.56	24.33
Standard Deviation	4.11	4.59	4.02	4.33

Table 3 indicates the relationship status reported by participants in the four groups.

Table 3
Relationship Status of Participants in Disability and Control Groups

	Acquired Disability	Developmental Disability	Acquired Control	Developmental Control
Single	15 (83.3%)	15 (83.3%)	9 (50%)	8 (44.4%)
Married	1 (5.6%)	1 (5.6%)	6 (33.4)	7 (38.9%)
Dating	2 (11.1%)	1 (5.6%)	3 (16.7%)	3 (16.7%)
Widow	0 (0%)	1 (5.6%)	0 (0%)	0 (0%)

Although chi square analysis was invalidated due to small numbers in several of the categories, there appears to be a trend towards participants with a physical disability not being involved in romantic relationships.

Table 4 indicates the education level of participants in each of the four groups.

Table 4
Level of Education Completed by Participants in Each Group

	Acquired Disability	Developmental Disability	Acquired Control	Developmental Control
Secondary	4 (22.3%)	9 (50%)	4 (22.3%)	1 (5.6%)
Post Secondary	14 (77.7%)	9 (50%)	14 (77.7%)	17 (94.4%)

Participants with a developmental disability showed a trend toward being less likely to continue past secondary education. However, small numbers in some cells of Table 4 obviated statistical confirmation of this trend.

Because there were some observed demographic inequities between the groups (see Tables 3 and 4), between-groups analyses with MANOVA were conducted to determine whether the demographic characteristics of sex, relationship status or level of education were influential in terms of scores on identity development and body experience variables. Dichotomised groups were created for the relationship status and education level variables (ie currently in a relationship/currently not in a relationship; secondary/post-secondary education). There were no significant effects for any of the demographic variables. Results from this analysis are contained in Appendix B.

Two control groups were initially created and participants were individually matched for age and sex with their respective disability groups. However, since the four groups were comparable in terms of age and sex, it was decided to explore whether the two control groups could be combined for ease of subsequent analysis. To justify a combined control group it was essential to see whether the two control groups differed in their scores on the important body experience and identity status scales used for the testing of the study's hypotheses. The results of the control group comparative analyses using MANOVA can be seen in Appendix B. Results indicated there were no significant differences between the two control groups for any of the identity status or body experience subscales. It was therefore decided that for ease of subsequent analysis the two control groups would be combined, resulting in three groups for comparison in the following Results section.

Analysis of Disability Specific Characteristics

Table 5 shows the number of participants with specific physical disabilities, and whether those conditions were acquired or developmental disabilities. Appendix C contains a description of each of these disability diagnoses. Participants were classified as having a developmental disability if they were born with a physical impairment, or a physical impairment was acquired within the first two years of life. Participants were considered to have an acquired disability if their disability was not present until twelve years of age or later.

Table 5
Distribution of Diagnostic Conditions for Participants in Acquired and Developmental Disability Groups

Developmental Disability	N	Acquired Disability	N
Cerebral Palsy	9	Paraplegia	8
Spina Bifida	6	Quadraplegia	3
Bruck Syndrome	1	Hemiplegia	2
Spinal Muscular Atrophy	1	Dermatomyositis	1
Muscular Dystrophy	1	Ehlers-Danlos Syndrome	1
		Madelungs Deformity	1
		Chronic Aseptic Multifocal	
		Osteomyelitis	1
		Name Unknown	1
Total N	18	Total N	18

For the acquired disability group, the mean number of years since the disability was acquired was 7.11 years ($SD = 4.71$), with a range of two years to 17 years.

Participants with a disability were asked to rate their body parts and their activities of daily living in terms of impairment, from zero (no impairment) to ten (very high

level of impairment). These scores were then summed to obtain a total impairment score. This score was used to ascertain whether the level of disability and consequent impairment was comparable between the acquired and developmental disability groups. There was no significant difference between the developmental disability group ($M = 65.44$, $SD = 31.07$) and acquired disability group ($M = 70.28$, $SD = 31.71$) in terms of the self-reported level of bodily impairment $t(34) = .056$, $p = .814$. There was also no significant difference between the developmental disability group ($M = 25.28$, $SD = 23.27$) and the acquired disability group ($M = 30.78$, $SD = 20.27$) in the level of restriction in daily activities that was reported $t(32) = .46$, $p = .502$. Therefore, the acquired and developmental physical disability groups could be considered comparable in their level of bodily and functional impairment, which might have influenced some of the measures of interest in subsequent analysis. None of the control participants reported any impairment in their bodily functioning or activities of daily living.

Table 6 indicates the frequency of reported use of specific mobility aids by participants with a disability in each group. A total of twelve participants used more than one method of mobility, and they were asked to indicate the method they used most.

Table 6
Mobility Method Used Most by Participants in Acquired Disability and Developmental Disability Groups

Mobility Method	Acquired Disability	Developmental Disability
Walk Independently	4 (22.2%)	4 (22.2%)
Walking Stick	1 (5.6%)	0 (0%)
Walking Frame	0 (0%)	1 (5.6%)
Manual Wheelchair	10 (55.6%)	9 (50%)
Electric Wheelchair	2 (11.1%)	4 (22.2%)
Other	1 (5.6%)	0 (0%)

Although chi-square analysis was invalidated by the small numbers in many categories, the acquired disability and developmental disability groups appear comparable in terms of the method of mobility used by participants. All control participants were able to walk independently, with no use of mobility aids.

Amongst the inclusion criteria for this study was the cognitive ability to comprehend and respond to the entire questionnaire package. Participants were therefore asked whether they had experienced any injury to the brain, and whether they experienced any impairment in terms of thinking, memory, language or concentration. Four participants in the acquired disability group (22.8%), and five participants in the developmental disability group (27.8%) indicated that they had some form of injury to the brain. Table 7 indicates the form of impairment experienced by these participants.

Table 7
Types of Cognitive Impairments Experienced by Participants in Acquired and Developmental Disability Groups

Symptom	Acquired Disability	Developmental Disability
Thinking	3	4
Memory	4	2
Concentration	4	3
Language	2	2

In each case a written description of the level of impairment was provided by participants, and the researchers evaluated the reported level of cognitive impairment and whether it was severe enough to impair comprehension and completion of the

participant package. None of the participants with a disability were excluded on this basis. None of the control participants reported any form of brain injury.

The results of the analysis of disability specific characteristics suggests that the acquired disability and developmental disability group were comparable in terms of their level of physical and cognitive impairment and their method of mobility.

Identity Status – Between-Groups Analyses

The Objective Measure of Ego Identity Status-II (EOMEIS – II, 1986) provides a continuous score for the four identity statuses (Achievement, Moratorium, Foreclosure, Diffusion) in terms of ideological, interpersonal and overall identity for each respondent. These continuous scores can be examined in relation to standardized cut off points, allowing categorisation of respondents into one of the four identity statuses. Participants who score one standard deviation above the mean for one status are allocated to that status. Participants who score one standard deviation above the mean for two status are considered ‘in transition’, and should be allocated to the least developed of the two statuses. Finally, participants who do not score one standard deviation above the mean for any of the four identity statuses are considered to be ‘low profile moratorium’. Adams (1998) suggests that pure moratorium and low profile moratorium should generally be considered equivalent.

The participants in the present study were initially allocated to one of the four identity statuses using EOMEIS-II scores and the criteria described above. Table 8 indicates the number of participants allocated to each identity status for the acquired disability, developmental disability and control group.

Table 8
Categorical Identity Status Allocations for Acquired Disability, Developmental Disability and Control Groups

	Acquired Disability	Developmental Disability	Control
Achievement	0 (0%)	1 (5.6%)	3 (8.3%)
Moratorium	5 (27.8%)	3 (6.7%)	19 (52.8%)
Foreclosure	0 (0%)	3 (6.7%)	2 (5.6%)
Diffusion	13 (72.2%)	11 (61.1%)	12 (33.3%)

A planned chi-square analysis to examine the effects of disability on identity status could not be considered valid due to several cells having insufficient numbers of participants. Therefore it was decided that information regarding identity status would be more validly analysed parametrically, rather than non-parametrically, using the continuous scores of each participant for the four identity statuses.

Three separate MANOVAS were therefore performed on the mean continuous identity scores, one each for overall, ideological and interpersonal identity, to determine whether there were significant differences in scores on the four identity statuses between the three groups (acquired disability, developmental disability, control).

Overall Identity

Participants' scores for all 64 items on the EOMEIS-II result in an overall identity score. The mean scores for all three participant groups for Overall Identity are shown below in Table 9 and Figure 4.

Table 9
Means and Standard Deviations of Overall Identity Statuses for Three Participant Groups

	Acquired Disability	Developmental Disability	Controls
Overall Achievement	55.78 (8.65)	61.44 (11.03)	61.78 (8.01)
Overall Moratorium	57.61 (11.08)	51.50 (8.52)	45.36 (11.01)
Overall Foreclosure	26.22 (7.42)	36.89 (12.89)	32.31 (11.46)
Overall Diffusion	57.22 (14.01)	56.56 (11.56)	49.25 (10.49)

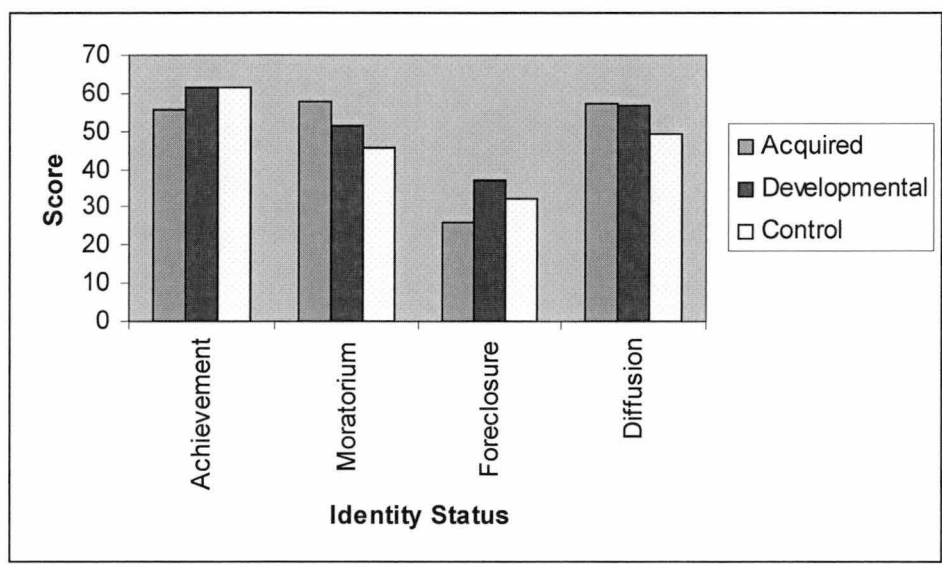


Figure 4. Mean overall identity scores for acquired, developmental and control group.

MANOVA demonstrated a significant difference between the three groups, Pillai’s Trace=.36, $F(8, 134)=3.73, p=.001$. Follow-up F-tests showed that Identity Moratorium was the only status that demonstrated a significant difference between the three groups, $F(2, 69)=8.48, p=.001$. REGWQ post-hoc comparisons showed that the acquired disability group scored significantly higher for moratorium than the control group.

Table 10 and Figure 5 show the mean scores for the acquired disability, developmental disability and control groups for each of the four ideological identity statuses.

Table 10
Means and Standard Deviations of Ideological Identity Statuses for Three Participant Groups

	Acquired Disability	Developmental Disability	Controls
Ideological Achievement	28.89 (4.93)	31.11 (5.55)	32.61 (5.69)
Ideological Moratorium	29.77 (8.47)	26.05 (5.96)	22.72 (7.71)
Ideological Foreclosure	13.17 (3.73)	18.78 (7.22)	16.03 (5.72)
Ideological Diffusion	32.39 (7.13)	29.78 (6.87)	24.44 (7.42)

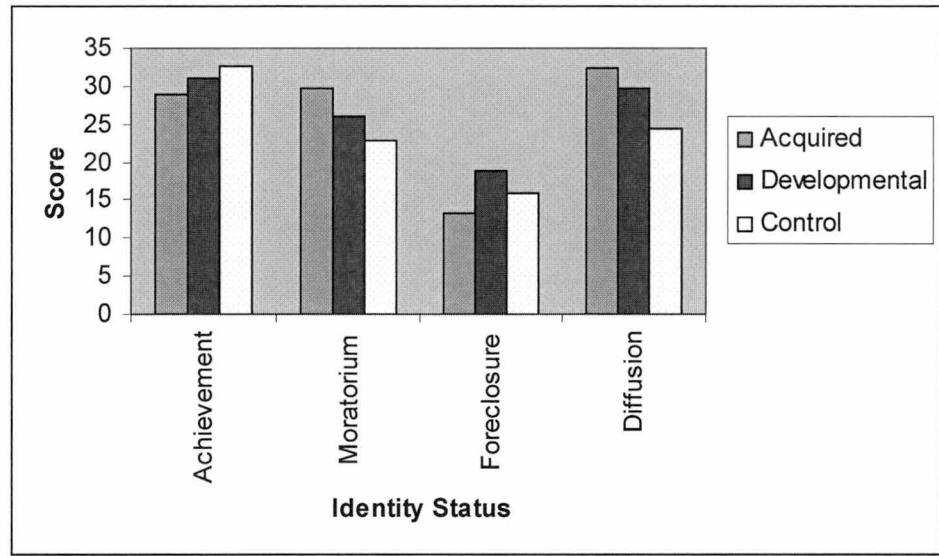


Figure 5. Mean ideological identity scores for acquired, developmental and control groups.

There was a significant difference in ideological identity scores for the three groups Pillai's Trace = .332, $F(8, 134) = 3.33$, $p = .002$. Using Bonferroni adjustment to guard against Type 1 errors ($p = .0125$), scores on Identity Achievement and Identity

Foreclosure did not differ significantly between the three groups, $F(2, 69)=2.79$, $p=.069$ and $F(2, 69)=4.31$, $p=.017$, respectively. For Identity Moratorium however, significant differences were found, $F(2, 69)=3.40$, $p=.007$. Post-hoc comparisons using REGWQ test indicated that the acquired and developmental disability groups did not differ significantly from each other ($p > .05$). The developmental disability group also did not differ significantly from the control group ($p > .05$). However, the acquired disability group scored significantly higher on Moratorium than the control group. A significant group effect was also found for the Identity Diffusion scale, $F(2, 69)=8.21$, $p=.001$. Whilst the acquired and developmental disability groups did not differ from each other, both groups recorded significantly higher scores than the control group. Table 11 contains a summary of the significant post-hoc comparisons.

Table 11
Significant REGWQ Post-Hoc Comparisons for Ideological Identity Statuses

Identity Type	Status	Group Difference
Ideological	Moratorium	Acquired>Control
	Diffusion	Acquired>Control
	Diffusion	Developmental>Control

Note: Significance level $p<.05$.

Interpersonal Identity Analysis

Table 12 and Figure 6 show the mean interpersonal identity scores for all three participant groups.

Table 12
Means and Standard Deviations of Interpersonal Identity Statuses for Three Participant Groups

	Acquired Disability	Developmental Disability	Controls
Interpersonal Achievement	26.89 (5.43)	29.78 (6.80)	28.89 (4.16)
Interpersonal Moratorium	27.83 (5.04)	25.44 (5.24)	22.64 (4.81)
Interpersonal Foreclosure	13.89 (5.34)	18.11 (6.67)	16.23 (6.48)
Interpersonal Diffusion	25.11 (7.56)	26.78 (7.10)	24.81 (6.17)

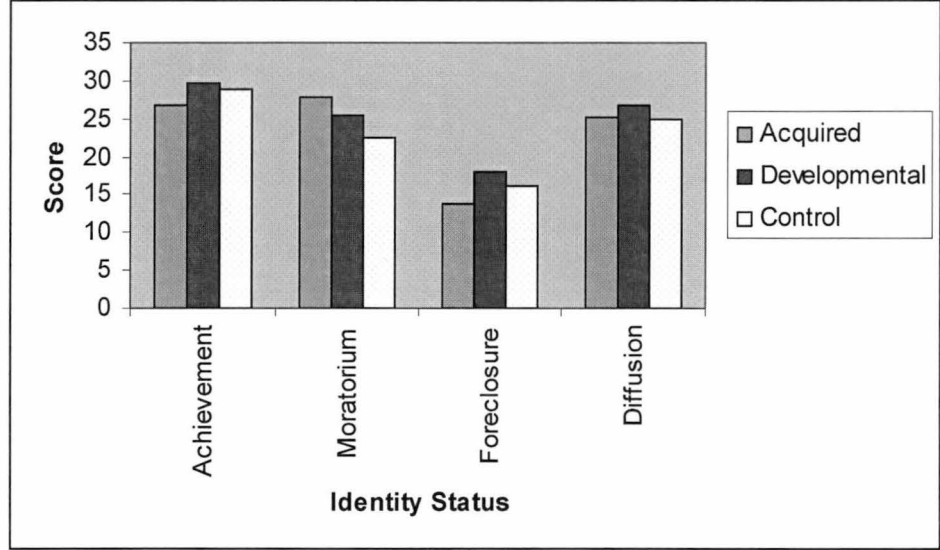


Figure 6. Mean interpersonal identity scores for acquired, developmental and control groups.

MANOVA revealed an overall significant difference in interpersonal identity scores Pillai’s Trace =.332, $F(8, 134)=3.34$, $p=.002$.

Follow-up F -tests showed Identity Moratorium to be the only status to demonstrate significant score differences between the four groups, $F(3, 68)=5.06$, $p=.003$.

REGWQ post-hoc tests indicated that the acquired disability group scored significantly higher on the moratorium status than the control group.

Body Experience: Between-Groups Analysis

Multidimensional Body Self Relations Questionnaire

The means and standard deviations for the MBSRQ subscales for each of the three participant groups are described in Table 13, and the means are also displayed in graphical form in Figure 7.

Table 13.
Means and Standard Deviations for MBSRQ Subscale Scores for Acquired Disability, Developmental Disability and Control Groups

	Acquired Disability	Developmental Disability	Control
Appearance Evaluation	2.42 (1.15)	3.34 (1.21)	3.26 (0.67)
Appearance Orientation	2.82 (0.71)	3.58 (0.68)	3.22 (0.67)
Fitness Evaluation	2.31 (0.99)	2.85 (0.97)	3.63 (0.69)
Fitness Orientation	2.66 (0.92)	2.87 (0.73)	3.23 (0.63)
Health Evaluation	2.36 (1.26)	3.28 (0.86)	3.71 (0.72)
Health Orientation	3.60 (0.73)	3.38 (0.46)	3.35 (0.48)
Illness Orientation	3.46 (1.13)	3.00 (0.72)	2.70 (0.69)

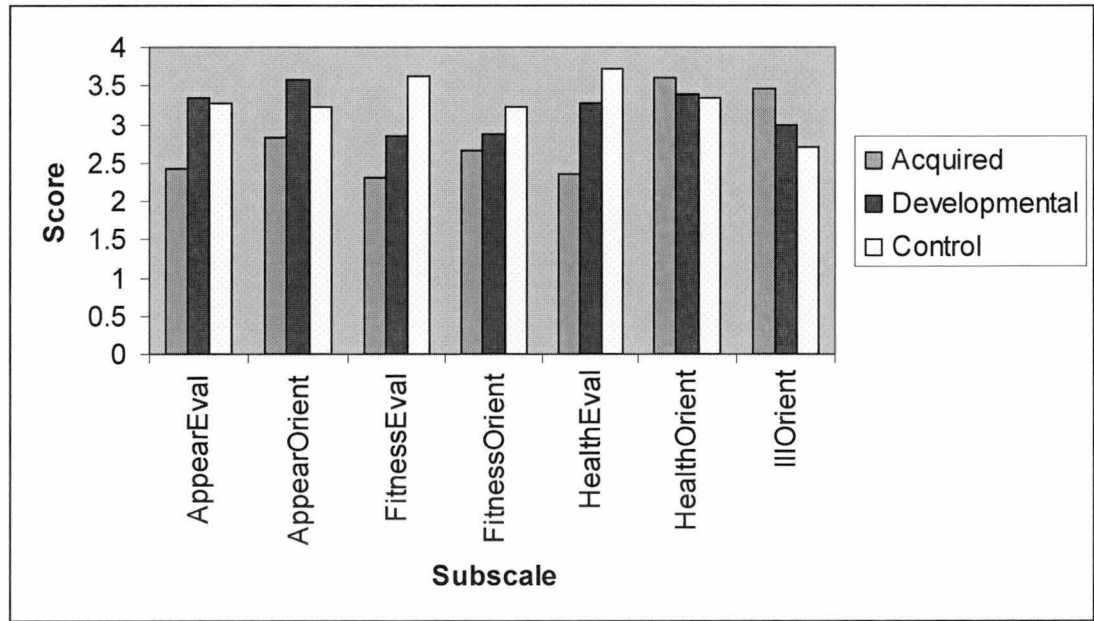


Figure 7. Mean MBSRQ scores for acquired, developmental and control groups.

A MANOVA was used to compare the mean MBSRQ ratings of the acquired disability, developmental disability and control groups. A significant main effect for group was observed: Pillai's Trace .578, $F(14, 128) = 3.72, p < .001$. Follow-up F Tests with Bonferroni adjustment ($p = .007$) demonstrated that the three groups differed significantly on Appearance Evaluation $F(2, 69) = 5.96, p = .006$, Appearance Orientation $F(2, 69) = 5.47, p = .006$, Fitness Evaluation $F(2, 69) = 15.63, p < .001$ and Health Evaluation $F(2, 69) = 13.05, p < .001$. There were non-significant group effects ($p > .007$) for Fitness Orientation, Health Orientation and Illness Orientation.

Post-hoc comparisons to determine the specific between-group effects were carried out using REGWQ for each of the MBSRQ subscales where significant effects were found. These results are summarized below in Table 14.

Table 14
Significant REGWQ Post Hoc Comparisons on MBSRQ Subscales for Acquired Disability, Developmental Disability and Control Groups

Subscale	Group Differences
Appearance Evaluation	Developmental > Acquired Control > Acquired
Appearance Orientation	Developmental > Acquired
Fitness Evaluation	Control > Acquired Control > Developmental
Health Evaluation	Developmental > Acquired Control > Acquired

Note: Significance Level $p < .05$

For three of the four subscales (Appearance Evaluation, Appearance Orientation, Health Evaluation), the developmental disability group recorded a significantly higher score than the acquired disability group. The control group scored significantly higher than the acquired disability group for Appearance Evaluation,

Fitness Evaluation and Health Evaluation. The control group scored significantly higher than the developmental disability group for only one subscale, Fitness Evaluation.

Body Experience Visual Analogue Scales

The means and standard deviations for the ten visual analogue scales measuring various aspects of body experience are shown below in Table 15, and also in Figure 8.

Table 15
Means and Standard Deviations of Body Experience Visual Analogue Scales for the Three Participant Groups

Scale Name	Acquired Disability	Developmental Disability	Controls
Appearance Importance	6.84 (2.10)	6.17 (2.04)	6.74 (2.07)
Appearance Satisfaction	3.36 (2.52)	5.12 (2.73)	5.24 (1.93)
Functioning Importance	9.08 (1.25)	8.48 (1.50)	8.34 (2.10)
Functioning Satisfaction	1.96 (2.55)	5.62 (3.16)	8.26 (1.80)
Trust Amount	3.62 (2.77)	6.63 (2.71)	8.60 (1.00)
Trust Importance	7.75 (2.11)	8.08 (1.74)	8.67 (1.45)
Trust Satisfaction	3.90 (3.46)	6.59 (2.91)	8.54 (1.23)
Connection Amount	4.91 (2.78)	7.23 (2.38)	8.59 (1.48)
Connection Importance	7.01 (2.64)	7.97 (1.68)	7.97 (2.30)
Connection Satisfaction	4.88 (2.95)	7.26 (2.30)	8.38 (1.77)

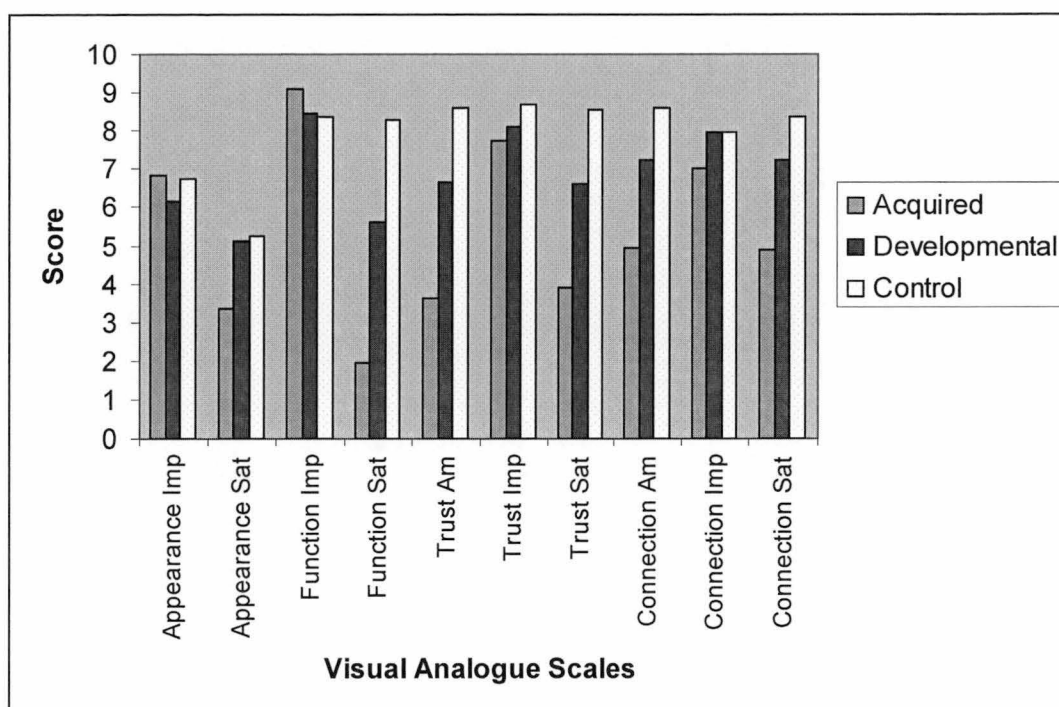


Figure 8. Mean visual analogue scale scores for acquired, developmental and control groups.

A MANOVA was used to compare the mean ratings of the acquired disability, developmental disability and control group, and a significant main effect for group was observed: Pillai's Trace .680, $F(20, 122) = 3.14, p < .001$.

Follow-up F Tests with Bonferroni adjustment indicated that there were no significant between-groups differences for any of the four Importance subscales, or for Appearance Satisfaction ($p = .005$). There were, however, significant group effects for Function Satisfaction $F(2, 69) = 42.01, p < .001$; Trust Amount $F(2, 69) = 35.39, p < .001$; Trust Satisfaction $F(2, 69) = 22.43, p < .001$; Connection Amount $F(2, 69) = 18.44, p < .001$; and Connection Satisfaction $F(2, 69) = 14.59, p < .001$.

Follow up REGWQ post-hoc comparisons were carried out for the visual analogue scales where significant effects were found. The significant comparisons are summarized in Table 16 below.

Table 16
Significant REGWQ Post-Hoc Comparisons on Visual Analogue Scales for Acquired Disability, Developmental Disability and Control Groups

Visual Analogue Scale	Group Comparison
Function Satisfaction	Developmental>Acquired Control>Acquired Control>Developmental
Trust Amount	Developmental>Acquired Control>Acquired Control>Developmental
Trust Satisfaction	Developmental>Acquired Control>Acquired Control>Developmental
Connection Amount	Developmental>Acquired Control>Acquired
Connection Satisfaction	Developmental>Acquired Control>Acquired

Note: Significance Level $p<.05$.

Post-hoc tests indicated that for Function Satisfaction, Trust Amount, Trust Satisfaction, Connection Amount and Connection Satisfaction, both the developmental disability group and control group scored significantly higher than the acquired disability group. The control group scored significantly higher than the developmental disability group for Function Satisfaction, Trust Amount and Trust Satisfaction.

Correlation Analysis: The Relationship Between Body Experience and Identity Development

Pearson r correlations were used to explore the extent and direction of relationships between scores on the Body Experience Visual Analogue Scales and continuous scores for each overall identity status of the EOMEIS-II. The Visual Analogue Scales were chosen for this correlational analysis as functionality, a core aspect of the body experience of people with a disability, is not assessed by the MBSRQ.

Initially, correlations were performed separately for each of the three participant groups: acquired disability ($n=18$), developmental disability ($n=18$) and controls ($n=36$). The smaller numbers in the two disability groups compared to the combined control group was somewhat problematic in terms of comparisons between the disability groups and the controls. The larger N of participants in the control group meant that it was likely that a greater number of correlations would reach significance in comparison to the two smaller disability groups, making interpretation of the findings difficult. It was therefore decided to explore the possibility of combining the two disability groups, to enhance the likelihood of obtaining significant correlations by a larger n , and to make control-disability comparisons less problematic in terms of interpretation. The patterns of correlations in the two separate disability groups were first examined.

For the acquired disability group, there were five moderate and significant correlations ($p<.05$). There was no significant relationship between Identity Achievement and any of the body experience scales. For Identity Moratorium, there was a significant negative correlation with Function Satisfaction. Two body experience subscales showed a significant positive correlation with Identity

Foreclosure: Trust Amount and Trust Satisfaction. For Identity Diffusion there was a significant negative correlation with Appearance Satisfaction and Trust Satisfaction (see Table 17 below for correlations).

Table 17.
Correlations Between Body Experience Visual Analogue Scale Measures and Continuous Scores for Overall Identity Statuses for the Acquired Disability Group.

	Identity Status			
	Achievement	Moratorium	Foreclosure	Diffusion
Body Experience Measures				
Appearance Importance	-.15	+.23	+.22	+.04
Appearance Satisfaction	+.19	-.37	-.05	-.65**
Function Importance	-.21	+.25	+.25	+.31
Function Satisfaction	+.25	-.54*	+.20	-.42
Trust Amount	+.22	-.33	+.51*	-.33
Trust Importance	+.06	-.03	+.10	-.06
Trust Satisfaction	+.04	-.41	+.56*	-.65**
Connection Amount	+.24	-.15	+.24	+.13
Connection Importance	-.01	-.43	+.11	-.30
Connection Satisfaction	+.42	+.01	+.32	.02

Note: Significant correlations are in bold type

* = $p < .05$

** = $p < .001$

For the developmental disability group, there were six moderate and significant correlations ($p < .05$) between identity and body experience. Identity Achievement was positively correlated with Function Satisfaction, Trust Amount and Connection Amount. Identity Moratorium was not significantly correlated to any of the body experience scales. Identity Foreclosure was significantly positively correlated with Appearance Satisfaction and Connection Satisfaction. Identity Diffusion had a significant negative correlation with Function Satisfaction. See Table 18 below for correlations.

Table 18.

Correlations between Body Experience Visual Analogue Scale Measures and Continuous Scores for Overall Identity Statuses for the Developmental Disability Group.

	Identity Status			
	Achievement	Moratorium	Foreclosure	Diffusion
Body Experience Measures				
Appearance Importance	-.38	-.32	-.37	-.07
Appearance Satisfaction	+.11	+.39	+.58*	+.01
Function Importance	-.03	+.04	-.43	+.19
Function Satisfaction	+.57*	-.23	+.33	-.54*
Trust Amount	+.59*	-.19	+.26	-.39
Trust Importance	-.01	-.03	+.02	-.05
Trust Satisfaction	+.44	-.18	+.27	-.31
Connection Amount	+.47*	-.33	+.21	-.38
Connection Importance	+.45	-.03	+.37	-.25
Connection Satisfaction	+.41	-.13	+.58*	-.17

Note: Significant correlations are in bold type

* = $p < .05$

None of the significant correlations for the acquired and developmental disability groups overlapped (see Tables 17 and 18 above). However, nine of the eleven correlations were in the same directions as the significant correlation in the other group. The two correlations that were not in the same direction as the significant correlations found in the alternate group were however very weak relationships (.051 and .002). In the case of corresponding directional correlations, the non-significant correlations were weak to moderate in strength. On the basis of overall directional similarity of the correlations, it was decided that the two disability groups' results could be legitimately combined in subsequent analyses to overcome the interpretive difficulties outlined above. Correlations for the combined disability groups are shown below in Table 19.

Table 19.

Correlations Between Body Experience Visual Analogue Scale Measures and Continuous Scores for Overall Identity Statuses for Participants with a Disability

Body Experience Scale	Identity Status			
	Achievement	Moratorium	Foreclosure	Diffusion
Appearance Importance	-.32	-.30	-.21	-.01
Appearance Satisfaction	+.22	-.12	+.45**	-.33
Function Importance	-.13	+.20	-.28	+.25
Function Satisfaction	+.51**	-.47**	+.47**	-.43**
Trust Amount	+.48**	-.37*	+.49*	-.32
Trust Importance	+.05	-.05	+.09	-.06
Trust Satisfaction	+.32	-.40*	+.48**	-.48**
Connection Amount	+.42**	-.32	+.36*	-.09
Connection Importance	+.24	-.34*	+.29	-.28
Connection Satisfaction	+.47**	-.17	+.54**	-.06

Note: Significant correlations shown in bold

* = $p < .05$

** = $p < .001$

For the combined disability groups, all significant correlations between body experience variables and the committed identity statuses (Achievement and Foreclosure) were in a positive directions, indicating that higher identity status scores were associated with a greater amount of, and satisfaction with, various body aspects such as trust and connection. For the uncommitted statuses (Moratorium and Diffusion) all significant correlations were in a negative direction, indicating that higher identity status scores were associated with lower levels of, and satisfaction with, body experience variables.

For the combined disability groups, all significant correlations between body experience variables and the committed identity statuses (Achievement and Foreclosure) were in a positive directions, whilst for the uncommitted statuses (Moratorium and Diffusion) all significant correlations were in a negative direction.

Each of the four body experience satisfaction subscales showed a significant relationship with at least one identity status. Trust Amount and Connection Amount demonstrated three and two significant correlations, respectively. Only one importance subscale was shown to be significantly related to an identity status.

Table 20 shows correlations between the visual analogue scales and continuous identity scores for the combined control groups.

Table 20.
Correlations Between Body Experience Visual Analogue Scale Measures and Continuous Scores for Overall Identity Statuses for Control Participants.

	Identity Achievement			
	Achievement	Moratorium	Foreclosure	Diffusion
Body Experience Measure				
Appearance Importance	-.04	+.37*	+.03	-.02
Appearance Satisfaction	+.10	-.13	+.04	-.02
Function Importance	-.33	+.11	-.18	+.11
Function Satisfaction	-.16	-.03	+.02	-.26
Trust Amount	-.15	-.29	-.27	-.11
Trust Importance	-.46**	+.14	-.14	+.20
Trust Satisfaction	-.05	-.24	-.13	-.09
Connection Amount	-.26	+.13	-.19	+.20
Connection Importance	-.48**	+.16*	+.03	+.21
Connection Satisfaction	-.13	+.10	-.03	+.20

Note: Significant correlations are in bold type

* = $p < .05$

** = $p < .001$

Unlike the large number of significant correlations for the combined disability groups, only four of the correlations for the control group were significant. These were all for importance subscales, and they were only significantly correlated with the exploration identity statuses (Achievement and Moratorium). Identity Achievement was significantly negatively correlated with Trust Importance and

Connection Importance. Identity Moratorium was significantly positively correlated with Appearance Importance and Connection Importance.

The results of this analysis indicate that for young adults with a physical disability in the present sample, body experience had a stronger, more consistent and more complex relationship with identity than for participants who did not have a disability. There were four times as many significant correlations between the statuses for participants with a disability than for those without a disability. This might indicate that for young adults with a disability there is a greater focus on the body as a salient factor in the establishment of identity, than for young adults who do not have a disability.

For the group with a disability, satisfaction with aspects of body experience, and the amount of trust and connection they felt with their body, were significantly related to their identity development. This relationship differed according to whether the identity status involves an exploration of identity or not. For the identity statuses where an individual has committed to their identity (Identity Achievement and Foreclosure), there was a positive correlation with body experience variables. For identity statuses where there is not a commitment to identity (Identity Moratorium and Diffusion) there was a negative relationship with body experience variables.

Individuals in the current sample who did not have a physical disability demonstrated a different relationship between body experience and identity. Only importance subscales were shown to have any significant relationship with identity, and this was only for identity statuses involving exploration (Achievement and Moratorium). For Identity Achievement, where the individual has explored and committed to their

identity, there was a negative correlation with significant body experience variables. For Identity Moratorium, where the individual has explored but not committed to their identity, there was a positive correlation with significant body experience variables. This is in contrast with the disability group, where Achievement demonstrated significant positive correlations with body experience variables, and Moratorium demonstrated significant negative correlations.

Discussion

This study compared the identity and body experience of young adults with acquired physical disabilities, developmental physical disabilities, and healthy young adults with no disability or chronic health condition. Exploration of the demographic characteristics of the participants confirmed that the three groups were equivalent in age and gender. Analysis also confirmed that group differences in relationship status and level of education between the groups with a disability and the controls were unlikely to impact on the scores of the experimental variables. Crucially, participants in the acquired and developmental disability groups were equivalent in their level of bodily impairment, method of mobility and their ability to perform activities of daily living, thus controlling for important variables that might have impacted the variables of interest: identity and body experience. These findings will now be discussed.

Identity Development Findings

Identity was defined by Marcia as ‘a coherent sense of one’s meaning to oneself and to others within that social context ... that suggests an individual’s continuity with the past, a personally meaningful present and a direction for the future’ (Marcia, 1994, p. 70). Factors such as childhood identifications, social appraisals, unique

abilities and needs, physiological development and social experimentation can all contribute to the development of an individual's identity and its representation amongst the four statuses (Marcia, 1987).

It was predicted in the current research that participants in the acquired disability, developmental disability and control groups would demonstrate different patterns of scores on the four identity statuses of Achievement, Moratorium, Foreclosure and Diffusion. However, the results show that there were minimal group differences that demonstrated overall a picture of relatively undifferentiated identity development among the groups in the present study. Only five out of the 36 possible comparisons demonstrated significant differences between the groups, with the differences principally involving the moratorium status. The acquired disability group scored significantly higher than the control group for interpersonal, ideological and overall moratorium. Additionally, the two disability groups scored significantly higher than the control group for ideological diffusion, but not interpersonal or overall diffusion. Consistent patterns of differences in the key statuses for demonstrating more or less advanced identity development, diffusion and achievement, did not eventuate. Therefore, given that there was no significant difference in the scores for overall achievement or diffusion between the three groups, it appears that the presence of a physical disability does not result in identity being more or less advanced than in individuals who do not have a disability.

The present study aimed to investigate whether the acquisition of a disability after a period of normal development, as opposed to a developmental disability since birth or early childhood would have different sequelae in terms of identity development. Results showed that there were no significant differences between the acquired and

developmental disability groups for any of the four identity statuses, whether it was for ideological, interpersonal or overall identity. This suggests that acquiring a disability later in life does not result in people being more or less advanced in their identity development than people who were born with a physical disability.

Participants in the acquired and developmental disability groups were comparable in their current physical status at the time of the study. However, this was not the case while they were in Erikson's first four developmental stages, from birth to puberty. The developmental disability group experienced an impaired body throughout this period, while the bodies of participants in the acquired disability group were unimpaired. One conclusion that can be drawn from the present study therefore is that a person's physical status during childhood has minimal impact on the development of their identity during adolescence and young adulthood. The fact that only one of the twelve possible comparisons between the developmental disability and control groups was significantly different further strengthens this proposition.

The most notable and consistent difference in identity between the three groups researched in this study was for the moratorium status. Whilst achievement is considered the most advanced identity status, and diffusion is the least advanced, moratorium and foreclosure are interim statuses and should not be considered more or less advanced than each other (Waterman, 1999). In the current study, the acquired disability group scored significantly higher than the control group for overall, ideological and interpersonal identity moratorium. This suggests that adolescents and young adults who have acquired a physical disability during adolescence or young adulthood are undertaking a higher level of exploration than

people who do not have a physical disability, and are yet to make firm, identity defining commitments.

Several possible theoretical explanations may be advanced to account for the significant differences between the acquired disability and control group for moratorium. Since the acquisition of a disability has the potential to change pervasive aspects of an individual's life, there are also changes to a person's identity status. For example, an individual may not be able to return to the same employment, their housing arrangements may need to be modified, and they may face restrictions in social or leisure activities. These practical challenges may also lead to re-evaluation of religious or political beliefs, general life values, or impact on interpersonal relationships. Therefore, the acquisition of a physical disability might prompt individuals to experience a regression and move from achievement, where they have made a commitment to their identity, to moratorium, where they re-explore identity defining issues. Conversely, prompted by the changed circumstances and challenges of an acquired disability, individuals might move into moratorium from the foreclosure or diffusion statuses, where they previously have not been exploring issues of identity. Such a proposition would need to be tested by longitudinal research, however the group differences identified in this cross-sectional research suggest a number of developmental alternatives that could be explored by longitudinal methodology.

The idea that disability acquisition prompts a change in identity status fits with Yoshida's (1993) 'Pendulum Theory' of adjustment to spinal cord injury. Yoshida suggests that these individuals need to reconstruct their identity through a dynamic process in which they swing back and forth between the non-disabled and disabled

aspects of self. Considering Yoshida's theory in terms of Marcia's statuses, moratorium could be considered the most dynamic identity status as it is the only one where the individual is currently undergoing the identity exploration process. Therefore, acquiring a disability may prompt a dynamic process of identity exploration that is different to that experienced by people who were born with a disability or do not have a disability.

Whilst it is clear that the acquisition of a disability could be considered a stressful life event that participants in the control group have not experienced, this research did not explore whether control participants had previously experienced any other stressful life events that may impact on their identity. Future research should explore not only the presence of a disability or health condition, but also whether any participants have experienced other potentially stressful events. Examples of this may include the death or illness of a close family member, parental divorce, serious accidents or being the victim of criminal activity. It may be that the acquisition of an impaired physical status is not the specific influential factor in these circumstances, rather it is the experience of a stressful life event.

Another theoretical possibility to explain the significant differences in moratorium scores between the acquired disability and control groups is that neither group's identity status has changed. Rather, it may be that people who score highly on moratorium identity are more likely to acquire a physical disability. In other words, they might be higher in risk-taking attributes. One possible way of investigating this would be to explore personality and behavioural variables of people who score highly on moratorium. Kroger (2000) states that adolescents in the moratorium status have consistently been shown to have the highest levels of anxiety and openness to

new experience. It would therefore also be of benefit to explore whether individuals who are in the moratorium status are more likely to engage in risky behaviours, and therefore acquire a disability through high risk activities such as dangerous driving, hazardous sporting activities or a lack of safety precautions in work or daily living activities. Future research could also differentiate between participants who have acquired a disability through traumatic causes such as motor vehicle accidents, sporting injuries or diving/falls, and non-traumatically acquired disabilities as a result of illness or genetic causes.

The overall identity status is made up of the summed scores of the interpersonal and ideological identity scales. Both the interpersonal and ideological scales demonstrated a similar pattern of differences on the moratorium status as was the case for overall identity, with the acquired disability group scoring significantly higher than the control group. For the diffusion status, there were no significant differences for overall or interpersonal diffusion. However, both the acquired disability and developmental disability groups scored significantly higher than the control group for ideological diffusion. This suggests that adolescents and young adults who are living with a physical disability are less likely to be currently exploring their beliefs in relation to topics such as religion, politics, occupation and philosophical lifestyle, than people without a physical disability, and are not in the process of making commitments to ideologically defining directions. A possible explanation for this finding is the fact that adolescents and young adults with a physical disability face unique challenges, and may prioritise other aspects of their existence over the exploration of ideological identity, such as managing general activities of daily living and maintaining their health and functioning. Consequently,

ideological identity may be explored during a later period of the lifespan for people with a disability.

Whilst participants in the disability groups appeared to be less advanced with regards to ideological identity, they are not less advanced in areas such as friendships, dating, sex roles and recreation, as reflected by interpersonal identity. These factors may be more immediate to the experience of people with a physical disability than ideological identity, and hence participants are less likely to remain in the diffusion status. For example, attendance at school presents contacts with peers, and hence would likely require the individual to begin to consider issues related to friendships. School also presents many opportunities for the exploration of various recreation interests. Politics, religion and philosophical lifestyle are less likely to be directly related to one's school experiences, and hence a desire to explore these issues would need to develop through personal interest or family, social or media exposure. Erikson and Marcia propose adolescence as the critical period of identity formation. However, it may be that for people with a physical disability, exploration of ideological identity might occur later in the lifespan. Future researchers may wish to explore issues of identity in an older age group of people with a disability, or conduct longitudinal research with this population to monitor changes in identity status.

Previous research suggests that the presence of a chronic illness might have a bi-directional impact on identity development. Some research suggests that identity is enhanced by chronic illness (Burbury, 2002; Hosek, Harper & Robinson, 2002), while other studies suggest that it is impeded by chronic illness (Gavaghan & Roach, 2002; Hosek, Harper & Robinson, 2002; Woolley, 2003). However, the results of the present study do not support the assertion that identity is either more or less

advanced when a person has a physical disability. This finding further suggests that health and disability should not be considered to be equivalent or interchangeable constructs when exploring issues of identity. The participants in the current study were living with permanent physical impairments, whereas poor health can sometimes be more transient and uncertain. For example treatment may be available to return people to a healthy state, or conversely some illnesses cause people to live with the fear of imminent death. The disabilities experienced by participants in this research all currently have no cure, but also would not be considered terminal. At this time there are no published studies investigating physical disability in relation to Marcia's identity statuses, therefore the results of the present study will need to be replicated before a more comprehensive model of identity in relation to disability and health conditions is developed.

In summary, the results of the identity analysis in this study suggest that the presence of a physical disability does not result in people being more or less advanced in their identity than people who do not have a physical disability. The most consistent finding in this research was that people who have acquired a physical disability during adolescence or young adulthood are more likely to be exploring their identity without making firm commitments than people who do not have any chronic illness or health condition.

Methodological Considerations When Measuring Identity

Schwartz (2004) maintains that measurement in identity research continuous to lag significantly behind theoretical advancements in the field, and the current study encountered some challenges in measuring the identity experiences of participants.

Schwartz (2002) suggests that there is poor convergent validity between categorical

identity assignment of the EOMEIS-II, which was used in this study, and an alternative identity measure, the EIPQ. His analysis recommends that the EOMEIS-II is more valid when used as a tool to measure continuous scores for each identity status, and the EIPQ is the more valid approach for categorical assignment. The results of the present study may have been easier to interpret if each participant was allocated to a distinct identity status, and hence the use of the EIPQ should be explored in future research . However, irrespective of the measurement approach used, more participants would be required to ensure that non-parametric statistical analysis, necessary for a categorical approach, is valid.

Other authors have been critical of the scoring criteria used by the EOMEIS-II to allocate participants to categorical identity statuses. Jones, Akers and White (1994) feel that the cut-off point for pure statuses (one standard deviation above the mean) is too stringent, and that changing the cut-off point to half a standard deviation would reduce the number of participants who are not initially allocated to a category and are considered 'low profile moratorium'. While Adams (1994) cautiously supported this as an acceptable modification, the 1998 revision of the EOMEIS-II manual retained the cut-off point as one standard deviation above the mean. Although the current study did not undertake categorical analysis, these scoring issues should be addressed in any further revision of the manual.

Body Experience Findings

The second aim of the present study was to explore the concept of body experience, and predicted that there would be differences in how young adults who have an acquired disability, developmental disability and healthy young adults feel about

their body. This prediction was supported, as differences between the body experience variables for the three groups were found.

Since there has not previously been an instrument developed that fully encompasses the body experience of people with a physical disability, it was decided that body experience would be measured in the present study using two approaches. The first, the MBSRQ (Cash, 2000) is used extensively in body image and body experience research, including at least one study of participants with a physical disability (Yuen & Hanson, 2002). However, the MBSRQ does not explore issues of physical functionality, which would be considered a crucial differentiation between individuals with and without a disability. Also, the MBSRQ does not explore the areas of body trust and connection that may also be of particular relevance to people with a disability. Therefore, to expand the scope of previous research, several of visual analogue scales were developed to complement the measures from the MBSRQ.

The current study found significant group differences for nine out of the seventeen body experience variables measured. For the MBSRQ the relevant subscales were Appearance Evaluation, Appearance Orientation, Fitness Evaluation and Health Evaluation, with Fitness Orientation, Health Orientation and Illness Orientation not demonstrating significant group differences. For the Visual Analogue Scales Function Satisfaction, Trust Amount, Trust Satisfaction, Connection Amount, and Connection Satisfaction all showed significant group effects. Appearance Satisfaction, and all four Importance subscales (Appearance, Function, Trust and Satisfaction) were not significantly different between the three groups. These differences will now be discussed in detail.

Appearance

Appearance is an aspect of body experience that has been extensively explored in body image literature, and takes on particular salience in adolescence and young adulthood. The presence of a physical disability can impact on an individual's appearance, and therefore it was crucial to explore appearance in this context. In the current study, both the MBSRQ and Visual Analogue Scales measured appearance as an aspect of body experience, with the MBSRQ focusing on evaluation and orientation, and the visual analogue scales measuring importance and satisfaction.

For the MBSRQ, the acquired disability group evaluated their appearance the least favourably of the three groups, significantly less favourably than both the developmental disability and control groups. The developmental disability and control groups did not differ significantly in their evaluation of their appearance. While the developmental disability group was significantly more oriented to their appearance than the acquired disability group, neither disability group differed significantly from the controls regarding how oriented they were to appearance.

The results of the Visual Analogue Scales indicated that there was no significant difference regarding how important the three groups considered their appearance to be. Satisfaction with appearance was also not significantly different between the three groups, but there was a trend towards significance ($p=.017$), with the acquired disability group being the least satisfied with their appearance. This finding is consistent with the analysis of the MBSRQ which showed that the acquired disability group evaluated their appearance least favourably.

The observed differences in appearance evaluation can be interpreted in terms of physical differences between the groups. Participants with a physical disability are likely to have some aspects of appearance that are different from people without a disability. For example, the majority of participants with a disability in this study used visible assistive technology. Also, there may be some physical disfigurement associated with the disability, or muscle wasting through lack of use. Such physical attributes are likely to present a significant change for people with acquired disabilities. Prior to their injury, the acquired disability group in the present study would have more closely resembled the control group physically. However, the developmental disability group would not have experienced a time in life when their appearance was 'normal'. Thus the transition from able-bodied to disabled status might account for the greater degree of negative appearance evaluation in the acquired disability group. Other aspects of appearance such as facial aesthetics would theoretically be comparable between the three groups. However, since aesthetic appearance is a highly subjective concept, there was no attempt to ascertain an objective measure of appearance, be it through self-report or visual confirmation.

Although participants in the acquired disability group may resemble in appearance those who have a developmental disability, individuals with a developmental disability have had their entire lifetime to get to know their body and cognitively assess their appearance, as have the control group. Individuals in the acquired disability group may initially evaluate their changed appearance negatively, however it remains to be seen whether after time they adjust to this changed appearance and evaluate their appearance similarly to the developmental disability and control groups. Only longitudinal research would definitively evaluate this effect.

Whilst the acquired disability group was less satisfied with their appearance than the developmental disability group, the developmental disability group was significantly more oriented to their appearance than the acquired disability group. It may be that the acquired disability group is busy adapting to many other aspects of their life that have changed in addition to their appearance, for example learning to get around their environment with a changed mobility status, and these factors take precedence over investing time in their appearance.

Adolescence and young adulthood is typically a period of the lifespan where individuals are very concerned with their appearance, as well as normalcy and comparison with peers. For the developmental disability group, the onset of adolescence may have highlighted aspects of their appearance that are different from 'normal', and therefore they indicated greater investment and effort in their appearance than the control group. Alternatively, it is possible that aesthetic issues such as clothing, weight, hairstyles and makeup are an aspect of how they are viewed by others that is something under their control compared to other aspects such as assistive technology or malformed limbs. They might therefore expend more time and energy on the more controllable aspects of appearance management. Further research could explore whether this increased orientation towards appearance for the developmental disability group is unique to adolescence and young adulthood, or is present in younger and older age groups.

Yuen and Hanson (2002), using the MBSRQ, found that participants with an acquired mobility disability were more oriented to appearance than a control group, a finding that was not replicated in the current research. Yuen and Hanson's study used a wider age range than the current study, so it may be that people with disabilities

have different feelings about their body when they reach adulthood than during adolescence and young adulthood. It does not appear that Yuen and Hanson attempted to assess the level of disability experienced by their participants, so it is therefore possible that they had more or less functional limitations than the acquired disability group in the current study.

Fitness

The control group evaluated their fitness as being significantly better than both the acquired disability and developmental disability groups, with fitness evaluation being the only MBSRQ subscale where there was a significant difference between the developmental disability and control groups. This subscale asks participants questions about physical strength, endurance, coordination and participation in sports and games. These results suggest that people with a physical disability view their fitness as poorer than people who do not have a physical disability. There was no difference between the acquired disability and developmental disability groups in the evaluation of fitness, suggesting that it is the actual physical limitations, rather than the amount of time a physical disability has been present, that influences an individual's evaluation of their fitness.

The physical impairments that result from a disability may have implications for a person's strength, endurance and coordination, and hence contribute to the lower scores on fitness evaluation for the two disability groups. In addition, participation in fitness activities may be more difficult for people with a physical disability than able-bodied people. The Australian Bureau of Statistics reports that people with a disability have lower levels of participation in sport and recreation than people without a disability, and that participation levels decrease as severity of disability

increases (ABS, 2006). Although there are numerous sporting activities that are suitable or modified for people with a physical disability, physical impairments may limit the amount or variety of fitness activities that can be undertaken. For example, the ABS indicates that the most popular physical activity for people with a physical disability is walking, with aerobics, bushwalking and running also in the top ten. However, since only 22% of participants in the current research were able to walk independently, these exercise activities clearly do not apply for the majority of participants. Other activities such as cycling or swimming would require specialized equipment, venues with suitable access and possibly the assistance of another person. These restrictions do not apply to people without disabilities who want to participate in the same activities.

Health and Illness

For health evaluation on the MBSRQ, the acquired disability group evaluated their health as significantly poorer than both the control group and the developmental disability group. There was no significant difference between the control group and the developmental disability group. Yuen and Hanson (2002) also found that the MBSRQ Health Evaluation subscale showed that participants with an acquired mobility disability evaluated their health significantly less favourably than a healthy control group.

The acquisition of a disability does not automatically change an individual's health status, and may not be classified as a health condition, however it may lead to other health complications. For example, Middleton, Lim, Taylor, Soden and Rutkowski (2004) found that 58.6% of people with a spinal cord injury in NSW required at least one hospital readmission over a ten year period for health complications related to

their injury. An example would be the condition of autonomic dysreflexia, an overactivity of the autonomic nervous system, which is unique to people with a spinal cord injury. This can present regular and serious health concerns, with the possibility of stroke and death. It may therefore be the other health complications that are associated with the acquisition of a physical disability that results in the acquired disability group evaluating their health significantly less favourably. The developmental disability group in the present study had an entire lifetime to develop strategies to deal with additional health complications, which may explain why they did not evaluate their health as significantly different from the control group.

It is also possible that participants with an acquired disability equate functioning as more implicitly related to health than did the developmental disability group. For example, people with an acquired disability may feel that because they now have a disability, which is an impaired body, that they are therefore 'unhealthy'. People with a developmental disability however may have a different definition about what it means to be healthy, more closely related to the absence of disease. The definition of health in people with chronic conditions and impairments is an area that is worthy of further research and consideration.

Although there was a significant group effect for Health Evaluation on the MBSRQ, there was not a significant group effect for Health Orientation or Illness Orientation. This indicates that whilst the acquired disability group evaluates the health as being poorer than both the developmental disability and control groups, this does not translate to them expending more time and energy on issues of health and illness.

Functionality

Individuals' feelings about their physical functioning are not measured by the MBSRQ. However, impaired functioning is a fundamental aspect of living with a physical disability. It was therefore considered to be a critical body experience variable to explore in this population. The Functioning Satisfaction visual analogue scale results indicated that the control group was significantly more satisfied with their functioning than both the acquired disability and developmental disability groups. This is to be expected, given that both disability groups are impaired in their functioning while the control group is not.

Participants in the acquired disability and developmental disability groups were assessed as comparable in their physical impairment, methods of mobility and activities of daily living. However the developmental disability group was significantly more satisfied with this level of functioning than was the acquired disability group. It is therefore clear that the level of impairment is not the sole predictor of an individual's satisfaction with how their body functions. Individuals in the developmental disability group have never known a body offering them full functioning, whereas those in the acquired disability group can compare their current functioning with that of their previous non-impaired body. This perhaps impacts their functioning evaluation. Alternatively, living with a physical disability for an extended period of time is likely to offer people opportunities to circumvent some of the limitations they face, for example learning the skill of manoeuvring a wheelchair up a curb, and hence this may alleviate some dissatisfaction with functionality. It would be of interest to explore whether individuals with an acquired disability become more satisfied with their functioning after a period of time, for example

when they have lived with their disability for longer than they have lived with an unimpaired body.

The three groups differed in the level of satisfaction they have with their bodily functioning, but there were no significant differences in how important the groups considered their functioning to be. The mean scores for functioning importance were high for each of the three groups (9.08, 8.48 and 8.34 out of a maximum rating of ten for the acquired disability, developmental disability and control groups, respectively). This finding implies that participants had a high level of awareness regarding how important functionality is to their daily lives, irrespective of their actual physical status. Contrary to the results of the current study, Osborne and Smith (2006) found that patients with chronic pain were very much more aware of the parts of their body that were in pain, yet the parts of the body that functioned normally were taken for granted and were paid little attention. Each participant also reported giving little conscious attention to their body prior to the development of their pain, for example one female reported that “I only thought of my body in terms of appearance” (p 219). It would therefore be a feasible prediction that the control participants in the current study would rate functioning as less important than the participants with a disability, because they have not had to live with the implications of impaired functioning. However, this was not the case, with non-significant differences found.

One explanation for this finding that control participants would be very aware that this research was investigating aspects of living with a physical disability, and had previously been asked questions related to their functioning and mobility. It is possible that these questions made participants more aware of issues to do with

functionality than they would normally be, or encouraged a positive impression bias. Further research should explore attitudes towards functionality independently from any questions related to disability.

Trust and Connection

The visual analogue scales measuring aspects of body experience for the current study asked participants about the amount of trust and connection participants felt with their body, in addition to importance and satisfaction. The results demonstrated that trust and connection have a more clear-cut relationship between level and satisfaction, than the variables of appearance and functioning. The higher the amount of trust and connection an individual feels with their body, the more satisfied they are with their level of trust and connection.

There was a significant effect for group for the amount of both trust and connection that participants felt with their body. The acquired disability group reported they had significantly less trust and connection with their body than both the developmental disability and control groups. The developmental disability group trusted their body significantly less than the control group, but did not differ significantly in terms of the amount of connection they felt with their body.

The bodies of participants with a physical disability may be considered less predictable than those of healthy individuals, with the possibility of various symptoms such as paralysis, spasticity, spasms and pain. It would therefore make sense that participants with a physical disability would feel a lower level of trust in their body when compared to a control group, as it may behave in ways that are outside of their control. In explaining why the acquired disability group felt

significantly less trust in their body than the developmental disability group, it may be assumed that the experience of being born with a disability allows individuals with a developmental disability their entire previous lifespan to get used to any particular bodily quirks or unpredictability. Individuals with an acquired disability on the other hand may still be in the process of habituating to a body very different from the one they had before they acquired their disability.

The acquired disability group felt significantly less connected to their body than both the developmental disability and control groups, which again could be explained by the fact that the body has changed considerably for this group of participants.

Physical changes may have an impact on people's spatial representation of their body, and the relations between body parts. Osborne and Smith's (2006) qualitative research conducted with patients with acquired chronic pain suggested that the parts of the body that were in pain were excluded from the body and considered 'not me'. A male in this research commented that "now I feel it [body] and bits of it feel weird, as though they're not part of me anymore... the numb bits and down the leg where it hurts and I can't move it like I could, they're somehow separate now" (p 219). The parts of the body that have been affected by the acquisition of a physical disability might not be thought of as a part of the self, and hence individuals with an acquired disability feel a lower level of connection with their body.

The developmental disability group did not differ significantly from the control group with the amount of connection they felt with their body. Although the developmental disability group has impaired physical status when compared to the control group, both groups have lived with their physical status for the majority of their lives, in comparison to the acquired disability group. This research does not

however explore whether people with an acquired disability will always feel less connected with their body than these two groups, or whether it simply takes time after a change in physical status to develop a connection with one's body.

Longitudinal research could explore this relationship in more detail.

Body Experience Conclusions

All the groups in the present study placed a similar degree of importance on the four body experience variables measured by the visual analogue scales. The groups also did not differ in their orientation to fitness, health and illness on the MBSRQ. This suggests that irrespective of one's physical status, and how satisfied a person feels with their body, people have the same opinions about the aspects of their body that are important, and they also invest similar amounts of time and energy into issues of fitness, health and illness.

However, there were differences in how young adults with a disability evaluated, and how satisfied they felt, with their body experience when compared to people without a disability. Further, the developmental disability group was significantly more satisfied with, and evaluated more positively, most aspects of their body experience when compared to the young adults with an acquired disability.

The results of the current study therefore differ from those of Stensman (1989), who found that there was no difference between the satisfaction and dissatisfaction that people with cerebral palsy (a developmental disability) and spinal cord injury (an acquired disability) have with their body. There were however substantial differences between the participant characteristics and methodology of the current study and Stensman's research. Whilst the current research chose to specifically investigate the

experiences of adolescents and young adults, as this is a period of the lifespan where much attention is paid to the body, the age range of Stensman's study was from 28 to 55 years. It may therefore be that body experience issues differ greatly for these two age groups. Stensman conducted qualitative semi-structured interviews with his participants, as well as using visual analogue scales to measure satisfaction/dissatisfaction with the body in various situations, and a body puzzle to measure the ratios between real and estimated body size. Therefore Stensman's research was clearly methodologically different, and collected different information when compared to the current research. In addition, Stensman's research involved a smaller sample size, and the combination of these factors may explain the conflicting results between the two studies.

Although it might be expected that people with a physical disability will think about their body differently than people who do not have a physical disability as their bodies are objectively different, this research suggests that physical status is not the sole determining factor in how satisfied an individual is with their body. This may be to do with a young adult's previous experiences of their body, for example whether they have experienced a consistent physical status or they have undergone significant changes due to the acquisition of a disability. These previous experiences may in turn impact on body experience schemas that guide an individual's satisfaction with their body.

There is a considerable amount of research that supports the presence of appearance schemas and their role in body experience (for example: Brown & Dittmar, 2005; Hargreaves & Tiggeman, 2002; Jung, Lennon & Rudd, 2001; Lawrence, Fauerbach and Thombs, 2006; Tiggemann, Hargreaves, Polivy & McFarlane, 2004). Schemas

are defined as ‘cognitive generalizations about the self, derived from past experience, that organize and guide the processing of self-related information contained in an individual’s social experience’(Markus, 1977, p. 64). Cash (2004) proposes a cognitive behavioural model of schema development that is primarily aimed at appearance, however theoretically it could also explain the development of schemas for other aspects of body experience. His model suggests that both historical, developmental influences, and proximal events and processing contribute to the development of body experience schemas.

Appearance schemas are universal to some degree, as everyone processes information about how they look, however there can be large variations in the level of appearance schema elaboration and the degree to which individuals are ‘psychologically invested in their looks as a standard of self-evaluation and index of self worth’ (Cash & Labarge, 1996, p. 38). Hargreaves and Tiggeman (2002) describe how a schema can be activated after exposure to schema-relevant information, leading to a heightened awareness and vigilance for any future schema-related information. This will in turn have cognitive-affective processing consequences, such as changes in mood and body dissatisfaction. The degree of elaboration and positive or negative connotations of a person’s appearance schemas can account for individual differences in response to the same stimuli, for example seeing an attractive model in a magazine.

Whilst the literature on appearance schemas continues to develop, the presence of significant differences in the body experience of participants in the three groups in this research suggests that appearance may not be the only aspect of body experience that is influenced by schemas. There were also significant differences in participants’

satisfaction with their functioning, trust, connection and evaluation of their health and fitness.

Although the current research has identified differences in the body experience of people with a physical disability, it did not explicitly explore the presence or contents of schemas. Hargreaves and Tiggeman (2002) indicate that the formation of appearance schemas precedes body dissatisfaction, because information about appearance needs to be processed before any negative affective consequences can be experienced. Given that the three groups demonstrated different levels of satisfaction with various aspects of their body experience, it would appear that they are using different schemas to process body experience information. Therefore, future research can expand on this work by developing research tools that identify a wide range of body experience schemas relevant to people with and without disabilities and health conditions.

The Relationship Between Physical Status, Body Experience and Identity Development

The final hypothesis drew together these two distinct aspects of the experience of young adults with a physical disability. The research question involved determining whether it is simply disability status that predicts an individual's stage of identity development, or whether there is also a mediating relationship between disability, body experience variables and the development of identity. The results of this study clearly demonstrate that the relationship between body experience and identity differs for people who have a disability and those who do not have a disability.

To achieve this research aim, the acquired and developmental disability groups were combined. By combining the two groups, the number of significant correlations increased due to the larger number of participants, and represented equal numbers of participants in the control and disability groups. When the two disability groups were combined, out of a possible 40 correlations between identity status scores and visual analogue measures of body experience, there were sixteen moderate and significant correlations (40%), whereas for the control group there were only four (10%). These results show that body experience has a stronger, more consistent and more complex relationship with identity for young adults who have a physical disability than it has with identity for people without a disability. Therefore, in line with the study's third aim, it was clearly demonstrated that body experience has a mediating role in predicting identity for young adults with a physical disability, interacting in a more complex way than for people without a disability.

It appears that among the myriad of variables that potentially contribute to identity formation, there may be large differentials in their relative salience, depending on the presence or absence of a physical disability. For young adults with a physical disability, the essential developmental task of establishing who they are (Erikson, 1968) is likely to be more intimately concerned with their physicality, as they are less satisfied with many aspects of their body experience than people without a disability.

Disability Group Findings

For the participants with a disability, satisfaction with body experience and the amount of trust and connection they felt with their body were significantly and moderately related to identity. This relationship differed according to whether the correlated identity status involved a commitment to identity defining directions. For

the identity statuses where the individual has made a commitment (Achievement and Foreclosure), there was a positive correlation with significant body experience variables. For the identity statuses where the individual is not committed (Moratorium and Diffusion), there was a negative correlation with body experience variables. Only one significant correlation does not fit this pattern, with connection importance being significantly negatively correlated with moratorium.

For the satisfaction and amount body experience variables that did not reach significance, the correlations were in a positive direction for the committed statuses and a negative direction for non-committed statuses, which is consistent with the pattern identified with the significant correlations. This suggests that a larger pool of participants may have resulted in more relationships reaching the level of significance.

Individuals with a physical disability who score highly on the committed identity statuses are more satisfied with their body experience, and have a higher level of trust and connection, than those who score highly on the non-committed statuses. It is unclear from this study however whether it is the process of committing to one's identity that makes an individual satisfied with their body experience, or whether people who are satisfied with their body experience are more likely to commit to identity defining directions. Longitudinal research would be beneficial to explore the identity development and body experience processes further, to determine whether it is identity commitment or body satisfaction that comes first.

To make a commitment to one's identity does not necessarily mean that people are more satisfied with their identity than people who are uncommitted. Rather, it means

that there is no uncertainty about identity defining directions. Given the results of this research, it may be that it is uncertainty about identity for people with a disability that contributes to feeling dissatisfied with their body. Or alternatively, being dissatisfied with their body makes people with a disability uncertain about their identity.

Further research could explore the implications of these findings in relation to other aspects of wellbeing. For example, it would be interesting to determine whether people with a physical disability who are committed to their identity and are satisfied with their body report having a better quality of life than those who are not committed to identity and not satisfied with their body experience. This could be achieved presenting participants with additional questionnaire measures and exploring correlations between the variables.

Control Group Findings

For participants without a physical disability, only three body experience subscales were significantly correlated with identity: Appearance Importance, Trust Importance and Connection Importance. These correlations only occurred with the identity statuses where the individual has undergone an exploration of identity defining issues (Achievement and Moratorium). For Achievement this relationship was negative, while for Moratorium the relationship was positive. The lower the level of importance an individual without a disability placed on trust and connection, the higher they score on the Achievement identity status. The more importance placed on appearance and connection, the higher these participants scored on moratorium.

Similarly to the group with disabilities, the pattern of correlations that did not reach significance between Appearance Importance, Trust Importance and Connection Importance and the Achievement and Moratorium statuses were in a consistent direction to those that were significant.

The findings for this group raises the possibility that for people without a disability, exploring identity defining issues creates a greater awareness of the role of body experience, and makes people consider their judgements about how important they feel that appearance, trust and connection are. According to identity development theory, an individual cannot be in the Achievement identity status without first passing through Moratorium, as they need to have explored their identity before making a commitment. It is possible that people without a disability are exploring their identity without making a commitment, but at the same time are thinking about their body, and feel that body experience is an important factor in identity. However, once they are able to make a commitment to identity and move into the Identity Achievement status, body experience variables are negatively correlated to identity achievement scores, in other words their body experience is not important to them. This raises the possibility that some part of the process of making a commitment after exploring one's identity changes a person's attitude to their body, and their body experience is no longer important to them.

Is there a Relationship Between Physical Status, Identity Development and Body Experience?

These findings suggest that not only is the relationship between identity and body experience stronger for people who have a physical disability, the actual content of

the relationship is very different between the two groups. For people with a disability this relationship is dependant on identity commitment, and the levels of body experience satisfaction, trust and connection with one's body, while for those without a disability identity exploration was related to the importance of body experience.

From the between-group differences found for body experience variables, one or both of the disability groups were significantly less satisfied with their body functioning, trust and connection than the control group. All three of these variables were significantly correlated with at least two identity statuses for the disabled group, but were not at all correlated with identity for the control group. This finding suggests that satisfaction with body experience is only significantly related to a person's identity when they are dissatisfied with their body experience to begin with. Further research could profitably explore the relationship between body experience and identity development in people with eating disorders, as this is a group that experience high levels of dissatisfaction with their body, and also evaluate their self worth and personal value as closely linked to their body, weight and appearance (Corte & Farchaus Stein, 2005).

There were no significant between-group differences for any of the importance visual analogue scales. Neither of the non-committed identity statuses (Foreclosure and Diffusion) demonstrated a significant relationship with any of the body experience subscales. For the control group, 50% of the possible correlations between committed identity statuses and body experience importance variables were significant. For the disability group, only one out the possible eight correlations was significant. Therefore, the relationship between identity and the importance of body experience is possibly influenced to a certain degree by physical status. This suggests

that between-groups analyses do not elucidate some of the more subtle impacts of physical disability on body experience. It is important for future researchers to also look for relationships between physical status, body experience and other aspects of psychological wellbeing.

Feelings about the body may be influenced and organized by underlying schemas, and this research suggests that there might be schemas that influence how satisfied individuals are with their body. Schemas have been explored in other diverse areas of psychology, such as depression (Beck, 1967), personality (Young, Klosko & Weishaar, 2003) and gender (Bem, 1981). Given that the pattern of correlations discussed above cannot be accounted for simply by physical status or between-groups differences, it may be that more complex body experience schemas can develop to influence identity. For example, a highly developed and elaborate schema related to functionality may impact on how people think about their identity, activating a core belief such as “I am not satisfied with how my body is functioning, therefore I have no interest in thinking about other aspects of my life such as identity” (Function Satisfaction and Diffusion) and producing associated negative emotions. The capacity of body experience schemas to influence other aspects of psychological functioning is potentially extensive. A more pervasive model of body experience schemas that takes into account factors other than appearance is clearly necessary so that this potential can be fully explored.

Suggestions For Future Research

This research paradigm employed in the present study could clearly be enhanced by exploring the same variables with larger groups of participants. Although many of the statistical findings were robust, analyses such as chi-square or regression were

not feasible due to the small participant numbers. Therefore, replication of this research with an increased participant pool would enhance the generalisability and stability many of the findings.

Although the aim of the current research was to explore factors related to disability for the specific age group of adolescence and young adulthood, longitudinal research or research using different age groups would enhance the understanding of many of the current study's findings. This is particularly relevant to the experiences of people after the acquisition of a physical disability, as there are potential contributing factors such as age at which the disability was acquired, or the time since disability acquisition, that could not be adequately explored given the restricted age range of participants in the present study. Whether living with a disability for an extended period of time leads to the body experience of people with an acquired disability resembling more closely that of individuals with a developmental disability, or with no disability, or whether they maintain their own unique pattern of body experience needs further clarification. To a lesser extent, any identity differentials could also be explored in the same manner.

The present results highlighted a strong, consistent and complex relationship between body experience and identity development for people with a physical disability. This raises the possibility that other aspects of psychological wellbeing for people with a physical disability are influenced by how they feel about their body. Examples that would be interesting to explore include adjustment, quality of life, mental health diagnosis or community participation. These results would in turn have therapeutic and public policy implications for people with a disability.

In investigating how to assess body experience in the present study, it became clear that there is a dearth of measurement tools that are suitable for use with people who have a physical impairment, let alone instruments specifically designed for this population. Scales such as the Physical Disability Sexual and Body Esteem Scale (Taleporos & McCabe, 2002) and the Cystic Fibrosis Body Image Scale (Wenninger, Weiss, Wahn & Staab, 2003) presented some promise as they attempted to measure body experience as a multidimensional concept from a health and disability perspective. However, they were deemed to be unsuitable for the present study because some individual items and the breadth of scales were inappropriate, and there was a lack of solid reliability and validity information. The MBSRQ was used for this research as well as measuring body experience beyond the appearance domains, it assessed both importance and orientation of body experience variables. Visual analogue scales were also developed to explore the specific factors of functioning, trust and connection, which are not assessed adequately, or at all, in other measures. However, it is clear that future researchers in this field need to develop broad, multidimensional body experience tools that have good reliability and have been thoroughly validated for use with a disabled population.

Conclusions

The present results indicate that young people with a physical disability are not more or less advanced than people of a similar age who not have any physical disability. However, young people who have acquired their physical disability in adolescence or young adulthood are more likely to be exploring their identity without making a firm commitment to identity defining directions than people who do not have any disability. This highlights the fact that the rehabilitation process for people with an

acquired disability needs to support the exploration, or re-exploration, of issues related to identity such as friendships, recreation, politics and religion.

Young adults with physical disabilities, whether the disability has been present since birth or was acquired during adolescence or young adulthood, do not differ from people without a disability in terms of how important they feel the multidimensional aspects of body experience are, and also how oriented they are to aspects of body experience. However, people with an acquired disability are less satisfied with, and evaluate more poorly, the diverse aspects of body experience as compared to people who have lived with a physical disability all their life, and people who do not have any disability or health condition. Young adults who have had a physical disability since birth differed from young adults who do not have a disability or health condition for only four out of the seventeen body experience variables measured. The developmental disability group evaluated their fitness as more poor, trusted their body less, and were less satisfied with their physical functioning and trust in their body than the control group. It is therefore clear that when working with people who have a physical disability on issues related to their multidimensional experiences of their body, it should not be assumed that physical status is the sole influential factor in the evaluation of body experience.

Finally, when combining the two aspects of this research, it was demonstrated that the relationship between body experience and identity is stronger and more complex for people who have a physical disability when compared to people who don't have a disability or health condition. This will clearly have implications for assisting people with a disability achieve optimal psychological functioning.

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Appendix A: Participant Package

A1: Advertisement

A2: Information Sheet

A3: Personal Details

A4: Health and Disability Questionnaire

A5: Control of Body Questionnaire

A6: Mobility and Daily Functioning Questionnaire

A7: Extended Objective Measure of Ego Identity Status – II (EOMEIS-II)

A8: Multidimensional Body Self Relations Questionnaire (MBSRQ)

A9: Visual Analogue Scales

Appendix A1: Advertisement

We Need Your Help!!!

Having a physical disability can have many different effects on adolescents and young adults. The University of Tasmania School of Psychology is interested in how it affects a person's feelings about themselves and their body. One factor that may be important is whether the individual has grown up with a physical disability from a very young age, or it has been acquired at a later period in life. We need to find as many young men and women as we can aged between 18-30 who fit into either of two categories

- have a physical disability that has been present since birth or before the age of two years
- have a physical disability that was acquired later in life

Participation in this important study will help us better understand how having a physical disability affects the experiences of young people. If you would like to help, all you will need to do is fill in some short questionnaires, as well as provide some information about yourself related to your disability. This should take approximately 45 - 60 minutes, in the privacy of your home at a time that suits you. The information will be mailed to you, and you will be able to send it back anonymously in a reply-paid envelope. All information you provide will be anonymous and confidential. Your responses will not be identifiable by name.

If you need more information, or to participate in this study, please contact Claire Woolley at clwoolle@postoffice.utas.edu.au or on 0402 353 083.

THANK YOU!

This research was approved by the Human Research Ethics Committee (Tasmania) Network



Appendix A2: Information Sheet

Dear Participant

My name is Claire Woolley and I am a Masters student in the School of Psychology at the University of Tasmania. I am undertaking this research project as part of my studies. I can be contacted via email at clwoolle@postoffice.utas.edu.au or by telephone on 0402 353 083 should you have any queries regarding this research. This information sheet is for you to keep, with details of the nature of the study and contact details for the lecturers at the School of Psychology who are supervising this research.

Your participation in this study will make a valuable contribution to the understanding of how young adults with a physical disability think about their identity in terms of issues such as employment, relationships, political beliefs and recreational pursuits, as well as aspects of their body experience. These are issues known to arise in adolescence and young adulthood for healthy individuals as well as those with a disability. However, there is currently limited understanding about the impact that a physical disability early in life has on these various factors. Therefore, we wish to explore any differences between those who have had a physical disability since birth, those who have acquired a physical disability in adolescence or young adulthood, and individuals without any physical disability.

Participants in this research will be male and female volunteers, aged 18 to 30, with or without a physical disability. We require participants that fall into one of three categories

- a) no permanent or temporary physical disability or health condition
- b) a physical disability present since birth or acquired before the age of two or
- c) a physical disability acquired between the ages of 13 and 30.

The investigation requires participants to complete three questionnaires as well provide some demographic information related to age, gender and disability status. It will take approximately forty to fifty minutes for you to complete the package. This can be done in your home or wherever you feel most comfortable. Your responses will remain anonymous and confidential. You will not be required to provide your name on any of the information that is returned to the researcher. Information from the questionnaires will be kept securely during the investigation and the questionnaires destroyed at the completion of this study. A summary of the findings of this investigation will be made available to you from the University website or the School of Psychology after December 2005.

Due to the topics being investigated, some of the questions asked in this study are of a personal nature. It may be that some questions lead to feelings of discomfort. Participants may withdraw from the investigation at any time, for any reason, and the chief investigators will be happy to discuss any concerns should they arise. The investigators will also be available to provide information about confidential counseling services on campus and within the community.

If you require further information, please contact the chief investigators: Dr Rosanne Burton Smith on 62262241 or Dr Elaine Hart on 62262936. The Human Research Ethics Committee (Tasmania) Network has approved this research project. Any concerns of an ethical nature may be directed to the Executive Officer of the Network, Amanda McAully, 6226 2763.

Your participation in this research is very greatly appreciated, and will assist us in gaining a better understanding of various factors related to physical disabilities in adolescents and young adults. Please keep this information sheet for your own reference.

Claire Woolley
Masters of Psychology (Clinical) student

Appendix A3: Personal Details

Dear Participant,

Please do not write your name on any of the questionnaires. It is not necessary for us to be able to identify you and this protects your privacy. You will notice a number on your questionnaire package. This is your participant number, which will allow you to obtain your individual results at the completion of this study. If you wish to contact us, we will be able to select your results and tell you about them. However, even if you do this, we cannot identify you by name, we will just know you by your number.

Please complete the personal details section and proceed with the questions in the order they are given. When you have completed all the questions please place the questionnaire in the postage-paid envelope and post it back to the University.

Thank you for taking the time to participate in this research project.

Personal Details

Please mark the appropriate answer, or write in the space provided

1. Age: _____ years
2. Gender: ☐ male ☐ female
3. Occupation: _____
4. Level of Education Completed: _____
5. Relationship Status: ☐ married/de facto ☐ dating
☐ divorced/separated ☐ single
☐ other _____

Appendix A4: Health and Disability Questionnaire

Health and Disability Questionnaire

6. Do you have a **physical disability**? ☐ yes ☐ no

If you answered yes please complete all the questions. If no, please proceed to question 10, on the next page.

7. Were you **born** with a physical disability? ☐ yes ☐ no

If no, at what age did you acquire a disability? _____ years

8. What is the **name** of your physical disability? _____

9. Please briefly **describe** your physical disability

Please continue on the next page...

10. Have you experienced an **injury to your brain?**

[] yes [] no

If yes, please describe any effect this injury has had on your

Thinking

Memory

Concentration

Language

Any other area of functioning

Please continue on the next page...

11. Do you have any other **permanent disability**
(eg hearing impairment)? [] yes [] no
If yes please briefly describe

12. Do you have any **permanent/chronic health condition**
(eg asthma)? [] yes [] no
If yes please briefly describe

13. Do you currently have any **temporary injury**
(eg broken leg)? [] yes [] no
If yes please briefly describe

14. Do you currently have any **short term illness** (eg the flu)?
[] yes [] no
If yes please briefly describe

Appendix A5: Control of Body Questionnaire

Control of Body

Different disabilities have an effect on the control you have over particular body parts.

A: Please mark (in the boxes provided) any of these body parts that are affected by your disability.

B: Then rate how much they are affected by circling *one* number from

0 (Not at all affected, entirely under voluntary control) to **10** (Greatly affected, have no voluntary control).

	Not at All Affected											Greatly Affected
[] Left Foot	0	1	2	3	4	5	6	7	8	9	10	
[] Right Foot	0	1	2	3	4	5	6	7	8	9	10	
[] Lower Left Leg	0	1	2	3	4	5	6	7	8	9	10	
[] Lower Right Leg	0	1	2	3	4	5	6	7	8	9	10	
[] Upper Left Leg	0	1	2	3	4	5	6	7	8	9	10	
[] Upper Right Leg	0	1	2	3	4	5	6	7	8	9	10	
[] Lower Torso	0	1	2	3	4	5	6	7	8	9	10	
[] Upper Torso	0	1	2	3	4	5	6	7	8	9	10	
[] Left Hand	0	1	2	3	4	5	6	7	8	9	10	
[] Right Hand	0	1	2	3	4	5	6	7	8	9	10	
[] Lower Left Arm	0	1	2	3	4	5	6	7	8	9	10	
[] Lower Right Arm	0	1	2	3	4	5	6	7	8	9	10	
[] Upper Left Arm	0	1	2	3	4	5	6	7	8	9	10	
[] Upper Right Arm	0	1	2	3	4	5	6	7	8	9	10	
[] Neck	0	1	2	3	4	5	6	7	8	9	10	
[] Face and Head	0	1	2	3	4	5	6	7	8	9	10	

Other (please specify)

Appendix A6: Mobility and Daily Functioning Questionnaire
Mobility

A physical disability can affect your mobility in many ways. We would like to know the methods you use to move from place to place. Please answer these questions by marking the appropriate box.

1. Are you able to **walk**? ☐ yes ☐ no
If yes please answer all questions. If no, go to question 4.

2. Are you able to **walk independently**, with no assistance?

☐ yes ☐ no

3. Do you walk with **mobility aids**? ☐ yes ☐ no
If no please go to question 4.

If yes do you use any of the following?
(please mark all of those that you use)

Do you use a **walking stick**? ☐ yes ☐ no

Do you use **crutches**? ☐ yes ☐ no

Do you use a **walking frame**? ☐ yes ☐ no

Do you use **leg splints**? ☐ yes ☐ no

Do you use **any other method** to walk?

(please specify)

4. Do you use any of the following?
(please mark all of those that you use)

Do you use a **manual wheelchair**? ☐ yes ☐ no

Do you use an **electric wheelchair**? ☐ yes ☐ no

Do you use a **mobility scooter**? ☐ yes ☐ no

5. If you move from place to place with **any other method** that has not been mentioned above, please describe this in the space below

6. Out of all the methods listed, what method do you **mostly** use to move from place to place (*please mark only one*)
- ☐ walking independently
 - ☐ walking stick
 - ☐ crutches
 - ☐ walking frame
 - ☐ leg splints
 - ☐ manual wheelchair
 - ☐ electric wheelchair
 - ☐ mobility scooter
 - ☐ other (*please specify*) _____

Daily Functioning

A: If your disability has an impact on any of the following areas of functioning, please mark the appropriate box.

B: Then rate how much your functioning in this area is affected by circling *one* number from
0 (*Not at all affected, I perform this task independently*) to
10 (*Greatly affected, I cannot perform this task without a great deal of assistance*)

	Not at All Affected										Greatly Affected
<input type="checkbox"/> Eating	0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/> Personal Grooming	0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/> Bathing	0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/> Dressing (upper body)	0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/> Dressing (lower body)	0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/> Toileting	0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/> Transfers (bed, chair etc)	0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/> Writing	0	1	2	3	4	5	6	7	8	9	10

Appendix A7: Extended Objective Measure of Ego Identity Status

Below are some statements that concern various aspects of your lifestyle and how you choose to live your life. Please respond with a ranking from A to F to each statement, choosing the response that best fits with your current situation.

A= STRONGLY AGREE

B= MODERATELY AGREE

C= AGREE

D= DISAGREE

E= MODERATELY DISAGREE

F= STRONGLY DISAGREE

1. I haven't chosen the occupation I really want to get into, and I'm just working at what is available until something better comes along ____
2. When it comes to religion I just haven't found anything that appeals and I don't really feel the need to look ____
3. My ideas about men's and women's roles are identical to my parents'. What has worked for them will obviously work for me ____
4. There's no single 'lifestyle' which appeals to me more than another ____
5. There are lots of different kinds of people. I'm still exploring the many possibilities to find the right kind of friends for me ____
6. I sometimes join in recreational activities when asked, but I rarely try anything on my own ____
7. I haven't really thought about a 'dating style'. I'm not too concerned about whether I date or not ____
8. Politics is something that I can never be too sure about because things change so fast. But I do think it's important to know what I can politically stand for and believe in ____
9. I'm still trying to decide how capable I am as a person and what work will be right for me ____
10. I don't give religion much thought and it doesn't bother me one way or the other ____
11. There's so many ways to divide responsibilities in marriage, I'm trying to decide what will work for me ____
12. I'm looking for an acceptable perspective for my own 'lifestyle', but I haven't really found it yet ____
13. There are many reasons for friendship, but I choose my close friends on the basis of certain values and similarities that I've personally decided on ____
14. While I don't have one recreational activity I'm really committed to, I'm experiencing numerous leisure outlets to identify one I can truly enjoy ____
15. Based on my past experiences, I've chosen the type of dating relationship I want now ____
16. I haven't really considered politics. It just doesn't excite me much ____
17. I might have thought about a lot of different jobs, but there's never really been any question since my parents said what they wanted ____
18. A person's faith is unique to each individual. I've considered and reconsidered it myself and know what I can believe ____
19. I've never really seriously considered men's and women's roles in marriage. It just doesn't seem to concern me ____

20. After considerable thought I've developed my own viewpoint of what is for me an ideal 'lifestyle' and don't believe anyone will be likely to change my perspective ____
21. My parents know what's best for me in terms of how I choose my friends ____
22. I've chosen one or more recreational activities to engage in regularly from lots of things, and I'm satisfied with those choices ____
23. I don't think about dating much. I just kind of take it as it comes ____
24. I guess I'm pretty much like my parents when it comes to politics. I follow what they do in terms of voting and such ____
25. I'm not really interested in finding the right job, any job will do. I just seem to flow with what is available ____
26. I'm not sure what religion means to me. I'd like to make up my mind but I'm not done looking yet ____
27. My ideas about men's and women's roles have come right from my parents and family. I don't see the need to look further ____
28. My own views on a desirable lifestyle were taught to me by my parents and I don't see any need to question what they taught me ____
29. I don't have any real close friends, and I don't think I'm looking for one right now ____
30. Sometimes I join in leisure activities, but I really don't see the need to look for a particular activity to do regularly ____
31. I'm trying out different types of dating relationships. I just haven't decided what is best for me ____
32. There are so many different political parties and ideals. I can't decide which to follow until I figure it all out ____
33. It took me a while to figure it out, but now I really know what I want for a career ____
34. Religion is confusing to me right now. I keep changing my views on what is right and wrong for me ____
35. I've spent some time thinking about men's and women's roles in marriage and I've decided what will work best for me ____
36. In finding an acceptable viewpoint to life itself, I find myself engaging in a lot of discussions with others and some self-exploration ____
37. I only pick friends my parents would approve of ____
38. I've always liked doing the same recreational activities my parents do and haven't ever seriously considered anything else ____
39. I only go out with the type of people my parents expect me to date ____
40. I've thought my political beliefs through and realize I can agree with some and not other aspects of what my parents believe ____
41. My parents decided a long time ago what I should go into for employment and I'm following through their plans ____
42. I've gone through a period of serious questions about faith and can now say I understand what I believe in as an individual ____
43. I've been thinking about the roles that husbands and wives play a lot these days, and I'm trying to make a final decision ____
44. My parent's views on life are good enough for me, I don't need anything else ____
45. I've had many different friendships and now I have a clear idea about of what I look for in a friend ____

46. After trying lots of different recreational activities I've found one or more I really enjoy doing by myself or with friends ____
47. My preferences about dating are still in the process of developing. I haven't fully decided yet ____
48. I'm not sure about my political beliefs, but I'm trying to figure out what I can truly believe in ____
49. It took me a long time to decide but now I know for sure what direction I want to move in for a career ____
50. I attend the same church as my family has always attended. I've never really questioned why ____
51. There are many ways that married couples can divide family responsibilities. I've thought about lots of ways, and now I know exactly how I want it to happen for me ____
52. I guess I just kind of enjoy life in general, and I don't see myself living by any particular viewpoint to life ____
53. I don't have any close friends. I just like to hang around with the crowd ____
54. I've been experiencing a variety of recreational activities in the hope of finding one or more I can really enjoy for some time to come ____
55. I've dated lots of different types of people and know exactly what my 'unwritten rules' for dating are and who I will date ____
56. I really have never been involved in politics enough to have made a firm stand one way or the other ____
57. I just can't decide what to do for an occupation. There are so many possibilities ____
58. I've never really questioned my religion. If it's right for my parents it must be right for me ____
59. Opinions on men's and women's roles seem so varied I don't think much about it ____
60. After a lot of self examination I have established a very definite view on what my own lifestyle will be ____
61. I really don't know what kind of friend is best for me. I'm trying to figure out exactly what friendship means to me ____
62. All of my recreational preferences I got from my parents and I haven't really tried anything else ____
63. I usually only date people my parents would approve of ____
64. My parents have always had their own political and moral beliefs about issues like abortion and euthanasia and I've always gone along accepting what they have ____

EOMEIS-II: Adams (1998)

Appendix A8: Multidimensional Body Self Relations Questionnaire

Below are a series of statements about how people might think, feel or behave. Please indicate the extent to which each statement pertains to you personally, according to the following scale.

- | | | |
|------------------------|---------------------|-------------------------------|
| 1. Definitely Disagree | 2. Mostly Disagree | 3. Neither Agree nor Disagree |
| 4. Mostly Agree | 5. Definitely Agree | |

1. Before going out in public, I always notice how I look ____
2. I am careful to buy clothes that will make me look my best ____
3. I would pass most physical fitness tests ____
4. It is important that I have superior physical strength ____
5. My body is sexually appealing ____
6. I am not involved in a regular exercise program ____
7. I am in control of my health ____
8. I know a lot about things that affect my physical health ____
9. I have deliberately developed a healthy lifestyle ____
10. I constantly worry about being or becoming fat ____
11. I like my looks just the way they are ____
12. I check my appearance in a mirror whenever I can ____
13. Before going out, I usually spend a lot of time getting ready ____
14. My physical endurance is good ____
15. Participating in sports is unimportant to me ____
16. I do not actively do things to keep me physically fit ____
17. My health is a matter of unexpected ups and downs ____
18. Good health is one of the most important things in my life ____
19. I don't do anything I know might threaten my health ____
20. I am very conscious of even small changes in my weight ____
21. Most people would consider me good-looking ____
22. It is important that I always look good ____
23. I use very few grooming products ____
24. I easily learn physical skills ____
25. Being physically fit is not a strong priority in my life ____
26. I do things to increase my physical strength ____
27. I am seldom physically ill ____
28. I take my health for granted ____

29. I often read books and magazines that pertain to health ____
30. I like the way I look with my clothes on ____
31. I am self conscious if my grooming isn't right ____
32. I usually wear whatever is handy without caring how it looks ____
33. I do poorly in physical sports or games ____
34. I seldom think about my athletic skills ____
35. I work to improve my physical stamina ____
36. From day to day, I never know how my body will feel ____
37. If I am sick, I don't pay much attention to my symptoms ____
38. I make no special effort to eat a balanced and nutritious diet ____
39. I like the way my clothes fit me ____
40. I don't care what people think about my appearance ____
41. I take special care with my hair grooming ____
42. I dislike my physique ____
43. I don't care to improve my abilities in physical activities ____
44. I try to be physically active ____
45. I often feel vulnerable to sickness ____
46. I pay close attention to my body for any signs of illness ____
47. If I'm coming down with a cold or flu, I just ignore it and go on as usual

48. I am physically unattractive ____
49. I never think about my appearance ____
50. I am always trying to improve my physical appearance ____
51. I am very well coordinated ____
52. I know a lot about physical fitness ____
53. I play a sport regularly throughout the year ____
54. I am a physically healthy person ____
55. I am very aware of small changes in my physical health ____
56. At the first sign of illness, I seek medical advice ____
57. I am on a weight loss diet ____

MBSRQ (Cash, 2000)

Appendix A9: Visual Analogue Scales

There are many ways that you can think about your body. For example you can think about your physical appearance, your physical functioning, the level of trust you have in your body, or how connected you feel to your body. This questionnaire is designed to measure how important these different aspects of your body are to you, as well as how satisfied you are with these aspects.

Please place a mark on the lines below to show how *important* these aspects are to your experience of your body, and how *satisfied* you are with each of these aspects.

Physical Appearance: aspects of your body that are visible to yourself or other people, taking into account weight, height, attractiveness and other aesthetic features.

Not at all Important Extremely Important

Place a single mark on the line at the point that best reflects how *important* your **physical appearance** is to you

Not at all Satisfied Extremely Satisfied

Place a mark on the line above at the point that best reflects how *satisfied* you are with your **physical appearance**

Physical Functioning: your level of strength and endurance, and how well your body operates and performs tasks of daily living for example dressing, eating, getting from one place to another

Not at all Important Extremely Important

Place a mark on the line above at the point that best reflects how *important* your **physical functioning** is to you

Not at all Satisfied Extremely Satisfied

Place a mark on the line above at the point that best reflects how *satisfied* you are with your **physical functioning**

Trust: being able to rely on your body to function as and when required

No Trust

Total Trust

Place a mark on the line above at the point that best reflects the amount of **trust** you have in your body

Not at all
Important

Extremely
Important

Place a mark on the line above at the point that best reflects how **important** it is that you can **trust** in your body

Not at all
Satisfied

Extremely
Satisfied

Place a mark on the line above at the point that best reflects how **satisfied** you are with the level of **trust** you have in your body

Connection: whether you feel in touch with or estranged/disconnected from your body.

Not at all
Connected

Entirely
Connected

Place a mark on the line above at the point that best reflects the level of **connection** you feel to your body

Not at all
Important

Extremely
Important

Place a mark on the line above at the point that best reflects how **important** it is that you can feel **connected** to your body

Not at all
Satisfied

Extremely
Satisfied

Place a mark on the line above at the point that best reflects how **satisfied** you are with the level of **connection** you have with your body

Appendix B: SPSS Output Data

Appendix B1: Demographic Analysis – Gender

Appendix B2: Demographic Analysis – Education Level

Appendix B3: Demographic Analysis – Relationship Status

Appendix B4: Comparisons Between Control Groups

Appendix B5: Between Groups Ideological Identity Analysis

Appendix B6: Between Groups Interpersonal Identity Analysis

Appendix B7: Between Groups Overall Identity Analysis

Appendix B8: Between Groups MBSRQ Analysis

Appendix B9: Between Groups Visual Analogue Scale Analysis

Appendix B10: Correlational Analysis

Appendix B1: Demographic Analysis Data - Gender

Table B1.1

Multivariate Analysis of Variance for Males and Females on Overall Identity Statuses

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.991	1805.487	4.000	67.000	.000
	Wilks' Lambda	.009	1805.487	4.000	67.000	.000
	Hotelling's Trace	107.790	1805.487	4.000	67.000	.000
	Roy's Largest Root	107.790	1805.487	4.000	67.000	.000
Sex	Pillai's Trace	.026	.450	4.000	67.000	.772
	Wilks' Lambda	.974	.450	4.000	67.000	.772
	Hotelling's Trace	.027	.450	4.000	67.000	.772
	Roy's Largest Root	.027	.450	4.000	67.000	.772

Table B1.2

Univariate F-Tests for Males and Females on Four Overall Identity Statuses

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Sex	IdentAch	.111	1	.111	.001	.972
	IdentMor	36.000	1	36.000	.269	.606
	IdentFor	55.007	1	55.007	.413	.523
	IdentDiff	40.111	1	40.111	.268	.606

Note: $p=.0125$ (Bonferroni Adjusted)

IdentAch = Identity Achievement, IdentMor = Identity Moratorium, IdentFor = Identity Foreclosure, IdentDiff = Identity Diffusion.

Table B1.3

Multivariate Analysis of Variance for Males and Females on MBSRQ

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.988	742.684	7.000	64.000	.000
	Wilks' Lambda	.012	742.684	7.000	64.000	.000
	Hotelling's Trace	81.231	742.684	7.000	64.000	.000
	Roy's Largest Root	81.231	742.684	7.000	64.000	.000
Sex	Pillai's Trace	.157	1.707	7.000	64.000	.123
	Wilks' Lambda	.843	1.707	7.000	64.000	.123
	Hotelling's Trace	.187	1.707	7.000	64.000	.123
	Roy's Largest Root	.187	1.707	7.000	64.000	.123

Table B1.4

Univariate F-Tests for Males and Females on MBSRQ

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Sex	AppEval	.409	1	.409	.392	.533
	AppOrient	2.414	1	2.414	4.835	.031
	FitEval	1.054	1	1.054	1.047	.310
	FitOrient	.848	1	.848	1.463	.231
	HealthEval	.007	1	.007	.006	.938
	HealthOrient	.091	1	.091	.296	.588
	IllOrient	2.668	1	2.668	3.673	.059

Note: $p=.007$ (Bonferroni Adjusted)

AppEval = Appearance Evaluation, AppOrient = Appearance Orientation, FitEval = Fitness Evaluation, FitOrient = Fitness Orientation, HealthEval = Health Evaluation, HealthOrient = Health Orientation, IllOrient = Illness Orientation.

Table B1.5

Multivariate Analysis of Variance for Males and Females on Visual Analogue Scales

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.982	325.138	10.000	61.000	.000
	Wilks' Lambda	.018	325.138	10.000	61.000	.000
	Hotelling's Trace	53.301	325.138	10.000	61.000	.000
	Roy's Largest Root	53.301	325.138	10.000	61.000	.000
Sex	Pillai's Trace	.146	1.046	10.000	61.000	.417
	Wilks' Lambda	.854	1.046	10.000	61.000	.417
	Hotelling's Trace	.172	1.046	10.000	61.000	.417
	Roy's Largest Root	.172	1.046	10.000	61.000	.417

Table B1.6

Univariate F-Tests for Males and Females on Visual Analogue Scales

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Sex	AppImport	18.995	1	18.995	4.722	.033
	AppSat	.967	1	.967	.165	.686
	FunctImport	.153	1	.153	.048	.828
	FunctSat	3.240	1	3.240	.261	.611
	TrustAmount	.640	1	.640	.076	.783
	TrustImp	2.275	1	2.275	.760	.386
	TrustSat	4.480	1	4.480	.477	.492
	ConnAmount	.412	1	.412	.062	.805
	ConnImport	3.210	1	3.210	.623	.433
	ConnSat	.312	1	.312	.044	.834

Note: $p=.005$ (Bonferroni Adjusted)

AppImport = Appearance Importance, AppSat = Appearance Satisfaction, FunctImport = Function Importance, FunctSat = Function Satisfaction, TrustAmount = Trust Amount, TrustImp = Trust Importance, TrustSat = Trust Satisfaction, ConnAmount = Connection Amount, ConnImport = Connection Importance, ConnSat = Connection Satisfaction.

Appendix B2: Demographic Analysis – Education Level

Table B2.1

Multivariate Analysis of Variance for Education Levels on Overall Identity

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.989	1521.559	4 000	67.000	.000
	Wilks' Lambda	.011	1521.559	4.000	67.000	.000
	Hotelling's Trace	90.839	1521.559	4.000	67.000	.000
	Roy's Largest Root	90.839	1521.559	4 000	67.000	.000
Education	Pillai's Trace	.087	1.591	4.000	67.000	.187
	Wilks' Lambda	.913	1.591	4.000	67.000	.187
	Hotelling's Trace	.095	1.591	4.000	67.000	.187
	Roy's Largest Root	.095	1.591	4.000	67.000	.187

Table B2.2

Univariate F-Tests for Education Level on Overall Identity

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Education	IdentAch	31.130	1	31.130	.361	.550
	IdentMor	111.227	1	111.227	836	.364
	IdentFor	603.338	1	603.338	4.807	.032
	IdentDiff	111.227	1	111.227	.748	.390

Note: $p=.0125$ (Bonferroni Adjusted)

IdentAch = Identity Achievement, IdentMor = Identity Moratorium, IdentFor = Identity Foreclosure, IdentDiff = Identity Diffusion.

Table B2.3

Multivariate Analysis of Variance for Education level on MBSRQ

Multivariate Tests^b

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.986	649.299 ^a	7.000	64.000	.000
	Wilks' Lambda	.014	649.299 ^a	7.000	64.000	.000
	Hotelling's Trace	71.017	649.299 ^a	7.000	64.000	.000
	Roy's Largest Root	71.017	649.299 ^a	7.000	64.000	.000
Education	Pillai's Trace	.158	1.710 ^a	7.000	64.000	.122
	Wilks' Lambda	.842	1.710 ^a	7.000	64.000	.122
	Hotelling's Trace	.187	1.710 ^a	7.000	64.000	.122
	Roy's Largest Root	.187	1.710 ^a	7.000	64.000	.122

a. Exact statistic

b. Design: Intercept+Education

Table B2.4
Univariate F-Tests for Education Level on MBSRQ

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Education	AppEval	.076	1	.076	.073	.788
	AppOrient	2.960	1	2.960	6.025	.017
	FitEval	.227	1	.227	.223	.638
	FitOrient	.200	1	.200	.339	.562
	HealthEval	.629	1	.629	.559	.457
	HealthOrient	.156	1	.156	.508	.478
	IllOrient	.960	1	.960	1.279	.262

Note: $p=.007$ (Bonferroni Adjusted)

AppEval = Appearance Evaluation, AppOrient = Appearance Orientation, FitEval = Fitness Evaluation, FitOrient = Fitness Orientation, HealthEval = Health Evaluation, HealthOrient = Health Orientation, IllOrient = Illness Orientation.

Table B2.5
Multivariate Analysis of Variance for Education Level on Visual Analogue Scales

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.979	278.258	10.000	61.000	.000
	Wilks' Lambda	.021	278.258	10.000	61.000	.000
	Hotelling's Trace	45.616	278.258	10.000	61.000	.000
	Roy's Largest Root	45.616	278.258	10.000	61.000	.000
Education	Pillai's Trace	.222	1.745	10.000	61.000	.091
	Wilks' Lambda	.778	1.745	10.000	61.000	.091
	Hotelling's Trace	.286	1.745	10.000	61.000	.091
	Roy's Largest Root	.286	1.745	10.000	61.000	.091

Table B2.6
Univariate F-Tests for Education Level on Visual Analogue Scales

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Education	AppImport	10.358	1	10.358	2.498	.118
	AppSat	.003	1	.003	.001	.982
	FunctImport	.034	1	.034	.011	.919
	FunctSat	1.534	1	1.534	.123	.727
	TrustAmount	1.870	1	1.870	.223	.638
	TrustImp	.319	1	.319	.106	.746
	TrustSat	1.056	1	1.056	.112	.739
	ConnAmount	8.128	1	8.128	1.239	.270
	ConnImport	.581	1	.581	.112	.739
	ConnSat	2.579	1	2.579	.367	.546

Note: $p=.005$ (Bonferroni Adjusted)

AppImport = Appearance Importance, AppSat = Appearance Satisfaction, FunctImport = Function Importance, FunctSat = Function Satisfaction, TrustAmount = Trust Amount, TrustImp = Trust Importance, TrustSat = Trust Satisfaction, ConnAmount = Connection Amount, ConnImport = Connection Importance, ConnSat = Connection Satisfaction.

Appendix B3: Demographic Analysis – Relationship Status

Table B3.1

Multivariate Analysis of Variance for Relationship Status on Overall Identity Status

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.991	1812.378	4.000	67.000	.000
	Wilks' Lambda	.009	1812.378	4.000	67.000	.000
	Hotelling's Trace	108.202	1812.378	4.000	67.000	.000
	Roy's Largest Root	108.202	1812.378	4.000	67.000	.000
Relationship	Pillai's Trace	.090	1.656	4.000	67.000	.171
	Wilks' Lambda	.910	1.656	4.000	67.000	.171
	Hotelling's Trace	.099	1.656	4.000	67.000	.171
	Roy's Largest Root	.099	1.656	4.000	67.000	.171

Table B3.2

Univariate F-Tests for Relationship Status on Overall Identity Statuses

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Relationship	IdentAch	318.028	1	318.028	3.878	.053
	IdentMor	324.000	1	324.000	2.493	.119
	IdentFor	91.840	1	91.840	.692	.408
	IdentDiff	396.674	1	396.674	2.743	.102

Note: $p=.0125$ (Bonferroni Adjusted)

IdentAch = Identity Achievement, IdentMor = Identity Moratorium, IdentFor = Identity Foreclosure, IdentDiff = Identity Diffusion.

Table B3.3

Multivariate Analysis of Variance for Relationship Status on MBSRQ

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.988	783.053	7.000	64.000	.000
	Wilks' Lambda	.012	783.053	7.000	64.000	.000
	Hotelling's Trace	85.646	783.053	7.000	64.000	.000
	Roy's Largest Root	85.646	783.053	7.000	64.000	.000
Relationship	Pillai's Trace	.169	1.857	7.000	64.000	.092
	Wilks' Lambda	.831	1.857	7.000	64.000	.092
	Hotelling's Trace	.203	1.857	7.000	64.000	.092
	Roy's Largest Root	.203	1.857	7.000	64.000	.092

Table B3.4

Univariate F-Tests for Relationship Status on MBSRQ

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Relationship	AppEval	.011	1	.011	.011	.918
	AppOrient	1.076	1	1.076	2.077	.154
	FitEval	1.638	1	1.638	1.640	.205
	FitOrient	.513	1	.513	.878	.352
	HealthEval	4.340	1	4.340	4.052	.048
	HealthOrient	.410	1	.410	1.350	.249
	IllOrient	1.068	1	1.068	1.425	.237

Note: $p=.007$ (Bonferroni Adjusted)

AppEval = Appearance Evaluation, AppOrient = Appearance Orientation, FitEval = Fitness Evaluation, FitOrient = Fitness Orientation, HealthEval = Health Evaluation, HealthOrient = Health Orientation, IllOrient = Illness Orientation.

Table B3.5

Multivariate Analysis of Variance for Relationship Status on Visual Analogue Scales

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.982	329.021	10.000	61.000	.000
	Wilks' Lambda	.018	329.021	10.000	61.000	.000
	Hotelling's Trace	53.938	329.021	10.000	61.000	.000
	Roy's Largest Root	53.938	329.021	10.000	61.000	.000
Relationship	Pillai's Trace	.143	1.019	10.000	61.000	.438
	Wilks' Lambda	.857	1.019	10.000	61.000	.438
	Hotelling's Trace	.167	1.019	10.000	61.000	.438
	Roy's Largest Root	.167	1.019	10.000	61.000	.438

Table B3.6

Univariate F-Tests for Relationship Status on Visual Analogue Scales

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Relationship	AppImport	10.671	1	10.671	2.577	.113
	AppSat	.514	1	.514	.088	.768
	FunctImport	.043	1	.043	.014	.908
	FunctSat	64.000	1	64.000	5.533	.021
	TrustAmount	34.810	1	34.810	4.397	.040
	TrustImp	1.542	1	1.542	.514	.476
	TrustSat	19.951	1	19.951	2.176	.145
	ConnAmount	14.887	1	14.887	2.303	.134
	ConnImport	5.214	1	5.214	1.017	.317
	ConnSat	8.362	1	8.362	1.206	.276

Note: $p=.005$ (Bonferroni Adjusted)

AppImport = Appearance Importance, AppSat = Appearance Satisfaction, FunctImport = Function Importance, FunctSat = Function Satisfaction, TrustAmount = Trust Amount, TrustImp = Trust Importance, TrustSat = Trust Satisfaction, ConnAmount = Connection Amount, ConnImport = Connection Importance, ConnSat = Connection Satisfaction.

Appendix B4: Comparisons Between Control Groups

Table B4.1
Multivariate Analysis of Variance Comparing Two Control Groups on Ideological Identity

Multivariate Tests ^b						
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.990	787.005 ^a	4 000	31.000	.000
	Wilks' Lambda	.010	787.005 ^a	4.000	31.000	.000
	Hotelling's Trace	101.549	787.005 ^a	4.000	31.000	.000
	Roy's Largest Root	101.549	787.005 ^a	4.000	31.000	.000
Group	Pillai's Trace	.197	1 900 ^a	4.000	31.000	.135
	Wilks' Lambda	.803	1.900 ^a	4.000	31.000	.135
	Hotelling's Trace	.245	1.900 ^a	4.000	31.000	.135
	Roy's Largest Root	.245	1.900 ^a	4.000	31.000	.135

a Exact statistic

b. Design: Intercept+Group

Table B4.2
Univariate F-Tests for Two Control Groups on Ideological Identity

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	IdeoAch	40 111	1	40.111	1.248	.272
	IdeoMor	196.000	1	196.000	3 539	.069
	IdeoFor	140 028	1	140.028	4 728	.037
	IdeoDiff	53.778	1	53.778	.977	.330

Note: $p=.0125$ (Bonferroni Adjusted)
IdeoAch = Ideological Achievement, IdeoMor = Ideological Moratorium, IdeoFor = Ideological Foreclosure, IdeoDiff = Ideological Diffusion.

Table B4.3

Multivariate Analysis of Variance Comparing Two Control Groups for Interpersonal Identity

Multivariate Tests ^b						
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.989	708.925 ^a	4 000	31.000	.000
	Wilks' Lambda	.011	708.925 ^a	4.000	31.000	.000
	Hotelling's Trace	91.474	708.925 ^a	4.000	31.000	.000
	Roy's Largest Root	91.474	708.925 ^a	4.000	31.000	.000
Group	Pillai's Trace	.088	.747 ^a	4.000	31.000	.567
	Wilks' Lambda	.912	.747 ^a	4.000	31.000	.567
	Hotelling's Trace	.096	.747 ^a	4.000	31.000	.567
	Roy's Largest Root	.096	.747 ^a	4.000	31.000	.567

a. Exact statistic

b. Design: Intercept+Group

Table B4.4

Univariate F-Tests Comparing Two Control Groups for Interpersonal Identity

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	InterAch	5.444	1	5.444	.308	.582
	InterMor	34.028	1	34.028	1.494	.230
	InterFor	28.444	1	28.444	.671	.418
	InterDiff	.694	1	.694	.018	.895

Note: $p=.0125$ (Bonferroni Adjusted)

InterAch = Interpersonal Achievement, InterMor = Interpersonal Moratorium,
InterFor = Interpersonal Foreclosure, InterDiff = Interpersonal Diffusion.

Table B4.5
Multivariate Analysis of Variance Comparing Two Control Groups for Overall Identity

Multivariate Tests ^b						
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.993	1097.636 ^a	4.000	31.000	.000
	Wilks' Lambda	.007	1097.636 ^a	4.000	31.000	.000
	Hotelling's Trace	141.630	1097.636 ^a	4.000	31.000	.000
	Roy's Largest Root	141.630	1097.636 ^a	4.000	31.000	.000
Group	Pillai's Trace	.161	1.489 ^a	4.000	31.000	.229
	Wilks' Lambda	.839	1.489 ^a	4.000	31.000	.229
	Hotelling's Trace	.192	1.489 ^a	4.000	31.000	.229
	Roy's Largest Root	.192	1.489 ^a	4.000	31.000	.229

a. Exact statistic

b. Design: Intercept+Group

Table B4.6
Univariate F-Tests Comparing Two Control Groups on Overall Identity

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	IdentAch	49.000	1	49.000	.758	.390
	IdentMor	393.361	1	393.361	3.478	.071
	IdentFor	294.694	1	294.694	2.330	.136
	IdentDiff	66.694	1	66.694	.599	.444

Note: $p=.0125$ (Bonferroni Adjusted)

IdentAch = Identity Achievement, IdentMor = Identity Moratorium, IdentFor = Identity Foreclosure, IdentDiff = Identity Diffusion.

Table B4.7
Multivariate Analysis of Variance Comparing Two Control Groups for MBSRQ

Multivariate Tests ^b						
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.993	545.702 ^a	7.000	28.000	.000
	Wilks' Lambda	.007	545.702 ^a	7.000	28.000	.000
	Hotelling's Trace	136.426	545.702 ^a	7.000	28.000	.000
	Roy's Largest Root	136.426	545.702 ^a	7.000	28.000	.000
Group	Pillai's Trace	.129	.590 ^a	7.000	28.000	.758
	Wilks' Lambda	.871	.590 ^a	7.000	28.000	.758
	Hotelling's Trace	.148	.590 ^a	7.000	28.000	.758
	Roy's Largest Root	.148	.590 ^a	7.000	28.000	.758

a. Exact statistic

b. Design: Intercept+Group

Table B4.8

*Univariate F-Tests Comparing Two Control Groups on MBSRQ***Tests of Between-Subjects Effects**

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	AppEval	.002	1	.002	.004	.953
	AppOrient	.689	1	.689	1.557	.221
	FitEval	.048	1	.048	.099	.755
	FitOrient	.103	1	.103	.256	.616
	HealthEval	.131	1	.131	.251	.620
	HealthOrient	.320	1	.320	1.395	.246
	IllOrient	.090	1	.090	.185	.669

Note: $p=.007$ (Bonferroni Adjusted)

AppEval = Appearance Evaluation, AppOrient = Appearance Orientation, FitEval = Fitness Evaluation, FitOrient = Fitness Orientation, HealthEval = Health Evaluation, HealthOrient = Health Orientation, IllOrient = Illness Orientation.

Table B4.9

*Multivariate Analysis of Variance Comparing Two Control Groups for Visual Analogue Scales***Multivariate Tests^b**

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.994	397.845 ^a	10.000	25.000	.000
	Wilks' Lambda	.006	397.845 ^a	10.000	25.000	.000
	Hotelling's Trace	159.138	397.845 ^a	10.000	25.000	.000
	Roy's Largest Root	159.138	397.845 ^a	10.000	25.000	.000
Group	Pillai's Trace	.347	1.331 ^a	10.000	25.000	.268
	Wilks' Lambda	.653	1.331 ^a	10.000	25.000	.268
	Hotelling's Trace	.532	1.331 ^a	10.000	25.000	.268
	Roy's Largest Root	.532	1.331 ^a	10.000	25.000	.268

a. Exact statistic

b. Design: Intercept+Group

Table B4.10

*Univariate F-Tests Comparing Two Control Groups for Visual Analogue Scales***Tests of Between-Subjects Effects**

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	AppImport	16.538	1	16.538	4.224	.048
	AppSat	.640	1	.640	.167	.685
	FunctImport	.303	1	.303	.067	.798
	FunctSat	1.480	1	1.480	.448	.508
	TrustAmount	.100	1	.100	.098	.756
	TrustImp	.023	1	.023	.010	.919
	TrustSat	.034	1	.034	.022	.884
	ConnAmount	.723	1	.723	.322	.574
	ConnImport	9.818	1	9.818	1.906	.176
	ConnSat	6.503	1	6.503	2.150	.152

Note: $p=.005$ (Bonferroni Adjusted)

AppImport = Appearance Importance, AppSat = Appearance Satisfaction,
 FunctImport = Function Importance, FunctSat = Function Satisfaction, TrustAmount
 = Trust Amount, TrustImp = Trust Importance, TrustSat = Trust Satisfaction,
 ConnAmount = Connection Amount, ConnImport = Connection Importance,
 ConnSat = Connection Satisfaction.

Appendix B5: Between Groups Ideological Identity Analysis

Table B5.1

Means and Standard Deviations for Three Groups for Ideological Identity

Group		Mean	Std. Deviation	N
IdeoAch	Acquired	28.8889	4.93355	18
	Developmental	31.1111	5.55072	18
	AcqControl	32.6111	5.68847	36
	Total	31.3056	5.61346	72
IdeoMor	Acquired	29.7778	8.46832	18
	Developmental	26.0556	5.95544	18
	AcqControl	22.7222	7.70755	36
	Total	25.3194	7.97147	72
IdeoFor	Acquired	13.1667	3.72985	18
	Developmental	18.7778	7.22378	18
	AcqControl	16.0278	5.72456	36
	Total	16.0000	5.99765	72
IdeoDiff	Acquired	32.3889	7.13021	18
	Developmental	29.7778	6.87327	18
	AcqControl	24.4444	7.41598	36
	Total	27.7639	7.91414	72

Note: IdeoAch = Ideological Achievement, IdeoMor = Ideological Mortatorium, IdeoFor = Ideological Foreclosure, IdeoDiff = Ideological Diffusion

Table B5.2

Multivariate Analysis of Variance Comparing Three Groups on Ideological Identity

Effect		Value	F	Hypothesis df	Error df	Sig.
Group	Pillar's Trace	332	3.331	8.000	134.000	.002
	Wilks' Lambda	.692	3.341	8.000	132.000	.002
	Hotelling's Trace	.412	3.350	8.000	130.000	.002
	Roy's Largest Root	.300	5.025	4.000	67.000	.001

Table B5.3

Univariate F-Tests Comparing Three Groups on Ideological Identity

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	IdeoAch	167.167	2	83.583	2.786	.069
	IdeoMor	610.375	2	305.188	5.398	.007
	IdeoFor	283.417	2	141.708	4.306	.017
	IdeoDiff	854.708	2	427.354	8.209	.001

Note: $p = .0125$ (Bonferroni Adjusted)

IdeoAch = Ideological Achievement, IdeoMor = Ideological Mortatorium, IdeoFor = Ideological Foreclosure, IdeoDiff = Ideological Diffusion

Table B5.4
REGWQ Post Hoc Comparisons Between Three Groups for Ideological Achievement

IdeoAch		
Ryan-Einot-Gabriel-Welsch Range ^a		
Group	N	Subset 1
Acquired	18	28.8889
Developmental	18	31.1111
AcqControl	36	32.6111
Sig.		.111

a. Alpha = .05.

Table B5.5
REGWQ Post Hoc Comparisons Between Three Groups for Ideological Moratorium

IdeoMor			
Ryan-Einot-Gabriel-Welsch Range ^a			
Group	N	Subset	
		1	2
AcqControl	36	22.7222	
Developmental	18	26.0556	26.0556
Acquired	18		29.7778
Sig.		.188	.142

a. Alpha = .05.

Table B5.6
REGWQ Post Hoc Comparisons Between Three Groups for Ideological Foreclosure

IdeoFor			
Ryan-Einot-Gabriel-Welsch Range ^a			
Group	N	Subset	
		1	2
Acquired	18	13.1667	
AcqControl	36	16.0278	16.0278
Developmental	18		18.7778
Sig.		.139	.155

a. Alpha = .05.

Table B5.7

*REGWQ Post Hoc Comparisons Between Three Groups for Ideological Diffusion***IdeoDiff**Ryan-Einot-Gabriel-Welsch Range^a

Group	N	Subset	
		1	2
AcqControl	36	24.4444	
Developmental	18		29.7778
Acquired	18		32.3889
Sig.		1.000	.281

a. Alpha = .05.

Appendix B6: Between Groups Interpersonal Identity Analysis

Table B6.1

Means and Standard Deviations for Three Groups for Interpersonal Identity

Effect		Value	F	Hypothesis df	Error df	Sig.
Group	Pillai's Trace	.332	3.336	8.000	134.000	.002
	Wilks' Lambda	.684	3.451	8.000	132.000	.001
	Hotelling's Trace	.438	3.563	8.000	130.000	.001
	Roy's Largest Root	.376	6.292	4.000	67.000	.000

Table B6.2

Univariate F-Tests Comparing Three Groups for Interpersonal Identity

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	InterAch	80.667	2	40.333	1.469	.237
	InterMor	339.361	2	169.681	6.858	.002
	InterFor	161.833	2	80.917	2.057	.136
	InterDiff	48.347	2	24.174	.527	.592

Note: $p = .0125$ (Bonferroni Adjusted)

InterAch = Interpersonal Achievement; InterMor = Interpersonal Moratorium;

InterFor = Interpersonal Foreclosure; InterDiff = Interpersonal Diffusion.

Table B6.3

REGWQ Post Hoc Comparisons Between Three Groups for Interpersonal Achievement

InterAch

Ryan-Einot-Gabriel-Welsch Range^a

Group	N	Subset
		1
Acquired	18	26.8889
AcqControl	36	28.8889
Developmental	18	29.7778
Sig.		.230

a. Alpha = .05.

Table B6.4
REGWQ Post Hoc Comparisons Between Three Groups for Interpersonal Moratorium

InterMor			
Ryan-Einot-Gabriel-Welsch Range ^a			
Group	N	Subset	
		1	2
AcqControl	36	22.6389	
Developmental	18	25.4444	25.4444
Acquired	18		27.8333
Sig		.095	.154

a. Alpha = .05

Table B6.5
REGWQ Post Hoc Comparisons Between Three Groups for Interpersonal Foreclosure

InterFor		
Ryan-Einot-Gabriel-Welsch Range ^a		
Group	N	Subset
		1
Acquired	18	13.8889
AcqControl	36	16.2778
Developmental	18	18.1111
Sig.		.115

a. Alpha = .05.

Table B6.6
REGWQ Post Hoc Comparisons Between Three Groups for Interpersonal Diffusion

InterDiff		
Ryan-Einot-Gabriel-Welsch Range ^a		
Group	N	Subset
		1
AcqControl	36	24.8056
Acquired	18	25.1111
Developmental	18	26.7778
Sig.		.658

a. Alpha = .05.

Appendix B7: Between Groups Overall Identity Analysis

Table B7.1

Means and Standard Deviations for Three Groups for Overall Identity

Group		Mean	Std Deviation	N
IdentAch	Acquired	55.7778	8.65384	18
	Developmental	61.4444	11.03589	18
	AcqControl	61.7778	8.01110	36
	Total	60.1944	9.23807	72
IdentMor	Acquired	57.6111	11.08331	18
	Developmental	51.5000	8.52850	18
	AcqControl	45.3611	11.00429	36
	Total	49.9583	11.51904	72
IdentFor	Acquired	26.2222	7.41664	18
	Developmental	36.8889	12.88816	18
	AcqControl	32.3056	11.45879	36
	Total	31.9306	11.49933	72
IdentDiff	Acquired	57.2222	14.01493	18
	Developmental	56.5556	11.56680	18
	AcqControl	49.2500	10.48911	36
	Total	53.0694	12.17169	72

Note: IdentAch = Identity Achievement, IdentMor = Identity Moratorium, IdentFor = Identity Foreclosure, IdentDiff = Identity Diffusion.

Table B7.2

Multivariate Analysis of Variance Comparing Three Groups on Overall Identity

Effect		Value	F	Hypothesis df	Error df	Sig
Intercept	Pillai's Trace	.991	1905.614	4.000	66.000	.000
	Wilks' Lambda	.009	1905.614	4.000	66.000	.000
	Hotelling's Trace	115.492	1905.614	4.000	66.000	.000
	Roy's Largest Root	115.492	1905.614	4.000	66.000	.000
Group	Pillai's Trace	.364	3.733	8.000	134.000	.001
	Wilks' Lambda	.661	3.797	8.000	132.000	.000
	Hotelling's Trace	.475	3.859	8.000	130.000	.000
	Roy's Largest Root	.372	6.228	4.000	67.000	.000

Table B7.3

Univariate F-Tests Comparing Three Groups for Overall Identity

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	IdentAch	469.500	2	234.750	2.898	.062
	IdentMor	1857.792	2	928.896	8.475	.001
	IdentFor	1034.125	2	517.063	4.270	.018
	IdentDiff	1054.347	2	527.174	3.843	.026

Note: $p=.0125$ (Bonferroni Adjusted)

IdentAch = Identity Achievement, IdentMor = Identity Moratorium, IdentFor = Identity Foreclosure, IdentDiff = Identity Diffusion.

Table B7.4

REGWQ Post Hoc Comparisons Between Three Groups for Overall Achievement

IdentAch

Ryan-Einot-Gabriel-Welsch Range^a

Group	N	Subset
		1
Acquired	18	55.7778
Developmental	18	61.4444
AcqControl	36	61.7778
Sig.		.120

a. Alpha = .05.

Table B7.5

REGWQ Post Hoc Comparisons Between Three Groups for Overall Moratorium

IdentMor

Ryan-Einot-Gabriel-Welsch Range^a

Group	N	Subset	
		1	2
AcqControl	36	45.3611	
Developmental	18	51.5000	51.5000
Acquired	18		57.6111
Sig.		.083	.084

a. Alpha = .05.

Table B7.6

*REGWQ Post Hoc Comparisons Between Three Groups for Overall Foreclosure***IdentFor**Ryan-Einot-Gabriel-Welsch Range^a

Group	N	Subset	
		1	2
Acquired	18	26.2222	
AcqControl	36	32.3056	32.3056
Developmental	18		36.8889
Sig.		.102	.216

a. Alpha = .05

Table B7.8

*REGWQ Post Hoc Comparisons Between Three Groups for Overall Diffusion***IdentDiff**Ryan-Einot-Gabriel-Welsch Range^a

Group	N	Subset
		1
AcqControl	36	49.2500
Developmental	18	56.5556
Acquired	18	57.2222
Sig		.110

a. Alpha = .05.

Appendix B8: Between Groups MBSRQ Analysis

Table B8.1

Means and Standard Deviations for MBSRQ Subscales for Three Participant Groups

	Group	Mean	Std. Deviation	N
AppEval	Acquired	2.4207	1.14855	18
	Developmental	3.3412	1.20992	18
	AcqControl	3.2627	.67340	36
	Total	3.0718	1.01698	72
AppOrient	Acquired	2.8233	.71306	18
	Developmental	3.5766	.68027	18
	AcqControl	3.2200	.67038	36
	Total	3.2100	.72534	72
FitEval	Acquired	2.3144	.98671	18
	Developmental	2.8511	.97196	18
	AcqControl	3.6293	.68923	36
	Total	3.1060	1.00381	72
FitOrient	Acquired	2.6588	.92059	18
	Developmental	2.8679	.72924	18
	AcqControl	3.2249	.62672	36
	Total	2.9941	.76382	72
HealthEval	Acquired	2.3615	1.25845	18
	Developmental	3.2772	.86485	18
	AcqControl	3.7082	.71531	36
	Total	3.2638	1.05692	72
HealthOrient	Acquired	3.5994	.73233	18
	Developmental	3.3831	.46468	18
	AcqControl	3.3524	.48181	36
	Total	3.4218	.55261	72
IllOrient	Acquired	3.4556	1.13926	18
	Developmental	3.0000	.72274	18
	AcqControl	2.7500	.68848	36
	Total	2.9889	.86815	72

Note: Acquired = Acquired Disability, Developmental = Developmental Disability, AcqControl = Control, AppEval = Appearance Evaluation, AppOrient = Appearance Orientation, FitEval = Fitness Evaluation, FitOrient = Fitness Orientation, HealthEval = Health Evaluation, HealthOrient = Health Orientation, IllOrient = Illness Orientation.

Table B8.2

Multivariate Analysis of Variance for Three Groups on MBSRQ

Effect		Value	F	Hypothesis df	Error df	Sig.
Group	Pillai's Trace	.578	3.718	14.000	128.000	.000
	Wilks' Lambda	.492	3.837	14.000	126.000	.000
	Hotelling's Trace	.892	3.952	14.000	124.000	.000
	Roy's Largest Root	.686	6.268	7.000	64.000	.000

Table B8.3
Univariate F-Tests for Three Groups on MBSRQ

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	AppEval	10.248	2	5.124	5.596	.006
	AppOrient	5.114	2	2.557	5.473	.006
	FitEval	22.305	2	11.153	15.629	.000
	FitOrient	4.228	2	2.114	3.922	.024
	HealthEval	21.766	2	10.883	13.049	.000
	HealthOrient	.769	2	.384	1.268	.288
	IllOrient	5.977	2	2.988	4.338	.017

Note: AppEval = Appearance Evaluation, AppOrient = Appearance Orientation, FitEval = Fitness Evaluation, FitOrient = Fitness Orientation, HealthEval = Health Evaluation, HealthOrient = Health Orientation, IllOrient = Illness Orientation.

Table B8.4
REGWQ Post Hoc Comparisons Between Three Groups for Appearance Evaluation

Ryan-Einot-Gabriel-Welsch Range^a

Group	N	Subset	
		1	2
Acquired	18	2.4207	
AcqControl	36		3.2627
Developmental	18		3.3412
Sig.		1.000	.806

a. Alpha = .05.

Table B8.5
REGWQ Post Hoc Comparisons Between Three Groups for Appearance Orientation

Ryan-Einot-Gabriel-Welsch Range^a

Group	N	Subset	
		1	2
Acquired	18	2.8233	
AcqControl	36	3.2200	3.2200
Developmental	18		3.5766
Sig.		.086	.122

a. Alpha = .05.

Table B8.6
REGWQ Post Hoc Comparisons Between Three Groups for Fitness Evaluation

Ryan-Einot-Gabriel-Welsch Range ^a			
Group	N	Subset	
		1	2
Acquired	18	2.3144	3.6293
Developmental	18	2.8511	
AcqControl	36		
Sig.		.061	1.000

a. Alpha = .05.

Table B8.7
REGWQ Post Hoc Comparisons Between Three Groups for Fitness Orientation

Ryan-Einot-Gabriel-Welsch Range ^a		
Group	N	Subset
		1
Acquired	18	2.6588
Developmental	18	2.8679
AcqControl	36	3.2249
Sig.		.061

a. Alpha = .05.

Table B8.8
REGWQ Post Hoc Comparisons Between Three Groups for Health Evaluation

Ryan-Einot-Gabriel-Welsch Range ^a			
Group	N	Subset	
		1	2
Acquired	18	2.3615	3.2772
Developmental	18		
AcqControl	36		
Sig.		1.000	.161

a. Alpha = .05.

Table B8.9
REGWQ Post Hoc Comparisons Between Three Groups for Health Orientation

Ryan-Einot-Gabriel-Welsch Range ^a		
Group	N	Subset
		1
AcqControl	36	3.3524
Developmental	18	3.3831
Acquired	18	3.5994
Sig.		.375

a. Alpha = .05.

Table B8.10

*REGWQ Post Hoc Comparisons Between Three Groups for Illness Orientation*Ryan-Einot-Gabriel-Welsch Range^a

Group	N	Subset	
		1	2
AcqControl	36	2.7500	
Developmental	18	3.0000	3.0000
Acquired	18		3.4556
Sig.		.369	.104

a. Alpha = .05.

Appendix B9: Between Groups Visual Analogue Scales Analysis

Table B9.1

Means and Standard Deviations for Three Groups for Visual Analogue Scales

	Group	Mean	Std. Deviation	N
AppImport	Acquired	6.8444	2.09740	18
	Developmental	6.1722	2.04416	18
	AcqControl	6.7444	2.06791	36
	Total	6.6264	2.05748	72
AppSat	Acquired	3.3611	2.51680	18
	Developmental	5.1167	2.73415	18
	AcqControl	5.2389	1.93380	36
	Total	4.7389	2.40712	72
FunctImport	Acquired	9.0778	1.24738	18
	Developmental	8.4778	1.49884	18
	AcqControl	8.3750	2.09889	36
	Total	8.5764	1.78013	72
FunctSat	Acquired	1.9611	2.54562	18
	Developmental	5.6222	3.16219	18
	AcqControl	8.2583	1.80355	36
	Total	6.0250	3.50805	72
TrustAmount	Acquired	3.6222	2.77204	18
	Developmental	6.6333	2.71423	18
	AcqControl	8.5972	.99814	36
	Total	6.8625	2.88026	72
TrustImp	Acquired	7.7500	2.11250	18
	Developmental	8.0833	1.73654	18
	AcqControl	8.6694	1.44772	36
	Total	8.2931	1.72670	72
TrustSat	Acquired	3.9000	3.46138	18
	Developmental	6.5889	2.91323	18
	AcqControl	8.5417	1.23111	36
	Total	6.8931	3.05297	72
ConnAmount	Acquired	4.9111	2.77719	18
	Developmental	7.2333	2.38204	18
	AcqControl	8.5917	1.48389	36
	Total	7.3319	2.56586	72
ConnImport	Acquired	7.0056	2.63873	18
	Developmental	7.9722	1.68411	18
	AcqControl	7.9667	2.29857	36
	Total	7.7278	2.26431	72
ConnSat	Acquired	4.8778	2.94929	18
	Developmental	7.2611	2.29888	18
	AcqControl	8.3750	1.76754	36
	Total	7.2222	2.63739	72

Note: AppImport = Appearance Importance, AppSat = Appearance Satisfaction, FunctImport = Function Importance, FunctSat = Function Satisfaction, TrustAmount = Trust Amount, TrustImp = Trust Importance, TrustSat = Trust Satisfaction, ConnAmount = Connection Amount, ConnImport = Connection Importance, ConnSat = Connection Satisfaction.

Table B9.2

Multivariate Analysis of Variance Comparing Three Groups on Visual Analogue Scales

Effect		Value	F	Hypothesis df	Error df	Sig.
Group	Pillar's Trace	680	3.139	20.000	122.000	.000
	Wilks' Lambda	.358	4.024	20.000	120.000	.000
	Hotelling's Trace	1.686	4.974	20.000	118.000	.000
	Roy's Largest Root	1.621	9.888	10.000	61.000	.000

Table B9.3

Univariate F-Tests Comparing Three Groups on Visual Analogue Scales

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	AppImport	5.070	2	2.535	.592	.556
	AppSat	45.738	2	22.869	4.315	.017
	FunctImport	6.160	2	3.080	.971	.384
	FunctSat	479.754	2	239.877	42.009	.000
	TrustAmount	298.268	2	149.134	35.393	.000
	TrustImp	11.200	2	5.600	1.927	.153
	TrustSat	260.761	2	130.381	22.434	.000
	ConnAmount	162.791	2	81.396	18.436	.000
	ConnImport	12.519	2	6.259	1.229	.299
	ConnSat	146.803	2	73.402	14.593	.000

Note: AppImport = Appearance Importance, AppSat = Appearance Satisfaction, FunctImport = Function Importance, FunctSat = Function Satisfaction, TrustAmount = Trust Amount, TrustImp = Trust Importance, TrustSat = Trust Satisfaction, ConnAmount = Connection Amount, ConnImport = Connection Importance, ConnSat = Connection Satisfaction.

Table B9.4

REGWQ Post Hoc Comparisons Between Three Groups for Appearance Importance

AppImport

Ryan-Einot-Gabriel-Welsch Range^a

Group	N	Subset 1
Developmental	18	6.1722
AcqControl	36	6.7444
Acquired	18	6.8444
Sig.		.595

a. Alpha = .05.

Table B9.5
REGWQ Post Hoc Comparisons Between Three Groups for Appearance Satisfaction

AppSat			
Ryan-Einot-Gabriel-Welsch Range ^a			
Group	N	Subset	
		1	2
Acquired	18	3.3611	
Developmental	18		5.1167
AcqControl	36		5.2389
Sig.		1.000	.874

a. Alpha = .05.

Table B9.6
REGWQ Post Hoc Comparisons Between Three Groups for Function Importance

FunctImport			
Ryan-Einot-Gabriel-Welsch Range ^a			
Group	N	Subset	
		1	
AcqControl	36	8.3750	
Developmental	18	8.4778	
Acquired	18	9.0778	
Sig.		.467	

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 3.171.
a. Alpha = .05.

Table B9.7
REGWQ Post Hoc Comparisons Between Three Groups for Function Satisfaction

FunctSat				
Ryan-Einot-Gabriel-Welsch Range ^a				
Group	N	Subset		
		1	2	3
Acquired	18	1.9611		
Developmental	18		5.6222	
AcqControl	36			8.2583
Sig.		1.000	1.000	1.000

a. Alpha = .05.

Table B9.8
REGWQ Post Hoc Comparisons Between Three Groups for Trust Amount

TrustAmount				
Ryan-Einot-Gabriel-Welsch Range ^a				
Group	N	Subset		
		1	2	3
Acquired	18	3.6222		
Developmental	18		6.6333	
AcqControl	36			8.5972
Sig.		1.000	1.000	1.000

a. Alpha = .05.

Table B9.9
REGWQ Post Hoc Comparisons Between Three Groups for Trust Importance

TrustImp		
Ryan-Einot-Gabriel-Welsch Range ^a		
Group	N	Subset
		1
Acquired	18	7.7500
Developmental	18	8.0833
AcqControl	36	8.6694
Sig.		.245

a. Alpha = .05.

Table B9.10
REGWQ Post Hoc Comparisons Between Three Groups for Trust Satisfaction

TrustSat				
Ryan-Einot-Gabriel-Welsch Range ^a				
Group	N	Subset		
		1	2	3
Acquired	18	3.9000		
Developmental	18		6.5889	
AcqControl	36			8.5417
Sig.		1.000	1.000	1.000

a. Alpha = .05.

Table B9.11
REGWQ Post Hoc Comparisons Between Three Groups for Connection Amount

ConnAmount			
Ryan-Einot-Gabriel-Welsch Range ^a			
Group	N	Subset	
		1	2
Acquired	18	4.9111	
Developmental	18		7.2333
AcqControl	36		8.5917
Sig.		1.000	.057

a. Alpha = .05.

Table B9.12
REGWQ Post Hoc Comparisons Between Three Groups for Connection Importance

ConnImport		
Ryan-Einot-Gabriel-Welsch Range ^a		
Group	N	Subset
		1
Acquired	18	7.0056
AcqControl	36	7.9667
Developmental	18	7.9722
Sig.		.408

a. Alpha = .05.

Table B9.13
REGWQ Post Hoc Comparisons Between Three Groups for Connection Satisfaction

ConnSat			
Ryan-Einot-Gabriel-Welsch Range ^a			
Group	N	Subset	
		1	2
Acquired	18	4.8778	
Developmental	18		7.2611
AcqControl	36		8.3750
Sig.		1.000	.141

a. Alpha = .05.

Appendix B10: Correlational Analysis

Table B10.1
Correlations Between Overall Identity and Visual Analogue Scales for Disability Group

		Correlations			
		IdentAch	IdentMor	IdentFor	IdentDiff
ApplImport	Pearson Correlation	-.304	.042	-.205	-.009
	Sig. (2-tailed)	.072	.807	.231	.959
	N	36	36	36	36
AppSat	Pearson Correlation	.221	-.120	.448	-.328
	Sig. (2-tailed)	.196	.487	.006	.051
	N	36	36	36	36
FunctlImport	Pearson Correlation	-.156	.200	-.280	.246
	Sig. (2-tailed)	.362	.242	.098	.148
	N	36	36	36	36
FunctSat	Pearson Correlation	.513	-.467	.464	-.427
	Sig. (2-tailed)	.001	.004	.004	.009
	N	36	36	36	36
TrustAmount	Pearson Correlation	.478	-.369	.488	-.320
	Sig. (2-tailed)	.003	.027	.003	.057
	N	36	36	36	36
Trustlmp	Pearson Correlation	.051	-.053	.086	-.057
	Sig. (2-tailed)	.766	.758	.617	.740
	N	36	36	36	36
TrustSat	Pearson Correlation	.324	-.401	.480	-.477
	Sig. (2-tailed)	.054	.015	.003	.003
	N	36	36	36	36
ConnAmount	Pearson Correlation	.424	-.317	.362	-.085
	Sig. (2-tailed)	.010	.059	.030	.622
	N	36	36	36	36
ConnlImport	Pearson Correlation	.237	-.341	.288	-.282
	Sig. (2-tailed)	.164	.042	.088	.096
	N	36	36	36	36
ConnSat	Pearson Correlation	.470	-.167	.544	-.063
	Sig. (2-tailed)	.004	.330	.001	.714
	N	36	36	36	36

Note: ApplImport = Appearance Importance, AppSat = Appearance Satisfaction, FunctlImport = Function Importance, FunctSat = Function Satisfaction, TrustAmount = Trust Amount, Trustlmp = Trust Importance, TrustSat = Trust Satisfaction, ConnAmount = Connection Amount, ConnlImport = Connection Importance, ConnSat = Connection Satisfaction.

Table B10.2

Correlations Between Overall Identity and Visual Analogue Scales for Control Group

Correlations

		IdentAch	IdentMor	IdentFor	IdentDiff
AppImport	Pearson Correlation	-.037	.374	.030	-.023
	Sig. (2-tailed)	.830	.025	.864	.896
	N	36	36	36	36
AppSat	Pearson Correlation	.088	-.126	.041	-.018
	Sig. (2-tailed)	.611	.462	.811	.915
	N	36	36	36	36
FunctImport	Pearson Correlation	-.327	.109	-.175	.105
	Sig. (2-tailed)	.052	.525	.307	.542
	N	36	36	36	36
FunctSat	Pearson Correlation	-.160	-.029	.019	-.255
	Sig. (2-tailed)	.352	.869	.912	.133
	N	36	36	36	36
TrustAmount	Pearson Correlation	-.150	-.289	-.267	-.105
	Sig. (2-tailed)	.382	.087	.116	.541
	N	36	36	36	36
TrustImp	Pearson Correlation	-.455	.139	-.135	.196
	Sig. (2-tailed)	.005	.420	.433	.253
	N	36	36	36	36
TrustSat	Pearson Correlation	-.046	-.243	-.129	-.089
	Sig. (2-tailed)	.790	.154	.454	.605
	N	36	36	36	36
ConnAmount	Pearson Correlation	-.258	.128	-.193	.198
	Sig. (2-tailed)	.128	.455	.258	.247
	N	36	36	36	36
ConnImport	Pearson Correlation	-.476	.158	.028	.211
	Sig. (2-tailed)	.003	.359	.873	.217
	N	36	36	36	36
ConnSat	Pearson Correlation	-.130	.098	-.025	.197
	Sig. (2-tailed)	.449	.570	.883	.251
	N	36	36	36	36

Note: AppImport = Appearance Importance, AppSat = Appearance Satisfaction, FunctImport = Function Importance, FunctSat = Function Satisfaction, TrustAmount = Trust Amount, TrustImp = Trust Importance, TrustSat = Trust Satisfaction, ConnAmount = Connection Amount, ConnImport = Connection Importance, ConnSat = Connection Satisfaction.

Appendix C: Diagnostic Conditions of Disability Participants

Appendix C: Diagnostic Conditions of Disability Participants

Bruck Syndrome

Bruck Syndrome is a very rare disorder, with reports suggesting that only nine families, comprising 14 patients, have been diagnosed world wide (Bank, et.al., (1999). It is assumed that is caused by an underlying defect in the bone collagen network, however the underlying defect is unknown. Symptoms include brittle bones, fractures and ripped cartilage

Cerebral Palsy

One in every 400 children born in Australia is affected by cerebral palsy (Cerebral Palsy Tasmania, 2006), defined as ‘neurological impairments resulting in a disorder of movement and posture, due to a defect or lesion of the immature brain’ (Denhoff, 1966, in Ashman & Elkins, 1998). Cerebral palsy is not a single condition, but describes a group of conditions, with the common link being neuromotor damage occurring during an individual’s early years of life. It is a wide and varied condition, dependant on what area of the brain is damaged. The most common type of cerebral palsy is spastic cerebral palsy, referring to stiffness or tightness in the muscles when the brain is incapable of suppressing the impulses to the muscle which prompt it to contract. The muscles may remain in a state of spasm or tension for a period of time, and movements may be jerky and uncontrolled instead of smooth. Symptoms of athetoid cerebral palsy include fluctuating muscle tone with uncontrollable, jerky, irregular twisting movements, particularly around head and neck. Involuntary movement is present most noticeably when the individual starts to move, but also while at rest. The least common type of cerebral palsy is ataxic, with a lesion in the cerebellum resulting in a disturbed sense of balance and depth perception. It is not

uncommon for individuals with cerebral palsy to have a mixture of the above three subtypes.

Chronic Multifocal Osteomyelitis

Chronic multifocal osteomyelitis is a condition that results in a child's bones becoming inflamed and painful. The most commonly affected bones are the tibia, femur and clavicle. The cause for this condition is unknown, with possible theories including infection disease, autoimmune reaction or a defect in the immune system. Symptoms most commonly occur after the age of ten. Treatment involving medication and physiotherapy is aimed to prevent flare-ups of the disease, and minimise symptoms when they occur. Long term follow up is required to monitor growth disturbances in the affected bones. The disease is rare, but affects girls more commonly than boys (Great Ormond Street Hospital, 2005).

Dermatomyositis

Dermatomyositis is characterised by weakness in the muscles closest to the trunk, and accompanied by a patchy, bluish-purple rash. Onset of the disease can occur in childhood or adulthood, with females more affected than males. As the disease progresses individuals may have trouble rising from a chair, climbing stairs, lifting objects or swallowing. Medical treatment and physical therapy usually alleviate the symptoms after a period of time (National Institute of Neurological Disorders and Stroke, 2006).

Ehlers-Danlos Syndrome

Ehlers-Danlos Syndrome is an inherited connective tissue disorder. Symptoms include loose and unstable joints prone to frequent dislocation, joint pain,

hyperextensible joints, early onset osteoarthritis, soft and fragile skin that is prone to tearing and bruises, slow and poor wound healing, severe scarring and the development of molluscoid pseudo tumors. There are six major types of EDS, with shortened life expectancy usually only associated with the vascular subtype. The prevalence of EDS is about 1 in 5000, and affects both males and females (Ehlers-Danlos National Foundation, 2004).

Hemiplegia

Hemiplegia is total paralysis of the arm, leg and trunk on the same side of the body, caused by damage to the brain. This damage can happen before, during or shortly after birth, for example as a symptom of cerebral palsy, or at any other time later in the lifespan through incidents such as stroke or traumatic brain injury.

Madelung's Deformity

Madelung's Deformity is a disorder of the upper extremity characterised by abnormal growth and development of the end of the radius. Whilst the radius tends to grow abnormally towards the palm and thumb, the ulna continues to grow normally, which results in it becoming quite prominent in the back of the wrist. There does not appear to be any inherited or genetic associations with the disease. Although the deforming forces may be present since birth patients are often asymptomatic until they reach their teens. The exact incidence of Madelung's deformity is unknown, but it is typically more commonly present in females (Children's Hospital Boston, 2006).

Muscular Dystrophy

A group of generally painless chronic genetic conditions whose most prominent characteristic is progressive degeneration of skeletal or voluntary muscles. As the

condition progresses and muscles deteriorate, the patient becomes weaker and may become confined to a wheelchair or bed. The age of onset and progression varies amongst types, with Duchenne (one of the most common) appearing between age 3-5, mainly in boys, and usually resulting in death in the 20s. Premature death from muscular dystrophy is usually a result of respiratory failure or in some cases involvement of the heart muscles. Muscular Dystrophy affects 1 in 1000 Australians (Muscular Dystrophy Australia, 2006).

Spina Bifida

Spina bifida is another physical disability that results from damage to the spine, however this is from congenital abnormalities rather than trauma. Spina bifida is a result of incomplete closure of the spine, which leaves various portions of the spinal cord exposed. A bulb of exposed material is referred to as the meningeal sac, and the level of disability is the result of the amount of nerve material displaced into this bulb. If a meningeal sac is present and no nerve elements protrude into it, and there is no presence of neurologic disability, it is referred to as a meningocele. If nerve elements are in the sac, or neurologic disability is present, it is a myelomeningocele. Disorders associated with myelomeningocele lesions include paralysis of the legs, and lack of bowel and urinary sphincter control. Spina Bifida affects 0.5-0.7 per 1000 births in Australia (Spina Bifida Association of Western Australia, 2006).

Spinal Cord Injury

Spinal cord injuries usually occur when sufficient force causes the spinal cord to be compressed, lacerated or stretched, although disease or infection can also result in the same symptoms as a traumatically acquired spinal cord injury. Spinal cord injuries are classified according to the vertebra where the damage occurs.

Quadraplegia (also referred to as tetraplegia) affects all four limbs and torso, while paraplegia affects the legs and torso below site of injury. An injury can be complete, which results in loss of all motor and sensory function below the level of the injury, or incomplete, when some functioning is retained. In Australia the age group most frequently involved in new spinal cord injuries is 15-24, with 27% of new injuries occurring in this age group in 2003-04 (Cripps, 2006).

Spinal Muscular Atrophy

Spinal Muscular Atrophy is a neuromuscular disease, where muscles weaken due to a degeneration of the motor neurons. There are several forms of this disorder.

SMA Type 1, also called Werdnig-Hoffman disease, usually becomes evident in the first six months of life. Symptoms include floppiness of the limbs and trunks, swallowing and feeding difficulties, and impaired breathing. Most children with this form do not live past 18 months of age.

Children with SMA Type II usually begin to exhibit symptoms between 3-15 months of age. Symptoms may include respiratory problems, floppy limbs, decreased or absent tendon reflexes, and twitching of the arm, leg or tongue muscles. These children may be able to sit, but will likely never stand or walk. Life expectancy varies for children with Type II SMA.

Symptoms of Type III SMA, also known as Kugelberg-Welander disease, appear between 2 and 17 years of age, and include abnormal walking, difficulty running, trouble climbing steps, and slight tremor in the fingers.

Most cases of SMA are thought to be inherited, with the defective gene needing to be present in both parents. SMA can affect both males and females. There is a prevalence of one in 6000 births (Lefebvre, Burglen, & Reboullet, 1995).

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