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THE EFFECTS OF PHYSICAL DISABILITY UPON BODY-IMAGE:
AN ANALYSIS TOGETHER WITH SOME IMPLICATIONS FOR REHABILITATION

A THESIS PRESENTED IN PARTIAL FULFILMENT
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ABSTRACT

The physical aspects of self-concept which comprise the body-image and are essential for personal identification, are of particular importance in health restoration and maintenance. A study of 285 physically disabled adults variously suffering from spinal cord injury, multiple sclerosis and rheumatoid arthritis, and a control group of 100 able-bodied adults, investigated the effects of physical disability upon body-image. All subjects completed three 52-item Body Cathexis scales and three 16-item bi-polar adjectival Semantic Differential forms, while the disabled completed an additional 11-item Activities of Daily Living form, in an attempt to identify and measure the form and content of three body-image components paralleling the three aspects of self identified by phenomenological theory, and four modes of adjustment in the body-image of the disabled. The influence of years of disablement and degree of incapacity upon body-image disturbance and the internal structure of the Body Cathexis and Semantic Differential scales were also investigated. Simple correlational analysis failed to isolate any parallel relationships between body-image and self-concept for either disabled or able-bodied individuals, although discriminant function analysis revealed that both concepts for the disabled differed significantly from those of normals. These findings indicated that the difference was one of content and not of formal relationships pertaining between the concepts. As a result, a tripartite theory of body-perception was

proposed. The question of whether type of disability contributed significantly to variance was answered positively. The physically disabled tended to be separated out according to the nature of their disability which appeared to influence both body-image and self-concept. Four discrete modes of adjustment were identified by pattern analysis. Differences due to age and sex, disability type and years of disablement made no significant contribution to the type of adjustment adopted. Finally, the number of years of impairment and degree of functional incapacity had no influence upon body-image disturbance. Considering past research, the findings indicated there to be basic differences in body-image content between the physically-disabled and physically normal populations, but not in the formal structure. Further research is needed to investigate these differences, to isolate further modes of adjustment which might be manifest amongst those excluded from the 4 identified in this investigation and to verify and elaborate upon the usage of the tripartite theory of body-perception. Factor analysis provided confirmation for both the Body-Cathexis and Semantic Differential scales as being complex measures of the self, and enabled shortened revised scales to be introduced for both the able-bodied and disabled subjects. However, further research is required utilising such scales in studies of body-image in order to ascertain their reliability and validity in aiding the development of intervention strategies tailored to the needs of the disabled person, especially in light of the fact that body-image is increasingly being the single most important concept in the consideration of the physically disabled. The results of this research suggest that body-image is a function of numerous variables, of which physical disability is only one.

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CHAPTER 1

INTRODUCTION

INTRODUCTION

The subject of this thesis is body-image, frequently referred to as the physical aspects of self-concept essential for personal identification. Arnoff & Damianopoulos (1962, 143) pointed out that 'the concept of body-image is almost as old as psychology itself'. Throughout history man has been intrigued with the possibility that the outward characteristics of the body might somehow reveal the inner structure or personality of man. It has been variously suggested that a persons concept of his "self" is influenced by his view of his physical appearance and physical abilities. It would appear that the security an individual has in his body is related to the security with which he faces himself and the world. However, the concept has never been previously defined with clear operational referents and terms subsumed under it are often used interchangeably. The body-image is a composite image of what we think we are, what we think we can achieve, and what we would like to be. It should be made clear that we have a mental concept of our body (body-image) which influences the way we perceive (sense data) our body by way of our senses; equally our perception of our body influences the concept we have of our body. In other words, there is a mutual interaction between our conception and perception of our body which is in accord with the phenomenological perspective emphasised in this thesis.

This thesis represents an attempt to collate much of the existing knowledge about the theoretical rationale, growth, measurement and behavioural expression of body-image and its relationship to the self-concept of which it is a part. The theoretical frame of reference within which the writer places body-image is that of the phenomenological in which human behaviour is considered from a

subjective point of view, that of the individual doing the behaving. Utilising this approach, we are concerned with the way in which the individual contrues his environment, of which the body-image constitutes a focal point, into a meaningful construction. In this thesis, we are especially concerned with disabled persons; why they perceive themselves as they do, and the consequential effects that such a perception might have upon their behaviour.

Whilst several theoretical perspectives have been proposed in the literature on physical disability (e.g., interpersonal, motivation theories), a construct like body-image is most obviously useful in rehabilitation settings. Here, the practitioner is encouraged to employ integrative concepts, because he is obliged by his professional responsibilities to make decisions that affect the lives of his patients. Global concepts appear to enable the clinician to create order out of the chaos of a myriad of specialised facts which could conceivably fill a client's case records. In the crowded clinics of today which frequently make pressing demands upon clinicians' time, such an advantage should not be dismissed lightly. It is also pertinent to remind ourselves that the decisions rehabilitation personnel make need not have their basis in precise measures of theoetiacl variables that are clearly defined. In a rehabilitation setting it is the descriptive and predictive potential of a measure which is important rather than the theory from which it is derived. However, there is a need for the elaboration of global constructs, of which the body-image concept is one, which incorporates a variety of psychological phenomena into a single inclusive entity, thereby making it possible to speak and think in terms that apply to the integrated individual.

The construct of body-image, and its disruption due to chronic illness and disability, is almost as popular with rehabilitation workers as inferiority. Historically, we owe the concept of body-image, as we have come to regard it today, to Head (1926) and the notion of postural schema of the body, and Schilder (1935) who extensively elaborated the development and importance of the concept from a psychoanalytic perspective. The concept has now been variously elaborated upon by Fisher & Cleveland (1958) and Fisher (1970). Since the body is the main protagonist in physical disability, further work utilising other body-image theories was recognised as needed, since out of such work could arise productive and useful concepts in the assessment and treatment of the physically disabled.

Since the process of development and aging are believed to have evolved over time, so may have our concepts of our developing body and self. It is the influence of these concepts upon the individual which determines his behaviour and thus socialisation. Further knowledge of the concept of body-image would not only enable individuals to understand how and why they differ from society's norms, but also enable them to appreciate the wide range of individual differences which may help to reduce tension, not only at transition points in the human life span, but also in the face of pathology when faced with stress and indecision. The magnitude of various crises in life, of which the acquisition of a disability is only one, may cause an individual to seek professional help. Such professional help must be based on solid research in rehabilitation psychology.

Finally, there are many values in utilising body-image as a field of inquiry:

(1) One is clearly personal. By seeking knowledge about its

development and manifestation in the face of pathology, we may come to understand ourselves better, and thereby gain greater mastery over our lives.

(2) An understanding of body-image and its development both "normally" and in the face of pathology may provide us with insights into the similarities and differences of our New Zealand heritage, not only of differences between cultures, but also of differences within the same culture.

(3) Such information gained may help relieve problems that occur during an individual's life. In particular, we are concerned with how an understanding of body-image may aid those who acquire physical disabilities during adult life, either by way of accident or illness.

Chapter 2 provides some historical background to the notion of self-concept. Writings from the classical Greek time to the present are reviewed and reveal a shift in emphasis from a philosophical "I" to the more empirical "ME" (i.e., self as known). Chapter 3 describes the emergence and development of the personal constructs of self-concept and body-image. The picture of development provided is consistent with the phenomenological approach through the individual's frame of reference. Chapter 5 describes the problem to be investigated and its setting, and Chapter 6 the instruments and subject samples to be employed. Chapters 7, 8, 9 and 10 provide the results of the major investigations, and introduce a new theoretical perspective from which body-image may be viewed, and Chapter 11 an analysis of the internal structure and reliability of the scales used. Finally, Chapter 12 provides a summary of the findings and attempts to

convey the implication of these findings for the disabled in the context of a new theoretical perspective.

CHAPTER 2

HISTORICAL REVIEW

To preserve clarity, several ambiguous notions in the area of self-concept will be considered briefly before embarking upon the historical review. When the causes of behaviour are reflected upon, we are generally led to enquire about the self-referents "me" or "I". Firstly, we have to consider the nature of the self-referent. Whether it is a mental (mind), or physical (body) entity is a matter of debate. Secondly, the self-concept is often used to refer to both the self of personal identity and the self of human nature (Averill, 1976, 19). If one holds that there is a human nature, implying innate characteristics, then clearly the self of the individual is very different from the self which can be applied to all mankind. Accordingly, behavioural scientists interested in the former will have to make reference to the broader framework of the latter, within which the self can be comprehended. Or, if one takes an ideographic approach, one concentrates on a concept of selfness emerging from the many selves. Thirdly, we have notions of ourselves which comprise our self-concept, thus it is not really a unitary concept. Similarly, there are many allied concepts which because of their commonality of reference to the individual will be included in this review e.g., psyche, soul, phenomenological and individual self and personality.

With these various sources of ambiguity in mind, let us turn our attention to a review of body-image and self-concept as they have evolved in Western society.

2.1 ORIGIN OF THE SELF

Although the Homeric Greeks (c. 9th century B.C.) had an assortment of expressions for physiological and psychological functioning, they had no words for, or unitary concepts of the self or the body, save for the implications of personal pronouns (Snell, 1960, 6,14; Adkins, 1970, 21-22).

For the ancient Greeks, the individual was a melange of parts and functions under the direction of the gods, and not the autonomous being of contemporary psychology, thus reference was made to bodily parts and functions rather than to the whole (Adkins, 1970, 22; Averill, 1976, 20). Hence, the distinction between the psychological and physiological phenomena becomes confused in Homer's Iliad (1972, 240), where Ajax says '...and my own heart makes me want to fight more than ever. My legs are marching underneath, my arms are moving up above!.'. Here, action is initiated by the thymos [heart], variously translated as "soul", "will", "character" (Snell, 1960, 14), and also the arms and legs. It is equally difficult to discern quite what Homer meant by psyche, apart from it representing the force which kept humans alive (Snell, 1960, 8). The emphasis of the time upon results, led to a calculative, intellectual model of man which, of necessity, placed little significance upon a volitional self as a behavioural initiator (Averill, 1976, 20). With the development of the psyche (c. 5th and 4th century B.C.) as a unitary concept for psychological functioning, including a principle of life, came the expansion of the soma to represent the whole living body (Averill, 1976, 20). The particular association of these two concepts has been a matter of controversy ever since.

Plato (c. 429 - 347 B.C.) added to the Presocratic notion of

the psyche as a source of self-motion, the belief that it was immortal. In Phaedrus, Plato (1953b, 152) maintained: 'The soul [psyche] through all her being is immortal, for that which is ever in motion is immortal.'. In Phaedrus and Phaedo, Plato is fairly explicit about the relationship between the body and psyche (Plato, 1953b, 152), indeed the psyche was a key word in many of his dialogues, variously translated "psyche" (Adkins, 1970, 127), or "soul" (Plato, 1953a, 414, 1953b, 152; Livingstone, 1938, 97). The psyche was not spiritual, it simply represented the principle of life; and promptly disappeared at death (Plato, 1953a, 421). Plato's later notion of the psyche, divided into spirited, appetitive, and rational aspects (similar to the Freudian superego, id, and ego respectively) had matured considerably from the simplistic view of the psyche presented by Socrates in Phaedo, in which knowledge was able to account for all human functioning (Averill, 1976, 21). For Platonic man rationality was disembodied in the psyche, whilst the other two functions bore close association with the body (Averill, 1976, 21). Livingstone (1938, Liv) held Plato to be the first to acknowledge the psyche as the true self.

Despite the development of the concept of the self by Plato, Aristotle (384 - 322 B.C.) was the first to consider the problems of the now developing, unitary self (Aristotle, 1931, 411b5, 413b12; Taylor, 1919, 75) as a separate discipline (i.e., fifth science), and thus is acknowledged by some as the founder of psychology (Jancar, 1963). Like Plato, he defined what the self was, although at times it disintegrated into parts (Adkins, 1970, 273). Then he talked about the functions of the self specifically related to man. Although the psyche (self) was still more important than the body, the bodily

environment was no longer neglected as with Plato and his "Pythagorean" belief in transmigration of the psyche between humans (Adkins, 1970, 173), but had a close affinity with psychological processes (Wallace, 1887, 85). The object of psychology for Aristotle (1931, 402a5) was to '...grasp and understand first its [the self] essential nature, and secondly its properties.'. Aristotle (1931, 402b; Adkins, 1970, 176) suggested that there might be different selves or infinite parts forming the self, just as today we speak of the self-concept comprising, amongst others, an actual, ideal, and perceived self (Hudson, 1975, 130). A notion of a pure spiritual self with an external body was not conceived of, rather the whole self and active body was something given and not questioned (Wallace, 1887, 85; Ross, 1949, 132). Aristotle (1931, 408b) disagreed with Plato's definition of the self as a self-moving entity. For him the self caused motion, but neither moved itself nor was moved.

If the self was the organisation or principle of life (Aristotle, 1931, 412a 27), then there was a sense in which this did not undergo change, but rather represented the standard frame of reference for body movement and change. Following this line of reasoning, it can be seen that the postural model of the body is an integral part of self-concept (Freud, 1923, 16; Schilder, 1935, 11). However, this reasoning was implicit rather than explicit in the writings of Aristotle (1931, 408b-408b33). The self represented for Aristotle the elementary characteristics and abilities of man in general. As Averill (1976, 23) pointed out: 'In many ways, Aristotle's conception of the self and human nature is similar to that of modern psychology.'

The relationship between one's concept of self and external

reality is intimate, and for Plato and Aristotle their notion of self was based upon their theories of the external world (naturalism). However, for Plotinus (204 - 270 A.D.) and Augustine (354 - 430 A.D.), the situation was reversed (personalism).

The individual self, guaranteed by a process of individuation, and still more important than the body, was first used as a basis for a theoretical perspective by the philosopher Plotinus, and was present from the outset in his writings (O'Daly, 1973, 20-23). The tripartite soul, initiating motion, which Plotinus equated with the self and the transmigration of souls was still upheld, echoing Phaedrus (O'Daly, 1973, 22-25). The self, in this case, was formed by the creative, universal soul given by the heavens and associated with the body, and the separate, selective, decision-making soul which provided its base (O'Daly, 1973, 39-40). Thus, Plotinus developed a notion of a hierarchy of selves, as well as speaking of constituent parts (e.g., emotional self) (O'Daly, 1973, 30). The body was for the first time acknowledged as a part of the self, but the body did not make the self, and the latter could not exist independently of the former (O'Daly, 1973, 29). Ultimate knowledge, for Plotinus, could only be gained by introspection when the self became one with true reality (Averill, 1976, 23).

In contrast with Plotinus and the classical Greeks, Augustine, under the influence of Christian theology and a personal God, substituted the individual for the cosmos (world) as the model of reality in his system of knowledge (Averill, 1976, 24). Man, by this time, was volitional (engaging in self-conscious activity) rather than "rational", with the former emphasis on knowledge becoming displaced by the motivation of the individual, which was to become important in

subsequent theories of the self (Adler, 1929, 2; Schilder, 1935, 288). Questions were posed about individual differences and constituents of the self, but these were to await the development of later personality theories for a more satisfactory explanation. Thus, it would seem that Plotinus and Augustine posed more questions than answers about the self, but at least a notion of "true self" had come into being.

2.2 THE SELF AS A CONSCIOUS EXPERIENCE

From the outset Descartes' (1596 - 1650) system assumed the existence of a self-concept in his usage of the first person singular (Wilson, 1978, 4). For him the unique, motivated, cognitive, independent and perceptually conscious self (Keeling, 1968, 170), stood in opposition to the prevailing Aristotelian view of the self as a form directing the body. The defining attribute of the self was its consciousness (Keeling, 1968, 209). Without consciousness, the self would not be a self. Thus, the notion of an active unconscious self was not even tenable. When consciousness ceased, so did the body and life. Besides, the notion of a conscious self had a long history: Plato's multiple selves and levels of consciousness formed one of Aristotle's attributes of the self, which was subsequently embodied by Plotinus, only to be disembodied again by Descartes. Similarly, the existence of one's conscious self (i.e., the most perfect insight), was irrefutable, since the very act of doubting provided proof of its existence (Kemp Smith, 1963, 52; Keeling, 1968, 174). Although distinct from the body, spiritual and immediate awareness were only

possible by virtue of a body-self union (Kemp Smith, 1968, 52, 149-150). However, '...neither minds nor bodies depend on one another for their existence or for their nature.' (Keeling, 1968, 101). Self-body connection in the face of a fundamental opposition was accepted but not understood (Keeling, 1968, 206). Since Plato, the self had become progressively more motionless, until with Descartes it was stationary - the only movement it knew was thought (Kemp Smith, 1968, 150; Keeling, 1968, 188). The preservation of self, continued identity, and perceptual truth were guaranteed by divine veracity and immutability recreating the same "me" after each and every experience (Keeling, 1968, 171, 211). Thus, a change in one's self-concept as a result of pathology, or otherwise, was not even a remote possibility. From such reasoning, Descartes' rejection of many selves - many experiences in favour of one self for all experiences (Keeling, 1968, 211) - makes sense, and is reflected in the more recent phenomenological approach (Diamond, 1957; Combs et al, 1976). Clearly, the many selves of Plato may just be different aspects of Descartes' unitary self.

Descartes conceived of two types of mental operation - pure thought, and sensation - which were the modes of activity of the conscious self and the body's physiological processes respectively. This fundamental dualism has been further exemplified by Keeling (1968, 176): 'Knowing, being a function of the self's intrinsic nature is logically independent of the knower's body and its activities.'. Descartes did, however, appear to recognise that the self was not disembodied and had, if nothing else, a psychological dependence on bodily activity (Keeling, 1968, 177). Moreover, he suggested sense experience as biologically and intellectually instrumental (Keeling,

1968,178), which is a more acceptable account of dualism since it initiates activity of the self. Basically, there is little disagreement over a concept of self as distinct from the physiological workings of the body. Perhaps though, one should recognise that the physiological processes can become incorporated into one's body-image, and thus self-concept by knowledgeable persons (e.g., physicians, nurses) , but for the majority body-image appears empty (Schilder, 1935, 85,93; Fisher, 1970).

Descartes' immortal self comprised of judgements, affections (e.g., emotions) , and a tripartite division of ideas into (1) deliberate, (2) externally caused, and (3) innate pure concepts (e.g., ideas of existence), which provided the hypothetical structure to the self in general. This was superceded by a notion of all ideas being innate, and later revised to have as its basis the clarity and distinctness of ideas perceived (Keeling, 1968, 168,184-186). Clarity and distinction were important for Descartes' theory of self, the absence of which would precipitate errors in self-judgement, and presumably result in maladaptive behaviour (Keeling, 1968, 171-173). Thus, it would seem that Descartes was the first to have worked out the basic and directive ideas of a psychology in the modern usage of the word, and his basic notion of a self distinct from the body is still acceptable today for some. As William James (1890, 214) pointed out: 'Meta-physics or theology may prove the Soul to exist, but for psychology the hypothesis of such a substantial principle of unity is superfluous.'

2.3 THE FICTITIOUS SELF

There was a trend after Plotinus and Augustine, in the acceptance of a self with a psyche or soul as its base, to identify the self with an entity having a separate and independent existence. The opposite chain of reasoning, equally mistaken and misleading, is purported to have been made by Hume (1711 - 1776; Averill, 1976, 27). However, to say that 'according to Hume, the "self" is essentially a fiction, a name we apply to a phantasmagoria of fleeting perceptions.' (Averill, 1976, 27) is not strictly accurate, since a concept of a composite self was vital to his theory of passions and morals (Ayer, 1980, 51). For example, in Book II of Of The Passions, Hume addressed himself to the importance of an intimate and enduring conscious self-concept (Hume, 1888, 317) which was not, as is sometimes considered a 'contradictory oversight' (Ayer, 1980, 51). Neither did Hume oppose Descartes, rather only those who believed the self on empirical grounds (i.e., who felt its existence). Although Hume denied the existence of a mental construct or sense experience of self, owing to the inconsistency and variability of its sensations (Ayer, 1980, 51), he did support the actuality of a substantial self (existing in time), as separate from the body, and comprised of '...nothing but a bundle or collection of different perceptions.' (Hume, 1888, 252) which were themselves substances (Bricke, 1980, 59), and which would cease to exist if our perceptions ceased (Macnabb, 1966, 147). However, Hume (1888, 252, 636) was unable to explain quite how these distinct, separate, and self-supporting perceptions constituted the self or personal identity. Subsequently, both William James (1890) and Macnabb (1966, 150) were to suggest that the Humean self was comprised of perceptual relationships united in consciousness. Hume (1888,

251-253) argued simply that (1) every idea arose from an impression (sensation), (2) the self was composed of several impressions from which several ideas were correspondingly drawn, (3) any impression giving rise to the idea of self had to continue throughout our lives, but (4) there were no constant and invariable impressions, therefore (5) the idea of self could not be derived from any impressions, thus (6) there was no such idea of self.

The Humean self has been accepted, with modifications, by more recent authors. Macnabb (1966, 147) accepted, in addition to Hume's sense experiences and ideas, an all-pervasive self, which was different in kind from all other experiences and which provided the framework for thought. If we accept Macnabb's ideas (based upon those of Berkeley and Kant), then a notion of self is not contradictory. For Hume, the self was invariant and identical. However, Macnabb (1966, 147) considered Hume mistaken about the term "identity" in which there could be variation within a continuing framework (i.e., unity).

Hume's inability to explain the self was a direct result of his positivist, empiricist philosophy which reduced psychological phenomena, such as the self, to simple observations and sensations. If one replaces these two terms with "stimuli" and "responses", we have the S-R behaviouristic model of man which was to dominate psychology in the early part of the twentieth century. Later, when this crude model met with little explanatory success, organismic intervening variables were recognised to mediate stimuli responses, but essentially the paradigm remained unchanged. Hume's work does however raise questions; For example, how can a notion of self-concept be comprehended by analysis utilising simple S-R units or

sensations? While behavioural realists would no doubt deny the existence of entities independent of observation (e.g., Freud's ego, superego, and id), philosophical realists would most certainly argue to the contrary.

2.4 THE SOCIAL SELF

The last view of self that we will consider here as profoundly influencing our present notion of self-concept is that of Marx. However, it would be useful to first consider briefly the position proposed by Kant, since Marx was greatly influenced first by Kant, and later by Hegel.

Kant (1724 - 1804) went further than Hume in his reduction of the self, and stripped it of all a priori features (e.g., independent of bodily processes, immortal, simple, substantial and invariant) (Rauch, 1965, 64-66). Basic to Kant's philosophy was his differentiation of the empirical self from the non-observable, theoretical "I" (transcendental self) which may accompany sense impressions (Korner, 1955, 67; Rauch, 1965, 64). Kant considered earlier philosophies to have erroneously mistaken the transcendental self, which like God was beyond experience (i.e., numeal) for the real empirical self, and to have attributed substance to this logical self-referent (Rauch, 1965, 64). Thus for Kant, Hume's inability to construe the self was insufficient argument against its existence as a precondition for experience or a principle of organisation. This notion of self was to have a considerable influence on subsequent thought.

The organisational importance of Kant's origin of the self was

reflected in Marx's notions of objective self-alienation (loss of personal identity) and human potential to be actualised (Tucker, 1968, 144; Koren, 1967, 29). Marx (1818 - 1883) rejected Kant's abstract transcendental self in favour of his real empirical self which had its roots embedded in external socio-political experience which was thus personified (Seve, 1978, 68,69,75). The earlier invariant self was now active, dynamic, and thus changeable (Koren, 1967, 25). The new creative self represented the core of man and was regarded as an extension of work. Thus, we find qualities formerly ascribed to the self now applied to human work (e.g., will, purpose, attention) (Koren, 1967, 30). By improving his work man was able to improve his self. The consciousness of the individual social self was determined by social existence and the stage of economic and political development (Duncan, 1973, 140; Seve, 1978, 21,67,68). For Marx (1859, 181) 'it is not the consciousness of men that determines their being, but, on the contrary, their social being determines their consciousness.'. Marx argued that (1) the self was determined by work which was related to knowledge, (2) the ruling class controlled knowledge and thus held the dominant societal ideas, (3) man's conscious self was determined by these ruling ideas and, (4) false consciousness occurred when appearance was taken to be reality, and social relations and ideas taken to be natural and external rather than man-made and changeable (Keat & Urry, 1975, 176-178). The false consciousness could be removed to reveal man's true self and reality, in a similar way that Freudians would reveal unconscious truths by removing distorted, conscious perceptions. By so doing, Marx believed, like Freud, that he had exposed the unconscious self (Koren, 1967, 140).

Thus, we have seen how the theoretical notion of self-concept stands in relation to theories of external reality, each influencing the other to varying degrees, and how rationalists (e.g., Plato and Descartes) and empiricists (e.g., Aristotle and Hume) emphasised the importance, for the self, of innate structures and learning respectively. However, the self which has now emerged is far more complex and influenced by a synthesis of assorted factors (e.g., psychological, sociological, and physiological).

2.5 THE ORIGIN AND DEVELOPMENT OF BODY-IMAGE

The importance of body-image enmeshed within a self-concept is not new in the behavioural sciences. The notion of body-image being an integral part of self-concept originated with William James (1842 - 1910) and the early introspectionists, who accorded self-concept a central place in their psychological thinking. For James (1890, 226) 'no psychology, at any rate, can question the existence of personal selves.'. The self-concept (self as object) was conceived as a differentiated unity associated with emotions via self-esteem (James, 1890, 291-293) which developed from a sense of material self within which the body provided '...a basis for all further conscious acts.' (James, 1910, 205).

Self-referent constructs were then basically ignored by the dominant behaviourist and functionalist schools of the early part of the twentieth century. This neglect was enhanced by the inability of the introspectionists to effectively grasp the idea of a "mentalistic" self-concept alien to the behaviourists (Hilgard, 1949, 377).

Concurrently, a concept of physical self which subsumed body-image was being developed by neurologists in Europe, based on a

neurophysiological model, which held that past and present sensory experiences were integrated into a unified body-image by parts of the sensory cortex (Fisher & Cleveland, 1968, 3-15). It was under the influence of these neurologists that a conception of body-image, as we recognise it today, began to evolve. There were attempts to give further meaning to body-image by theorising about its mode of functioning and representation in the individual. Head (1926), among others (Schilder, 1935; Bender & Keeler, 1952), assumed body-image as a fundamental frame of reference which influenced or organised an individual's perceptions and ability to perform tasks e.g., arithmetic computations, understanding of spatial relationships (Strauss & Werner, 1938), and thus an individual's basic system of judgement. By relating pathological brain lesions with body-image disturbances in neurological patients, body-image function was localised in the parietal lobe of the brain (Schilder, 1935, 35,37; Critchley, 1953, 225-255). A postural body-image, termed a body schema, which facilitated coherent bodily movement, was a fundamental construct in Head's theorising. According to Head(1926, 488):

By means of perceptual alterations in position we are always building up unwittingly a model of ourselves which is constantly changing. Every new posture or movement is registered on this plastic schema, and the activity of the cortex brings into relation with it each fresh group of afferent impulses, evoked by a change in the position of the body. The psychological act of recognition follows as soon as this relation is completed...

Although unconscious body-image functioning was explicit in Head's (1926, 488-489) writing, he neglected to explain its organisation or mode of influence.

Although the self-referent ego was both central and imperative to Freud's (1856 -1939) concurrent psychodynamic formulations, his initial emphasis on the id (active unconscious), rather than the ego (self), the inability of his theories to succumb to empirical investigation, and unfavourable comparison with the theoretical perspective then in favour, prevented their further development in contemporary psychology. However, Freud did address himself directly to the notion of an internal image of the body, based to a large extent upon bodily experience, but still firmly enmeshed within the melange of notions comprising the ego:

The ego [self] is first and foremost a bodily ego; it is not merely a surface entity, but is itself the [mental] projection of a surface. (Freud, 1923, 16).

Within Freud's framework, three main areas of the body-image were important progressively in ego development and organisation, and demarcated by oral, anal and genital stages of psychosexual development respectively (Fisher & Cleveland, 1968, 42-45). The adult body-image was considered to reflect an ability to integrate the demands of each new zone of erogenous dominance into a body-image (Fisher & Cleveland, 1968, 51). Inability to cope with this integrative process meant that an immature body-image, with its dominant erogenous zone (e.g., mouth) would present itself in adult life to become a source of personality disturbance (Fisher &

Cleveland, 1968, 45).

Similarly, psychotherapists such as Freud and Adler (1870 - 1937) drew attention to the importance of bodily feelings such as anxiety and inferiority, and placed especial prominence upon the symbolic meaning of body parts (Freud, 1923; Schilder, 1935; Jung, 1952). Despite the dominance of primitive methods of enquiry resting, almost entirely, upon the remarks of clients in therapy, and although not yet a separate entity, a body percept had begun to emerge as significant within the self-concept.

In a similar vein, behavioural scientists, dissatisfied with the dominant physiological perspective in Europe, developed a psychobiological model, wherein the body-image constituted a person's reaction to the physiological aspects of his body (Schilder, 1935, 7). Here, the psychological dimension, personality, was added to the model. This position was not dissimilar from that offered by the phenomenology of German gestalt psychology which developed simultaneously with behaviourism and displaced introspection in the United States. Both Kohler (1887 - 1967; 1947, 176) and Lewin (1890 - 1947; 1936, 167) considered spontaneous self-structuring to occur in psychological fields. For Lewin (1936, 167) '...the self is experienced as a region within the whole field.'. Thus, for example, emotional vectors which constituted a part of the field influenced the self by directing it towards or away from dynamic bipolar organisation, and whose needs helped determine the nature of the field (Katz, 1951, 143). The self was also seen to be intimately involved with inner physiological conditions of the body (Kohler, 1947, 176). However, the connotations of such psychology were too static and did not sufficiently acknowledge the never-ceasing mental activity and

dynamic factors of self, or the constantly changing organism.

In the writings of Schilder (1935, 89,105) we met, for the first time, the important principle of body-image as an indicator of individual character and pathology, as well as ideas concerning its ontogenetic development, although these were still firmly enmeshed within the context of orthodox psychoanalytic theory. For Schilder (1935, 173-174):

The image of the body is not a static phenomenon from the physiological point of view. It is acquired built up, and gets its structure by a continual contact with the world. It is not a structure but a structuralization in which continual changes take place, and all these changes have relations to motility and to actions in the outside world ... All senses participate in this constructive process... [and]...the perception of the body image.

In line with Freudian thinking, Schilder (1935,123) viewed the prominence of different bodily parts within the body-image as a consequence of their role in psychosexual development. Thus, body-image was beginning to emerge as basic for an individual's interpretation of the world.

Later psychoanalytic theories conceived the social self-concept as playing a more vital role in behaviour than Freud's ego. It is doubtful whether the English word "self", which has, over the years, been assigned many conflicting connotations, is able to articulate quite what Jung (1875 - 1961) meant by "selbst" (itself), which

manages to be at the same time unconscious and conscious, invisible, a psychic totality, and the innermost centre of personality. For Jung (1954a, 225; 1954b, 79), the ultimate expression of the self-concept lay in a successful union of inherited, inner self archetype which matured from a primordial image to become evident at middle age, and the conscious ego. The goal of self-realisation or understanding, rarely fulfilled, depended upon the acknowledgement by the ego of messages from the motivating self archetype. He concluded that '...the self is our life's goal, for it is the completest expression of that fateful combination we call individuality...' (Jung, 1945, 238). Jung's self cannot be separated from the most central notion of his psychological theory, namely the process of individuation which extends over life and leads to the unification of personality. As Ellenberger (1970, 711) explained: 'Jung sees human life as a series of metamorphoses. From the emergence of the infant out of the collective unconscious to the completion of the self is a lifelong process.'. Although implicit rather than explicit, a notion of body-image from birth, becomes plausible within the context of Jung's (1945, 188) basic images: 'The form of the world into which he is born is already inborn in him as a virtual image.'. This virtual image presumably comes into conscious reality by identifying itself with corresponding objects in the world. For example, if a virtual image of the body existed in the collective unconscious, it would become rapidly articulated by the infant's reactions to, and perceptions of his own body. However, we should bear in mind that the idea of innate conceptual structures, in whatever form, remains a highly problematic issue (Hamlyn, 1977).

Jung also assigned significance to a hierarchy of bodily areas

which effected behaviour, and he introduced the notion of the body as a protective container or mandala (circular or square shapes) symbolically representative of the mother figure and protection, which was later to become incorporated into Fisher & Cleveland's (1968, 47,59) barrier concept.

Subsequently, Adler (1951, 98) spoke about the mandala in body-image terms:

... the first ego of the body is bound up with its skin, and...[through]...playing with its own body, it learns its demarcation from the surrounding world. It is as though the skin, the 'four walls' or 'circle' of the body formed a magic circle, a sort of 'primordial mandala' marking off an 'ego sphere' and a 'non-ego sphere', and within which the ego experiences itself sensorily.

Adler's (1870 -1937) social developmental formulations from the outset must have been disconcerting for the objectivity-bound Freudians, grounded in natural science with their enduring, but erroneous model of man based, it would seem, upon the elaborations of Copernicus. Adler (Ansbacher & Ansbacher, 1956, 22-44,146,143-147,177,180,285) initially neglected a notion of self, but later conceded to a unique, unitary, consistent, active, decisive and goal-directed self, or "style of life" as he called it, with creative power as part of its inner nature, which was central in his subjective emphasis and bore lightening contrast to the rather more static Freudian self, viewed as an arena for the interaction of events.

Adler did not develop anything remotely resembling a body

concept, although the body was essential in his emphasis on imagined or real organ inferiority (Ansbacher & Ansbacher, 1956, 24), and his shift from neurobiology towards interpersonal and social relations. Adler implied that perceived organ inferiority became exaggerated and generalised in the individual's total body-image in such a way as to distort it, in a similar way that Freud's libidinal fixation enhanced the particular erogenous zone within the body-image (Fisher & Cleveland, 1958, 46-47). Adler spoke of:

The style of life [self-concept] in our experience, is developed in earliest childhood. In this [the] innate state of the body has the greatest influence. In his initial movements and functions, the child experiences the validity of his bodily organs. (Ansbacher & Ansbacher, 1956, 186).

However, he later referred to the mind as being influential over the body rather than the converse (Ansbacher & Ansbacher, 1956, 225-226): 'In all probability, the mind governs and influences the whole building up of the body...The style of life [self-concept] and a corresponding emotional disposition exert a continuous influence on the development of the body.'

The theories of the post-Freudian era had a much broader scope, since they placed a great deal more importance on social forces and their effect on self-concept and behaviour. Although trained in the Freudian tradition, Horney (1937), like Adler, emphasised the importance of social forces in the development of the self-concept and basic anxieties. The self projected in everyday interaction was seen

to lie somewhere between an abandoned real self and a much sought after idealised self. It was this discrepancy between the real and idealised self which determined the nature of the individual's anxieties. For Sullivan (1892 -1914; 1953), the "self system", a psychological structure that defended the self-concept against anxiety and provided stability and continuity, enabled the individual to cope with interpersonal pressures. The formulations of Lewin (1890 - 1947; 1936) helped to pave the way for other theories describing the interaction between the self-concept and social environment. Lewin's (1936) contribution was the introduction into psychology of the "field theory" which held behaviour to be the product of the interaction of forces operating in a given field at a given moment.

However, by 1940 the body-image was clearly articulated as a "symbol of the self" (Zachry & Lighty, 1940). Accordingly, Clifford Scott (1948, 141) placed man's body squarely in the centre of the universe:

The body scheme refers to that conscious or unconscious integrate of sensations, perceptions, conceptions, affects, memories and images of the body from its surface to its depths, and from its surface to the limits of space and time. (Scott, 1951, 254).

However, he felt the description of the relationship pertaining between the conscious and unconscious aspects of body-image to be inadequate. The exact relationship of body-image to self-concept was likewise far from clear, save that the origin of the conscious self and differentiation of the body appeared to coincide (Scott, 1951,

264). Scott (1951, 265) went to great lengths to explain:

...that the body image is not the self, but that it seems to reflect the self and its primary orientations in space and time ... The body image is intimately related to the ego. In this case, the self, as centre of the 'world scheme', is housed within the image of the body.

This would appear to be in line with current formulations concerning the relationship of body-image and self-concept, at least initially, in the child. Clearly, there had been a change in perspective from those offered by the earlier neurological and psychological models, and as we shall see, a search for an entirely new model began.

The field theory and "ego psychology" of Freudian and neo-Freudian thinking provided the foundation for the theories and notions of self-concept and body-image developed in the 1940s and 1950s. Many theorists of this era ascribed significance to the application of a phenomenological model of man, and held the phenomenological self with the self-concept as its core, to be a fundamental frame of reference for the whole of a person's behavioural repertoire (Combs et al, 1976, 154,159-167). Before considering the phenomenological model in more depth, we should perhaps first turn our attention to its origins in the writings of G.H. Mead (1934, 135-226) and Lecky (1945, 149-166). According to Mead (1934, 158), a social self-concept developed out of the individual's concern over the reaction of others towards him, which could be anticipated by internalising the responses of the "generalised others", which in turn

served to stabilise his behaviour. Also, there were as many selves as there were social roles, some of central importance, others not (Mead, 1934, 159-160). Lecky (1945, 153-160), on the other hand, identified the self-concept as the nucleus of the personality which played an important role in determining which concepts were assimilated into the personality organisation, and which continually strived for unity. This social emphasis combined with Adler's subjective emphasis provided the foundation for what was to become a phenomenological model of body-image, wherein the body-image comprised of both an individual's perception of others' reactions to, and his own perception of, his body (Fisher & Cleveland, 1968). According to this approach developed by Combs & Snygg in the late 1940s, each individual responded only to the reality he perceived. Self-concept was essentially a nucleus of a broader organisation which contained incidental, and changeable, as well as stable, personality characteristics. Since the physical aspects of an individual's self-concept, (i.e., the body-image or bodily ego) (James, 1910, 202; Freud, 1923, 16; Morgan & King, 1956, 372), based upon a notion of objects provided the experiential substructure upon which this nucleus (i.e., self-concept) was built, it formed an essential part of phenomenological theory (Combs & Snygg, 1949). This theory helped to explain a great deal of behaviour that otherwise seemed completely irrational. As pointed out earlier, Adler's work may well have provided the foundation for the development of this model. His basic dynamic force of striving for perfection and completion (Ansbacher & Ansbacher, 1956, 104) bears similarity to Combs & Snygg's (1949, 159) 'preservation and enhancement of the phenomenal self'. Similarly, Adler's notions of life style and individually unique schema

(Ansbacher & Ansbacher, 1956, 181,189) find their counterparts in 'stability of the phenomenal self' and 'phenomenal field' respectively (Combs & Snygg, 1949, 127,130).

Concurrently, body-image provided a basis for psychological testing (Anastasi, 1968, 507). Machover (1949) developed the Draw-a-Person Test in which the subject was required to draw a person. When finished, he was asked to draw another figure of the opposite sex to the one just completed. This projective method of analysis may be regarded as '... useful as a source of hypotheses concerning the single case, or as a method of confirming hypotheses deriving from other approaches ...' (Jourard & Secord, 1955a, 130). However, it remains a matter of controversy as to whether an individual's own body is reflected in such drawings. A slight improvement in methodology was facilitated by Secord's (1953) Homonym Test, in which subjects were required to respond with associations to a series of 75 words, having common body (e.g., "tablet":asprin) or non-body meanings (e.g., "tablet":paper). The total number of bodily responses constituted a measure of bodily preoccupation.

Despite the focus of contemporary personality research upon the individual's private environment, psychologists had up until this time only paid scant lip service to one's attitudes towards one's own body which endures within this private domain. This situation was remedied, in part, by Secord & Jourard's (1953) interest in one type of attitude, namely body cathexis, and their development of the Body Cathexis (BC) scale designed to secure quantitative information concerning one's feeling of satisfaction or dissatisfaction with various parts of one's body (see 6.1).

To this date, however, few systematic studies had investigated

feelings about one's own body. Whilst one's reactions to various external perceptual stimuli had been noted, and body-image data associated with an astonishing collection of psychological phenomena, the study of feelings about the body suffered neglect. It was only towards the end of the 1950s that research concerning the attitudes that one adopts about body size, strength, attractiveness, and vulnerability to external intrusion and so forth, began to acquire psychological significance and emerge as a potential source of scrutiny. Fisher (1970, vii) elucidated: '... a person's experiences with his body, as a perceptual object intrude widely into his life. His body is a perceptual object from which he cannot escape.'

That individuals had a concept of physical self which subsumed a body-image was by now considered axiomatic, although the nature of its relationship to the self-concept was still a matter of debate. For example, Allport (1955, 41-42) considered that:

The first aspect we encounter [of the self] is the bodily me. It seems to be composed of streams of sensations that arise within the organism ... The infant, apparently, does not know that such experiences are "his". But they surely form a necessary foundation for his emerging sense of self ... The bodily sense remains a lifelong anchor for our sense of self, ...

The body-image of Fisher & Cleveland (1958, x) seemed to overlap the self-concept. It was said to refer roughly to '... the body as a

psychological experience, and focusses on the individual's feelings and attitudes towards his own body.', and it was largely unconscious. As early as 300 B.C., it was being suggested that most of us had several selves which is congruent with Horney's (1945, 96) self images, and later Hudson's (1975, 130) actual, ideal and perceived selves, which were not always logically compatible with one another. In addition, some psychologists have, on the assumption of subconscious perception, posited notions of self-concepts which were partially or entirely unavailable to awareness (Horney, 1945, 96; Fisher & Cleveland, 1958, x). Since self-concept is based upon body-image, one would likewise expect multiple body-images at least corresponding to the aforementioned subconscious, actual and ideal self-concepts. Although not explicit, these were somewhat implicit in the later writings of Fisher (1970). The theoretical relationship of these body-images to the generic self-concept, as suggested by the literature to date, is given in figure 1 (see p. 36).

Having reviewed a variety of positions concerning self-concept and body-image, we are now in a position to summarise their main characteristics and thus clarify the possible relationships between them.

Self-concepts:

- (1) contain many different selves (e.g., actual, ideal, and bodily self or body-image).
- (2) develop out of body-image, and later social relationships and interaction.

Both body-image and self-concept are:

- (1) dynamic organisations which change with experience.
- (2) essential for the functioning of the individual in

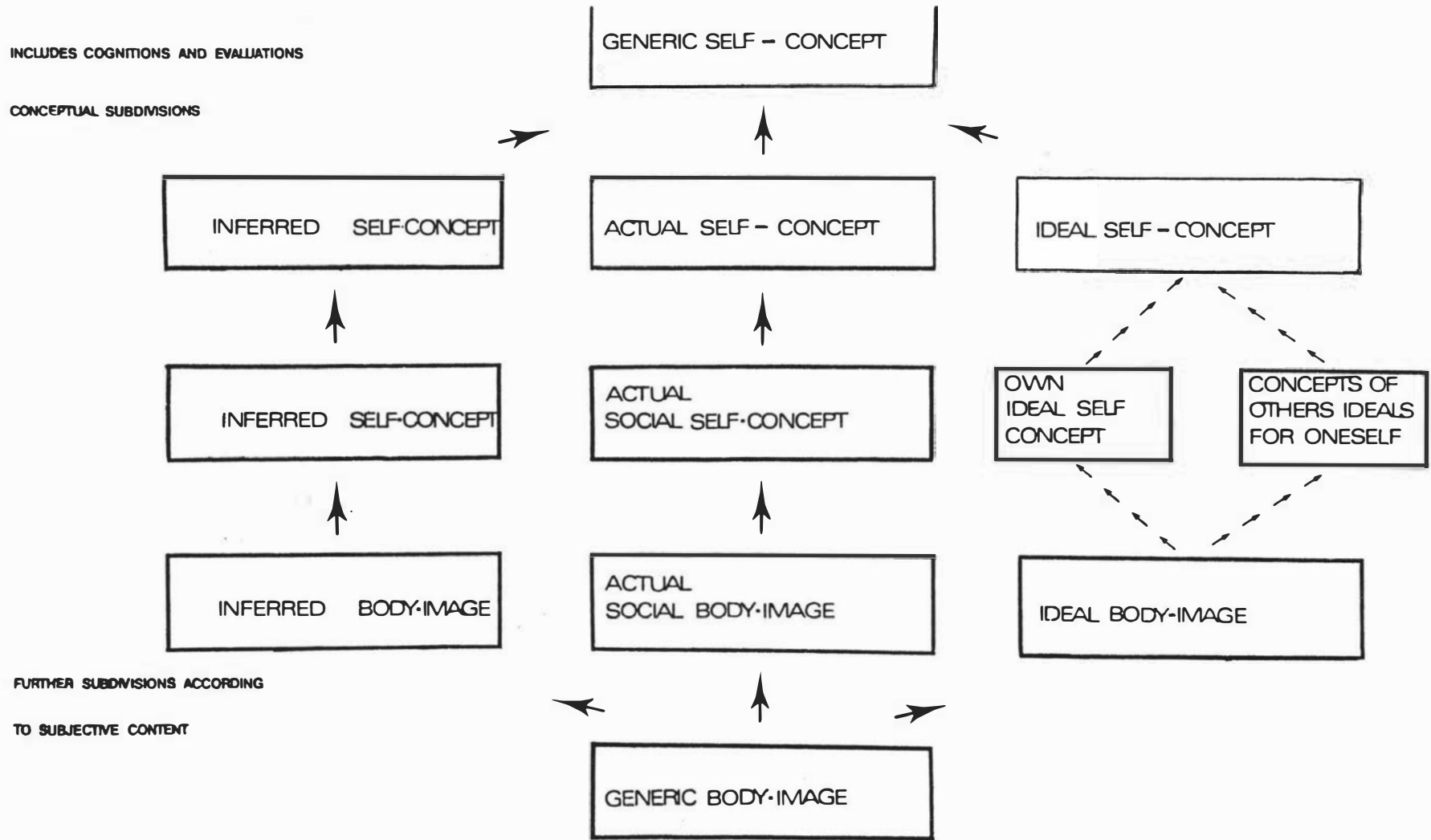


Figure 1: Relationship of Body Image to Self Concept

that they organise behaviour.

- (5) are subsystems of internally consistent, probably hierarchially ordered, concepts within a broader conceptual system (James, 1910, 202; Morgan & King, 1956, 573; Ansbacher & Ansbacher, 1956, 123).

During the 1960s, whilst empirical work concerned with body-image and self-concept was sparse, there appeared a glut of self-confrontation studies which investigated the effects of presentation (Beloff & Beloff, 1961), disguise (Fisher & Mirin, 1966; Rothstein & Epstein, 1963), personality traits (Schumacher et al, 1968), and physiological reactivity (Holzman et al, 1966; Holzman & Rousey, 1966) upon one's body-image, as well as sensori-tonic work (Wapner & Werner, 1965), and investigations concerning body size (Arkoff & Weaver, 1966). In light of this flurry of activity, Fisher (1970, 51) saw fit to comment: 'in the course of probing the amorphous body image domain, investigators keep trying new approaches and tangents. Often such tangents involve one study and no more.'. We learned, for example, that body sensations were experienced in a limited number of body areas (Mason, 1961), that the notion of self was equated with the head (Baldwin, 1964), that movement characterised body parts in one's body-image (Bennett, 1960), and that body anxiety was a constituent characteristic of the individual (Kagan & Moss, 1962). The findings of individual studies are too numerous to mention in depth here, but a selection of them will be covered in detail in subsequent sections. Similarly, numerous methodologies have been utilised to investigate various aspects of body-image e.g., the area

of self-confrontation alone encompasses at least 12 completely different techniques (e.g., mirror distortion (Schneiderman, 1956); tachistoscopic shadow profile presentation (Fisher & Mirin, 1966), and picture presentation at subliminal levels (Rogers & Walsh, 1959)).

The nature of the composition of self was resurrected in the 1970s. Contemporary personality theory viewed the self as emanating from three sources: (1) values, (2) social interrelationships, and (3) bodily experiences (e.g., sensations and emotions) (Waterbor, 1972). However, this tripartite view of self was not as neoteric as its author, Waterbor (1972), would have us believe. For example, as early as 1955, Allport's (1955, 41,43-44,47) proprium included a propiuate striving (seeking for goals), a social self-image, and a bodily self. However, quite how these self-referent modes contributed to the sense of self remained unclear with investigators adopting one of two hypotheses: that they were hierarchially arranged with a fixed order of importance for each or all individuals, or that they contributed equally (Liebowitz, 1976, 499). The importance of social roles, was however, rejected by later authors (Liebowitz, 1976, 506).

The emphasis of traditional psychotherapy which acknowledged an intimate mind-body relationship, and yet tended to localize psychological malfunctioning in the mind rather than the body, was reversed in the 1970s with the development of bioenergetics (Keen, 1973), and other therapies based upon body-image (e.g., the body-ego technique) (Salkin, 1973). The foundations of bioenergetics lay in a composite of the writings of Wilhelm Reich and Karl Marx. The ego was replaced by Marx's social self, and the mind and body represented different manifestations of a unitary, energetic, biological process (Keen, 1973, 66). Put simply, there was always a relationship between

inner self and outer man:

We do not have bodies, we are our bodies. Nor is there a separation between body and world. As embodied beings we manifest our history and demonstrate our interaction with our world. The living body experiences itself and the world in the same way. (Keen, 1973, 66).

By now body-image was no longer statically conceived, but was dynamic, based upon accumulated experiences which could be modified by subsequent experience. These modifications were equivalent to bodily feelings and sensations (e.g., disgust, pain), which were structured as part of the total image (El-Safti, 1973). The social phenomena of body-image was conceptualised as:

... a person's representation of his own body and includes the representation of the individual organs, their interrelationships, and spatial orientation and movements. (El-Safti, 1973, 57).

However, despite such descriptions, body-image theory was criticised for being '...too oblique, lacking comprehensiveness, and failing to discriminate clearly the constructs of body image and self concept.' (English, 1971, 35).

As a result of the new conceptualisation of body-image and a holistic perspective (Keen, 1973, 98) generated in particular by the helping professions, Brown (1977a, 8) proposed a model of body-image

with three levels of bodily experience: innermost somatic (e.g., hormonal sensations), behavioural (e.g., cognitive variables), and topological (e.g., cultural values of the body beautiful and body boundary), and six interactions of these experiences with environmental influences (e.g., attitudes of significant others), the outcome of which varied according to the stage of life (from foetal to elderly years) at which they occur. For example, according to this model there is likely to be a difference between the behavioural experiences of healthy adults and paraplegics in the kinds of motoric experiences which form part of their body-image. Similarly, the body-image of infants, or retarded persons would be formed from a far narrower range of perceptual, motoric, cognitive and personality variables than would be the case for adults of average intelligence.

Because of the pervasiveness of various symptoms and often intrusive care regimes in disability (e.g., intravenous infusion in kidney disease), Brown (1977a, 9) emphasised the importance of Fisher & Cleveland's (1958, 54-63) body-image barrier concept for understanding patients more completely. The degree of articulation of the body-boundary represented a continuum along which there was individual variation. According to this thesis, one would expect those individuals with precise body-boundaries to be identified by low physiological reactivity at internal sites, and to complain of symptoms at external sites (e.g., joint and muscle pains), whilst those with diffuse boundaries complain of nausea, diarrhoea or constipation. In order to contribute meaningfully to our ability to predict behaviour, body-image components must be linked with reliable measures of observable behaviour such as this perceptual measure of body-image. In the late 1970s an attempt was made to link these

perceptual measures with conceptual ones (body-related cognitive complexity), identified by the newly developed Body Concept Differentiation Test (Armstrong & Williams, 1977, 1180), in which subjects were required to rate 10 body parts (5 internal e.g., heart, throat; 5 external e.g., skin, feet) on a six-point scale with respect to six bipolar dimensions (e.g., warm-cold, good-bad). The total number of differentiations made constituted a measure of overall body part differentiation. However, in conclusion, it was clear that the structure of the language of the body required further examination (Armstrong & Williams, 1977, 1189).

The variations in the body-image concept in the literature make it difficult to be precise about its dimensions. As Fisher (1970, 142) pointed out: 'It is difficult to think of an area of behaviour which has not been at least scanned within the context of the possible influence of body image.'. We have seen that theorists differ in the specifics of body-image and in the models adopted. The absence of an accepted theoretical framework within which these different perspectives may be comprehended can only make for confusion. The loose interchange of terminology found in the writings on body-image (e.g., perceived body, body schema, actual physical body, body-image in the brain, body-image) has inevitably led, not only to confusion, but also to misleading conclusions when the data from one term is wrongfully applied to that of another. A classical example of confusion may be found in the opening paragraph of Schilder's (1950) book:

The image of the human body means the picture of our own body that we form in our mind, that is to say

the way in which the body appears to ourselves.

(Schilder, 1950, 11).

The first part of the sentence refers to the visual image of the body, what we have termed the concept body-image. However, what precisely does '... the way in which the body appears to ourselves.' mean? Here ambiguity governs, since it could be referring to (1) processes in the nervous system of the physical body (e.g., somatosensory or visual) at a given point in time, (2) any of the various ways in which physical bodily states affect us somatosensorily, or (3) the true body-image (i.e., the way our body appears to us when we think about it). Despite ambiguity, this definition of Schilder's is still quoted and used today (McCrea et al, 1982, 225). Indeed Schilder (1950) used both body-image and body schema interchangeably. For example, for some authors body-image '... refers to a person's mental representation of his own body.' (Shakespeare, 1975,19). For others, it is either both a mental image and a perception (Schilder, 1935, 106), what an individual reveals in response to questions about his body (Jourard & Secord, 1954;1955a,b), or a far more mysterious phenomenon requiring elaborate research strategies (Rogers & Walsh, 1959; Beloff & Beloff, 1961; Fisher & Mirin, 1966). In an attempt to clarify the issue, further terminology, namely body percept and body concept was introduced (Smythies, 1953). More recently "proper body" and "social body" have been used (Ebtinger & Patris, 1981). Such variation may not only reflect differences in the meaning of body-image, but also current controversy within psychology concerning the relative merits of indirect (projective) as opposed to more direct (questionnaire) methods for obtaining useful information.

In conclusion, it should be pointed out that the lack of a comprehensive and coherent theory makes the comparison and contrast of the findings of the different studies almost impossible, in that without such a theoretical framework there is no common point of reference within which the findings may be interpreted. In addition, McCrea et al (1982) have argued that the major obstacle to progress in the field of body-image is the diversity of methods employed for measuring body-image variables, in that different techniques have led to conflicting findings and comparison across studies consequently lacking meaning:

It would appear that if progress is to be made in this field top priority should be given to the development of reliable techniques for the measurement of body-image variables. More research is needed to evaluate the reliability and validity of the different instruments or the consistency of findings obtained with each separately or in combination. (McCrea et al, 1982, 231).

Also, although current notions of body-image are clearly influenced by Western philosophy, authors appear to have neglected the fact that an individual's mental image of his body cannot be separated from that of his mind (except ontogenetically), primarily because of the central role of personal appearance in moulding the structure of behaviour, and even society, since the time of the ancient Greeks (Mourino Mosquera, 1981).

Although identified in Chapter 5, it is pertinent to re-emphasise

here that this investigation not only seeks to clarify several theoretical issues, but also to produce reliable and valid instruments which may be of general use in this area of study. With the usage of more reliable instruments, and a precise definition of body-image, some commonality at a basic level (i.e., that of terminology) will be given, which will provide the foundation for a more reliable methodology in the future. Then, and only then, will it become possible to collate the vast amount of work on body-image into a meaningful whole, of benefit to many.

CHAPTER 3

BODY PERCEPTION IN NORMAL PERSONS

3.1 THE DEVELOPMENT OF BODY-IMAGE IN NORMAL PERSONS

In this section we will be concerned with the genesis of the body-image as a part of the larger self-concept. It is important to clarify the distinction often made between the self and the self-concept. The subconscious self-concept corresponds to what some authors term the self, with its often imperfect, symbolic representation being provided in the actual self-concept (Figure 1). It is the subconscious self which is constantly undergoing change and the actual self-concept which is resistant to change (Hayakawa, 1963, 37). As a result, there may be some degree of separation between these two concepts of self. Since the possession of concepts is inexplicably tied up with language acquisition and the application of rules, we shall consider five stages of body-image development: (1) childhood (0-12 yrs), (2) adolescence (12-20 yrs), (3) adult (20-35 yrs), (4) middle years (35-65 yrs), and (5) old age (65 yrs+). Here, we are in no way suggesting these to be rigidly defined age-specific levels in self-concept formation, rather the existence of five successive stages. However, before we address ourselves to this task, there are a number of conceptual and logical problems which must be considered.

Self-awareness was once considered by a number of authors to be the distinguishing attribute of man (Mead, 1934, 136-138; Bidney, 1967, 3; Dobzhansky, 1967, 4; Nash, 1973, 459). However, self-confrontation studies have claimed that other catarrhines, namely chimpanzees, are capable of self-awareness and of forming a body-image (Gallup, 1970). Whether it is accurate to infer the existence of a body-image in chimpanzees as a result of self-directed behaviour towards a mirror-image is debatable. For example, since the

chimpanzee is unable to communicate a body-image by way of language or illustration in the absence of mirrors, we have no further evidence of its existence. Clearly though, knowledge of body-image may be a matter of degree. It is difficult to conceive of any animal, including young children, as possessing concepts in the fullest sense of the word, and in such complete terms as the adult comes to comprehend. Thus, an animal might be aware of some of the elements which we assume the concept of body-image to incorporate (e.g., perhaps an understanding of his reflection as an object distinct from other objects, without being competent to grasp enough, and in an adequately interrelated way, to be said to have the concept of body-image). However, at this stage such conclusions can only be speculative. At present, it is questionable whether this "mirroring" component need be postulated in the development of a body-image. Instead, emphasis may be placed on conscious integrated discrimination and the body's historical continuity (Dillon, 1978). However, to this discussion we return later.

For the evolutionist Dobzansky (1967, 4-5), it was this fundamental self-awareness - a result of the evolutionary process - which enabled man to reflect upon the 'ultimate concern', or meaning of life. However, quite how this self-reflective potential originated in the physiological processes of the evolutionary mechanism remains unknown. It is this capacity for self-reflection which enables man to construct a body-image and ultimately a self-concept. Before we can begin our analysis of body-image, we have to explain, at a more basic level, how an apparently unaware neonate becomes self-aware, and how the body-image emerges and changes during the childhood years.

Many authors claim that infants see themselves as initially

undifferentiated from the environment (Piaget, 1954, 355; Allport, 1961, 111; Nash, 1973, 462; Hurlock, 1974, 23; Burns, 1979, 148).

Allport (1961) pointed out:

One thing is quite certain: the young infant is not aware of himself as a self. He does not separate the "me" from the rest of the world... The infant, though presumably conscious, lacks self-consciousness completely; the adult has both but they are not identical. (1961, 111).

Similarly, more recently, Burns (1979) attested that:

All the early writers concluded from their observations of children that at first the young child is not clear as to what constitutes 'Self' and what is 'not Self'. For a long time the infant's sense of self includes too much, since it also encompasses those close to him in a literal sense. (1979, 148).

Thus, for most psychologists, infants' early movements suggest them to be unaware that their bodily parts are indeed themselves. However, it is difficult to know whether this widely proclaimed statement of the young infant's inability to distinguish his body from other bodies is pure conjecture or based on sound empirical evidence. If the latter, then it becomes extremely difficult to understand on what such an empirical assessment could be based. Let us consider, for a moment,

that the developmental psychologists are correct in their assertion. It then follows that a progression has to be made from an initial stage where there is no distinction between "own body" and "other bodies", to a stage at which there is a correlative awareness of one's own body and of other independent bodies, all with a separate identity in space and time. Clearly, there are both conceptual and logical difficulties in trying to comprehend quite how an infant who is, to all intents and purposes, at oneness with the world, can ever become transformed into anything else. If a young infant cannot distinguish between his body and other bodies, it is extremely difficult to see how he could ever possibly make this distinction. The psychologists' logical difficulty appears to be a legacy of Cartesianism which, as we saw earlier, attempted to separate the individual from the external world by identifying him with his mind. According to such a thesis, the infant would have to be able to construct a body-image similar to that found in adults, from the data given to him, with no help from the external world. Such a notion, although implicit in the writings of Chomsky (1968, 74) is clearly unacceptable and must be rejected.

Since both body-image, and as we shall see later, body schema are concepts, and since having a concept both presupposes and implies knowledge, it would logically follow that no concept could be acquired without some form of pre-existent or concurrent knowledge arising with experience. Hamlyn (1973, 188-191) convincingly argued, that instead of a set of inherent genetic principles by which they can understand objects, infants possess an innate ability to become aware of objects placed before them i.e., which they experience:

Thus the child is not a solitary but immature

consciousness trying to make sense of a mass of data which come before it in the light of certain mysterious principles with which it is born. Awareness of objects, in the formal but not material sense of 'object', is something that we must presuppose in the child. What he is put in the way of will determine the ways in which the formal notion of an object is cashed for him... (Hamlyn, 1973, 189).

This means that from the outset the neonate has the ability to distinguish his body from other objects in a rudimentary fashion (i.e., the formal structure of personal identity and "own body" is given, and the content determined by subsequent learning and interaction with adults). In this respect the ontological principle of proximo-distal development should not be neglected.

To have a body-image clearly implies that one knows what would count as having a body-image. However, as mentioned earlier, this is a matter of degree, since one could have knowledge of some aspects of body-image without knowing others. When an infant over the age of 10 months exhibits self-directed behaviour toward his mirror image (Gallup, 1968), this should not necessarily be interpreted to mean that he recognises the image as himself, rather only as an object different from himself. Similarly, following Hamlyn's reasoning, it does not mean that he has a body-image, only an ability to distinguish objects about which he knows very little. It would be logically absurd to suggest that a pre-linguistic infant had a body-image if he had no concepts, though he may have a physical percept (i.e., an awareness

based on sense data), but not a conceptualisation.

Logically, the origins of body-image, and thus self-concept, lie with physical percepts based on sense data and bodily experiences. In this respect, we have to familiarize ourselves with the fundamental concept of body schema and the theory of schemata which originated with Head (1926, 488-490) as a means of explaining the errors in body awareness and orientation made by those individuals with brain damage. The theory of schemata involves two concepts, that of schema building based on a physiological process, and the resultant schema so built. Body schema originated as a purely physiological (neuro-perceptual) construct, whose function it was to provide a kind of standard for both spatial and postural orientation of the body. The body schema is dependent upon sense data which provides information about the movement, position and tone of body parts:

The only constant and continuous record of our movements in space exists in the condition of these schemata. For innumerable changes in posture occur which are not represented in consciousness, and, were it not for these physiological dispositions we have called schemata, the inception of a voluntary movement would often find the part to be moved in an unsuitable attitude. Consciousness is in no way necessary for such coordination; in fact, tonic innervation, though dependent on afferent impulses, is determined and regulated entirely on the physiological level. (Head, 1926, 488-489).

Body schemata are thought to be co-ordinated in a definite location in the sensory-motor cortex, possibly in Penfield's (1959) sensory homunculus (Nash, 1973, 461). It is difficult to determine the precise origins of body schemata, although there are suggestions that they are basically innate (Nash, 1973, 462). Thus, it is the current subconscious schema, which is available to the conscious mind upon demand, that enables us to evaluate our body movements in the absence of sufficient kinesthetic information. As Layton (1972, 844-846) so aptly put it: 'We simply consult the already present body schema.' which is employed in relation to the total visual field (i.e., within the current projection funnel). The unitary nature of this supposed subconscious representation of the body is brought into question by Head & Holme's (1911-12, 187) assumption of a second, different tactile body schema which enables us to locate superficial stimuli. That these are two separate schemata was derived from the observation '...that a patient may know where his hand is but be unable to say where it has been touched.' (Cohen & Clark, 1979, 333). It should be remembered though, that the body schema is part of the subconscious mind, and thus its presence is inferred.

Presumably, this body schema, or primitive body-image, has to be modified by body experiences and percepts so as to become an accurate representation for the particular individual in question. However, in some respects, Head's term of body schema and its subconscious physiological organisation is misleading as a basis for body-image development, since even neonates do not act merely as a perceptive apparatus. They have a personality, albeit primitive, which experiences the perception. Head (1926, 543) went some of the way in

discounting sensations, percepts, and images as isolated elements of mental activity, and at the same time proposing the body schema as a unitary physiological mechanism operating independently of conscious activity. That is not to deny the importance of such a notion, but simply to point out that from birth onwards its base does not lie in physiology alone. The situation would no doubt have been clarified if Head had not failed to describe the schema's organisation and mode of action upon judgments. Head & Holmes' (1911-12, 186) argued that since 'the visual image of the limb remains intact, although the power of appreciating changes in position is abolished' in persons with certain cortical lesions, then it followed that the fundamental standard against which reference was made could not be a visual image. Thus, for Head & Holmes body-image was presumed to be simply a conscious visual representation of the body as opposed to the fundamental standard of the subconscious schemata.

Body-image as we have come to understand it presupposes a body with a body schema, but not a knowledge or understanding of that schema, much in the same way that a bicycle rider need not be conversant with the laws of motion, gravity, and so forth, presupposed by the act of riding the bicycle. Whilst one may be ignorant of one's physiology and unconscious mechanisms, the body schema and body-image may influence each other through the physical manifestation of a malfunction, or the somatic channelling of psychological influences.

In the case of the young infant, body-image does not develop in an all-or-none fashion. In order to have a body-image, the child must come to view himself as an object distinct from other objects. This initial development may be described as follows: (1) children are born with the power to differentiate between themselves and other

objects, (2) the ability to so discriminate is acquired and refined through social contact in which those who have developed the ability to so discriminate (e.g., adults), teach and correct the discriminations made by young children. Clearly, at birth, the neonates' ability to so discriminate is primitive in that whilst they may be able to discriminate between their body and other objects, it is neither clear that they have a viable conception of the basis of their discriminations, nor that they always discriminate correctly. The former is acquired through language, and the latter by adults correcting the errors (reinforcement) (Hamlyn, 1973). Whilst it may appear that young children are unable to discriminate between their own body and other objects, this is not necessarily the case, and would rather seem the product of an attempt to interpret the infant's movements in terms of adult conceptualisations. It is equally plausible that young children can and do discriminate between their own body and other objects sometimes correctly, and sometimes incorrectly. With continuing social interaction they learn to refine such discrimination. Since young children are unable to speak, then there is no way in which we can deny that they do discriminate in the way suggested.

In this section we are more concerned with personality-oriented research, and how the individual experiences his body as a '...value-laden psychological object.' (Lipowski, 1977, 474), than with the perceptual model of Head. Such studies do not involve considerations of perceptual accuracy and perseveration of bodily phenomena, but rather attempt to unearth relationships between subjective body perception and personality measures. The dichotomy of research interest into the major areas of perception (physiological)

and personality (psychological), although evident in the early writings of Schilder (1935) and subsequent authors, evaded clarification until the more recent writings of Shontz (1969, 5).

Schilder (1935, 15-16) was the first clinician to suggest that body-image both influenced (i.e., modified), and reflected the personality traits and emotional states of the individual. Accordingly, the various psychological factors affecting body-image, and thus an individual's experience were initially reflected in the unspecific and problematic terminology of conflicts, emotions, fantasies, and defences echoed in the work of Lipowski (1977, 474,479). It is rewarding to know that recent studies have attempted to isolate and identify psychological and physiological factors in an attempt to comprehend the notion of body-image more completely (Fisher, 1970). Clearly, there is no such thing as an absolute body-image. Each person's image of a particular body is mediated by his conceptual apparatus and his particular experiences of the body in question. In considering the development of body-image as a component part of self-concept, we will attempt to explain that: (1) body-image is a not a unity, (2) some experiences are more fundamental to the body-image than others, (3) body-image organisation follows a developmental course, and (4) that body-image is hierarchially organised. Since body-image provides the frame upon which self-concept is assembled, similar considerations hold for the development of self-concept. It is important to examine the development of body-image from body schemata, through the bodily self, to a mature concept of body-image in adulthood.

3.2 CHILDHOOD (0 - 12 YEARS)

3.2.1 Stage 1 (birth - 1 month)

It is the neonate's initial skills and responses which provide a common base for the development of body-image and self-concept. Thus, it is crucial to gain some understanding of the scope and limitations of their competencies. The neonate is now considered to have more innate skills manifested in his exploratory activity than was formerly accepted by the '... blooming, buzzing confusion' of James (1890, 488).

At birth the neonate is transferred into an environment capable of much stimulation, which in itself, not only provides opportunities for initiating learning and socialisation, but also encourages and stimulates the continuing development of the infant's nervous system, the incomplete myelinisation of which is thought to be responsible for much of the erratic behaviour seen within the first three months of life (Brown, 1977,23). It remains difficult to determine whether function precedes or follows myelination. Bee (1975, 79) offered two alternative explanations for the neonate's bodily activity: (1) as a reflexive response to internal stimuli, or (2) in line with Hamlyn's (1973) considerations, as a rudimentary attempt at "intentional" explorations within the confines of physical development. The position was further clarified in that the neonate's movements '... like its visual explorations, are probably not random, they are probably not purposive either.' (Bee, 1975, 79-81).

Furthermore, it has been argued that at this stage of development, thought and speech are completely independent of each other (i.e., non-verbal thought and non-intellectual speech)

(Vygotsky, 1962, 46-48). However, the neonate probably has very little, if any, ability to differentiate consciously between his levels of body experience. It has become increasingly evident that both visual and somatosensory information, vital for the development of a body-image, are not essential for the body schema (Cohen & Clark, 1979, 333). The argument against a developmental basis for body schema rests in studies of pathology which will be considered in more depth in chapter 4 (Weinstein & Sersen, 1961; Poeck, 1964).

The fact that the neonates' actions are determined primarily by bodily needs should not be interpreted as their having no self-awareness. The latter may be primitive and refined through identification and imitation.

3.2.2 Stage 2 (1 month - 1 year)

In early infancy, it is likely that innermost sensations are not differentiated. Behavioural experiences rapidly develop with an increase in motor development (Frankenburg & Dodds, 1967). The infant's awareness of his body characteristics proceeds in the same fashion as motor development. As a result of heightened bodily curiosity and exploration the young child appears able to respond differentially to his mirror image, and by 18 months to recognise the image as "himself" in some primitive way (Brown, 1977, 46).

Clearly, the nature and development of body-image and self-concept in early childhood can be assessed only by inference. It would seem that the profusion of sensations both impinging upon, and emanating from, the body gradually enable the infant to (1) more clearly articulate the location, boundaries, and position of his body,

and thus (2) create the first component of self-concept and body-image. The young infant's egocentric involvement with his body and immediate environment gradually diminishes as his cognitive abilities mature. In line with Hamlyn's reasoning above, it is doubtful (1) whether the early maternal relationship is as symbolic as Freud (1940, 188) would have us believe, and (2) that the young infant understands the basis for self/non-self discrimination as early as eight months as suggested by Piaget (1937). However, it is essential for the development of a stable body-image and self-concept that the infant develops a rudimentary notion of object constancy during this prelinguistic period, and becomes increasingly able to clearly discriminate between his body and other objects (i.e., he must come to regard his body as a single, continuous event). It is out of such experiences and accomplishments with his own body that the body-image develops. The infant, as it were, with maturation, learns what it is to have a body-image and self-concept. Although body-image and self-concept are related, the knowledge involved in acquiring them might be quite different. Thus, the infant, in some way, must come to have some understanding of the issues involved. It is this ability to know what constitutes a body-image or self-concept with which we are concerned, rather than a mere ability to so distinguish. However, 'one can understand nothing of a subject unless one has the concepts in which that understanding is to be expressed.' (Hamlyn, 1973, 196). Learning to refine his initial self/non-self distinction from direct experience or perception, and in the absence of social mediation, is the infant's first major step in the acquisition of a body-image and a self-concept.

3.2.3 Stage 3 (1 - 2 years)

By age two, the infant has the rudiments of the adult's language competency. Whilst it is generally acknowledged that thought processes and language influence each other, quite which precedes the other remains uncertain. On the one hand, Piaget & Inhelder (1966, 86,89-90) argued language to be structured by thought, whilst on the other hand, Vygotsky (1962, 46-48) suggested the converse (i.e., that thought processes conscious and unconscious, were structured by language). Both theorists clearly distinguish between the private world of the self or mind, and the public world of language. Such a separation between thought and language would seem quite unjustified in that it fails to acknowledge any communication of understanding. In accepting either of these accounts there is a fundamental problem: How is it possible to form a body or self-concept by the consideration of common aspects of experience, if the recognition of such aspects, in the first place, is possible only if one already has the concept of body and self? It would seem that "concept" is a term which expresses the fact that the public use of language has achieved certain agreed standards. Hirst (1974, 79) convincingly argued: 'without discovering the rules for the correct use of the terms of public language, how could one learn the rules for the application of the related concept.' If one does not discover when, and when not, the terms of body and self can be used, it is difficult to understand how one could ever discover the meanings the terms have.

At this stage cultural influences may also be seen to affect the child's behavioural repertoire. In line with Layton's (1972) considerations, the infant has to learn an awareness of the position

of various bodily parts, rather than the ability to move them. It is this capacity for self-awareness which is learned and refined through social experience rather than any concomitant motor activity. As Gesell & Ilg (1949, 63) summed up: ' By the end of the second year he walks and runs; articulates words and phrases; acquires bowel and bladder control, attains a rudimentary sense of personal identity and of personal experience.'

Just as the development of concepts is clearly aided by the attachment of single labels, those of body-image and self-concept are aided by the child's use of his own name, and his now more stable and unitary view of himself (Bee, 1975, 283). It is difficult to determine whether the child's striving for autonomy at this age reflects a simple desire for mastery, the developing body-image and self-concept, or some obscure combination of the two.

In sum, it would seem probable that aspects of the body-image and self-concept are, in part, learned from (1) direct physical and mental experiences without social mediation (i.e., awareness of bodily sensations), and (2) social mediation with, or without, language. Clearly, in order to promote the development of an undistorted body-image and self-concept in infants, adults need to comprehend how the infant feels about himself and his world.

3.2.4 Stage 4 (2 - 7 years)

The differentiation of the neonate's generalised excitement into distress, excitement and delight at age three months become further differentiated into 11 emotions at age two (e.g., four emotions: fear, disgust, anger, distress, may be identified as originating from

the emotion of distress experienced at three months) (Bridges, 1932, 340). The discovery of the self through motor activity (e.g., as one whose actions can produce effects), is inextricably connected with its discovery through other sense organs (Yamamoto, 1972, 87).

It would seem that the child's understanding of the workings of his body are more advanced than is generally acknowledged, and reflects culturally transmitted beliefs (Gellert, 1962, 391), perhaps analogous to the thinking, and multiple explanations of primitive man and the ancient Greeks (e.g., both children and the ancient Greeks believed internal organs to be mobile).

Surface characteristics of the body, especially sex organs, now attract the child's attention to form what Freud (1940, 154) called the phallic stage, wherein children consider the phallus as a normal possession of both sexes. It is possible, though, that this stage is not as universal as Freud indicated.

It was argued earlier that the generic self-concept comprised of various, different, self-conceptions and body-images. Accordingly, it would seem reasonable to suggest that the child articulates and comprehends these different self-conceptions, and thus body-images, with varying degrees of clarity at different stages of development. At the start of this stage, the child is beginning to distinguish more clearly between himself and his environment, and also between his levels of bodily experience which he can now differentiate by means of language. During this period, the child is transformed from an organism whose most intelligent functions were sensory-motor overt acts, to one whose upper limit cognitions are inner, symbolic manipulations of reality.

We still know very little about the child's understanding of his

own body, its workings, and health maintenance at this stage. Such knowledge is of vital importance when dealing with sick children. Contrary to Fraiberg's (1959) and Schilder & Wechsler's (1935) insistence that children do not acquire any systematic knowledge of their body parts prior to age nine, Gellert (1962, 387-389) found (1) that children as young as age four to six, had some knowledge, albeit rudimentary, of their body parts (e.g., bones, heart, brain), and (2) that a similarity of explanation existed across age groups, perhaps as a result of common information which, to use Hamlyn's (1973, 189) expression, they were put in the way of. The lack of verbal acuity in younger children (below age four), prevents us from being more precise about the origins of self-concept.

3.2.5 Stage 5 (Preadolescence, 7 - 12 years)

This stage does, in fact, mark the peak of childhood development as, for example, in the delicate control of eye movements, and in the relationship between fine and gross motor movements (Brown, 1977). It is during this biological and cultural intermediate stage that the child sheds his milk teeth and acquires his first permanent teeth (Pikunas, 1976, 209).

The conceptual advances of the former years appear crystalised into the emergence of an adult conceptual facility at age nine or ten (Blos, 1941). As a result of parental guidance, children are now usually capable of distinguishing various physical attributes of their own and other bodies as well as their sex role. The powerful influence of both real and imagined physical attributes or deficiencies

upon the developing self-concept, mediated by the body-image, is reminiscent of early childhood and later adolescence. Such physical factors are extremely important in predicting the degree of satisfaction an individual might have, via his body-image, for his self. Bodily appearance usually provides the basis of the, often derogatory, nick-names the child uses to define and address his peers. Burns (1979, 155) spoke of children as:

... past masters at picking on, rather cruelly,
those physical characteristics that stand out,
then exaggerating them to the level of defamatory
caricatures.

The complexities of development during these intermediary years lack the vivid articulation of infancy and adolescence, and as such have been neglected by developmental theorists. The developmental fluctuations and shifts which characterise this stage are thought to be '... primarily the expressions of the ancient processes of evolution [which] ... his organism must gather up and reweave the essential ancestral threads.' (Gesell & Ilg, 1949, 13).

3.2.6 General Considerations

The importance of infancy and the preschool years as an experiential influence in directing the formation of body-image and self-concept should not be underestimated. We have seen how, initially, the infant's body-image or physical self is inseparable from his self-concept (i.e., the self-concept is initially a body-image). Accordingly, it may be said that the body-image and bodily feelings comprise the core of the self-concept. If, as argued earlier, the child is born with a rudimentary power to distinguish his body from other objects, and as Burns (1979, 159) suggests: 'the child's knowledge of self is contingent upon a separation of self from others', it follows that the child is born with the potential for the differentiation and development of self. Unfortunately, as with the bulk of research on body-image, the orientation and emphasis of studies has been largely pathological, reflecting what seems to be an established tendency to overlook or disregard normative data.

It has been suggested that body-image maturation is strongly influenced by the subjective meanings, conscious or unconscious, that an individual ascribes to his own, and other persons' bodily parts (Schilder, 1935, 168-179; Lipowski, 1975, 3-42). In line with true Freudian tradition, it would seem that such symbolic meanings are largely determined by childhood experiences. These experiences, in turn, appear mediated by the individual's degree of bodily awareness and body-boundary perception (Fisher, 1970).

It has been shown that one's value-laden appraisal of one's own body is inextricably linked with one's labelling and perception of bodily changes, the cognitive appraisal of which is dependent upon both the past experiences of the individual and his present social

situation. In this respect, James (1890, 449) suggested that 'the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion.'. Shacter & Singer (1962, 397) went further to explain that the different labels we attach to emotions are cognitively determined and based upon a common state of physiological arousal. Similarly, the significance assigned to, and differences in, awareness of physiological sensation may be related to the individual's psychological state.

Whilst language clearly facilitates self-concept development, it is extremely doubtful that it is always conceived in linguistic terms. Burns (1979) proposed what he termed a labelling hypothesis:

... the genesis of true self conception
may come for infants at the point in time
when they grasp the fact that they have
a name. (1979, 159).

With maturation, comes the ability to associate both psychologically and physiologically based emotions with internal bodily processes and to describe them in terms of cognitive processes (e.g., thoughts and ideas), rather than the bodily sensations of younger children (Lewis et al, 1971, 1493-4). However, the perseveration of this linguistic habit of young children is, in part, determined by their cultural, developmental, and psychological experiences (Lipowski, 1975). A body-image or self-concept thus formed,

... is largely derived from the reflected

attitudes of those around him. It is a learned constellation of perceptions, cognitions, and values, and an important part of this learning comes from observing the reactions one gets from other persons. (Yamamoto, 1972, 186).

Thus the experiences of the child are roughly the experiences (i.e., attitudes, beliefs and understandings) of the social group to which he belongs. The child's understanding of himself and the world around him will largely reflect the adults' understandings of themselves and the world around them. Thus, body-image is a socially learnt set of self-understandings which embody cultural and social values.

Body-image might also affect physical performance by facilitating associated activity and hindering others by way of their emotional significance (e.g., a young schoolgirl may be renowned for her agility in running over hurdles, but be poor at ballet) (Schilder, 1935).

It is generally acknowledged that we communicate with our whole body and speak with our mouth. Self-concept is believed to have evolved from the body-image, since the earliest childhood differentiations between self and the environment are thought to be derived from bodily sensations. Gradually, the infant learns that those objects giving rise to sensation belong to his body, and all else to the environment. From the psychoanalytic perspective, it is such a distinction between the inner world of sensation (including all internal viscera) and the outer world of objects (including the body) that marks the beginning of awareness of self and personal identity. As the child grows, his body-image becomes more clearly articulated

with its level of maturity being dependent upon the nurturance of distinct and accurate body boundaries (Fisher, 1970). Although ethnic awareness may develop as early as age two, the body-image is relatively undifferentiated prior to age seven, and two-point touch not clearly articulated until age 12 (Layton, 1972, 843). Further, Layton (1972, 842) notes that, when discussing the Draw-a-Person test, the first detail drawn by children are the eyes. In early infancy, movement not only provides experience in motor activity, but is absolutely essential if an appreciation of kinesthesia (sensations of movement of any body part) is to be achieved. One of the most potent agents affecting body-image during infancy is physical appearance which necessarily attracts particular social responses. Since the self-concept is initially a body-image, its development during childhood putting together the various findings outlined above, may be summarised as follows:

- (1) The child has a body percept and the power to differentiate between himself and other objects.
- (2) With experience, the child learns to distinguish his actual body from other objects.
- (3) Culturally determined childhood experiences influence the bodily experiences of the child.
- (4) The child acquires language, and with it, the ability to verbalise about his body and self.
- (5) The child's understanding of his self and

bodily experiences are mediated by
socially determined conceptual structures.

3.3 ADOLESCENCE (12 -20 YEARS)

It is during the physical and endocrine changes of adolescence that the body-image is reformulated as the result of somatic experiences. The sexuality of adolescence which is less diffuse than that of infancy, is addressed to sexual intercourse and influenced by former bodily attitudes and adjustment: The all-consuming sex drive is more likely to be neglected by those who were unable to accept childhood sexuality. Fisher (1964a, 7) suggested the smaller hand-to-ankle resistance ratio found in males (1:4.4) to be '... an early sex difference which is for a period obliterated by other developmental events and later re-emerges' at ages 15-17. Since the individual is not consciously aware of his own skin resistance, it would be reasonable to assume it as an adequate reflection of the individual's subconscious body-image.

The labile body-image of adolescence not only has to adjust to rapid changes in bodily proportions, confused by the disproportionate growth ratios of body parts, but also excessive body energy which may cause the individual to feel he has little control of his body, despite the adolescent subculture having '... built-in mechanisms to cope with it [i.e., energy].' (Brown, 1977, 78). Also, the progressive physical development of the body does not corroborate Bender et al's (1956) order of dominance of body parts, save for the

growth of the head and its features. Thus, one is left assuming that some final reorganisation of body-image takes place.

The self-awareness mentioned at the beginning of this chapter, and the introspective egocentrism of earlier years, return to characterise adolescence and its progression from generalised emotional, social, and intellectual immaturity, towards the goal of self-identification, and the formation, often mediated by fantasy, of an ideal self (Pikunas, 1961, 254,259). Positive reinforcement has now been superceded by moral responsibility and ideals as a behavioural guide, and consistent behavioural characteristics begin to appear.

For the nurturance of a stable body and self-concept in adulthood, it is important that, towards the end of this stage, the individual: (1) accepts and recognises this final bodily organisation as related to his self, (2) accepts his self, and (3) identifies his now realistic self with various adult models. As a result of Wheeler's (1963) study, Hurlock (1968, 443) attested:

... the adolescent must not only have a realistic self-concept, but he must also be willing to accept this concept.

Further:

The adolescent who forms a reasonable ideal image of himself and then achieves it in real life can accept himself in the sense that he "likes"

himself and feels that others find likeable qualities in him. As a result, he makes better personal and social adjustments than does the adolescent whose ideal self image is so unrealistic that he falls far short of it. (Hurlock, 1968, 443).

The more stable self-concept evidenced towards the latter stages of adolescence may be seen as providing the centre around which interpersonal relationships and social life are formed (Murphy, 1947; Rogers, 1951; Suinn, 1961). Indeed, self-acceptance and the realistic acceptance of others appear related (Suinn, 1961). Maturation may influence the generalisation of attitudes towards the self and others, thereby exerting a controlling influence upon self-concept as a whole (Jones, 1960).

Topological experiences are perhaps at their most important during adolescence, since what was a relatively stable body-image is suddenly subject to dramatic physical restructuring (Pikunas, 1961, 103). Both male and female bodies undergo striking topological change. Adolescence, like old age, is a period of development marked by depreciatory societal attitudes (Hess & Goldblatt, 1957; Hurlock, 1968). Thus, it would seem reasonable to suggest self-concept development as the inevitable outcome of the individual's interaction with his physical world. The question arising at this stage concerns the inevitability of adolescence. The age and duration of adolescence seems to vary from culture to culture, as does its social interpretation. It is somewhat of a misnomer to emphasise biological puberty, when so often the puberty recognised is social. In Western

tradition, the physiological state of adolescence is frequently marked by domestic rebellion, and lacks a clearly demarcated age span. For some authors, it is this lack of definiteness and clarity which fosters confusion in the transition from childhood to adulthood (Eisenberg, 1965, 132). In many cultures the onset of adolescence is marked by puberty rites. As Benedict (1935, 18-19) saw fit to comment:

If cultural emphasis followed physiological emphasis, girls' ceremonies would be more marked than boys'; but it is not so. The ceremonies emphasise a social fact: the adult prerogatives of men are far more far-reaching in every culture than women's, and consequently ... it is more common for societies to take note of this period in boys than in girls.

Adolescence may be seen to provide '... the necessary - but not sufficient - conditions for full maturation in adulthood.' (Eisenberg, 1965, 131). The self has now become established as an anchorage point for both attitudes towards, and perceptions of others (Murphy, 1947; Rogers, 1951; Suinn, 1961). As Suinn (1961, 37) commented: 'once the self-concept is formed and stabilised, it is said to influence later behavior strongly.'. Rogers (1951, 520) went a stage further to focus attention upon self-acceptance: 'when an individual ... accepts [himself] ... then he is necessarily ... more understanding ... and accepting of others as separate individuals.'.

Clearly, the emphasis placed upon real or imagined physical deficiencies and attributes, as in early childhood, may have a

considerable effect on the development of the body-image and self-concept. Many authors emphasise the inevitability of changed attitudes towards the self during adolescence (Ausubel, 1955; Eisenberg, 1965). Hurlock (1968, 393-394) spoke of the emotional lability of the early adolescent:

One minute the young adolescent is up in the clouds, and the next he is in the depths of despair ... In general, the young adolescent is an unpredictable person, even to himself.

For many authors, presumably of Freudian psychoanalytic persuasion, such lability has its roots firmly planted in a disadvantaged childhood (Eisenberg, 1965, 131). However, by late adolescence, the individual has usually acquired some degree of emotional stability which enables him to understand the meaning of his now established body configuration, and to incorporate it into his body-image (Brown, 1977). Also, by this time, the threat to the body-image of an uncontrollable energy level is markedly reduced.

Psychological development appears postponed as the individual enters a phase of self-diffusion (inability to identify self) dictated by earlier experiences (i.e., some sort of integration of various childhood identifications) which helps determine the adolescent's psychosocial identity (Erikson, 1950, 227-228; Hurlock, 1968, 443-444). Despite the limitations and applicability of the clinical approach towards adolescence, it has had a considerable impact on how adolescence is both viewed and experienced. For those like Erikson, the self-concept is markedly affected by such "normal" events as

identity crisis, psychopathology, and disturbance during this period of life. Whilst some studies support the notion of disturbance during early, as opposed to late, adolescence, most suggest that 'both his body-image and his self-image radically change.' (Simmons, Rosenberg & Rosenberg, 1973, 553). Others have shown the self-concept as being relatively stable over these years (Engel, 1959; Piers & Harris, 1964; Carlson, 1965; Coleman, 1974). Coopersmith (1967, 21) stated plainly: 'it [the self-concept] appears relatively resistant to change. Once established it apparently provides a sense of personal continuity over space and time.'. Engel (1959, 215) does however, caution that changes may have taken place '... in aspects of the concept of self that are less readily admissible into awareness.'. Thus, the existence of aberrations and disturbances in body-image and self-concept, at least at the conscious level, during adolescence are questionable, despite the traditional emphasis of their contribution to pathology, or as a normal developmental event, presumably resulting from a rather thorough self-concept revision. Although a generalised, and somewhat consistent adolescent disturbance was evidenced by Coleman (1974), contrary to Erikson's (1950) contentions, there appears to be no one stage at which body and self-concept disturbance is particularly apparent (Monge, 1973). Discrepancy between the real and ideal self-images (i.e., self-image disparity) has been interpreted as reflecting cognitive maturation and the import of analytical thought rather than personality disturbance (Katz & Zigler, 1967). Thus, for Erikson, the main purpose of adolescence was seen to be the avoidance of diffusion and identity crisis. An identity crisis may be taken to occur when a person is in a state of confusion as to the nature of his being, and is not unique to adolescence (e.g., both

illhealth and unemployment may markedly effect self-concept) (Jahoda, 1979; National Youth Council, 1979):

... the onset of unemployment produces an immediate shock effect ... deterioration follows quickly with boredom and declining self-respect ending in despair or fatalistic apathy. (Jahoda, 1979, 310).

The ornamentation, clothing, behaviour and roles, accepted by adults as having their origins within adolescence are socially determined by the same adults. Thus, adolescence itself, marked by its identity crisis, is built into our social life - it is expected and societal pressure exerted to bring it about. Whilst, as has been pointed out, an identity crisis may be caused by many events in life, society tends to focus on retirement for men, the menopause for women, and adolescence for all.

Burns (1979, 179) described an uncertain self-concept as emanating from the '... bewildering numerous and often inconsistent identifications ...' with which adolescents have to cope. From this, it would follow that the body and self-concepts of younger children are more stable since their number of potential identifications would be strictly limited. Alternatively, it may be that problems with the articulation of identity are reflected by those youngsters who have always had a poorly defined self-concept perhaps mediated by feedback from "significant others". Certainly, in recent years "traditional" theories of self-concept development have been rejected as inadequate in explaining adolescent identity (Breakwell, 1983). Thus, an

unstable or ambiguous body-image and self-concept may emanate from the socially induced confusion (i.e., unclear social definitions and expectations) with which the adolescent in Western society is faced, and as such, the solution lies not within the adolescent, but within societal structure. Here, we may see a reflection of the Marxist philosophy, whereby society plays a significant part in the shaping of subsequent development (see Chapter 2)

3.4 ADULTHOOD (20 - 35 YEARS)

Despite the existence of body-image as a cultural focal point, little attention has been focussed upon the adult body-image, presumably because it is less visible than its pathological derivatives. Similarly, distinction between the different levels of bodily experience becomes more blurred and complicated as the individual ages. For example, the inability of women to tolerate leg distortion (Fisher, 1964a) may reflect a threat to their conventional, sedentary, female role (Parsons & Bales, 1955), or to their already established and relatively stable conception of their legs as objects of attractiveness rather than mobility, so that when confronted with perceptual change, women are thrown into a state of dissonance or uncertainty which they are unable to resolve, and which manifests itself as anxiety. As Fisher (1964a, 5) suggested: 'She is not sufficiently secure about them to take a chance on their visual transformation.'. Whilst this is pure speculation, it does appear congruent with Jourard & Secord's (1955b, 137) notion that when an individual's body '... does not correspond with his standards

(internalised from others), he will feel insecure.'. One would expect the insecurity of women to be mirrored in reduced physiological activation of their less actively motoric legs as compared with the other parts of their body, and with their male counterparts, which in fact appears to be the case (Fisher, 1964b; Joesting & Clance, 1979). Thus, it would seem that, for women, legs play only a minor role in their body-image which is projected in daily interaction, and are thus neglected at a conscious level. Since the emphasis for the male in Western society, outside of the family group, is on mobility and movement (Parsons & Bales, 1955), it is hardly surprising that they are more receptive than women to changes in the appearance of their legs (Fisher, 1964a). It was also noted that women tended to share a fairly immutable, culturally restrictive and stereotyped concept of the ideal which was almost impossible to attain, being reflected in their flexible allocation of cathexis ratings to various body parts (Jourard & Secord, 1955b, 136).

Generally women show as much concern about their bodies as is true of schizophrenics, and complain most frequently about their head, back or stomach area (Plutchik, 1971). Hair is particularly important in a woman's body-image, and is portrayed in terms of its cosmetic rather than naturally occurring characteristics (Layton, 1972, 843).

Men ascribe a higher financial value to their bodies than do women, and place emphasis upon their sex organs (Weinstein et al, 1964; Gorman, 1969; Plutchik et al, 1973). They also identify the right side of the body with masculinity and have been associated with theories of inclusion (i.e., incorporating environmental objects into their body-image) (Fisher, 1970). Especially important, is the spatial framework provided by the body-image by which individuals

organise spatial experiences (Schilder, 1935, 97-98).

In adulthood, the prevailing, idealised group norms still exert a potent influence upon body-image, although social and group attitudes will now be organised and incorporated into the self-concept. Also, the influence of the adult body-image upon self-concept not only varies from culture to culture, but also upon the specifics and sequence of former behaviour and role training (Fisher & Cleveland, 1968, 292,349). The limitations of the adult body-image are often demarcated as a result of such training. It is custom that furnishes women, and not men, with the opportunity, by way of cosmetics, to approximate their ideal body-image or stereotype and thus to hold more idealistic perspectives than is true of males.

If, as we suggested earlier, disturbance during adolescence is frequent, then adult adjustment becomes based on the resolution of conflicts in earlier life generally, rather than just those of adolescence, which is in keeping with the integrative model of the Freudian system.

It is thought that the body-image is in a state of flux, constantly being revised in the light of new experiences (Schilder, 1935; Smythies, 1953; Fisher, 1970). Some aspects of body-image may change more rapidly than other aspects. While there is perhaps no permanent core of body-image content, lasting from the earlier stages of body-image development until death, there may be what might be called semi-permanent features of body-image which remain relatively constant, these giving the appearance of a relatively stable body-image over time. Thus, it becomes possible for the body-image to be firmly planted as the nucleus of the self-concept and at the same time, contrary to Shontz (1969, 205), to acquire some degree of

permanence as a psychosocial rather than psychological structure at least until the decline in old age.

It is true that we disrupt the body image as soon as we have created it ... Destruction is, in other words, a partial phase of construction, which is a planning and general characteristic of life ... we destroy in order to plan anew. (Schilder, 1935, 193).

Implicit in these writings is the idea of body-image as a sensitive mediator of the individual's self-identity. It would seem reasonable to suggest that unpleasant aspects of the adult body-image and self-concept, along with those acquired during pre-verbal infancy, are unavailable for conscious consideration.

3.5 MIDDLE YEARS (35 - 65 YEARS)

Frequently, psychological changes (e.g., depression and bodily preoccupations) accompany the changing sexual responses and/or their decline, and the recognition of limited physical resources despite a greater experientially based efficiency (McNaught, 1972, 168; Brown, 1977, 94-97).

... For the first time, the body has become a reality that must be considered ... it cannot be ignored, for

it is making demands on you ... Middle-aged people - especially women - "monitor their bodies" to check for symptoms of disease and try to prevent disease. (Lugo & Hershey, 1974, 520).

Individuals may become aware of the gradual disappearance of their former proportions as a result of (1) atrophy, (2) basal metabolic reduction, (3) a final redistribution of fat, and (4) weight gain caused by a reduced caloric need, but not intake (McNaught, 1972, 168; Brown, 1977, 94). The influence that such culturally undesirable changes would have upon body-image would depend upon the importance of physical attractiveness to the individual. Thus, for both men and women, body-image and self-concept have to be validated anew (i.e., in other interests).

The ability of women to tolerate changes in facial perception (Fisher, 1964a) may be reflected in their ability to cope with severe facial distortion precipitated by ill-fitting dentures and consequential atrophy of the lower jaw. However, it would seem more likely that such enduring distortions would have a deleterious effect upon body-image and self-concept (Brown, 1977).

Since an understanding of these years is still in progress, it is perhaps not surprising to find little information available as to how men and women conceive and prepare themselves for this time in their lives. Whilst it has been acknowledged that this era of middle adulthood is qualitatively different from that of early adulthood at least for women, with their initiating a "break-out" from old conceptual and cognitive structures between ages 40 - 44 years (Droege, 1982), which is consistent with the findings for men

(Levinson, 1978), it also appears that women have opposing conceptions of the polarities masculinity-femininity and separation-attachment (Droege, 1982). The former polarity is of particular interest since it is one which will come under scrutiny in the investigations to be considered later. It has also been suggested that an awareness of mortality during these years facilitates creativity and production in men as well as anxiety about their life structure, frequently revealed in an increased concern with love and attachments rather than the power and autonomy of former years (Kushnir, 1982).

3.6 OLD AGE (65 years +)

The decline in mental abilities, especially memory, during senescence (period of physical and mental decline), although compensated to some degree by increased skill and imagination, become accelerated with the onset of senility (complete physical and mental breakdown) to promote severe cognitive disorganisation. Clearly, the rapid perceptual-motor decline may seriously impair daily activities, whether work or recreation, thereby affecting both self-concept and body-image (Brown, 1977). Inarticulation of body-image and self-concept may result from the individual's inability to validate them in the absence of any occupation (Hurlock, 1968, 788). Brown (1977, 99) considered that during this stage '... most individuals are concerned primarily with evaluating the lives behind them and preparing for the death ahead.'

At this age Allport (1961, 113-114) emphasised the importance of

body-image:

Throughout life the sense of bodily me is the basic attest of our existence. Our sensations and our movements feed us with constant awareness that I am I ... The bodily sense remains a life-long anchor for our self-awareness.

It is this centrality of the body-image and self-concept which enables the old person to preserve his integrity and self-satisfaction, despite the threatening loss of identity and associated disorientation of the self concomitant with old age (Pikunas, 1976, 357-358).

A natural social withdrawal and its consequential increase in social distance, and a preoccupation with the self, noted as early as 160 BC, are considered characteristic of this period in life (Hurlock, 1968, 851; Pikunas, 1976, 367,369). Thus, often as a result of impairment, we now see a reversal towards a restricted environment so typical of infancy.

The development of body-image and self-concept only really ends with death (i.e., deterioration is taken as being incorporated within a single developmental process and is not recognised as being separate from it). Whilst no criterion can be given for the onset of old age, those with physical disabilities tend to exhibit early and rapid deterioration (Pikunas, 1976, 358). It has been variously argued that in old age the individual has (1) to construct a new self-concept, (2) attain self-fulfillment, (3) become socially disengaged, and (4) become preoccupied with his self (Hall, 1922, 394; Cummings et al, 1960, 25-34; Erikson, 1963, 268-269; Henry, 1965, 210-218). Such

theories are however, too simple to account for the variety of adjustment patterns reflected in the self-concept and body-image of old age. For example, if, as was pointed out earlier, the individual's body-image and self-concept are never static, but rather in a constant state of flux, an appreciation of an entirely new self-concept, as suggested above, becomes difficult. Since attempts at rejuvenation may be traced back to the Ancient Greeks (Alvarez, 1964), it would seem reasonable to suggest that the elderly, as at other life stages, resist changes in body-image that to some may seem inevitable (e.g., accumulation of abdominal fat and lowered head position) (Pikunas, 1961, 369).

The former evolutionary changes mediating structural and functional maturity may become involitional and show a regression to those, more simple, patterns of behaviour and functioning characteristic of early life (Hurlock, 1968, 777). Such behaviour, whilst being recognised, has not always been interpreted as regression. Goethe (1808) in Faust (Prelude in the Theatre) suggested that age merely emphasised the child in us all:

Age childish makes, they say but't is not true,

We're only genuine children still, in Age's season!

Unfortunately, the emphasis within gerontology has been upon institutionalised elderly persons. Accordingly, the pathological decline of this stage acquired prominence and led to generalisations unrepresentative of older citizens.

Folklore and literature combine with more recent investigations to contribute to the unfavourable stereotype of old age accepted

within Westernised society, which views aged members as '... ineffective, worn out both physically and mentally, crotchety, hard to live with, and [who] should be pushed aside while awaiting life's end to make way for younger people who are more useful to society.' (Hurlock, 1968, 791). One might reasonably expect an awareness of such attitudes, when combined with the physical and psychological decline of senescence to contribute towards an unfavourable body-image and self-concept. Indeed, elderly persons have been known to comment: 'they've placed me on the scrap heap - I'm a burden to them now and just left alone - they never come near, partly, I think, because I'm ill.' (personal communication 27.4.82).

Aging is not thought to precipitate body-image pathology, although clearly, the structural and functional decline makes biological decline inevitable. It has been suggested that the cycle of development and decline is dictated by the interaction between the individual's biological and social clocks (Neugarten, 1972).

3.7 GENERAL CONSIDERATIONS

The intimate relationship between body-image and self-concept has never been seriously questioned (Hamachek, 1971; Horrocks & Jackson, 1972; Donelson, 1973; Thomas, 1978; Hardy & Heyes, 1979; Weinstock, 1982). Consequently, the importance of evaluative attitudes towards one's own body and self has acquired a prominent perspective in various personality theories. As Secord & Jourard (1953, 343) explained: '... the individual's attitudes towards his body are of crucial importance to any comprehensive theory of

personality.'. Indeed, positive relationships have been reported between feelings towards one's self and body (Weinstock, 1982). One's attitudes towards one's body tend to be consistent and are thought to have their origins in early childhood (e.g., a fear of bodily harm during infancy may find expression in the body anxiety of the adult) (Kagen & Moss, 1962).

A number of sex differences in attitudes towards body-image have come to light outside of the customary phallic/non-phallic dictum originating with Freud. For Freud (1938), the female body was distinctly inferior to the male as a result of compensatory "penis envy" arising out of bodily inferiority engendered by the awareness of the lack of an externally projecting genital. Body attitudes typified by this phallic/non-phallic distinction have been observed in studies of a more empirical nature (Franck & Rosen, 1949). It is difficult to see how this phallic/non-phallic dimension could provide the substructure upon which every aspect of man/woman body-image differentiation is built. It is perhaps germane to note at this point, other aspects of sex differences as reflected in bodily attitudes which have also received consideration. The notion of what constitutes the "ideal" cultural stereotype (Jourard & Secord, 1955a) appears to be assimilated at an early age by girls (Katcher & Levin, 1955). This finding also supports the idea of greater feminine bodily recognition as revealed in the large number of bodily responses to Secord's Homonym Test (Secord, 1953; Weinberg, 1960), and the greater reference made by females to bodily feelings in projective encounters (Van Lennep, 1957). One would of course, expect the subconscious body-image to have a greater awareness of bodily feelings and functions.

Although smaller and lighter than their male counterparts, the overall development of girls, including nerve myelination, is further advanced (Bee, 1975, 84). This faster developmental timetable may affect their immediate interaction with their parents and their later experiences. They also seem more sensitive to pain and touch stimuli, but less vulnerable to physical trauma than males. Similarly, they show a more clearly articulated body-boundary and they are able to make more realistic estimations of their body size and differentiated sex role at an earlier age (5-7 years) than males (Katcher & Levin, 1955; Fisher & Cleveland, 1968, 267).

From an early age, females show dependence upon external cues for labelling emotions and feelings, and tend to associate them with visceral sensations (i.e., those from internal organs). Males, on the other hand, show an independence from external cues when labelling emotions, with the number of internalised references increasing from age seven months onwards (Lewis et al, 1971, 1492; Lipowski, 1975). Also, a larger proportion of body weight is devoted to muscle tissue, in the male, even at birth (Bee, 1975, 84). Boys as young as age six tend to associate behavioural stereotypes with body types (e.g., the ectomorph was thought of as shy and retiring) (Staffieri, 1957).

It seems that individuals, regardless of age, have a particular bodily focus, much to the detriment of other body areas. This focus may be changed by the absorption into the body-image of agreeable and comfortable reconstructions by plastic surgery and various appliances such as contact lenses and dentures (Layton, 1972, 843). Also, it must be appreciated that 'as age increases there is a growing awareness of the articulation of the various body systems', and the body acquires less transient characteristics (Gellert, 1962, 396-397).

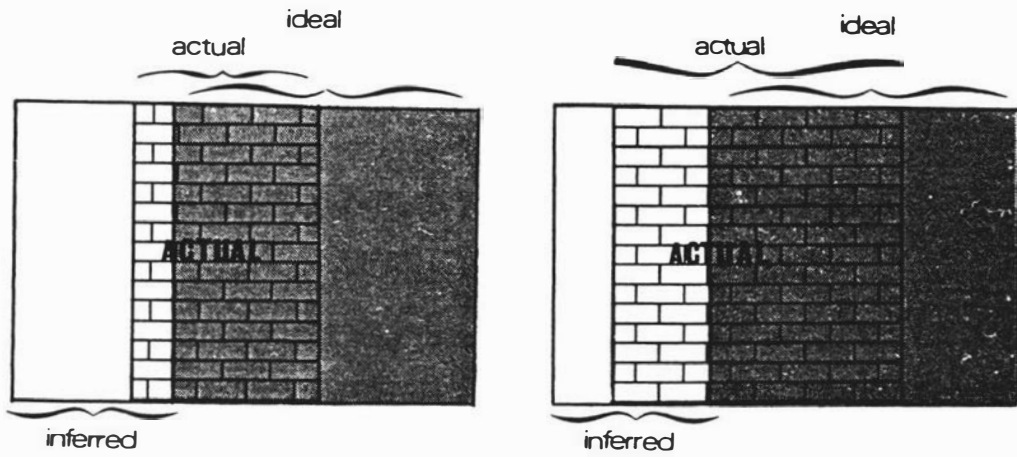
Quite which body parts receive such emphasis, however, remains unclear: Plutchik et al (1973) found the focus placed upon the eyes, legs, and arms rather than the tongue as in Weinstein et al's (1964) earlier study. These results confirm the order of dominance of body parts proposed by Bender et al (1954) and corroborated, in part, Weinstein et al's (1964, 294) findings which deemed the face as the most dominant feature, followed in a downward progression by genitals, feet and finally, the hands. This dominance pattern was clearly evident in the presence of organic brain pathology, but less so in normal children and adults, both of whom were readily able to learn the correct responses to two-point touch, and completely absent in functional disorders such as schizophrenia. The report of Bender et al's (1954) study had one distinct imperfection: the failure to offer a neurological explanation for the principle of dominance which was inferred, as a descriptive term, from behavioural data. Later authors were critical of this psychological stance, and argued for extinction as a purely physiological phenomena (i.e., a discrimination deficit) (Denny-Brown, 1952). On the basis of the work of Bender and his colleagues, Shontz (1969, 44-45) proposed that the pattern of dominance represented '... a fundamental sensory organisation that is normally modified by experience ... toward increased accuracy of body perception (i.e., decrease in the occurrence of dominance)'. In sum, it follows that body-image and functional disturbances are separate, such that the existence of dominance in adults would be indicative of cortical pathology. This is consistent with Denny-Brown et al's (1952) contention that extinction and its related dominance pattern are neurophysiological phenomena which co-exist with a psychologically intact body schema and image.

Specific attitudes to particular bodily areas appear accompanied by particular patterns of physiological reactivity: bodily areas held in high regard, or those of which the individual is greatly aware are characterised by low skin resistance (i.e., high activation) (Fisher, 1970, 541). The gross sex differences in the consolidation of legs into the body-image has been amply illustrated earlier in this chapter. Whilst this difference has been attributed to differing attitudes towards spatial mobility, the possibility remains of the subconscious body-image, as reflected in skin resistance, having a direct bearing upon the import of bodily areas to the body-image, especially of those commonly used in daily interaction. Fisher (1964a) suggested a different external/internal content of the body-image for women and men, which would, he argued, appear supportive of social differentiation and perhaps personal immaturity and maturity respectively.

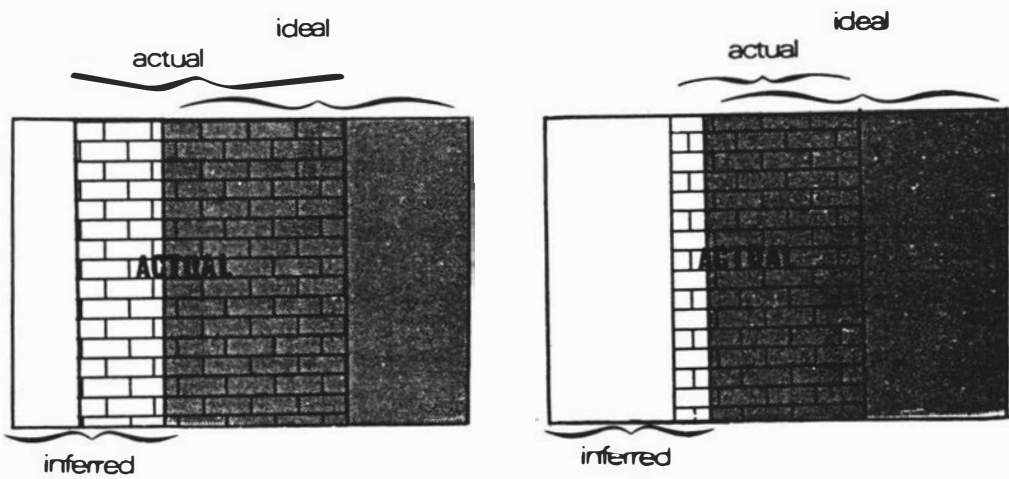
Individuals also vary in their degree of bodily awareness (Schilder, 1935; Wapner et al, 1958; Fisher, 1964a; Fisher & Cleveland, 1968). In other words there are individual differences in the content of the body-image (Fisher, 1964a). One may consider there to be apportionment, in some way, of each person's attention between his body and his environment. This may depend upon the content of the respective body-images. At one extreme, there are those who seldom seem aware of their bodies, and for whom the environment dominates over the body-image (Figure 2a). At the other extreme the converse holds, and individuals exhibit a somewhat fervant preoccupation, or even obsession, with their bodily functions and sensations (Ebtinger & Patris, 1981) (Figure 2b).

Schilder (1935, 201-202) went so far as to say that '... in

2a The environment dominates perceptual awareness with the larger actual image



2b The body dominates perceptual awareness



(areas proportional to involvement)

Figure 2: Differential Bodily Awareness

every action and in every desire we intend a change in the body image.' (i.e., when we change our clothes, jewellery, hairstyle or expressive movement, we change our attitudes and body-image). Thus, it seems reasonable to suggest that our body-image is in a constant state of flux between being enlarged and reduced. This plasticity of the body-image provides the basis for the transformations seen in primitive people and Greek mythology, and in Western society when immortalised and extended by a pair of wings. For example, the rubbing-board, or confirming oracle, representative of the judicial system of the Azande of the Southern Sudan, provides an extension of the chief's body-image, and in so doing, his power (Evans-Pritchard, 1937). The plasticity of body-image is further illustrated by the notion of spiritual possession, wherein another, often alien, body-image wanders into the body-image of the possessed person.

The limitations of the body-image are overcome by the integration of clothing into the body-image, and in some cases, the assignment to it of qualities not formerly present (e.g., the supernatural powers of witch-doctors). Thus, the adornment of certain clothes helps to signify the social standing of individuals in our own, and other, cultures. Accordingly, the accepted body-image of the witch-doctor of the Azande people was thus described:

... witch doctors proceed to dress up in straw hats topped with large bunches of feathers of geese and parrots. Strings of magic whistles made from particular trees are strung across their chests and tied round their arms. Skins

of wild cats and other animals hang around their waists like a kind of skirt. Over this hangs a string of dried gourd-like fruits with wooden tongues to make dull-sounding bells. In their hands they hold rattles and bells!

(Lewis, 1961, 170).

A considerable noise would no doubt emanate from a witch-doctor thus adorned. It should be remembered that even in Westernised society there are ethnic differences in the beliefs held about the human body. Thus, exosmethesia (extention of body-image) may encompass commonly used objects such as the surgeon's scalpel or artist's brush (Layton, 1972, 843). The purpose of such projection was seen to '... place the cortical image at the perceived location in space of the stimulus - for this represents reality.' (Layton, 1972, 844). It was Schilder (1935) who developed the notion of a vertical body midline projection by which we orient our bodies and consider the location of objects with respect to the orientation of our body-image. Put simply, the body midline is projected into space as a divider: Layton (1972) argued convincingly for a projection pathway which (1) comprised two segments - one internal (brain to eye), and one external (eye to perceived stimulus location), (2) was comparable to the motor pathway in a stimulus-response situation, and (3) of which we were perceptually unaware. Further, based on the work of Hofstetter (1970), he contended the external pathway to be represented by an extention of the body schema in the perceptual system. To summerise:

It would appear that the mass of body sensations

perceived at any given time by an individual is not a "blooming confusion", but rather a differentiated field. Persistent directive influences associated with the body image would seem to serve as organising forces capable of sharpening or minimising sensations from different body sectors. (Fisher, 1970, 177).

Without others, self-knowledge, and thus self-concept and body-image would not exist. One might reasonably expect cognitive ability and self-recognition to develop concurrently, since the latter implies the former. In this respect, sensori-motor permanence precedes, and is not dependent upon self-recognition (Lewis & Brooks-Gunn, 1979, 220).

The notion of body-boundary (i.e., how definite or indefinite an individual experiences the boundary between his body and the surrounding environment) is of central importance. To date, we know that the definiteness of the body-boundary (1) increases with maturity, (2) varies according to individual experiences, and (3) that those persons who emphasise the definiteness or indefiniteness of their body boundaries are more likely to develop symptoms associated with external layers and internal viscera respectively (Fisher, 1970).

The figure-ground relationship of Gestalt psychology is represented in body-image by the association pertaining between body schema and movement - the body schema provides the ground against which current movement (i.e., figure) can be perceived and incorporated, which in turn forms the ground for subsequent movement (Shontz, 1969, 34-35).

There is little evidence to refute or corroborate the argument that the child's self-concept changes in his transition from childhood to adolescence. Thus, adolescence does not appear to cause most adolescents to make drastic changes to their self-concept, although their rate of maturation can change, especially in males. Basically however, it has to be recognised that whether the result of an identity crisis, pubertal sexual desires, or physical maturity combining with social immaturity, the physiological changes of puberty, as with the menopause and old age, will fundamentally challenge the individual's view of himself (i.e., his body-image). It is interesting to note the inconsequential effect of socioeconomic status upon body-image (Weinstein, 1964; Plutchik, 1973). Similarly, the increased energy level and decreased impulse control of male adolescents appear mediated by an exceedingly high caloric need (Ganong, 1971).

The holistic perspective developed in the 1970's, which is central to the phenomenological model advocated in this thesis, may be reflected in the holistic perspective advanced in the chapter. The organismic model, thus not only has application in developmental psychology (Kitchener, 1982), but also in the study of body-image. Following this perspective, one might venture to suggest that body-image (1) consists of the relationships between the body parts, and the structure and functioning of the whole (i.e., body), (2) incorporates internally related parts, and (3) determines the nature of its parts (i.e., our attitudes towards them and thus their function). Obviously, it is impossible for a physical entity to become a mental object. It is not the physical thing which becomes incorporated into body-image, but rather the mental concept of it.

Thus, since the relationship of the body parts (internal and external) form the entity of body-image, it cannot be reduced simply to the sum of its constituent parts. If one considers, for a moment, the phenomenological reality of the human body from the cultural viewpoint of the evolution of self-awareness and the role of the human in his social and physical environment, it is not too difficult to view body-image as a hierarchically arranged, complex gestalt that is not reducible to the structures imposed by different scientific disciplines.

In summary, 'the body image is one of the basic experiences in everybody's life. It is one of the fundamental points of life experience.' (Schilder, 1935, 201). It would seem that body-image development may be determined by way of genetic predispositions which are given, and independent of experience, but directed by cognitive, physiological, and psychosocial maturation. It is this factor of maturation which provides the structural basis of body-image, with experiential learning influencing the particular direction of its development. This would appear congruent with recent psychoanalytic theory whereby some aspect of the individual's sense of reality is tested at each stage of body-image development (Lichtenberg, 1978). As such, it may be noted that features common in body-image development are those essential for all types of development.

CHAPTER 4

BODY PERCEPTION IN DISABLED PERSONS

4.1 BODY-IMAGE IN DISABLED PERSONS

[NOTE: Information reported in this chapter includes some based on private conversations with participants and Maori elders, and on the materials to which they allowed access on the strict undertaking that any submissions based on the data obtained should remain anonymous.]

So far we have considered body-image as a more concrete representation of self-concept. We have already discussed how body-image precedes and is intimately related to the process of identification (Chapter 3). Whilst the body-image is progressively revised throughout life, it '... cannot be altogether free of distortion' (Diamond, 1957, 231) either by way of attitudinal immaturity, the modelling of body-image upon ideal and popular stereotypes, or bodily change. It is the latter with which we are concerned here. Bodily deformation, imagined or real, has long been recognised as a severe handicap in the development of a healthy adult personality (Diamond, 1957, 235). However, most people manage to develop a "normal" body-image:

Self-awareness, acceptance, and a feeling of being generally in control of oneself are characteristic of the mature, healthy adult, and the perception of the body as articulated within the environment is a concomitant of these characteristics. A sense of separateness and of body boundary is essential

to the awareness of self as apart from, and a part of, the external world. (Donelson, 1975, 298).

Distortion usually results from either childhood experiences, such as a physical deformity incorrectly handled by parents, or later in life, through the acquirement of a disability (Miller, 1969). Acquired disabilities necessitate modifications to an already-established body-image (Safilios-Rothschild, 1970). These may be sudden and overt (e.g., spinal cord injury), or more insidious and gradual (e.g., chronic organic illness such as multiple sclerosis (MS), or rheumatoid arthritis (RA)). Indeed, recent research into obesity, which for our purposes may be likened to physical disability, reveals that the individuals concerned usually live under continuous derogatory social pressure, and may suffer '... continuous insult to their physical personality [which] may result in a distortion of body image.' (McCrea, 1982, A62). Similarly, anorexia nervosa, at present in the forefront of body-image research, is identified with an almost delusional disturbance of body-image (Garner et al, 1978; Bruch, 1981; Zlachevsky, 1981). The personality disturbances frequently identified with MS, RA and obesity commonly find expression in some distortion of the body-image (Diamond, 1957, 236; Garner et al, 1978).

To appreciate how the disabled person comes to view his body and his self, we need to have an understanding of the conceptual processes likely to be involved. We must consider the relationship of the body-image to its inner (subconscious) self. This implies that the body-image has a centre, with the face as its core, and a periphery region. The structure of the body-images we have of

other people's bodies is the same for our own body-image. We have already mentioned that in young children, and when one thinks of oneself (autoscopy), the body part most commonly focussed upon is the face (Chapter 3). The face is visualised and distinguished more than any other structure, and in a sense expresses the concept of self in bodily terms. Such may also explain Bender et al's (1954) facial dominance (Chapter 3, op.cit). We may also recall historically that the self or ego was originally located in the head (Chapter 2, op.cit). Similarly, the optic image we have of ourselves, or of others, is situated in the central regions of the perceptual field (Chapter 2). In considering this pattern of perceptual function, a similar pattern for conceptual function (thinking) becomes feasible. As Bender et al (1954, 253) pointed out: 'It is well known that most of our thoughts are pointed directly or indirectly towards ourselves, and we think least of what is most peripheral to or away from the ego.'

The actual body-image, for us, describes a memory image of the human body, whether one's own or someone else's which is experienced, and clearly distinguishable from the inferred, subconscious body-image. Necessarily, the physical body is a physical object, and not the same as the mental image we have of the body. This conceptual body-image is thus dependent for its existence, to a large extent, upon the correct functioning of perception and memory in its various manifestations. Thus, it may be difficult with dyskinesia (impairment of voluntary movement) to perceive bodily postures, and anosognosia (loss of ability to recognise bodily defect) accordingly becomes a body-image disorder (Schilder, 1935, 40). Although disturbances of body-image occur in

hypnagogic states and schizophrenia, they are more frequent in organic conditions (Hamilton, 1974, 80). When such conditions combine with depression to produce body-image distortion, a more metaphorical interpretation may be in order. Since we noted earlier (Chapter 2) that patterns of physiological reactivity were associated with particular bodily attitudes (Fisher & Cleveland, 1958; Davis, 1960), it follows that if distinct and identifiable attitudes towards one's body accompany illness generally, or specifically, then these may well be associated with patterns of physiological reactivity either causal or consequential, but unique to the particular illness in question. In a similar vein:

... all emotional or psychological conflicts involve a distortion of body movement. To free the self is to free the body ... There are recognisable patterns: hysterical bodies are overactive, self-defeating masochistic bodies are dense and heavily muscled; schizoid bodies are fragmented, the parts don't seem to go together, some are overstiff and others weak.

(Keen, 1973, 65).

If such patterns are so distinct, then it seems reasonable to argue for the existence of equally distinct patterns accompanying physical pathology, regardless of various comments to the effect that dissatisfaction with certain aspects of the body is universal (Levy, 1932). Certainly, it would appear rather obvious that most able-bodied individuals have a part of their body with which they are not completely satisfied. In the various self-confrontation studies reported (Epstein, 1955; Holzman & Rousey, 1966; Holzman et al, 1966) bodily displeasure appeared to be shown by individuals

with high expectations. Whilst the non-disabled may have difficulty in deciding quite how they look (Wolff, 1943; Deno, 1953; Beloff & Beloff, 1961), although this view has been a matter of contention (Arnhoff & Damianopoulos, 1962), clearly a visible physical disability would be a unique distinguishing factor for an individual. It would be interesting to see if underlying emotional reactions to disability would be divulged during subconscious self-appraisal. Thus, there would appear to be a case for replication studies of many of the self-confrontation experiments with disabled persons (e.g., the influence of anxiety upon the perception of disability (Schumacher et al (1968))).

If self-enhancement is a fundamental need (Murphy, 1947; Epstein, 1955; Rogers, 1965), then one would still expect it to be evident in those with physical pathology, and reflected in their body-image. Only when the threatened body-image and self-concept are unable to maintain themselves covertly would one expect them to seek internal subconscious refuge. As Rogers (1965, 516) explained further: 'If the self cannot defend itself against deep threats, the result is a catastrophic psychological breakdown and disintegration.'. Thus, it could well be that subconscious self-enhancement may be absent in those severely disturbed or disorganised by acute physiological trauma.

What some authors have termed "the perceived body" or "postural model of the body", is in fact what we have termed the actual body-image and, in this respect forms a part of the individual's perception and larger body-image constellation. This perceived or actual body-image may differ from what is "really" (somatosensorily) present, as may occur with a phantom limb, where

the actual body-image is identified with the inferred body-image.

The reaction of normal individuals to disablement furnishes a somewhat unique occasion for scrutiny of the body-image undergoing change (Fisher 1970), and enables us to reflect upon the type of reorganisation that the physically impaired must effect ultimately in their self-concept. This type of change would be impossible to produce in the laboratory (Fisher, 1970). Until quite recently, insights into the organisation of body-image had centred upon pathology and the all-pervasive influence of central nervous system damage, or alternatively, those processes which generate disorganisation (e.g., schizophrenia). Thus, specific analysis of particular body-image variables became an elusive task. In the words of Fisher (1970, 58): 'There is much to be learned about body image in the course of observing the strategies which persons evolve in adjusting to body disablement'. There are also many questions, as yet unanswered, to which we address ourselves in the investigations to be considered later. For example, is the disturbance in body-image focussed in the area of disfigurement, or is it more widely spread? In what way does the disturbance manifest itself in one's body-image? Does it, first and foremost, take the form of modifications in how positively or negatively one feels about various body areas, or does it encompass other factors such as changes in the amount of total body awareness, or enable the disabled person to realistically evaluate and experience his size attributes, or lastly, does it direct attention to the major body areas?

When physical changes or additions occur which require radical revisions in one's body-image, it is usually difficult to adjust to

the new physical actuality as well as to the new body-image that actuality involves. An adult who finds himself putting on weight, balding, losing youthful good looks, or accumulating physical disabilities, is in a situation not incompatible with that of the adolescent who is likewise undergoing physical changes which appear to be out of control (Chapter 3). The adult does appear to have the advantage of being more prepared for, and more able to recognise the factual meaning of the changes. Add to this a less labile value-hierarchy, and it would seem that the adult is better placed to accept change. However, it could equally and convincingly be argued that since an individual's body-image becomes more clearly articulated with maturity, it would become increasingly difficult for him to incorporate a disability into his basic and well-established body-image. Evidence to date is supportive of the latter; those who acquire a disability show an inability to adjust to the changed functioning or appearance of the body (Wright, 1960; Cardone et al, 1969a and b; Norris, 1970; Garrett & Levine, 1973; Kleeman, 1977). Clearly, congenital disabilities, or those acquired during childhood, will have a very different effect on an individual's body-image than the same illness acquired later in life, since they are more likely to be absorbed into the child's original body-image (Brown, 1977a). The implications here are important for clinicians. Also, particularly frightening for an individual would be those changes in bodily experience that are not easily or publicly visualised (Brown, 1977a), as may be identified by the onset of early multiple sclerosis or rheumatoid arthritis. However, such "invisible" disabilities may also help the individual to deny his disability:

... the more an individual has a chance to hide his disability or the more the resulting limitations are diffused and mal-defined, the more he tends to avoid integrating the necessary changes into his body-image and self-concept.

(Safilios-Rothschild, 1970, 96).

The impairment of a motoric dysfunction, such as multiple sclerosis, may not always be visible, but it usually has external manifestations (e.g., the early muscle flaccidity of multiple sclerosis would make interaction with the environment more difficult). Publicly invisible disabilities, such as the bowel problems incurred by many with spinal cord injuries, often foster a disturbing lack of understanding in both the individual concerned and in those around him (Appendix A, Case History 1).

Whilst there appears to exist a great multiplicity of responses to severe physical impairment (Fisher & Cleveland, 1968; Safilios-Rothschild, 1970; Brown, 1977a), it is evident that coping patterns in existence prior to disability are likely to endure and profoundly influence the individual's body-image (Brown, 1977a, 13). For example, those who cope with reality by denial are likely to deny any new difficulty arising from disability. Few studies have attempted to identify and describe the type of changes that occur in the individual who acquires a disability. One of the first attempts at describing the influence of disability upon self-concept was forwarded by Adler (1929, 23-24), who was quick to point out that:

... disability if treated correctly does not necessarily impair self-concept ... It is not the actual disability

which influences self-concept, but rather the individuals attitude towards it.

However, Wright (1960, 151) considered that an individual's adjustment to disability was dependent to a considerable degree upon his self-concept. The disability had to become an integrated part of the self and not severed from it. Subsequently, Ware et al (1957, 88) associated body-image with adjustment more specifically:

... disablement imposes upon the individual the necessity for a more or less drastic modification of his body image, an abrupt change in his perception of himself as a physical being. Difficulties in adjustment are often conceptualised as difficulties in incorporating the atrophied body, the facial disfigurement, or paralysed limb into the basic pre-existing body image. The ease or difficulty with which this integration takes place is an index of the success which one has with one aspect of the problem of readjustment.

Despite the meagre advances in this area of study, we shall now turn our attention briefly to those permutations worthy of note. Safilios-Rothschild (1970) described three modes of adjustment:

(1) There are those for whom the "body beautiful" is of central importance who deny the existence of impairment in a desperate effort to remain "normal", and avoid self-devaluation and drastic changes in self-concept which could not be tolerated. By avoiding disability-determined limitations they are continually faced with frustration and '... will never be "adjusted", contented men.'

(Safilios-Rothschild, 1970, 97). However, it may be that such possibilities are negated by the social reaction afforded the disabled by others (i.e., as deviant). Alternatively, attention may be refocussed away from the damaged body member onto a healthy body part. It would be interesting to consider whether or not the impaired area covered the whole perceptual field or, alternatively, shrank in size, enabling the individual to ignore it, and rarely reflect about it at a conscious level, thus facilitating this mode of adaptation. It would follow that, if an individual were able to minimize his body in his perceptual field, he would be able to continue in the "normal" world as if the misfortune had not occurred.

(2) For others, a change of values about health and their ideal and actual bodies facilitates their regarding their present health status as acceptable.

(3) A further group of disabled appear to capitalise upon identity discontinuity, and make no attempt to reduce the extent of their impairment. Thus, for these individuals, changes in body-image are easily absorbed.

Fisher (1970, 90) posited a fourth mode of adaptation: the defensive, '... illusory restitution of the lost body part', as occurs when the space left by a lost limb is occupied by a phantom. The purpose of the phantom is far from clear, although it would appear to facilitate equilibration of the body-image in the face of body part loss. Since our prime consideration is impairment, rather than total loss, the extensive literature on the phantom is not strictly relevant here. However, it is pertinent to reflect

upon a few notes of historical importance. The first investigation of body-image, of a more or less empirical nature, was undertaken four centuries ago by the French surgeon Amrose Paré (c 1517-1590) into the phantom (Miller, 1969, 331). More recently, inconclusive results were furnished by neurologists attempting the cortical removal of painful phantoms (Mahoney, 1950). As Fisher & Cleveland (1968, 10) remarked: such work '... focussed attention on what might otherwise have been bypassed as an obscure phenomenon of little significance', and clearly emphasised the difficulties faced by the disabled in reorganising their body-image after amputation. However, there is no reason why such difficulties should be unique to those having experienced a loss of limb. Rather, one would expect physical impairment generally to provide some degree of obstacle to reconceptualizing one's body-image. In this respect, itching and scratching are now considered important aids which contribute to the individual's exploration of his new body-image (Eberlik, 1980). One investigation of the phantom which is particularly worthy of note, is that of Jarvis (1967) who found that young women reported phantom breast sensations more often than older women among the 104 mastectomy patients studied. This study is suggestive of younger women having more difficulty in absorbing disfigurement into their body-image. This may, in part, reflect a differential importance of body-image to women of different ages. For example, a leg amputation may not seriously impair a young woman's mobility, but it may upset her body-image profoundly and be quite central to her self-concept as an attractive woman, especially if her once shapely legs were a source of admiration. For older women, one might reasonably argue that change (provided

it is not too profound) is more easily absorbed without threatening the more stable core identity with discontinuity. The older woman is more likely to have attained security, thus her body is no longer of such great social importance as it may have been in former years. In a similar vein, earlier notions regarding body-image may now furnish a totally unrealistic frame of reference distorting the individual's perception of his disabled body. Parenthetically, the receptive perception of facial distortion amongst women (Chapter 3), would appear congruent with Parsons & Bales' (1955) notion of women being more socially expressive and less instrumental than men (Chapter 3). However, the amount of resistance encountered in incorporating change into the body-image appears to depend upon the '... symbolic meaning the physical change comes to have for the disabled,' (Safilios-Rothschild, 1970, 96) which '... extends far beyond the concrete apprehension of function and appearance.' (Wright, 1960, 141), as well as the practical consequences (Brown, 1977a, 12). For example, it may be more difficult for an individual to adapt to change where the loss has been that of a more functional body part. Those of psychoanalytic persuasion considered symbolism essential in adjustment (e.g., amputation would be equated with a problem in dealing with castration anxiety) (Freud, 1923; Schilder, 1935, 171; Jung, 1952; Wright, 1960; Safilios-Rothschild, 1970, 96). Similarly, the structure of our libidinous body-image has for a long time been thought to be dependent upon the interest other people show towards it (Schilder, 1935, 225). Our body-image is then elaborated in accord with our awareness and interpretation of such experiences (i.e., learning) (Freud, 1900; Bender et al,

1954, 248), which influence, and are in turn influenced by, our own emotional, "value-laden" attitudes towards, and perception of our body (Adler, 1929; Beloff & Beloff, 1961; Hamachek, 1971). Such learning must be distinguished from attention; the latter may account for an individual's interest in a particular body part, but not for the order of dominance previously mentioned (Chapter 3). Since bodily dissatisfaction has been related to health adjustment (Douty et al, 1974) one might expect that the more disagreeable and negative the change, the greater the degree of resistance. However, some individuals appear so uncertain of what kind of people they are, of what they should believe, that they shift readily to meet the demands of whatever situation they find themselves in. At the other extreme, are people so rigid that they cannot change even in the face of contradictory evidence:- they may conform externally, but continue to regard themselves in the same light as before (Shibutani, 1961). One would envisage the modification of body-image to be more difficult in cultures, such as that of New Zealand, where a high value is placed on the "body beautiful", and where psychological suffering is not accepted as part of life. With an emphasis upon the "body beautiful", and its implications for romance, social and even business success (Douty et al, 1974, 541), one could not reasonably expect adjustment to physical disability to be easy. What is often neglected is the cultural devaluation of the disabled body shown clearly in McCrea's (1982) recent work on obesity. The reaction of and, comparison and identification with others, and the disabled person's "role" invariably change with the onset of disablement. Thus not only does disablement appear to have a disorganising effect on the

integration of the person (Macgregor, 1951), but also the foundation upon which body-image and self-concept have been developed and nurtured over the years (Hardy & Heyes, 1979) is, with the acquisition of pathology, altered. Thus, it would be realistic for the individual's displeasure to reflect in feelings about his self. In accord with such reasoning, many authors attribute personal destructive attitudes to a lack of self-acceptance (e.g., Rogers, 1951), and thus by implication, in the face of pathology, to a refusal to accept one's altered body. It may well be that the easier it is for the disabled to assess their disability, the more willing they may be to effect necessary changes, provided that the impairment was not too threatening or severe. Thus, an amputation may be more adequately absorbed into the body-image than diffuse illness. In the latter instance, anxiety provided by an uncertain prognosis may cause the individual to oscillate between optimism and pessimism. Hence, the individual may attempt to hide and refrain from incorporating such illness into his body-image, hoping for complete recovery, or effect more drastic changes than are necessary out of desperation. A further possibility makes itself apparent in the perceptual changes afforded an individual by the recurrent relapses of chronic illness, whereby the prevailing body-image is threatened with each occurrence. The length of remissions and relapses may help influence the extent to which the body-image is able to incorporate modification. Thus, acceptance of impairment may be seen to refer to a relatively optimal condition in which the disabled person effects required changes in his body-image such that reality is not sacrificed and both positive and negative attributes are not denied

(Salifilios-Rothschild, 1970; Doneslon, 1973). However, positive deviations by the disabled from these norms held by attending physicians as to what constitutes a "normal" reaction may be met with disapproval. This point does, however, raise a fundamental question implicit in much of the work on body-image and self-concept, which no author has attempted to answer. Different people (physician, spouse, disabled person) will have different images of the same body, and the question is, whose image of the body is the correct and/or desirable one, and how may we so determine this? The importance of so doing is essential for the clinician-patient relationship and the outcome of rehabilitative programmes, a point to which we shall return later. Take for example, the case of a young woman who considered her body unattractive. Her body-image was in conflict with those of her physician who regarded it as healthy and normally proportioned, and her husband who considered it wonderful. Her basic frustration, although in part determined by the prevailing stereotypes, appeared enhanced by the confounding differential emphasis of others. Clearly, in the case of acquired disability, the situation would be much improved if those involved in aiding the individual adopted a common perspective from which to work. Since we are fundamentally concerned with the well-being of the individual, it seems reasonable to suggest that we start with the body-image held by the individual. However, it is far from evident that we should necessarily accept the individual's account, since the individual's body-image of himself may be severely distorted. This may be amply illustrated by way of Marx's concept of false consciousness (Chapter 2). False consciousness occurs when there is a separation

of appearance and reality, such that the disabled person comes to believe that the appearance is the reality, while the reality itself is no longer recognised. The basis of thought and action is "apparent reality" rather than "actual reality", the appearance becomes the phenomenologically lived reality, with distorted consciousness arising because the "apparent reality" does not correspond with "actual reality" which is structurally quite different. Subjective misunderstanding then comes to dominate objective experience. Such a state of affairs appears to be quite prevalent amongst those suffering from severe disability (Appendix A, Case History 2):

Thus, it would seem that the central problem remains: whose account of the individual's body is held to be the more important for rehabilitative success - her own, her spouse's or her physician's? Unfortunately, there is no clear-cut answer to this problem for it will depend upon whose description accords with physical reality, whose explanation most adequately accounts for the disability, and whose evaluation is the most reasonable assessment of her present and future circumstances. Taken as a whole, and in line with the phenomenological account outlined in this section with an emphasis on the individual's interpretation and subjective meaning, then the answer to the problem is not one of an absolutely correct or incorrect body-image, but rather will be arrived at on the basis of on-going negotiations between the various parties involved. In this respect, one might hope that a more detailed understanding of body-image and its influence upon the development of self-concept might facilitate the finding of a common point of reference from which to begin. Regardless of

unequivocal medical differences, all types of physical impairment share common features and consequences, and thus may be regarded as an entity (Safilios-Rothschild, 1970). Frequently preoccupation with body parts/functions have been associated with personality disturbance (Jourard & Secord, 1955b; Diamond, 1957) however, few would doubt that having a disability was an emotional experience, and that some degree of emotional disturbance following bodily trauma should be considered normal. Thus, in practice, we are faced with the formidable task of trying to prevent the development of disability-related secondary and tertiary somatic or psychological problems. It would follow that the extent to which an individual is able to absorb an impairment into his body-image and self-concept may depend upon variations in other aspects of the disability.

It is perhaps pertinent to digress for a moment and reflect upon the notion of "core" self-concept in a little more detail. Whether or not the core identity of an individual can ever undergo complete or partial alteration remains a matter of contention amongst social psychologists. For example, Combs et al (1976, 164) proposed that changes in the phenomenological self as the result of trauma (e.g., paraplegia) called for '... a redefinition of self to exclude [the loss of use of the legs] ... (which) ... often requires an extended period of time, and in some cases may never occur at all.'. The absence of a phantom where the loss was gradual, as in absorption in leprosy (Simmel, 1956, 1966) is supportive of the notion that gradual changes, as effected by the impairment of disease, are more easily and progressively integrated into the phenomenological self than sudden traumatic alterations as

occur in many spinal cord injuries. Change in the phenomenological self, which by definition is an artifact of the frame of reference from which it is observed, is, it may be argued, dependent upon three factors: The relationship of the new body-image (1) to the existing body-image, (2) to the need of the individual, and (3) to the clarity of experience of the newly experienced body-image. The presence or absence of phantoms, and indeed body-image revision, should therefore be sought, not necessarily in the direction of reality, but rather in the cognitive and phenomenal experiences of the disabled person. Thus, the immediate bodily experience of disability is of little consequence, rather it is our interpretation of that experience (i.e., the meaning attached to the physical state of affairs) which is important. The first step in the acquisition of a new concept, in this case a new body-image, must be some sort of experience inconsistent with existing conceptions. Such inconsistency, termed cognitive dissonance (Festinger, 1971), requires resolution. The dominant perspective however, proposes a theory of continuity and an enduring, self-sustaining core identity, discrepancies within which are filtered out by continuous selective perception, thus any dissonance becomes resolved (Strauss, 1962). For example, it would seem that when a woman's demonstrated attractiveness to males is suddenly threatened by disablement she, at least in the short-term, resolves the created dissonance between her subconscious and actual body-images by ignoring the perceptual threat (Fisher, 1964a). Such may occur in individuals if relapses are of short duration. Alternatively, a similar reaction reported by Simmel (1966) may occur to facilitate the acceptance of more traumatic disability.

In such cases, the former body-image endures and is equilibrated initially by some form of phantom. Although the actual body-image is now in direct conflict with the inferred subconscious body-image, the process would allow time for the individual to overcome initial shock. Over time, as the individual adjusts, the actual body-image begins to approximate that in the inferred and the phantom sensations gradually disappear. When phantom sensations have completely disappeared, it could be said that the actual body-image is as close to the inferred as it could be for that particular individual, and that he has adjusted to the notion of being disabled. Indeed, it was recently suggested that the closer the inferred and actual Body Cathexis (BC) scores were, the more adjusted the disabled person would be (Court, 1982). This is in accord with Roger's (1951) self-concept which performed a highly selective function in incorporating only those perceptions consistent with itself. From this it would follow that the disabled person would have difficulty in acquiring a realistic appraisal of his problems at the conscious level because of the protection, mediated via subception (i.e., the unconscious), afforded the self-concept and the enormous influence of the latter upon both perception and action. Alternatively, the self-concept may resemble a length of rope, there being a unity with no single thread right through. Thus, the core self-concept and the differential importance of body-image within it, may be modified continually by experiential learning. It may well be that the developed, and now stable, actual body-image established during the formative years of adolescence, and the core identity of which it forms an integral part, persist beyond the time of amputation with

the lost body part continuing '... to be represented in the [inferred] schema and 'manifesting' itself experientially as the phantom.' (Simmel, 1966, 18). Thus, it may be argued that if a disability is threatening to one's security or appearance, then changes are less likely to be noted at a perceptual (conscious) level. Such reasoning would appear congruent with the explanation, speculatively offered by Wiltreich & Grace (1955) to illustrate the kind of processes which may enable body areas to resist alteration. For example, a mild physical incapacity or the initial stages of disease-onset may only be evident in the inferred body-image. In line with Simmel's (1966) elaborations concerning the phantom, and the selectivity of the self-concept previously mentioned, one may speculatively conjecture that if the inferred body-image undergoes a devastating sudden trauma (e.g., spinal cord injury), such changes would only be absorbed gradually, over time, into the actual body-image. Thus, the conscious (actual) body-image could be seen as functioning as a defence against the absorption of short-term incongruities - only those changes that are persistent over time would become incorporated into the body-image at a conscious level. For example, those changes as might be instigated by a broken arm or even errors in experimentation with cosmetics, would all influence the more labile inferred body-image to a greater or lesser extent, but such temporary occurrences, whilst threatening the conscious body-image, would not be absorbed unless they showed some degree of constancy over time. In this respect, there could conceivably be a critical time period, after which inconsistencies between the inferred and actual body-images would become resolved, with the latter assimilating and acknowledging the

change of the former. Whatever an individual's disability, it would seem that '...those with an actual change will certainly grieve the loss of their original self'. (Brown, 1977a, 12).

One would perhaps expect severe impairment to have a somewhat devastating effect upon body-image. However, Uelmen (1978) showed this not to be the case, and found a positive body-image amongst the physically-disabled generally, regardless of the nature of the disability. It is interesting to note that two of the semantic differential bipolar adjectives to be utilised later (Chapter 6) were used in this investigation (good-bad; beautiful-ugly). Similarly, Lebovits & Lakin (1957), using complimentary techniques (e.g., evaluative and projective measures), found no significant differences between 15 polio patients and female, student nurse controls in active versus passive body perception, estimates of body size, or in the bodily adjectives chosen. Thus, '... even in the face of such major incapacities..., people do not suddenly and drastically alter general body image schemas.' (Lebovits & Lakin, 1957, 521). This would be congruent with the notion that disability, regardless of its magnitude, is only able to effect gradual change in the actual body-image.

In investigating another aspect of body-image, namely body-boundary, Ware et al (1957) found, using Rorschach Ink Blots, that patients with indistinct boundaries made poor overall adjustment to their polio disabilities, whilst others manifesting articulate and coherent boundaries adjusted well. Thus, the firmness of the individual's subconscious (i.e. inferred) body-image boundary appears to significantly influence the process of adjustment. One might consider this as indicative of those

persons with a clearly articulated body-boundary being better able to integrate disability into their actual body-image. However, Ware et al (1957, 91) concluded that the barrier score reflected '... a relatively well established body image factor in the personality', which was in no way a function of physical incapacitation or the duration of disablement. Ware et al's (1957) study reflected the narrow and restricted focus of individual disability groups and the neglect, true even today, of the differential effect of disability as a whole. The differential effect of polio was given cursory consideration by Ware et al, although the exact nature of analysis in this respect remained somewhat elusive.

Polter & Fiedler (1958) found that those disabled students who had only had a short period of time to adjust to their handicap showed significantly less satisfaction with themselves and others on a 24 item 6-point scale, than those who had undergone a longer period of adjustment. The greater disturbance in those more recently disabled is congruent with the notion of there being poor initial adjustment, which reflects the disparity between the inferred and actual body-images. Thus, at least initially, persons acquiring disability may be regarded as '... more disagreeable and more difficult to work with' (Ware et al, 1957, 92), as they attempt to right the incongruity between their body-images. This may be achieved by complete denial of the subconscious body-image, and projection of the ideal, as if it were the actual body image. Although such a theoretical maladjustment is not strictly attainable, the individual might well attempt to match the actual body-image as close as is possible to the ideal, and to all intents

and purposes ignore the inferred body-image. Such an adjustment may only be temporary with the actual body-image gradually and progressively assimilating and accomodating more of the subconscious body-image. Time may facilitate better adjustment, with the projected actual body-image reflecting, to a large extent, the inferred. In this case the individual accepts his disability as best he can, and identifies himself with the projected actual body-image which remains essentially sound and unbiased towards the ideal.

According to Pomp (1962) disabled persons were, in part, characterised by a relatively large disparity between their actual and ideal self-concepts, an observation similar in kind to that recorded by Freud (1923, 7) of conflict between the ego and ego-ideal (ideal self-concept), and his recognition of unconscious elements in the ego. Not unlike contemporary theorists (e.g., Donelson, 1973), he considered that if unconscious or subconscious (latent preconscious) elements were denied conscious expression then pathology (neurosis) resulted, and the separation between the ego and ego-ideal presumably increased. Such a discrepancy pervades present-day literature, and would appear rather obvious (Horney, 1937, 21; Rogers, 1951, 510; Katz & Zigler, 1967; Donelson, 1973, 285; Coleman, 1974; Kleeman, 1977, 80), but not necessarily as an indicator of pathology. For Donelson (1973, 285,287), adjustment was defined solely in terms of an individual's deviation from his ideal: a small actual-ideal discrepancy was considered maladaptive if repression and denial blocked the negative aspects of one's body from conscious awareness, and a high discrepancy '... could reflect an extreme use of sensitizing

defenses and over avoidance of repressive defenses.' (Donelson, 1973, 287). Since women have a greater opportunity than men to approximate their ideal body-image (Chapter 3), one would expect the actual body-image of women to be more closely associated with their ideal than would be true of men, thereby enabling them to perceive and judge bodily distortion more readily and perhaps more realistically than their male counterparts. However, this does not appear to be the case (Fisher, 1964a). Also from the suggestions outlined by Schilder (1935) and Fisher (1970), it would follow that women should be able to evaluate, more precisely, what for them constitutes an improvement in their appearance or otherwise.

Adjustment to whatever manifestation of disability, of necessity, distances the individual's actual body-image from his ideal. The more adjusted the person becomes, the more his actual body-image would approximate that of his subconscious, and thus, the more distant the actual (publicly projected) body-image would become from his ideal. For example, it would follow that those who become "wheelchair-bound" and acquire more rounded and muscular attributes (endomorphie and mesomorphie), especially women (Jourard & Secord, 1954; Calden, 1959), are likely to show a greater dissatisfaction with their body-image, since they are in actuality becoming more distant from their desired (ideal) body-image. In any event, the onset of impairment itself may mean that fewer components of the ideal are now accessible than was the case prior to onset. A larger discrepancy between the projected actual and ideal body-images would surely, approximate reality more precisely, for the disabled than the closer proximity of these two body-images in non-disabled persons. Thus, as in adolescence one may

conjecture that any discrepancy could conceivably reflect the upsurge in analytical and cognitive function vital in processing and adapting to disability, rather than some sort of personality aberration as indicated above. Fromm (1941, 266-268) made an interesting distinction worthy of note, between genuine and fictitious ideal selves, representing what is an attainable aim (true) and pathological aim (false) respectively.

Because of individual differences in bodily awareness (Chapter 3), it follows that the content of the body-image may vary for individuals, and vary in a predictable way in the face of pathology (Figure 2b). Freudian theory fostered the notion of women, because of their inferiority, being less able than men to form an adequate, realistic, and articulated body-image at the conscious level. However, such assumptions were negated by Fisher (1964a, 21), who concluded, on the basis of their barrier and penetration scores, that women have '... a more individuated and meaningful body concept than men, (and that) ... the female may have a more definite and stable concept of her body than the male'. However, Metcalf (1976, 8) maintained:

The psychological effect of physical disablement to a person's sexual image is devastating, whether male or female. But the 'feminine' condition - idealised by many religious cultures as nurturing, responsive and attractive to masculinity - carries added psychological pressure to the disabled woman.

Such an argument has more recently been elaborated by Jack et al (1982) who strongly contended that the life of disabled women was more difficult than that of men with similar disabilities. In a similar vein Campling (1979) asserted that despite the effect of

disability on a woman, she was still able to aim for a normal and fulfilling life. However, one is left unsure of quite what Camppling's reference to "normal" means. Accordingly, because of the central role of their bodies in their lives, women may well exhibit a tendency to equate their self-concepts with their body-images (Fisher, 1964a, 10). Thus, it would be reasonable to suggest there to be "basic" differences in body-image between physically disabled men and women. However, such a notion would appear clearly refuted by more recent work in which age and sex of the disabled person had no bearing upon their body-image. Rather, the physically disabled combined into one general grouping regardless of individual differences (Uelmen, 1978). Such groupings, and indeed any basic differences in body-image between the disabled and able-bodied requires corroboration, since they are by no means common features of such investigations (Nelson & Gruver, 1978).

4.2 BODY-IMAGE OF THE MAORI

To understand the place of rehabilitation in New Zealand requires a knowledge of the ethnic backgrounds of the indigenous Maori and Polynesian populations. The importance of such considerations may be illustrated by the disproportionate intake of Maoris and Polynesians (approximately 1/3 of the intake as against 1/8 of the general population) into the Otara Spinal Unit, Auckland, over its first four years as compared with the latest population census in 1981. The ethnic background of patients were

as follows:= 69.3% European; 24.9% Maori; 5.2% Pacific Islander; 0.6% other nationalities (Court, 1982). Of the general population 9% were given as Maori and 3% Pacific Islanders.

Essentially what we are concerned with here is the grief response of the recently disabled Maori - the grief of the loss of mobility, loss of ability to fraternise and to socialise with his peer groups, and the loss of body-image. The European method of grief is well documented, which contrasts sharply with the complete lack of information concerning that of the Maori. The grieving over the loss of function or mobility was never known in the pre-European Maori culture, to the extent that there were no words in the Maori Language to describe physical disability or handicap. The only approximation might be seen in PORANGI, a term used much in the same way as we would use the term mad (i.e. "you're nuts", "you're mad") and not as a description of a particular disability. Physical disability was unknown, primarily because through warfare or accident, if an individual became physically maimed he would be a hinderance to his tribe and "quietly done away with". So, the Maori-oriented disabled person has not got an ethnic model to base his grieving on. It would be reasonable to suggest that he might grieve functional loss much in the same way he would the loss of an object. There are difficulties with this however, in that in the pre-European Maori culture each object had its own spirit, and if something was lost it was the decision of the spirit of that object to lose itself and not the fault of the person who did the losing. Accordingly, the Maori might not grieve the loss of mobility, mana etc, as the European would. Rather such a loss would be seen as pre-ordained and decided by the spirit of mobility or mana. Thus,

not only is it likely that the Maori response to disability is different from Europeans, but his body-image appears narrower. The latter may in part owe itself to the lack of role reversal as the European knows it. If the eldest child, whether male or female, upon whom the leadership of the tribe/family unit is based lost his ability, by way of impairment, to carry out his leadership functions, his mana would be lost. Elders have suggested that the disabled Maori today finds himself in a position akin to that of a slave in pre-European times. Since a slave lost all mana, not only with his own tribe but also with the capturing tribe, it was much preferred to be killed in battle, or after capture, than taken alive. The loss of mana was complete and final, and is reflected by way of gaps in Maori geneologies. Another important aspect of body-image for the Maori concerns his sexuality. Within the Maori culture penile-vaginal coitus is the only acceptable method of sexual satisfaction for both sexes. This is of particular importance when disability impairs sexual function (e.g. spinal cord injury) since they tend to reject gaining any knowledge concerning alternative possibilities, and are unlikely to talk about their sexuality even to Polynesian hospital staff who may well be seen as representing the white hospital worker, or more especially the physician, as being "all-knowing" (Court, 1982). This would seem to be part of their self-image as a Maori, as against a member of New Zealand society in general. When spinal injury patients, for example, realise that there is hope for a sexual life, their body-image and motivation generally improve considerably whereas for the Maori, rehabilitation in this respect is either slow or non-existent (Court, 1982). Since the Maoris engage in mainly

unskilled employment and sporting pursuits with a high degree of physical contact, they are necessarily at risk of becoming disabled. Thus, it is extremely important to have an understanding of their ethnicity and belief systems in order to facilitate more rapid rehabilitation.

4.3 INFLUENCES ON THE BODY-IMAGE AND REHABILITATION OF 3 DISABILITY GROUPS

Since the success of rehabilitation is often seen to be dependent upon an individual's personal adjustment, the ways in which they respond and adapt to the occurrence of change in their body-image, whether by way of disease or injury, and the impairment that may ensue comprises the most important aspect of rehabilitation.

The purpose of describing the normal development and functions of body-image in the preceding chapters is to assist in our understanding of body-image disorders. It has been suggested that such disorders may arise from several sources (Gerstmann, 1958; Kolb, 1959; Shontz, 1974). However, since our prime concern is with the effects of physical disability upon formerly able-bodied individuals, only two sources are of direct concern: (1) disorders due to damage to parts of the nervous system, without loss of body parts, particularly as they affect posture and movement (e.g. para/quadruplegia), and (2) disorders due primarily to psychological meanings of body change (e.g. rheumatoid arthritis). An individual may manifest disorders from a combination of sources.

For example, a person suffering from multiple sclerosis not only experiences changed bodily sensations, as a result of impaired neurological functioning, but also responds to the psychological meanings of body change, and may increase his problems by inadequacies tracable to his pre-morbid personality. Body-image and personality are considered to be inextricably related: 'The system called personality cannot exist without the body-image any more than a house can exist without walls.' (Shontz, 1974, 467). However, an accurate body-image is prevented by constant body change (Diamond, 1957) as occurs in progressive chronic disease such as multiple sclerosis, and to a lesser extent in rheumatoid arthritis, which appears reflected in different body-images from able-bodied and paraplegic Ss (Nelson & Gruver, 1978)

Virtually all writers now agree that physical disability often leads to emotional problems and difficulties in emotional adjustment (McDaniel, 1976, 56), but the apparently universal finding of consistently raised scores on the MMPI "Neurotic Triad" (Hypochondriasis, Depression, Hysteria) for the 3 disability groups to be considered in the investigation to follow (i.e. rheumatoid arthritis, multiple sclerosis, spinal cord injury) (Bourestom & Howard, 1965) suggests a common emotional response to disablement regardless of pathology, and the lack of differential personality patterns. The fact that the chronically ill generally have been noted to place emphasis upon the use of body parts from the neck down, bladder control, and ability to walk (Shontz et al, 1960) corroborates developmental findings of the trunk and legs as integral to the body-image (Gellert, 1975).

Following on from the holistic perspective towards body-image

developed by Keen (1973) and Brown (1977a)(Chapter 2), a difference would seem likely between the behavioural experiences of healthy adults and various disability groups in the kind of experiences which form a part of their body-image. It would similarly follow that the body-image of congenital amputees would be formed from a far narrower range of perceptual and motoric variables than would be the case for able-bodied adults. Whilst there is little information available concerning the body-images of the disability groups with which we are concerned in this study it is important to attempt to rectify this neglect. Thus, it is to a brief consideration of each disability group that we now turn.

4.3.1 RHEUMATOID ARTHRITIS

Conditions with pain on movement, such as rheumatoid arthritis (RA), have their unique problems: deformity and pain restricting mobility, and exhaustion reducing the capacity for mental activity which would otherwise compensate for physical disablement (Graham, 1981, 25).

It was the RAs ability to fantasise which originally suggested there to be a link between the way they perceived their bodies and RA symptomatology (Fisher & Cleveland, 1958). When an area of an individual's body becomes disturbed, the disturbance causes a distortion in some aspect of body-image, and for RAs this appears to be in the body-boundary which is viewed as precise, and in the external layers of which the disease manifests itself (e.g., stiffening and limitation in

movements of parts of the musculature (Clevand & Fisher, 1954, 1960; Fisher, 1963). These authors also considered body-image to be of etiological significance in determining the site of body disturbance. Accordingly, one could argue that such external body parts would become the foci of attention in the body-image of the the RA. However, body-image disturbance in RAs may depend upon individual differences in body-awareness and interpretation of the experience of unusual sensations from disturbed body sites (i.e. somatic input) (Evans, 1962; Fisher, 1970), but equally could be a consequence of pathologically decreasing activity (Southworth, 1958), and associated increase in dependence on others, sensory and social isolation at least in part since such conditions of deprivation are all capable of producing disturbances in perceptual processes (Heron, 1966), and thus inevitably in the emotions of the RA. Emotions are considered an important determiner of the degree of symptoms felt. Anxiety and uncertainty both reduce the threshold of pain so that more pain is felt, and constant and prolonged pain becomes wearing and frustrating so that a vicious cycle is set up precipitating an increase in symptomatology (Davies, 1982). Individual variations in symptoms may be reflected in the RAs body-image, with attention being focussed upon those bodily areas implicated at a particular time.

Popularised descriptions of the RA as an "... introverted, depressed, rather neurotic, anxious individual who contains aggressive impulses and whose emotions are in a state of conflict." remain unsubstantiated (Phillips, 1983, 45). It is

unfortunate that the historically enduring psychosomatic generalisations about depression have found symptomatic permanence, such that even today it is considered of common place occurrence in RAs (Shochet et al, 1969; Spergel et al, 1978) which fails to give credence to the broader view of depression being both an appropriate and understandable consequence of RA.

If, as has been suggested, the precise body-boundary of RAs affords protection to the more intimate self (Horowitz et al, 1964; Evans & Howard, 1973), then one might expect that whilst their body-image would differ from that of the able-bodied, their self-concept would remain similar. An alternative explanation suggests their outer body rigidity to represent a way of inhibiting something bad within (Henkle, 1975).

Pain is not only important in the reconceptualisation of body-image (Schilder, 1935), 126, 187), but is the cause of much disability in RA (Davies, 1982). However, individual differences in the perception of pain and its fluctuation with acute episodes and remissions have made it difficult to relate the degree of disability to the degree of disease present and may affect response to rehabilitative efforts (McDaniel, 1976, 70). This situation is further confounded by the implication of emotional, social and cultural factors in pain perception. (Melzack, 1961). As McDaniel (1976, 70) pointed out: "The role of pain in the reformation of body-image following illness or disability is totally unknown at this time", which is reflected in its absence from the literature. However, the painful area does become a focus for attention, almost totally separate from

the body-image, and a centre of renewed experimentation with the body (Schilder, 1935, 126). It is difficult to see any reason why psychogenic and organic pain should be differentiated with respect to body-image here, but it is evident that effective rehabilitation of the rheumatoid arthritic will be hindered because all factors cannot be adequately considered.

4.3.2 MULTIPLE SCLEROSIS

Interest in the rehabilitation of individuals with multiple sclerosis (MS) has to date been overshadowed by attempts to identify a cause or cure (Kelly-Hayes, 1980, 245). Associated with such a progressive chronic illness are functional losses and repeated psychological traumata, effected by relapses and remissions. However, whilst unpredictability appears to be the most predictable feature of MS, it not only compounds the psychological stresses normally associated with chronic disease, but "jolts the individual's self-concept" (Matson & Brooks, 1977, 245) which may help to explain the high rate of emotional disturbance identified in MS Ss (De Paulo et al, 1980; Whitlock & Siskind, 1980) responsible for complicating rehabilitative assessment (Feldman et al, 1980). For such individuals there appears "... no end to the recurring dismay, depression, feelings of hopelessness, frustration and resentment" (Graham, 1981, 25), which emphasises the importance of rehabilitative efforts not only to reduce residual functional incapacity, but also to buoy up morale by way of aiding the individual in his

coping with recurrent changes in body-image. It is important to realise that the majority of persons affected have only a mild form of MS (Percy et al, 1971), and that individual differences in functional incapacity are the result of differences in the size and distribution of areas of demyelination (Kelly-Hayes, 1980).

Since somatic preoccupation is a frequent accompaniment of disability (Barker et al, 1946), with MS the areas of bodily focus are likely to vary as a function of those involved at a particular time. However, the combination of a disability-related negative self-concept and self-consciousness could create tensions in the MS patient and intensify problems of coordination which consequently may become central in their perception of their body, and conception of body-image.

Whilst it is recognised that MS may be as damaging to the personality as to the body, and that emotional stresses might outweigh the physical disability, and whilst skilful procedures are employed to deal with the impact of impairment nothing has been done to strengthen emotions impaired by anxiety and worry (Litin, 1957). Owing to many misconceptions about the disease, even the words "multiple sclerosis" may elicit fear in the recently diagnosed. Three common emotional reactions to the disease have been identified: denial, complete submission and resentment (Kelly-Hayes, 1980). Boretz & Stephenson's (1981) contention that depression was the most prevalent reaction to MS manifest covertly in denial, or overtly as functional incapacity and acceptance of disability increased, although supported by Lindemann & Stanger (1981) and refuted by Davies (1982), clearly

remains a matter for debate. Although depression may seem to be associated with advancing years and years of disablement (SurrIDGE, 1969), many authors neglected to note that the majority of MS Ss in SurrIDGE's (1969) study were suffering from a psychogenic reactive type illness. It also becomes difficult to rationalise such depression with the improvement in self-concept associated with morbidity (Matson & Brooks, 1977), although increased certainty over disease-progression could conceivably help stabilise the self-concept (e.g., the requirement of a wheelchair and necessitated reconceptualisation of self-concept would have been foreseen). It is of course plausible to propose that the older individual would be dealing with greater disability (Counte et al, 1982). However, this issue requires further exploration. MS sufferers however, do prefer to dissociate themselves from interaction with healthy people (Miles, 1979).

The very nature of MS not only demands an initial social-psychological adjustment necessitating major restructuring of the individual's former identity provided by body-image and self-concept, it also requires "... a continual process of readjustment due to the erratic appearances and disappearances of symptoms (Matson & Brooks, 1977, 245). The oversimplification of the relationship between disability and maladjustment proposed by Wright (1960) was corroborated by Matson & Brookes (1977) who failed to substantiate the existence of euphoria in Ms Ss (Weinstein, 1970; Davies, 1982), found that a positive self-concept was maintained, and proposed a 4 stage model of adjustment to MS comprising denial, resistance,

affirmation and integration. Apparently, it is in the phase of affirmation that the new body and self-concepts begin to emerge.

In accord with Whitlock & Siskind (1980, 861), it is more reasonable to view the major mood disturbances of MS patients as an understandable response to stressful situations from which no permanent relief can be expected. However, Matson & Brookes (1977) and Scheinberg (1979) both contended the physical, social and emotional changes of MS Ss to be inadequately documented. Little is known about how individuals adapt to the effects of this disease and why some show better adjustment. More importantly, it is far from clear how professionals might foster positive adaption to multiple sclerosis.

4.3.3 SPINAL CORD INJURY

Until after the second world war, the outlook for anyone becoming paraplegic or quadraplegic was extremely poor with few patients surviving more than a few weeks or months. With the advent of specialised units (e.g., Otara Spinal Unit, Auckland), antibiotics and other drugs, technical advances in surgery, medicine and physical therapies, the morbidity rate today is much reduced (e.g., out of 3,000 patients who have passed through the National Centre for Spinal Injuries at Stoke Mandeville, England only 343 (11.4%) have died (Guttman, 1967)). However, the psychological well-being of spinal cord injury patients has been sadly neglected over recent years. A tetraplegic of 67 years summed the situation up thus: "We have

been swept under the mat - they [the medical profession] cannot do any more for us, and we are an embarrassment to them." However, not only will the level at which the injury occurred (which determines the severity of paralysis and its extent) have a profound impact upon the individual's image of himself, so will any physical implications unique to spinal cord injury (e.g., urinary and kidney infections, difficulty with evacuation, prolonged spasm, pressure sores).

Cayley (1954), a psychiatrist who became paraplegic following an accident, described the initial reaction of the patient to such an injury:

The first phase is dominated by severe bodily discomfort, shock, confusion, excitement. The patient suddenly becomes the center of worried attention of doctors, family and friends. This may provide him with some narcissistic gratification and draw his attention away from the outside world, the tragic consequences of his disability, and the difficult future ... Because of psychological traumata, and dependency on others ... the patient's ego has ... been weakened. Because he cannot take care of himself physically he regresses to the position of a child ... psychologically. (Pepper, 1977, 1336).

Pepper (1977) supported the notion of spinal cord injury patients manifesting immature emotional behaviours, including impulsive, ego-centric explosiveness and ambivalence.

Depression, once considered inevitable in spinal cord

injury patients, even if manifest in denial (Wittkower et al, 1954; Siller, 1969; Bracken et al, 1980) is now, by virtue of unreliable diagnostic criteria, surrounded by controversy (Triesmann, 1980). Thus, whilst it would appear incorrect to assume that physical trauma must be accompanied by depression, depression like other negative coping strategies (e.g., anger, denial, anxiety) which have been well documented as psychological reactions to spinal trauma (Siller, 1969; Lindemann, 1981) has the potential of adversely affecting rehabilitation.

The trauma of spinal cord injury appears to change stable personality traits and is made manifest in "negative coping responses which could interfere with successful rehabilitation." (Bracken et al, 1981, 271) and dramatic shifts in body-image and self-concept (Burnham & Werner, 1978, 188), but this appears supposition rather than fact. If we are able to establish that profound psychological changes occur, then according to Wilthower et al (1954), we are in a position to explain some of the psychological mechanisms that make it difficult to cope with such severe trauma, and which may interfere with subsequent rehabilitation.

The theoretical perspective developed by Wenger et al (1956), where emotions were considered to be a perception of the activity of viscera (internal organs e.g. heart) and voluntary striate muscle led to the notion that transection of the spinal cord, regardless of the level, resulted in emotional changes (e.g., decreased feelings associated with sexual excitement and anger, and an increase in those associated with "sentimentality"

(Hohmann, 1966)). However, overt behaviours associated with absent emotions persisted (Hohmann, 1966, 154), possibly (1) because they were effective in getting results, or (2) they represented learned reactions.

One might also reasonably expect that interference with sexual activity often imposed by SCI would have a considerable emotional impact. However, this does not appear to be the case for either sex (Zahn, 1973), although the importance of sexual satisfaction in marital adjustment is acknowledged as is the influence of sexuality in overall emotional adjustment (Skipper et al, 1968; Diamond, 1974).

CHAPTER 5

THE PROBLEM AND ITS SETTING

5.1 THE SCOPE OF THE PROBLEM

Until recently, rehabilitation of the physically disabled has been seen largely as a matter of physical restoration being primarily a concern of the medical profession. However, it is becoming increasingly recognised by psychologists that rehabilitation of the disabled must be more widely conceived than this, to include consideration of psychological factors such as body-image and self-concept. There is a great deal of theoretical significance in understanding how body-image is related to disability and how one's self-concept is affected by both of these.

Early interest in rehabilitation in New Zealand arose out of concern with occupational disability, thus it was that in 1900 the Worker's Compensation Act provided public provision for disablement. Since then, a number of major extensions have been enacted to encompass a wider range of provision (e.g., 1936: Invalid's pensions, 1938: Social Security Act, 1954: National Civilian Rehabilitation League (now Rehabilitation League New Zealand)).

In recent years, interest in rehabilitation has increased (Weir, 1979), primarily as a result of renewed concern for the physical health and psychological well-being of the disabled. Many of the recommendations of the 1967 report of the Royal Commission on Compensation for Personal Injury in New Zealand (Woodhouse Report) were adopted by the National Government, and incorporated into the Accident Compensation Act (1972) (revised 1982). This gave every citizen insurance against accidents, and made provision for financial coverage to those temporarily or permanently

disabled. In 1975, the New Zealand Government attempted to co-ordinate both state and voluntary services by introducing the Disabled Persons Community Welfare Act, which enabled a more comprehensive (and complex) provision for disability. People and resources were more fully utilised, and evenly distributed throughout the country. However, because of the way the population is distributed, and the relatively small number of persons involved (1981 census: 3,175,737), it has not, as yet, become economically feasible, or practicable, for special facilities to be made available throughout the country. This has created problems regarding the siting of rehabilitation units.

Financial resources for rehabilitation services become a major problem when the economy dictates curtailment of expenditure. The tendency at present is to restrict services and money, whilst at the same time encouraging voluntary organisations to increase their workload. Nevertheless, whilst the Government does rely on schemes such as the Golden Kiwi Lottery and Telethon to help carry its financial burden, it does make substantial contributions to voluntary agencies. In 1982-83, \$19,912,000 was granted for this purpose (Department of Social Welfare, 1983).

In agreement with Rose (1976), the organisation of rehabilitation in New Zealand is still patchy, despite the recent formation of the Disabled Persons Assembly (1983) which hopes to provide some degree of coherent organisation for voluntary agencies, thereby seeking to reduce fragmentation as noted in the Report of the Rehabilitation Committee (Bolt, 1982, paras 298-299). Although legislation and institutional restructuring may seek greater co-ordination, this is unlikely to occur until such time as

there is mutual co-operation between the medical and non-medical professions. As Logan (1982, 200) has remarked: 'Perhaps, ..., the stimulus for development in a number of areas of rehabilitation will come from outside the medical profession.'

5.2 BODY-IMAGE, SELF-CONCEPT, AND REHABILITATION

Little is known about the feelings and attitudes that the disabled hold towards their bodies. Yet, there can be little doubt that feelings about the body have marked behavioural consequences.

Apart from the concern shown by Cunniffe (1980), no further interest has been expressed by those concerned with rehabilitation in New Zealand. However, it has been clearly demonstrated that the individual's progress in rehabilitation is largely dependent on their self-concept (Litman, 1964). If they consider themselves to be capable of having a definite, although changed, role in society, they respond better to treatment than if they consider themselves as disabled and limited people.

Not only are there no statistics available (Bolt, 1982, para 294), there is also a paucity of research in this area of rehabilitation psychology in New Zealand. As in the U.K., it may be that where research has been conducted, dissemination of the results has been hindered because '... the subject matter is not considered to be of sufficient interest compared with other research.' (DHSS, 1972, para 71). It is especially difficult to comprehend this neglect of research and development in rehabilitation in light of the fact that research is a prerequisite

to advances in treatment. This position is reflective of that presented at the 4th Pan Pacific Rehabilitation Conference (1968), where out of 129 delegates representing 33 nations, only 2 were from New Zealand. Also, there was a total absence in the proceedings of papers addressing the issues of the psychological handicapping effects of physical disability (International Society for the Rehabilitation of the Disabled, 1969). Such neglect is also apparent in the Report of the Rehabilitation Committee which specifically stressed research into '... measures of cost-effectiveness and national disability/rehabilitation statistics.' (Bolt, 1982, para 296), and reflected in a recent conference on Rehabilitation in New Zealand - The State of the Art (1982). At this medically oriented conference, none of the 34 papers presented attempted to redress this oversight.

However, it is the psychological handicapping effects of physical disability with which we are concerned here (i.e., how to help people adapt themselves to violent change, how to help them live up to capacity, and how to accept their changed "psychological state", which includes their own self-concept and body-image).

5.3 DEFINITIONS

Since access to services for the disabled frequently depends upon definitions, their importance has necessarily increased. However, it should be noted that in practice IMPAIRMENT, DISABILITY and HANDICAP are complex personal and social states which cannot be static since changes occur both within and towards the disabled

person.

1. IMPAIRMENT

Impairment refers to intrinsic situations (seen as functional limitations), which are defined and described symptomatically or diagnostically (Bury, 1979, 36; Jack et al, 1981). They may be temporary or permanent. This is in line with Harris et al's (1971) definition: 'lacking part or all of a limb, or having a defective limb, organ or mechanism of the body.'

2. PHYSICAL DISABILITY

Physical disability refers to the impact of impairment, which can be objectively defined, and which restricts activities commonly accepted as basic elements of everyday living (e.g., walking), in other words, 'the loss or reduction of functional ability.' (Harris et al, 1971, op.cit.).

3. HANDICAP

Handicap (socialised as disadvantage) represents the profound effects of impairments and physical disabilities implicating the whole person, and in adults '... constitutes a disadvantage for a given individual in that it limits or prevents the fulfilment of a role that is normal (depending on age, sex and social and cultural factors) for that individual.' (Bury, 1979, 36). As Carver and Rodda (1978, 14) point out, to a man confined to a wheelchair, 'knowledge of the cause of his impairment ... becomes less important than his aspirations and the particular environmental barriers that stand in the way of their achievement.'

NOTE: Impairment does not necessarily imply disability, and neither does disability imply handicap.

4. REHABILITATION

Many definitions of rehabilitation focus on the process of restoring the disabled person to his maximum potential (Royal Commission of Inquiry into Social Security in New Zealand, 1972; Nichols, 1977; Bolt, 1982, Append. D). However, such definitions are inadequate, since they focus on structural processes, regarding the disabled as "objects of repair", rather than conceiving them as primarily active agents centrally concerned with their own physical and psychosocial well-being. This means a move from a systems approach to an emphasis on the phenomenological self as outlined in Chapter 2.

Rehabilitation is thus taken to be the active engagement of the disabled person in the pursuit of his optimal level of living within the limits of his impairment.

5. BODY-IMAGE

Some authors argue that the visual image of the body is not the body-image (Shontz, 1969, 205; Layton, 1972, 840). However, the situation is not as clear as these authors would have us believe, since the visual image of the body is necessarily mediated by, and interpreted through, body-image concepts. It is necessary to make perfectly clear the exact meaning of body-image in this context, and in what sense it may legitimately be used:

- (a) Body-image is a mental construct of conceptual networks.
- (b) To change the body-image requires a change in the

conceptual structure used to describe the body.

- (c) Changing conceptual structures is a mental activity.
- (d) Physical changes do not directly change body-image, but must be mediated by cognitive/conceptual restructuring.

Thus, the naked empiricism of Smythies (1953, 143) wherein:

A man does not know anything about the present state of his physical body except in so far as signals from it alter the state of the body-image in his brain.

is both naive, and clearly mistaken. Alternatively, it is argued here that, body-image is employed as a psychological term which refers to an internal image of the body formed by a person through the integration of environmental factors with his bodily experience at a particular stage in life.

6. BODY SCHEMA

Body schema can be described as a subconscious (Layton, 1972), psychological construct whose function it is to provide a frame of reference consisting of preceding responses which serve as a standard against which subsequent responses are made for both spatial and postural orientation of the body (Head, 1926). It should be remembered though, that the body schema is part of the subconscious mind, and thus its presence can only be inferred (McDaniel, 1976).

7. SELF-CONCEPT

Self-concept encompasses the individual's evaluation of himself. In its phenomenological context, the self-concept

comprises '... those parts of an individual's perceptual field which have been differentiated by that person as being stable characteristics.' (Birren et al, 1981, 637). Here in accord with this perspective the self-concept is considered to consist only of those perceptions about the self which seem vital to the individual, and are involved in a great deal of his behaviour. As Combs & Snygg (1959, 127) explained: 'The self-concept is the self "no matter what".'

8. BODY-IMAGE/SELF-CONCEPT CONFIGURATION

Body-image and self-concept configurations are composed of 3 interrelated elements:

(1) Inferred which contains all the information absorbed about one's body/self, the acceptable parts of which are available to conscious awareness. The term was chosen so as to avoid identification with any particular theoretical perspectives. This usage is in accord with the definition advanced by Hilgard (1949, 379): 'The inferred self goes beyond the self of awareness by including for purposes of inference much that is excluded from self-awareness.'

(2) Ideal is an idealised representation of the body/self, and provides a standard for assessing one's own and other's bodies/selves.

(3) Actual comprises of attainable aspects of the ideal and acceptable aspects of the inferred body/self-concept.

9. BODY/SELF CATHEXIS

By body-cathexis is meant the degree of feeling of satisfaction or dissatisfaction with the various parts or processes of the body.

By self-cathexis is meant the degree of satisfaction or dissatisfaction with aspects of the self.

10. RHEUMATOID ARTHRITIS

Rheumatoid arthritis is a chronic disease of the joints, in which inflammatory changes in the synovial membranes and articular structures occur, with atrophy and rarefaction (decrease in density) of the bones, resulting in deformity and/or ankylosis (immobility).

11. MULTIPLE SCLEROSIS

Multiple sclerosis refers to demyelination occurring in patches throughout the white matter of the central nervous system, the symptoms of which include weakness, inco-ordination, paresthesias (abnormal sensation), and speech/visual disturbances.

12. SPINAL CORD INJURY

(a) Quadraplegia: Paralysis of all four limbs.

(b) Paraplegia: Paralysis of the lower part of the body including the legs.

NOTE: Disabled participants were selected only if their disability (RA, MS, SCI) had been confirmed by a consultant physician.

5.4 ABBREVIATIONS

- BI1: Body-image 1 (inferred)
BI2: Body-image 2 (actual)
BI3: Body-image 3 (ideal)
bC1: Body cathexis score for body-image 1 (inferred)
bC2: Body cathexis score for body-image 2 (actual)
bC3: Body cathexis score for body-image 3 (ideal)
sC1: Self cathexis score for self-concept 1 (inferred)
sC2: Self cathexis score for self-concept 2 (actual)
sC3: Self cathexis score for self-concept 3 (ideal)
bAI1: Anxiety indicator score from body-image 1 (inferred)
bAI2: Anxiety indicator score from body-image 2 (actual)
bAI3: Anxiety indicator score from body-image 3 (ideal)
sAI1: Anxiety indicator score from self-concept 1 (inferred)
sAI2: Anxiety indicator score from self-concept 2 (actual)
sAI3: Anxiety indicator score from self-concept 3 (ideal)

5.5 AIMS OF THE STUDY

1. To compare and contrast the body-image and self-concept of disabled and non-disabled persons in an attempt to understand how cultural, social and personal factors, attitudes and beliefs combine to affect the disabled person's body-image, self-concept, and chances of rehabilitative success.

2. To explore body perception in the disabled, as identified and elaborated by a tripartite theory of body perception based on the review of the literature (Chapter 2) and developed by the researcher. The findings may (a) aid individuals in coping with disability and optimise their chances of functional recovery in rehabilitation programmes, (b) help the clinician provide the most effective intervention strategies possible, in an effort to assist the patient in his coping, and (c) suggest means of meeting a number of practical aims (e.g., the development of a clinical assessment instrument, the identification of case-specific coping strategies).

5.6 THE HYPOTHESES

Specific hypotheses to be tested will be:

- H1: That 3 body-images paralleling the 3 standard "selves" of self theory, may be identified in normal subjects.
- H2: That the 3 body-images of the disabled will differ from those of normals.
- H3: That the 3 self-concepts of the disabled will differ from those of normals.
- H4: That the nature of differences of body-images in those groups of disabled showing differences from normal subjects, will be related to 3 different modes of adjustment.
- H5: That body-image disturbance will be proportional to the degree of functional impairment, and inversely proportional to the

number of years of impairment.

An exploratory study of the nature of the body and self-cathexis scales will be carried out as a subsidiary to the main hypotheses.

5.7 METHODOLOGICAL LIMITATIONS

The study did not consider congenital disabilities or attempt to establish changes which exist between various disabled and non-disabled sub-populations. Rather, the emphasis was to identify differences in body-image perception between the two groups.

The able-bodied sample was limited to persons of both sexes, not being of subnormal intelligence, and resident in the North Island for at least 5 years, such that 20 subjects (10 male, 10 female) represented each 10 year age group from 20-60+ years. This sample of 100 non-disabled persons ensured reasonable generality for factor analytic results, and established a comparison group.

Only 3 disabilities were considered: spinal cord injury (para/quadruplegia), multiple sclerosis and rheumatoid arthritis, which were considered representative of three distinctly different types of disability. Subjects with additional disabilities were excluded (e.g., cardiovascular abnormality). Similarly, able-bodied persons were selected if at the time of testing they manifested no significant pathology (including recent bereavement).

Disabled participants were selected such that each 10 year age span was represented by 20 persons. Because of the differing ratios and availabilities of males and females within each disabled group, the male/female numbers in each subgroup was unequal, vis:-

SCI 15/5, RA 5/15, MS 8/12, this being in accord with suggestions made by Dr. T. Hassard of the Department of Mathematics and Statistics, Massey University. These were considered, from the information available, to more accurately represent the actual distribution of the sexes within the disability groups in New Zealand, and still allowed for the separation of sex, with age, as separate factors in the analyses.

In many instances participants were located via organisations of which they were a member (e.g., Multiple Sclerosis Society), and were requested to participate. It was thus impossible to control for factors such as the degree of incapacity and years of disablement, since often such individuals (with advanced chronic pathology) declined to participate. Often, when such individuals were interviewed, difficulties in communication (caused by speech impairment, severe pain, or confusion generated by drug therapy) rendered their form void for this particular investigation. However, the willingness of such severely incapacitated individuals to request participation in this study can only receive admiration. In fact requests by subjects to participate exceeded the numbers required in some of the age groups. Counterbalancing this was a reluctance on the part of some of the members of the medical profession to assist in locating participants. This lack of co-operation also presented problems in locating subjects at the extremes of the age-span.

5.8 THE IMPORTANCE OF THE STUDY

Since physical disability is both a natural and normal part of life, and since time often brings impairment, it is extremely important that the clinician be able to predict the occurrence of body-image distortion, and to identify its existence in an effort to intervene and assist the individual in his coping. This can only be done by utilising theories formulated on a sound understanding of the major concept, body-image (Fisher & Cleveland, 1968; Fisher, 1970; Kleeman, 1977; Shouksmith, 1972, 1979). Only by having a more comprehensive understanding of what constitutes a normal body-image in the face of bodily distortion can we begin to identify these abnormal and subtle body-image disturbances causing distress to the disabled person (Arnoff & Mehl, 1963). Such knowledge may direct an individual into more appropriate rehabilitation schemes and initiate more specific rehabilitation and counselling programmes for disabled groups. Relating body-image to self-concept will enable both the phenomenologically and humanistic orientated counsellor to focus on essential therapeutic elements in the disabled person's frame of reference.

CHAPTER 6

MEASURING INSTRUMENTS AND SUBJECTS

This chapter contains information regarding the measuring instruments used in this study (e.g., Body Cathexis Scale, Semantic Differential, Activities of Daily Living form), followed by a description of the two subject samples.

6.1 BODY CATHEXIS SCALE

Regardless of the methodological mixed bag and equally astonishing collection of findings amassed within the literature concerned with self-evaluation, little advance has been made in securing the '... operational definition of concepts and in the empirical test of hypotheses.' (Gunderson & Johnson, 1965, 311). It was in an attempt to secure quantitative information regarding body evaluation that Secord & Jourard (1953) reported their Body Cathexis measure in which Body Cathexis (BC) refers to a feeling of satisfaction with various parts of the body, and which purports to measure self-acceptance directly rather than via actual self-ideal discrepancies or comparisons with externally judged norms (Wylie, 1974, 236). One might reasonably suggest this particular aspect of self-regard as important in Ss overall self-evaluation.

The Body Cathexis (BC) scale is not well known, and thus requires further description. Two versions of the scale have been used in a small number of studies, few of which are recent. Nevertheless, this instrument has been acknowledged as '... the only scale of its kind which has been used more than once or twice; and it offers researchers at least a takeoff point for further scale development or exploration of this area.' (Wylie, 1974, 236).

Whilst the earlier 46-item version (Secord & Jourard, 1953) was utilised by Robinson & Shaver (1969), the majority of studies have employed the 40-item revised scale (Jourard & Secord, 1954). In either case Ss were required to rate their feelings about each body part/function (e.g. hands, digestion, back view of head) on a 5-point scale from strong negative to strong positive. The rationale for item selection has never been explained, although most body areas appear to be represented.

The total of the ratings for each item on the five point scale constituted the total BC score. A low score on the BC scale indicated that the individual had a poor attitude towards his body and wished changes could be made. Conversely, a high score was indicative of positive cathexis and pleasure with one's body. Anxiety over body appearance was denoted by the most negatively cathected items (Secord & Jourard, 1953; Johnson, 1956). Accordingly, the "anxiety indicator" (AI) was obtained by summing the ratings of the 11 body items most negatively cathected for each individual and dividing the sum by 11.

Whilst the research generated by the BC scale appears scant, the majority of studies that exist appear to be based on assumed validity. Initially BC was shown to be significantly related to (1) self-cathexis (a measure of self-esteem based on the format of the BC scale and developed by Jourard, 1957) (Secord & Jourard, 1953; Jourard & Remy, 1955; Johnson, 1956; Weinberg, 1960; Gunderson & Johnson, 1965; White & Wash, 1965; Rosen & Ross, 1968, the only dissention being provided by White & Gaier (1965) whose AA (alcoholic anonymous) Ss provided a Pearson's r of only -0.13), (2) bodily concern (Secord & Jourard, 1953; Johnson, 1956;

Jaskar & Reed, 1963), and (3) psychological insecurity as measured by Maslow's Security-Insecurity Inventory (Secord & Jourard, 1953; Jourard & Remy, 1955; Weinberg, 1960). However, the positive correlation between negative feelings about the body and bodily concern (measured by the number of body-referent responses to a list of homonyms able to elicit body or non-body responses in Ss (Secord, 1953)) was not substantiated by Weinberg (1960) and thus awaits future confirmation. Significant correlations between BC scores and perceived attitudes to Ss body (Jourard & Remy, 1955), body-size (Jourard & Secord, 1954; Jourard & Secord, 1955a), mental illness (Jaskard & Reed, 1963; Cardone & Olson, 1969a), chlorpromazine (Cardone & Olson, 1969b), and nudist-group affiliation (Blank et al, 1968) have also been documented.

With regard to body-size Jourard & Secord (1954, 184) contended large and small size to be associated with strong, positive and weak, negative feelings toward body parts respectively. This was especially pertinent for the masculine group, where "bigness" was linked with positive cathexis. In a similar vein, for women, positive cathexis correlated with smallness, the only exception being the bust (Jourard & Secord, 1955b; Calden, 1959; Arkoff & Weaver, 1966): '...females desire changes from the waist down and wish for smallness and petiteness of body parts (except for bust).' (Calden, 1959, 378). Further, Jourard & Secord (1955b) associated negative cathexis with large discrepancies between ideal and actual sizes ascribed to parts of the body. The concept of ideal size amongst females appeared to reflect a stereotyped concept of the ideal as revealed in the significantly smaller variation in ideal body measurements ($P < 0.01$)

as compared with more direct measures, for as Jourard & Secord (1955a, 246) explain:

The size specifications of the ideal female figure in our culture seem to be rather restrictive i.e., they are difficult to attain ... a woman's status and security are in some cases highly conditioned by her perceived and demonstrated attractiveness to males - irrespective of her skills, interests, values, etc.; hence, if she does not feel or appear "beautiful", she feels a loss of self-esteem, i.e., insecure.

Women appeared to be more concerned with bodily appearance and functioning than men and seemed dissatisfied with their bodily appearance and often reported a large number of associated somatic symptoms as measured by the Cornell Medical Index Health Questionnaire (Johnson, 1956). The social importance of the female body, or the training and interest of the student nurses in illness who comprised the female sample in Johnson's (1956) study, were posited as possible means of explanation. In line with Freudian theory, attitude towards one's body was associated with somatic complaints.

Positive cathexis has been shown to have either a curvilinear (Gunderson & Johnson, 1965), or linear relationship with height (Jourard & Secord, 1954). Females revealed more variability than males in their body cathexis ratings (Jourard & Remy, 1957; Shontz, 1963). However, this contention remains a moot point since Boraks (1962) found the reverse to be the case, but as Fisher (1970, 26) pointed out: '... one can easily conclude from a survey of the findings [of Boraks] that there were few solid

differences between the sexes in their body perceptions and evaluations.'

The rationale for the exclusion of 24 items from the BC scale, and the addition of others, in Gunderson & Johnson's (1965) study defied detection in both this investigation and Johnson's (1956) earlier work cited as providing the basis for such action (Gunderson & Johnson, 1965, 312). Factor analysis of the remaining 22 BC items identified three factors: physical strength (chest, width of shoulders, muscles), body build (waist, hips, weight, body build), and profile (head, nose, facial complexion).

In Noonan's (1966) study, the BC score was found to be influenced by social desirability. This influence, and interpretations derived from the total score have been variously elaborated (Gunderson & Johnson, 1965; Rosen & Ross, 1968). However, the influence of social desirability does not negate the use of the BC scale in the enquiry to be considered. Since we are primarily concerned with conscious evaluations and as social desirability influences most, if not all, of such day-to-day considerations, its influence forms an integral part of the disabled person's realistic appraisal of his own body. It should be noted that social desirability is implicit in evaluations, which are judgements and not facts. Thus, an individual's basic level of satisfaction with his body, as measured by the BC technique, could provide a relatively stable framework for absorbing disability. On the other hand, an individual may be inhibited in incorporating inferior qualities into his body-image since the prior assigned values of body areas might resist change.

6.1.1 VALIDITY AND RELIABILITY

Although the BC scale has good known reliability with split-half reliability coefficients ranging from 0.80 to 0.91 (Secord & Jourard, 1953; Jourard & Remy, 1955; Weinberg, 1960), adequate concurrent validity (e.g. body-cathexis - self-cathexis, $r = 0.31$ to 0.84 (Secord & Jourard, 1953; Jourard & Remy, 1955; Weinberg, 1960; White & Wash, 1965), and has shown theoretically predicted correlations with a number of other variables, thus providing "oblique" support for its construct validity (Wylie, 1974, 238-239), little is known regarding its convergent and discriminant validity. The former is impossible to estimate since there is no other instrument available which measures the construct as defined by Secord & Jourard (1953), and the latter remains to be adequately explored. Although it would appear that performance on the scale is reasonably free from the influence of irrelevant variables such as misunderstanding and transference to other items, it is difficult to provide detailed information regarding their influence upon the construct validity of the instrument at present (Wylie, 1974, 237). A measure of adequate temporal stability was obtained in the form of test-retest reliability (BC=0.72; AI=0.76) (Johnson, 1956). In this investigation, the internal consistency of the BC scale was corroborated by split-half Spearman-Brown reliabilities of 0.89, 0.92, 0.96 representing the measurement of inferred (me, as others see me), actual (me, as I am), and ideal (me, as I would like to be) cathexis respectively.

One's attitude towards one's body provides the theoretical construct under consideration. Three factors (physical strength, body build, and profile) were isolated by factor analysis from a much altered and reduced version of the BC scale (Gunderson & Johnson, 1965). Because of the lack of similarity occasioned between this 22 item scale and the original 46 items, it is difficult to ascertain the appropriateness of these factors and associated scales to the original content. More recently, Tucker (1981) isolated 4 independent factors from the 40-item revised scale: (1) Health and Physical Fitness, (2) Face and Over-all Appearance, (3) Subordinate and Independent Body Features, (4) Physique and Muscular Strength, and obtained a test-retest reliability coefficient of .87, suggesting that the Body Cathexis scale is stable over time. These factors bear a close resemblance to those isolated in the present study (Chapter 11).

6.1.2 CONSTRUCTION OF THE INSTRUMENT FOR THE STUDY

The prime interest was to find a means of subjecting the conscious body-image to scrutiny, and investigating how the disturbance of impairment makes itself manifest. The main considerations here would be how positively or negatively the various parts of the body are viewed in relation to the disability, and what areas of the body appear to dominate the perceptual field. Thus, the required measure had to enable a conscious evaluation of all major bodily areas in terms of a

positive or negative appraisal. This relates to the basic question of whether the individual likes or dislikes his body which undoubtedly influences the way in which the body is experienced. Secord & Jourard's (1953) BC scale represents the only available scale with this kind of appraisal in mind, and enables assessment over a variety of bodily areas, and the relative simplicity of the method must furnish one of its main advantages. Despite the popularity of evaluations concerning one's bodily satisfaction, there are few means of tapping it apart from self-report techniques.

The items and scoring procedure used were essentially those derived from Secord & Jourard (1953) and Jourard & Secord (1954). A 52-item BC scale was employed which comprised 39 out of the 40-item revised scale (Jourard & Secord, 1954) with the exception of "distribution of hair (over body)", and the 13 items omitted in the 1954 revision from the original scale (breathing, neck, shape of head, skin texture, lips, forehead, sex (male or female), back view of head, fingers, wrists, exercise, ankles, trunk) (Appendix H).

During the pilot study which consisted of informal discussions and interviews with 21 disabled Ss during which the BC scale to be used in this study was presented, items were eliminated which were ambiguous or difficult to understand, difficult for Ss to assign a meaningful rating to, or which resulted in little variability. Since organs pertaining to excretory functions and the distribution of bodily hair were not viewed as pertinent or central in this particular use of the BC scale, they were omitted. Also, Ss tended to avoid this answer

category and reacted negatively to the inclusion in the scale of organs pertaining to sexual functions. Thus, as for Secord & Jourard (1953, 344), the omission of the latter was deliberate since it was strongly felt that their inclusion might give rise to an evasive attitude which would transfer to other items. Further items were not excluded if their omission left a part of the body unrepresented on the scale.

In line with Secord & Jourard's (1953) original computations, and Johnson's (1956) investigation, the AI score was based upon approximately one quarter of the total number of BC items. However, Gunderson & Johnson (1965), presumably for some reason which they omitted to explain in their study, based the AI score on half of the 22 BC items used. Thus, it seemed hardly surprising that they should report in their results: 'As the score on the Anxiety Indicator Scale correlated .92 with the score on the BC Scale, the former was dropped from further consideration.' (Gunderson & Johnson, 1965, 314). Perhaps, if they had based their AI score upon the original criterion (i.e., the 5 most negatively cathected items) this correlation might have approximated a more realistic level and warranted further discussion.

It was felt that "response sets" were not necessarily an artifact which should be excluded from study, but rather were indicative of certain cognitive styles representing genuine answers (Shouksmith, 1973). Thus, the criteria for their removal cited in the original study (Secord & Jourard, 1953) were not utilised. In an attempt to reduce the possibility of faking, as anonymity was guaranteed and the importance of honesty in

answering emphasised. The differential importance of the BC content for Ss was recognised and also the fact that salient items could be isolated by inspection and factor analysis (Chapter 11). Accordingly, the method of summing across the different items was considered suitable as an indicator of general bodily regard.

Three types of score were obtained:

(1) Total BC, obtained by summing the ratings for each individual on the 52 body items and dividing by 52.

(2) An anxiety indicator (AI) score based on the lowest 13 items for each group, obtained by calculating the mean score for each of the 52 items comprising the BC scale for each subject group. From these, the lowest 13 mean scores were selected and divided by 13 to provide an average score for each group. For each subject the average of the 13 items thus selected provided an individual AI score.

(3) D-scores calculated by taking the difference between the scores of 2 body-cathexis measures, squaring the difference, summing the squares, and taking the square root of the sum (Osgood et al, 1957) were used to provide the distances in semantic space between the 3 body-images and as an indicator of conceptual congruity between S groups (Back & Guptill, 1966). Here D1 = the distance between inferred and actual body-images. D2 = the distance between actual and ideal body-images. D3 = the distance between inferred and ideal body-images.

6.2 SEMANTIC DIFFERENTIAL

It was recognised that an individual's attitudes towards his self would vary considerably as a function of how they were obtained from him (Fisher & Cleveland, 1968, 30). The present study introduced a "less direct measure" based on Osgood et al's (1957) semantic differential (Robinson & Argyle, 1962, 71). The semantic differential technique was originally developed by Osgood et al (1957) and required Ss to rate each of several concepts on a number of seven-point bipolar adjectival scales (e.g., wise-foolish, strong-weak). Osgood et al (1957) have demonstrated the importance of three factors (evaluative, potency, activity) as basic dimensions of meaning, although other factors (e.g., respectivity) have been implicated, and they provided '... valuable evidence on the validity, reliability and sensitivity' of the scales (Oppenheim, 1973, 204).

For the semantic differential no standard concepts or scales exist, thus it has to be adapted to meet the requirements of the particular research in question. It was this element of flexibility which made it attractive for measuring attitudes towards one's self, and also the fact that it has long been established for this purpose in psychology (Wylie, 1974). It was also felt that historically a relationship between body-image and self-concept, as measured by body and self-cathexis (Secord & Jourard, 1953), had only been demonstrated and investigated using similar scales. If this relationship was to hold, then it was felt that it would exist between two different instruments purported to be measuring the same concepts (i.e., between body cathexis as

measured on the scale developed by Secord & Jourard (1953), and self-cathexis as measured by the semantic differential. By utilising the semantic differential, it was (1) recognised that one's linguistic habits could be determined in part by, and influence, the self-concept, and at a very basic level the body-image (Yamamoto, 1972, 45-46), and (2) hoped that the individual's censorship in describing his self would be lessened and thus increase the validity of Ss replies as reflective of their phenomenal self-concepts. The insufficient and inadequate information available to date regarding the measurement of self-cathexis using the semantic differential necessitated that time be spent constructing a meaningful scale rather than making use of tests already available, which might be totally inadequate for the task in hand.

Indeed, Osgood et al (1957, 219-221) suggested that the semantic differential was appropriate for self-concept measurement. However, it should be remembered that the goal of Osgood et al was not primarily self-concept measurement and that the scales were not chosen for their specific relevance to self-concept, thus it would seem likely that '... many adjectives of great relevance to self-description were excluded.' (Wylie, 1974, 227). Accordingly, the use of the semantic differential technique cannot be defended on the basis of Osgood et al's (1957) empirical work or opinion (Wylie, 1974, 224-225), but rather upon the clear specification of the scales to be used.

It seemed plausible that the evaluative, activity and potency dimensions identified by Osgood et al (1957) might be important in self-concept appraisals, but it did not follow that highly loaded

scales on a particular factor in Osgood et al's studies would be representative of the factorial structure of the self-referent concepts to be used here (Chapter 11). For example, scales comprising the evaluative factor have been shown to differ markedly depending upon the concept under scrutiny (Gulliksen, 1958). However, despite such considerations, the semantic differential format has advantages in that the contrast inherent in each bipolar scale facilitates Ss understanding of the adjectives. This issue is of central importance since adjectives in themselves have no meaning. Rather, the meaning lies within the people who use them. This being so, it is possible, by choosing clear and relevant self-concept bipolar adjective pairs, to assess the meaning of a concept to an individual using such a scale. Whilst a great variety of concepts may be judged against a semantic differential, in the final analysis, the selection of scales depends mainly upon those scales which discriminate reliably and the investigator's interests.

6.2.1 CONSTRUCTION OF THE INSTRUMENT FOR THE STUDY

Whilst this study addresses itself to the individual's phenomenological self-concept, an effort was made to overcome inter-subject differences in the interpretation of scale items (Fiske, 1966), by avoiding ambiguity in selecting bipolar adjectival scales for their clarity and relevance, based upon a judgement of their a priori construct validity, for measuring the 3 aspects of self (i.e., inferred, actual, and ideal) under

consideration.

In light of the fact that the main concern of the investigation to follow lies with the affective aspects of Ss attitudes to 3 concepts, no more precise information regarding the 3 semantic dimensions identified by Osgood et al (1957) (i.e., evaluative, potency, activity) and acknowledged in personality research (Robinson & Argyle, 1962, 71; Dobson, 1972, 19) was required. However, since the differential importance of these 3 factors in self-appraisals remains a matter of controversy (Wylie, 1974), each was represented by 5 items (Table 1) so as not to unfairly weight the possible factorial composition of the scale (Chapter 11).

As a result of the informal discussions and interviews with 21 disabled Ss, which comprised the pilot study, during which the instruments to be used in this study were presented, the semantic differential was refined to include the scale fortunate-unfortunate (identified in Thesaurus Study : Osgood et al, 1957, 57) because of its relevance to disablement, and more detailed instructions to facilitate understanding for those more severely incapacitated Ss who wished to participate (Appendix H). A comparison of the loadings of the chosen scales from a scale by scale factor analysis with able-bodied Ss (Chapter 11) with those obtained from the studies of Osgood et al (1957) are given in Table 1. To avoid position effects, the scales to be rated on each concept were placed in random order.

TABLE 1: COMPARATIVE FACTOR LOADINGS OF THE SEMANTICDIFFERENTIAL SCALES

SCALES (OSGOOD et al (1957))		MEAN FACTOR LOADINGS ON PRESENT FACTOR ANALYSIS (ROTATED)	
(1)	good-bad	0.88 (Analysis 1)E	0.70
(2)	valuable-worthless	0.79 (Analysis 1)E	0.67
(3)	kind-cruel	0.82 (Analysis 1)E	0.75
(4)	pleasant-unpleasant	0.82 (Analysis 1)E	0.76
(5)	fair-unfair	0.83 (Analysis 1)E	0.74
(6)	weak-strong	0.62 (Analysis 1)P	0.63
(7)	beautiful-ugly	0.56 (Solomon) P	0.39
(8)	large-small	0.62 (Analysis 1)P	0.20
(9)	mild-intense	0.39 (Solomon) P	0.55
(10)	gentle-violent	0.50 (Solomon) P	0.55
(11)	passive-active	0.59 (Analysis 1)A	0.35
(12)	calm-excitable	0.54 (Tucker) A	0.49
(13)	formal-informal	0.58 (Tucker) A	0.34
(14)	definite-uncertain	0.36 (Solomon) A	0.61
(15)	relaxed-intense	0.43 (Solomon) A	0.70

(APPENDIX G, N=100)

E = evaluative scale P = potency scale
A = activity scale

To administer the semantic differential, a concept was given at the top of each sheet of 16 scales and Ss were requested to rate each concept against all the scales. Three particular concepts were of interest here: "me, as others see me", "me, as I am", and "me, as I would like to be" which represented the inferred, actual and ideal self-concepts respectively. Numerical values ran from 1 to 7, with high numerical values being assigned to the adjective identifying the positive (i.e., "good") end of the scale. Three types of score were obtained from the scale:

(1) Total Self-Cathexis (sC) obtained for each of the 3 self-concepts by summing the ratings on the 16 self items, provided by the positively rated directions revealed in factor

analytic studies, and dividing by 16 (Dobson, 1982, 19).

(2) Anxiety Indicator (AI) score obtained from each of the self-concept scales by calculating the sum of the lowest 4 scores, and dividing by 4. Four items comprised this score since they represented 1/4 of the total number of scale items (Secord & Jourard, 1953).

(3) D-scores calculated by taking the difference between the score of 2 self-concept measures, squaring the difference, summing the squares, and taking the square root of the sum (Osgood et al, 1957). This gave a "profile distance measure" of the distance in semantic space between the two profiles concerned (Kerlinger, 1964) and has been used both as an indicator of pathology (Marks, 1965; Dawes, 1972) and conceptual congruity between subject groups (Barislow, 1962; Brown, 1962; Back & Guptill, 1966; Shouksmith, 1983). Here, D_1 = the distance between inferred and actual self-concepts. D_2 = the distance between actual and ideal self-concepts. D_3 = the distance between inferred and ideal self-concepts.

The reliability of this 16-item form was considered adequate (parallel forms (N=385): self-concept 1 (inferred) = 0.55, self-concept 2 (actual) = 0.60, self-concept 3 (ideal) = 0.63) for a measure relating to internalised concepts of self.

6.3 ACTIVITIES OF DAILY LIVING FORM

Whilst a number of attempts have been made to assess physical disability quantitatively: loss of earning power, per cent anatomical loss (Committee on Medical Rating of Physical Impairment, 1958), the emphasis was on pathological/anatomical rather than functional impairment. The first efforts in developing a means of "functional assessment" was in the identification of those activities essential for independent living (Deaver & Brown, 1945; Buchwald, 1952; Lawton, 1963). Such activities are considered:

... of fundamental human importance. They are acquired during early childhood, and the ability to carry them out without assistance is implicit in self-concept as a 'whole'... (Smith, 1981, 19).

The next step was the attachment of a nominal scale to a standard set of activities of daily living (Staff of the Benjamin Rose Hospital, 1959), and the ability to describe Ss task performance (Katz & Chinn, 1958). It was then only a short step to assign a numerical value to each activity (Mahoney, 1953; Mahoney & Barthel, 1965). Such measures of "disability" (i.e., the inability of disabled Ss to perform activities characteristic of the able-bodied) are frequently employed to assess the progress of patients undergoing rehabilitation. The most common type of measure in this respect is the ADL (Activities of Daily Living) index which was defined by Nichols (1976) as an ordered record of a patient's capabilities. Some form of ADL index is considered essential to rehabilitative practice (Duckworth, 1980; Smith,

1981; Parish & James, 1982). The accurate assessment of ADL not only provides a baseline from which progress or deterioration may be measured, it may also furnish indications as to required aids, changes in treatment, and '... gives a guide to the patient's ability to benefit from rehabilitation.' (Smith, 1981, 20).

The majority of ADL indices can be classified into one of three categories: summed indices, checklists or profiles (Bruett & Overs, 1969). Many ADL indices have been reported. Wylie, (1967a) produced a simple loading score in multiples of 5 which enabled the derivation of a total score for degrees of dependency within individual disabilities, but implicit in such a scaling procedure was the assumption that items comprising the scale were of equal "disability value" (i.e. "inability to feed oneself" had the same score as "inability to climb stairs"). This '...complicates what would seem to be a promising scoring system' (Andrews et al, 1981, 157) in that it limits measurements taking place to the ordinal level (e.g., we cannot presume Ss with a score of 10 to be twice as disabled as those with a score of 5, only more disabled). Carroll (1968) proposed a 10-item scale, weighted in accord with Feinstein's (1967) "major-minor criteriology", based on abstractions 'directly related to the social goals of the patients' (Carroll, 1968, 49), the items of which were acknowledged as being by no means discrete. With this scale high and low ADL scores were found to be associated with independence and dependency respectively (Carroll, 1962). Dinken (1974) provided direct scores by subdividing major activities (e.g., locomotion, dressing) and assigning a score to each part. Thus, hand activities were divided into 15 activities and dressing into 8. Harris et al (1971)

divided activities into major and minor items and gave a different score to each group. Other studies have combined time taken to perform tasks with whether they were carried out independently, with assistance, or not at all (Sheikh et al, 1979). More recently, this increase in complexity of ADL indices (Parish & James, 1982) has become so obtrusive as to render their administration next to impossible, and detracts from the main advantages of the ADL; their simplicity to score and the short time required for completion. In the present study a short 10-item version derived from Carroll (1968) was chosen because it could be administered readily and reflected "self-care".

6.3.1 VALIDITY AND RELIABILITY

ADL forms appear to have adequate reliability with inter-observer reliability ranging from 0.93 to 0.96 (Carroll, 1968; Sheikh et al, 1979), concurrent validity (e.g., hospital ADL-home ADL, $r = 0.96$; other-assessed ADL - self-assessed ADL, $r = 0.68$ (Sheikh et al, 1979), and the few studies as exist have demonstrated theoretically predicted correlations with other variables (e.g., treatment outcome (Bruell & Simon, 1960; Boone, 1961), homogeneity of diagnostic group, and physical needs of patients after discharge (Carroll, 1968)) which provides support for its construct validity.

Items comprising ADL forms have frequently been considered to represent completely different activities (Kelman & Willner, 1962; Gordon & Kohn, 1966). However, in Carroll's (1968)

version this was not the case since items were selected on the basis of their relevance for Ss self-care, thus many basic movements were duplicated. It would be difficult to consider items comprising such scales as self-contained entities (e.g., the ability to transfer successfully from a wheelchair to the toilet is of little use if Ss are unable to dress themselves).

Whilst the total ADL score has demonstrated reliability, for New Zealand use one should be aware of the problems inherent in comparing the activities of Ss with different ethnic backgrounds (e.g., wheelchair mobility may represent a return to independence for the European but only reinforce the stigma attached to disablement for the Maori). Certainly the validity is open to value judgements which include those activities which comprise the index and which Ss are considered to have a need to accomplish in order to lead a reasonably independent existence. It is especially difficult to be clear about the validity of such scales whilst concepts such as disability and capacity remain vague. Accordingly, 'validity questions are simple to pose but difficult to answer...' (Duckworth, 1980, 196). Duckworth (1980, 197) cautioned further:

Even when an index is shown to be valid and reproducible, the total score still requires interpretation, and there is every reason to suppose that different workers would often interpret the score in somewhat different ways.

Such reasoning provides support for Wylie's (1967b) suggestion of using a simple well-established measure.

6.3.2 CONSTRUCTION OF THE INSTRUMENT FOR THE STUDY

The version of ADL form to be used here to assess the functional incapacity of disabled Ss was that developed by Carroll (1968). The 10 items comprising the score were selected because of their relevance to self-care. Whilst it must be acknowledged that disability type, age, years of disablement combined with various social/environmental factors might influence Ss ADL score (Sheikh et al, 1979), it seems reasonable to suggest that self-care would be salient to disabled Ss concepts of self and body. Since interviews were to be carried out in Ss homes, the scoring system of the ADL had to be simple, and yet reliable and reproducible. The items had to be easily understood, and not unduly fatigue severely incapacitated Ss. These criteria were felt to be best satisfied by Carroll's (1968) ADL form which provided a score, on the basis of 100, of Ss ability to care for the daily needs of feeding, dressing, personal toilet (including incontinence), wheelchair activities, ambulation and going up steps (Appendix H).

Items comprising the scale were weighted with "major" activities (e.g., mobility) being assigned higher maximum scores than "minor" activities (e.g., personal toilet) which helped overcome the criticism of equally salient items comprising the summed index. However, by so doing each item assessed did not contribute in equal magnitude to the total disability, thus the scoring system was not strictly mathematically accurate, but easy to compute (Parish & James, 1982). The system of weighting adopted here has had proven useful application in medical

science (Jones, 1944; Ropes et al, 1956).

Total independence was represented by 100. There were 10 items (with 7 a sub-item of 6, to be used only when S could not walk). Items 1, 2, 3, 8, 9 and 11 each had three possible scorings of 0, 5 or 10. Item 10 also had 3 possible scorings of 0, 10 or 15. Items 4, 5 and 7 had two, and item 6 four possible scores 0, 5, 10, 15 (Appendix H). However, there appeared an anomaly in this procedure in that disabled persons unable to walk had the potential of scoring 20 for mobility (items 6 & 7) as compared with 25 for those fully ambulant (items 10 & 11) which created strong objections from "wheelchair-bound" paraplegics since the ADL potentials of the disability groups were unequal. Accordingly, it was decided to reduce item 10 by 5, and to score Ss for either wheelchair or ambulant mobility but not both. The decision as to which mobility items were to be scored was left to Ss. Thus, the maximum score attainable was 80.

An attempt was made to overcome subtle influences on performance (e.g., of test administrator (Rosenthal & Jacobson, 1968)) and of location (Duckworth, 1980; Smith, 1980) by asking the items in question form and subsequent discussion. This method was considered more appropriate to the home situation where acoustics are usually improved over those in institutions but where performance might be hampered by inadequate lighting (Duckworth, 1980, 195). Ss also reported preference for this method since a "hospital performance" often created anxiety and was thus considered by Ss as inaccurate. Since we were only concerned with measuring Ss functional incapacity one score was

obtained:

- (1) Functional incapacity score = 80 - summed ADL.

6.4 SUBJECTS

Ss in the study comprise 2 groups:

- (1) Able-bodied

A sample of 100 non-disabled persons of both sexes, of normal intelligence, and resident in the North Island, such that there were 10 Ss (5 male; 5 female) representing each 10-year age span from 20 - 60+ years (Table 2). This sample ensured reasonable generality of factor analytic results, and established a comparison group for further study. Ss were obtained from a variety of interest groups in New Zealand (e.g., service organisations, fashion/youth clubs, nurses/NZWRAC associations). The fact that Ss were obtained in this way meant that they were motivated to respond to questions in a serious fashion.

- (2) Disabled

A sample of 285 physically disabled persons suffering from nervous system dysfunction (para/quadruplegia and multiple sclerosis), and bone and joint disease (rheumatoid arthritis), between the ages of 20 - 60+ years,, of normal intelligence, and resident in the North Island, such that each 10-year age span was represented by corresponding numbers of disabled persons with non-disabled persons from group 1 above. Para/quadruplegics (SCI), MS and RA persons (Chapter 5) were chosen for the experimental sample because they represented 3 distinctly different types of

disability: (1) nervous system trauma, (2) nervous system disease, (3) bone and joint disease and 2 disability categories: (1) stability (para/quadruplegia), and (2) instability (MS and RA). Because of differing ratios and availabilities of males and females within each disabled group, the male/female numbers in each sub-group were unequal, vis: SCI 15/5, MS 8/12, RA 5/15 (Table 2).

The demographic distribution of Ss is shown on Map 1.

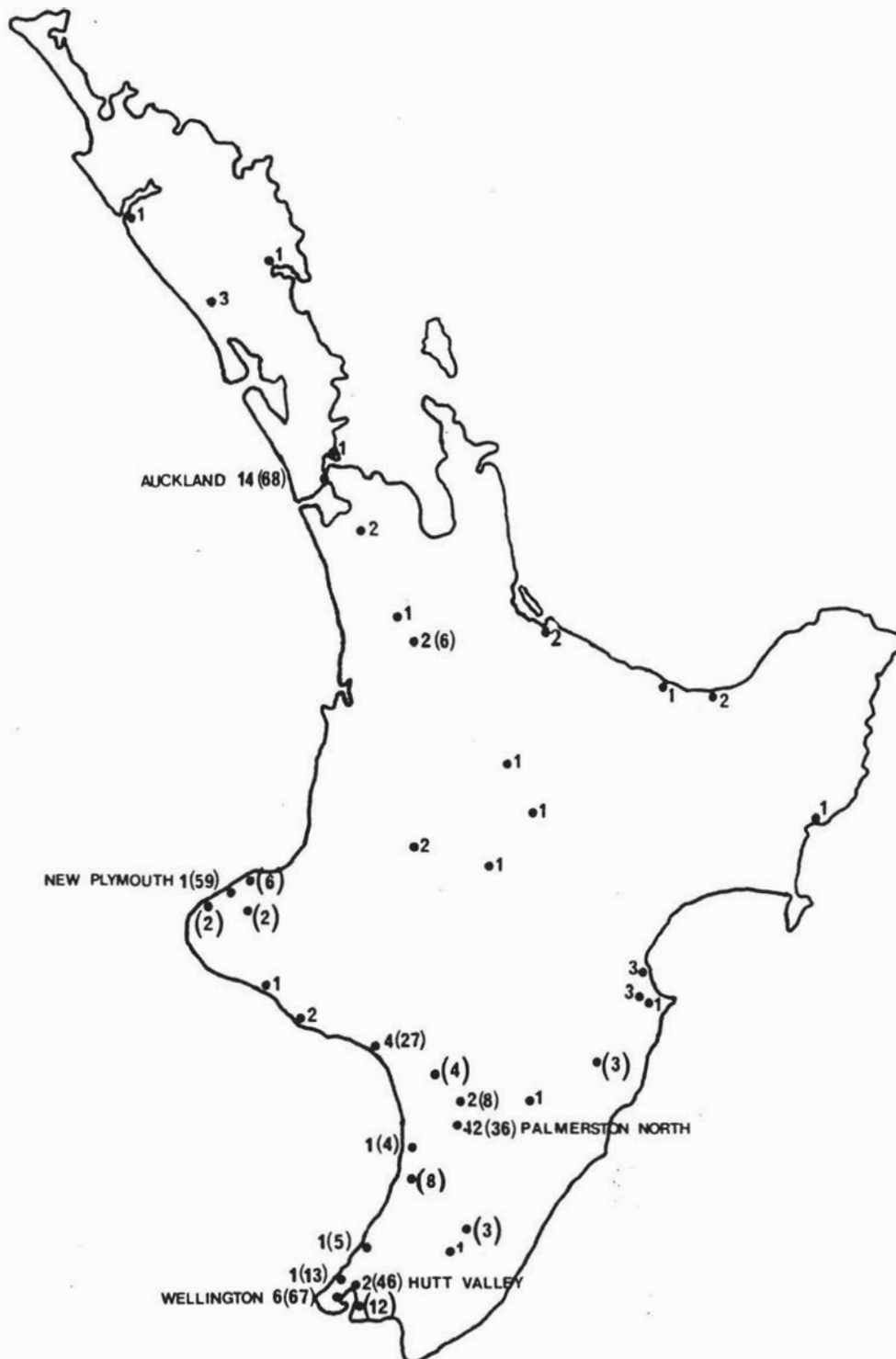
TABLE 2: DISTRIBUTION OF SUBJECTS ACCORDING TO

AGE	<u>SEX AND TYPE OF DISABILITY</u>										<u>TOTAL</u>	
	20-29		30-39		40-49		50-59		60+		M	F
SEX	M	F	M	F	M	F	M	F	M	F	M	F
SCI	15	5	15	5	15	5	15	5	11	5	71	25
MS	2	12	8	12	8	12	8	12	8	12	34	60
RA	0	15	5	15	5	15	5	15	5	15	20	75
NORMAL	10	10	10	10	10	10	10	10	10	10	50	50
<u>TOTAL</u>	<u>27</u>	<u>42</u>	<u>38</u>	<u>42</u>	<u>38</u>	<u>42</u>	<u>38</u>	<u>42</u>	<u>38</u>	<u>42</u>	<u>175</u>	<u>210</u>

Subject groups were coded as follows:

DISABILITY	1 = paraplegia	spinal cord
	2 = quadraplegia	injury
	3 = multiple sclerosis	(MS)
	4 = rheumatoid arthritis	(RA)
SEX	M = male	
	F = female	

These were considered to be more representative of the actual distribution of the sexes within the disability groups from the information that was available, but still allowed for the separation of sex, with age, as separate factors in the analyses. No definitive statistics were available, but these proportions were arrived at following discussions with subject membership and Dr. T. Hassard of the Mathematics and Statistics Department, Massey University. Ss were obtained by personal contact with the



(nos in parenthesis = disabled Ss)

(other nos = able-bodied Ss)

MAP 1: Topographical Distribution of Participants in the North Island

secretaries and/or field officers of various organisations (e.g., Wellington/Auckland MS, RA, Paraplegic & Physically Disabled Associations; Otara Spinal Unit; Pukeora Home for the Disabled).

CHAPTER 7

BODY-IMAGE AND SELF-CONCEPT:

PHENOMENOLOGY, CURRENT THEORY AND THE REAL WORLD

7.1 INTRODUCTION

In the phenomenological approach, following Kant, a distinction was drawn between the noumenal world (as it is) and the phenomenal world (as we experience it). We do not have direct access to the "real" world; rather, our experience of the world is mediated through our interpretations of what we experience. Through the use of language and conceptual schemes we give meaning to our experiences. In this sense, it may be said that people construct their social reality. However, the acceptance of the participant's interpretation as the only valid account of their social reality, leads to a logical problem. The participants can never be judged to be mistaken, and yet people are often mistaken about what they believe to be so, in that they are falsely conscious about the nature of their conditions; what they take to be their actual circumstances may not be so, although they believe otherwise. An alternative, and more valid, account of the participant's social reality may lie beyond their own understanding of their circumstances, to be found within forces imposed upon them from the wider social-economic structure, and of which they are unaware. Thus, the phenomenological approach no longer perpetuates a "false-consciousness", but rather an interpretive psychology (Fay, 1975, 79).

Proponents of the phenomenological model of man (Mead, 1934), hold the phenomenological self with the self-concept as its core, to be a fundamental frame of reference for the whole of a person's behavioural repertoire (Keen, 1975; Combs et al, 1976). Central to this organised (Mead, 1934; Combs, 1958), stable (Engel, 1959;

Roth, 1959), phenomenological self which is resistant to change (Blos, 1941), and capable of encompassing all the self-perceptions in a given situation (Combs et al, 1976, 159), is the more enduring (Festinger, 1967), self-sustaining (Brownfain, 1952), and unique core identity which forms the self-concept. The self-concept comprises those particular concepts of the self essential to the phenomenological self, and is held to be an abstraction of what an individual believes himself to be, which is central to both private and public emotional life (Gergen, 1971). Unlike the more flexible phenomenological self, the self-concept is the self at all times and in all situations and is central to personality (Diamond, 1957; Donelson, 1973; Combs et al, 1976). Out of the many, often inconsistent, perceptions and conceptions which contribute to one's self-concept (Gergen, 1971) (e.g., the despised self (Jourard, 1963)), personality theorists have commonly distinguished three, although never in the same paper; a real self (what you are), self-image (what you think you are), and an ideal self-image (what you would like to be) (Horney, 1950). Both the self-image and the ideal self-image are recognised as complex entities consisting of integrated subparts (Wright, 1960; Wylie, 1968). Following an assumption of unconscious perception, some psychologists have proposed a further subconscious component accessed when conscious control is diminished (e.g., in dreams, under the influence of alcohol, or in differential, unconscious self-recognition (Horney, 1945; McClelland, 1951; Diamond, 1957; Shibutani, 1961; Fisher & Cleveland, 1968)). Thus, it would seem that each individual has a unique self-concept composed of three components: (1) an inferred (subconscious/real) component often projected onto, and

assessed by others; (2) an actual component, used in everyday interaction, which reflects his conscious appraisal of himself, and (3) an ideal component which represents himself as he would like to be. One would expect similarities in the content of each component and in the formal structure of the relationship between the three component parts amongst normal persons.

It has been frequently suggested that an individual's attitudes towards his body influence, and are influenced by his attitudes towards his self (Murphy, 1947; Diamond, 1957; Zion, 1965; Burns, 1979). The person's attitudes are considered to represent what he thinks he is rather than what he is in actuality, although logically the latter can never be ascertained. Ordinarily, the body is experienced as a part of the self, often constituting its outer boundary. It is the physical aspects of an individual's self-concept which comprise his body-image. However, the composition of the latter remains confused (Shontz, 1974, 461), since its relation to other theoretical constructs has been generally disregarded or shrouded in ambiguity. Whilst there has been considerable research dealing with the relationship pertaining between various personality variables and physiological functioning, structure, distortion, and subconscious aspects of body-image, little has been conducted on the relationship between body-image and self-concept. Save for a limited study by Secord & Jourard (1953), the first comprehensive investigation was that of Zion's (1965), who reported a significant linear relationship between these two concepts.

Since body-image is basic to one's notion of self-concept (Fenichel, 1945, 36; Donelson, 1973, 289), and provides the

experiential substructure upon which personal identification and self-concept are built (Miller, 1969; Gergen, 1971; Hardy & Heyes, 1979; Horrocks & Jackson, 1972), it forms an integral part of phenomenological theory. The integration of these two conceptual self-systems (cognitive self-concept and somatic body-image) into a unified whole appears both as a major source of psychopathology and a normal developmental outcome (Hamachek, 1971, 113; Horrocks & Jackson, 1972, 27).

7.2 AIMS AND HYPOTHESES

Because of the intimate relationship between body-image and self-concept, one would expect three different body-images to be distinguished in an individual, paralleling the three different aspects of self identified above by phenomenological theory. The aim of this part of the present study is to identify the three different body-images (inferred, actual, ideal) and equivalent cognitive self-concepts (inferred, actual, ideal). The hypothesis (H1) to be investigated is that 3 body-images paralleling the 3 standard "selves" of self-theory, may be identified in normal subjects.

7.3 SUBJECTS

Group 1 (Chapter 6) comprised 100 able-bodied Ss (M=50; F=50).

7.4 PROCEDURE

Measuring Instruments

The following instruments were used:

(A) Three Body Cathexis (BC) scales (Secord & Jourard, 1953) were used to identify and measure the content and form of the body-images.

(B) Sixteen bi-polar semantic differential scales were used to identify and measure the 3 aspects of self (inferred, actual and ideal) as outlined in Chapter 6.

All measures were presented to Ss in the context of individual interviews. No restriction was placed upon the time taken to complete the scales. This method was time-consuming, but ensured that errors were kept to a minimum (Chapter 6).

Statistical Analysis

Three types of scores were obtained from the scales (Chapter 6): (1) Total bc (body cathexis) and sc (self-cathexis) scores. (2) An anxiety indicator (AI) score obtained from the BC or SC scale. (3) D-scores from the 3 BC scales where: D1 = distance between inferred and actual body-image, D2 = the distance between actual and ideal body-images, D3 = the distance between inferred

and ideal body-images, and used as an indicator of subjects' conceptual congruity between the 3 body-images. Simple correlation analysis was used to show the relation between each body-image and the 3 selves. The average correlation between hypothesised parallel selves and body-images should be significantly higher than that between non-parallel selves and images.

7.5 RESULTS

From the correlation coefficients contained in table 3, it may be seen that the average correlation between hypothesised parallel body-images and selves is not significantly higher ($Z=0.36$) than that between non-parallel selves and images, thus H1 is rejected.

TABLE 3: PEARSON CORRELATION COEFFICIENTS FOR BODY-IMAGES AND SELF-CONCEPTS OF ABLE-BODIED Ss

Significance levels indicated in parentheses
(N=100)

	BI1	BI2	BI3	SC1	SC2
BI2	0.81 (P<0.001)				
BI3	0.30 (P<0.01)	0.40 (P<0.001)			
SC1	-0.28 (P<0.01)	-0.29 (P<0.01)	-0.13 (P=****)		
SC2	-0.30 (P<0.01)	-0.30 (P<0.01)	-0.02 (P=****)	0.66 (P<0.001)	
SC3	-0.20 (P<0.05)	-0.22 (P<0.05)	-0.11 (P=****)	0.31 (P<0.01)	0.30 (P<0.01)

BI1: inferred body-image

BI2: actual body-image

BI3: ideal body-image

**** = not significant

SC1: inferred self-concept

SC2: actual self-concept

SC3: ideal self-concept

Significant negative correlations between the first two body-images

and their parallel self-concepts are identified (Table 3) (i.e., a high inferred or actual BC scale score is associated with a low inferred or actual self-concept scale score respectively. The relationship between the ideal body-image (BI3) and ideal self-concept (SC3) is also negative, but not significant. However, significant positive correlations exist between each of the body-images ($P < 0.01$) and self-concepts ($P < 0.01$) respectively (Table 3).

There is a higher degree of relationship between inferred and actual body-images (BI1 & BI2) than between the inferred and ideal (BI1 & BI3) ($Z = 6.97$ at $P < 0.01$), but there is no significant difference between the latter correlation and that of the actual and ideal body-images (BI2 & BI3; $Z = 1.73$). A similar system of relationships pertains for the 3 self-concepts: Again a higher degree of relationship exists between the inferred and actual self-concepts (SC1 & SC2) than between the inferred and ideal (SC1 & SC3) ($Z = 3.61$ at $P < 0.01$), and likewise, there is no significant difference between the correlation of SC1 and SC3 and that of SC2 and SC3 ($Z = 0.13$).

The 3 body-image (bc1, bc2, bc3) and self-concept (sc1, sc2, sc3) scores, mean values for which are shown in Table 4 are significantly negatively correlated (average $r = -0.99$ at $P < 0.025$), but there is no significant difference in cathexis ratings between the sexes ($Z = 1.16$).

Content of the Anxiety Indicators

Anxiety Indicator (AI) scores (Appendix C) for the 3 self-concept components (sAI1, sAI2, sAI3) comprise the same 4 items for all Ss (pleasant, kind, good, fair), whilst body-image AI

TABLE 4: MEAN BODY/SELF CATHEXIS AND BODY/SELF ANXIETY

	<u>INDICATOR SCORES FOR ABLE-BODIED Ss</u>		
	<u>NORMALS</u> (group)	<u>MALES</u>	<u>FEMALES</u>
BI1(bc1)	4.28	4.36	4.18
BI2(bc2)	4.20	4.29	4.10
BI3(bc3)	5.03	5.16	4.68
SC1(sC1)	3.28	3.24	3.34
SC2(sC2)	3.29	3.30	3.28
SC3(sC3)	2.45	2.46	2.44
BI1(bAI1)	3.97	4.04	3.78
BI2(bAI2)	3.79	3.90	3.59
BI3(bAI3)	4.53	4.72	4.45
SC1(sAI1)	2.45	2.42	2.47
SC2(sAI2)	2.38	2.37	2.40
SC3(sAI3)	1.45	1.55	1.34

bc1: inferred body-cathexis bAI1: inferred anxiety indicator
bc2: actual body-cathexis bAI2: actual anxiety indicator
bc3: ideal body-cathexis bAI3: ideal anxiety indicator
sC1: inferred self-cathexis sAI1: inferred anxiety indicator
sC2: actual self-cathexis sAI2: actual anxiety indicator
sC3: ideal self-cathexis sAI3: ideal anxiety indicator

scores (bAI1, bAI2, bAI3) have 5 common elements (back, neck, profile, knees, trunk). Males and females share 6, 7 and 8 anxiety-producing items for inferred (bAI1), actual (bAI2), and ideal (bAI3) body-images respectively. Different sex-specific body parts likely to produce anxiety are identified. For males 4 were common to BI1 and BI2 (age, digestion, back view of head, ears), with 5 different body parts being represented in their ideal (BI3) (waist, shape of head, arms, chin, ankles). For females, "profile" and "hips" are common to all 3 (BI1, BI2, BI3), "neck" and "legs" to BI1 and BI2, and 3 unique to their ideal (width of shoulders, feet, trunk)(Appendix C). Also, there is similarity in the D-scores for males (D1=6.53, D2=11.35, D3=11.29) and females (D1=6.99, D2=11.16, D3=11.56).

7.6 DISCUSSION

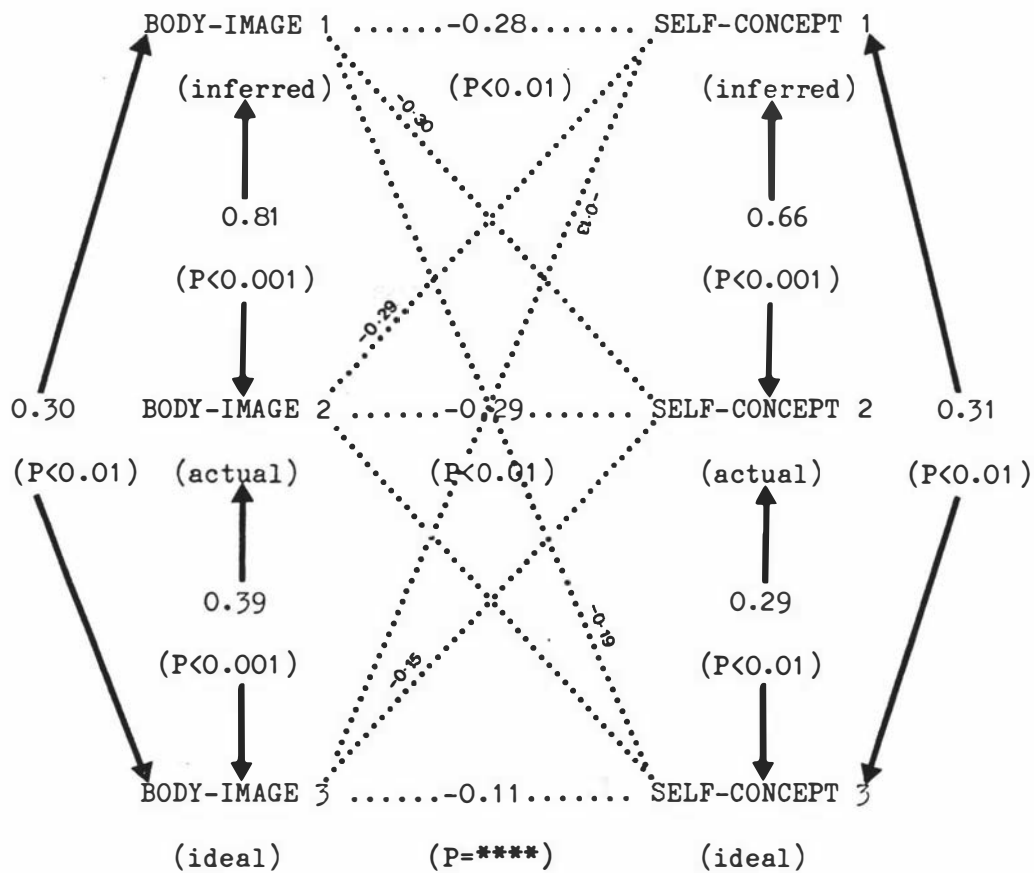
Whilst some of the parallel relationships between body-image and self-concept were statistically significant (Figure 3), it was impossible to use them as a basis for any practical predictions since r was so low as to be meaningless (Kline, 1982), and of no psychological consequence. On a priori grounds, the complete lack of any highly significant parallel relationships between the body-images and self-concepts, was both surprising and unanticipated since one would have expected associations in the absence of physical or psychological pathology. This finding suggests that an individual's psychological self has no relationship to his perception of his physical presence. This has important implications for phenomenology.

Thus it would seem that the varied psychological (James, 1890; Allport, 1937; Lewin, 1951; Shibutani, 1961; Miller, 1969) and early psychoanalytic theories (Fenichel, 1945, 36) which emphasised the importance of the physical aspects of the self as the base upon which the psychological self-concept was built is mistaken. Implicit in such reasoning is some form of relationship between the two concepts. However, it makes no sense to say that an individual makes judgements about his body before he makes judgements about himself, because in making a judgement about his body, he is making a judgement about himself. This does not mean to say that an individual's favourable judgement about his body will be reflected in his self-concept, since clearly there is a distinction between judgements made about physical entities and personal psychological qualities (i.e., a person can have positive feelings towards both,

negative feelings towards both, or feel positive towards one and negative towards the other). Put simply, there is no logical reason why there should be a connection between body-image and self-concept and this theoretical position is confirmed empirically by the present results.

FIGURE 3: RELATIONSHIP BETWEEN BODY-IMAGE & SELF-CONCEPT

FOR ABLE-BODIED Ss



**** = not significant

The findings of higher positive correlations between (1) the 3 body-images, (2) the 3 self-concepts, and (3) a negative correlation between body-cathexis and self-cathexis (i.e., feelings

towards the body and self), but not between any one of the 3 aspects of body-image (BI1, BI2, BI3), and any one of the 3 aspects of the self-concept (SC1, SC2, SC3), indicate that a holistic approach must be adopted, such that the relation between body-image and self-concept must be interpreted in terms of the totality of each, rather than in terms of their parts, but it must also be acknowledged that each comprises 3 separate component parts, and thus they are complex unities. Thus, it would seem more realistic to argue for cognition or awareness as the basis for both body-image and self-concept which is in accord with Hamlyn's (1973, 188-191) notion of an innate ability to become aware, wherein the formal structure of body-image and self-concept would be given, their development would be concurrent, and their content determined by subsequent experience.

The higher correlations between body-image components over those of the self-concept (Figure 3) imply that Ss view their self-concept as more complex and internalised than body-image, which is congruent with the complex view of self-concept often presented in the literature. The notion of integrated subparts was also upheld with the identification of 3 related self-concepts and body-images respectively. The inferred concepts (i.e., BI1 and SC1) have significant relationships ($P < 0.01$), although not approaching unity, with other body-image and self-concept scales respectively. However, the correlations do not approach unity, suggesting that they clearly represent an extra element in the self-system. The absence of such a concept by both phenomenologists and personality theorists necessarily poses a serious lack.

Contrary to Secord & Jourard (1953, 346), body and the self tend not to be cathected to the same degree when appraised on two valid, but dissimilar, scales. Individuals appear less satisfied with their self than their body, although the raised ideal body-cathexis scores (bC3) and associated high anxiety (bA13) suggest that they would like to approximate an ideal which is difficult to attain, and which is reflected in their distancing it from their other body-images (Figure 4). The association between high body/self cathexis and raised body/self anxiety indicator scores (Appendix C), suggests that individuals manifesting increased bodily or self-satisfaction may be regarded as being more anxious concerning their body or self respectively. Contrary to earlier work (Secord & Jourard, 1953, 346), women did not cathect their bodies more highly than men. Generally, men and women seemed to share the same degree of anxiety about their bodies and selves, which may reflect the greater cultural equality of today. Physical structure and attractiveness was the main cause for concern for both sexes with strength for men, and contrary to popular belief (Jourard & Secord, 1955a; Parsons & Bales, 1955), mobility for women. This is congruent with the more active role of women in society today as compared with their sedentary roles in years gone by, and possibly their greater concern for, and interest in, active pursuits (e.g. jogging and road-running). If anything, slightly more social importance appears to be attached to the body-image of males in New Zealand (e.g. television advertising and sports coverage), which may explain their slightly higher bodily anxiety than that of women, and their emphasis on strength.

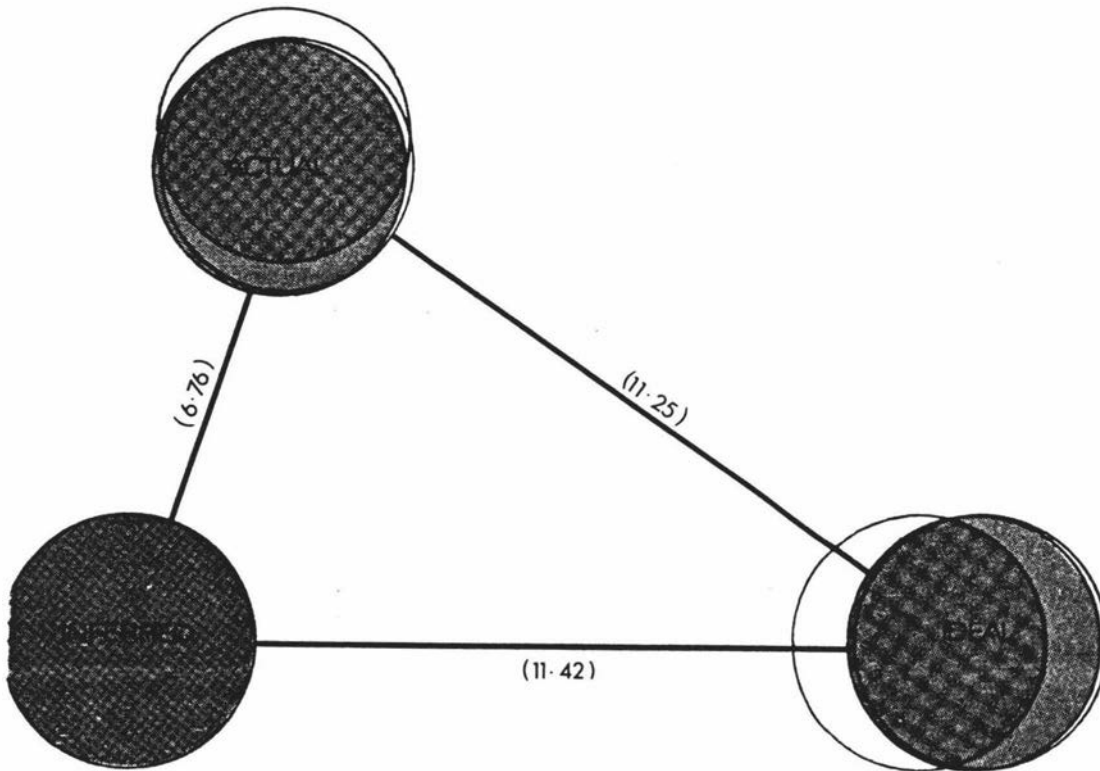
The formal structures of the body-images and the self-concepts

appear similar. Both the inferred and actual images (1 & 2) were more closely related than the external and ideal and the actual and ideal (1/3 & 2/3). This was to be expected since the two former concepts involved perceptions of the body/self as they appeared in the present, information which was likely to be readily available to, and less internalised by, the individual. In contrast, the actual-ideal and inferred-ideal concepts in both body-image and self-concept involved more abstract notions of the ideal (i.e., body and self-perception as it ought to be). Individuals are more likely to be sensitive about these concepts, since comparison with ideals, influenced by cultural stereotypes, of necessity focusses upon shortcomings which they may not wish to acknowledge. However, whilst it is evident (from Chapter 2) that self-concepts may originally develop from and with immature body-images in the young, the basis of their common formal structure (Figure 3), mature adult body-images and self-concepts are relatively independent. Accordingly, one might reasonably assume that logically the development of body-image and self-concept begin and proceed together. Since one is logically dependent upon the other, so it becomes impossible to have one without the other (i.e., in its formal sense "me as a person" is "me" plus "my body").

Since corresponding body-image and self-concept configurations have been identified, a tripartite theory of body-perception may be adopted. In essence, this theory proposes that an individual has three different body-images; an inferred (subconscious), actual (socially projected), and an ideal which interact with each other.

FIGURE 4: SEMANTIC SPACE FOR BODY-IMAGE OF
ABLE-BODIED Ss

D-scores are given in parentheses
 (N=100)



[] : males
 [] : females
 [] : whole group

A variety of relationships may be distinguished: for a non-disabled person the actual body-image includes those aspects of the inferred body-image accepted and approved of, but in New Zealand does not include many aspects of the ideal (Figure 4), which suggests that the ideal in our culture is rather restrictive

and difficult to attain for men and women alike.

7.7 SUMMARY AND CONCLUSIONS

The experiment was designed to investigate the relationship pertaining between body-image and self-concept. 200 Ss were required to complete 3 Body Cathexis scales and 3 semantic differential scales during a single interview. These scales represented inferred, actual and ideal body-images and self-concepts respectively. The results were conclusive, but did not support common notions propagated by personality theory. Whilst 3 body-images and self-concepts manifesting the same significant formal structure were isolated ($P < 0.01$), no significant parallel relationships between corresponding concepts were found to exist. It was argued that both general personality and psychoanalytic theory were incorrect in propounding body-image as the base for subsequent self-concept development in the absence of a logical connection between the two concepts. Rather, an innate predisposition to become aware was suggested as a more realistic common origin for the concurrent development of both concepts. Whilst body-cathexis is a self-related concept, its relationship was found to be indeterminate, and a holistic perspective was adopted. A more rigorous philosophical analysis of psychological concepts along with future replication studies may help to clarify what to date has been a confused area in personality research.

In conclusion, we may propose that body-image and self-concept (1) have a common formal structure (Figure 3), (2) are not unities,

(3) are hierarchically organised in terms of degree of internalisation (e.g., $r(1,2) > r(1,3) > r(2,3)$ and $[D1-D2] > [D1-D3] > [D2-D3]$).

CHAPTER 8

BODY-IMAGE AND SELF-CONCEPT IN DISABILITY:

THEORY AND PRACTICAL APPLICATION

8.1 INTRODUCTION

It is only within recent years that disability has acquired some degree of social acceptability within New Zealand (Barker, 1979). Society is beginning to realise that the disabled person cannot escape his disability, whether it be intellectual, social, emotional or physical, and that such disabilities provide a very real barrier between the individual and his goals. The acceptance of disability is seen to be based upon an acceptance of "self" (Cunniffe, 1980), which in turn necessitates an acceptance of one's body-image. To date, body-image has been seen primarily as an issue in developmental psychopathology, with a special emphasis on schizophrenia and personality dysfunction. Empirical data subsumed under the term body-image includes quite diverse phenomena such as phantom limb (Simmel, 1956, 1966), depersonalisation, (Galdston, 1947), psychosomatic illness (Fisher & Cleveland, 1968; Fisher, 1970), as well as a wide variety of anomalies of sensation (e.g., anosognosia - loss of ability to recognise bodily defect; Schilder, 1950), distorted perceptions (e.g., hypnagogic states; Hamilton, 1974), and contemporary pathologies at present including anorexia nervosa (Bruch, 1981), and obesity (McCrea et al, 1982). The internal perceptions of a child's body and being eventually blend into a comprehensive view of the self (i.e., self-concept) which acquires greater stability as the individual develops from childhood to adulthood. It is this relatively enduring and stable facet of human personality which provides consistency and unity to experience and self-identity (Hankins & Bailey, 1980). A favourable self-concept is now regarded as a basic human need

(Hankins & Bailey, 1980, 95) and evidence from the present research (Chapter 7) suggests that in adults, such self-concepts are independent from the individual's body-image. A person who suffers trauma, either by accident or illness, of necessity, has to adjust rapidly to a new and often disturbing body-image if he is to succeed in rehabilitating himself. Within New Zealand, the establishment of a favourable body-image is now slowly becoming recognised as essential in the rehabilitation of disabled persons (Cunniffe, 1980; Court, 1982). Cunniffe (1980, 14) in his report to the Palmerston North Hospital Board went so far as to suggest that professionals '...are concerned only with the supplementation of function and are unaware or give scant attention to: 1. body image ...'. Rehabilitation is no longer recognised as just a medical problem, it includes the prevention of avoidable handicap, and the restoration of psychological well-being (DHSS, 1972, para.90; Mattingly, 1977). The fact that body-image and self-concept are found to be independent, suggests that an understanding of the impact a trauma has on both of these, requires investigation.

Whilst physical disability places limitations on the activities of a disabled person, it is becoming increasingly recognised that the extent of the limitation may not be caused by the disability itself. Rather, the image the disabled person has of his disability and body may have a considerable effect on the range and type of activities which he thinks he is able to engage in. To ensure that the disabled person is given the greatest chance of coping with everyday life, it is important that he has an accurate and undistorted understanding of himself as a person who

has the capacity to lead a full and worthwhile life.

Despite acknowledgement that '... the individual's attitudes towards his body are of crucial importance to any comprehensive theory of personality...' (Secord & Jourard, 1953, 343), psychologists have only paid scant lip service to such subject matter. Feelings about the self are considered to be commensurate with feelings about the body (Secord & Jourard, 1953).

Body-image refers to a person's mental representation of his own body, formed at a particular stage in life by the integration of bodily experience with environmental factors. A concept of body-image and its somatic, behavioural, and topological experiences is essential to human existence and the maintenance and restoration of health (Brown, 1977a). More recently, it has been suggested that the physically disabled combine into one large group, regardless of individual differences, and manifest a positive body-image regardless of the nature of the disability (Uelmen, 1978).

Since physique is intimately related to body-image, and '... disability is a negatively evaluated condition...' (Wright, 1960, 152), for most people their disability will threaten their long-established pre-disability body-image configuration. Traumatic consequences for the body-image appear inevitable due to the cultural emphasis on the "body whole", "body well", "body beautiful", and the halo effect. According to Macgregor et al (1953, 195) 'disfigurement which occurred during adulthood always seemed to have a disorganising effect on the integration of the person.'. The body-image that has to be changed, in the disabled person, has considerable power in assimilating the experiences

impinging upon the individual so that they are interpreted as not in conflict with his projected actual body-image. Occasionally though, the individual may experience conflict between his own self-evaluation and his impaired body at a conscious level, whilst subconsciously accepting, but hating, his deformity (Wright, 1960).

8.2 AIMS AND HYPOTHESES

The tripartite theory of body-perception (Chapter 7) proposed three different body-images for the individual (inferred, projected actual, and ideal), each of which may intersect the other two. The inferred body-image contains all the information absorbed about one's body, the acceptable parts of which are accessible to the conscious mind. The ideal body-image is an idealised representation of the body, providing a standard for assessing one's own and other's bodies. The actual body-image comprises attainable aspects of the ideal and acceptable aspects of the inferred body-image. For a disabled person, the relationship pertaining between these body-images may be different from those of normals: the inferred body-image may be unacceptable, for example, and largely suppressed.

The reaction of normal individuals to disablement permits an exploration of the changes in content and form of the body-image configuration as perceived by them, and to assess its impact upon the self-concept of disabled persons. This forms the basis for the present study.

The hypotheses to be investigated are that (1) the 3

body-images and (2) the 3 self-concepts of the disabled will differ from those of normals.

8.3 SUBJECTS

A control sample (group 1) comprised 100 non-disabled Ss (M=50 ; F=50). The experimental sample (group 2) comprised 285 disabled Ss from 3 sub- samples: 2(1 & 2) SCI (M=71, F=25); 2(3) MS (M=34, F=60); and 2(4) RA (M=20, F=75) (Chapter 6). A further subdivision of SCI Ss into 2 (1) PARAPLEGIA. (M=41, F=18) and 2(2) QUADRAPLEGIA (M=3, F=7) was utilised for more detailed analysis.

8.4 PROCEDURE

Measuring Instruments

(1) Three Body-Cathexis (BC) scales (Secord & Jourard, 1953), were used to identify and measure the content and form of 3 body-images.

(2) Three semantic differential scales were used to identify and measure the form and content of the 3 aspects of self (inferred, actual, ideal) (Chapter 6).

Each subject was interviewed individually and required to complete each of the six scales on one occasion only, employing a cross-sectional approach. A general debriefing statement was made to Ss on completion.

Statistical Analysis

(1) Simple correlation analysis was used to show the relation between each body-image and the 3 selves.

(2) Discriminant function analysis using the revised SPSS Version (1981) was used to compare the combined scores for the 5 disabled groups (spinal cord injury, quadraplegia, paraplegia, multiple sclerosis, rheumatoid arthritis), with those of normals on (a) each of the BC scales and (b) on each of the self-concept scales in order to differentiate the body-images and self-concepts of the disabled and normal subject groups. Significantly different groupings were isolated and discriminant function analysis repeated for the separate scores of the 5 subject groups (see 8.3).

(3) General cathexis (BC & SC) and anxiety indicator (AI) ratings were calculated for the 3 body-images and 3 self-concepts of normal and disabled Ss to give an indication of any differences in Cathexis and/or AI ratings and content between the respective groups (see 8.3).

(4) D-scores were calculated from the 3 body-images as follows: between BI1 and BI2 (inferred-actual), BI1 and BI3 (inferred-ideal), BI2 and BI3 (actual-ideal) for normal and total disabled Ss, and used as an indicator of Ss conceptual congruity between the 3 body-images.

8.5 RESULTS




Discriminant function analysis (i.e., 3 BC scales, 3 SC scales by 2 subject groups: (1) normals, (2) disabled) confirms that significant differences exist between:

1. Body-image 1 (inferred) of the disabled and body-image 1 (inferred) of normals ($X^2=138.91$ with $df=52$ at $P<0.0001$).
2. Body-image 2 (actual) of the disabled and body-image 2 (actual) of normals ($X^2=154.26$ with $df=52$ at $P<0.0001$).
3. Body-image 3 (ideal) of the disabled and body-image 3 (ideal) of normals ($X^2=160.65$ with $df=52$ at $P<0.0001$).
4. Self-concept 1 (inferred) of the disabled and self-concept 1 (inferred) of normals ($X^2=43.91$ with $df=16$ at $P<0.001$).
5. Self-concept 2 (actual) of the disabled and self-concept 2 (actual) of normals ($X^2=32.88$ with $df=16$ at $P<0.01$).
6. Self-concept 3 (ideal) of the disabled and self-concept 3 (ideal) of normals ($X^2=31.09$ with $df=16$ at $P<0.05$).

On the basis of these results, the hypotheses as stated above are supported.

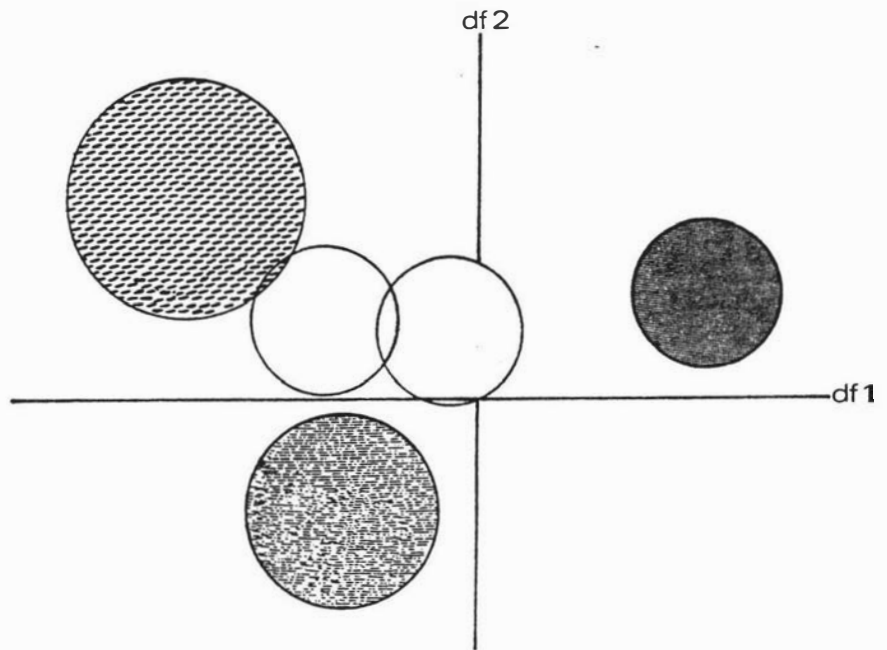
Procrustean transformation analysis (Schonemann, 1966) indicates the relationships between the 3 body-images and the 3 self-concepts given by Pearson's product moment correlations for able-bodied Ss (Chapter 7, Table 3) and disabled Ss (Table 5), to be essentially the same for both groups (covariance within 1.7%). Further discriminant function analysis of the 5 subject groups on each of the 3 body-image and 3 self-concept scales indicates significant differences between them in accord with those stated above (Figure 5). The 3 body-cathexis and 3 self-cathexis scores

FIGURE 5:
CONFIDENCE CIRCLES FOR CANONICAL MEANS

- : quadraplegia
- : paraplegia
- : multiple sclerosis
- []: rheumatoid arthritis
- []: normals

(actual)

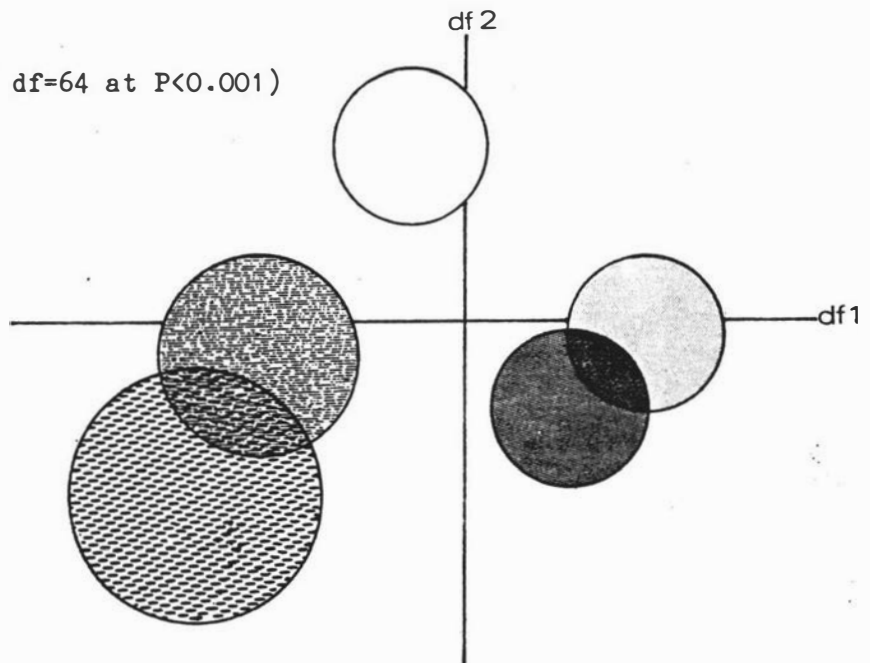
($\chi^2=126.46$ with $df=64$ at $P<0.0001$)



5(f): SELF-CONCEPT 3

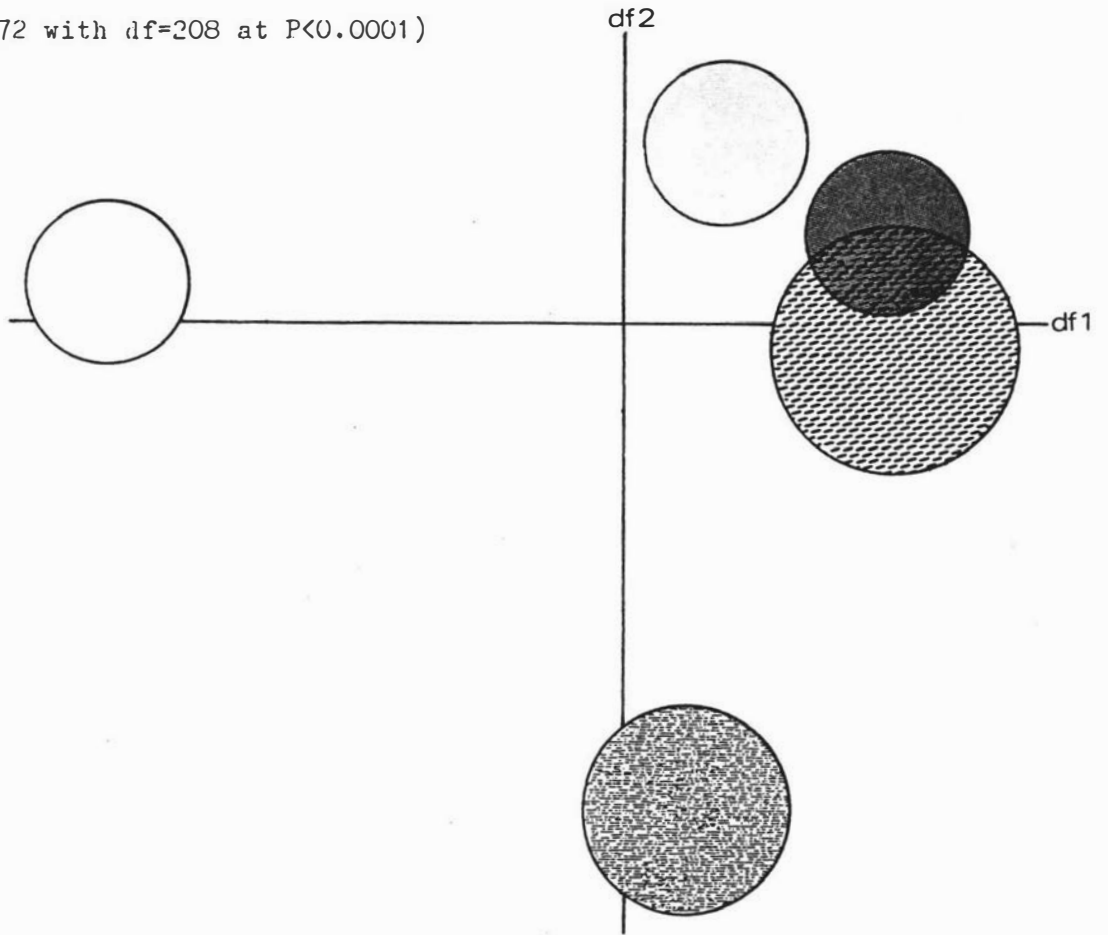
(ideal)

($\chi^2=112.20$ with $df=64$ at $P<0.001$)



(ideal)

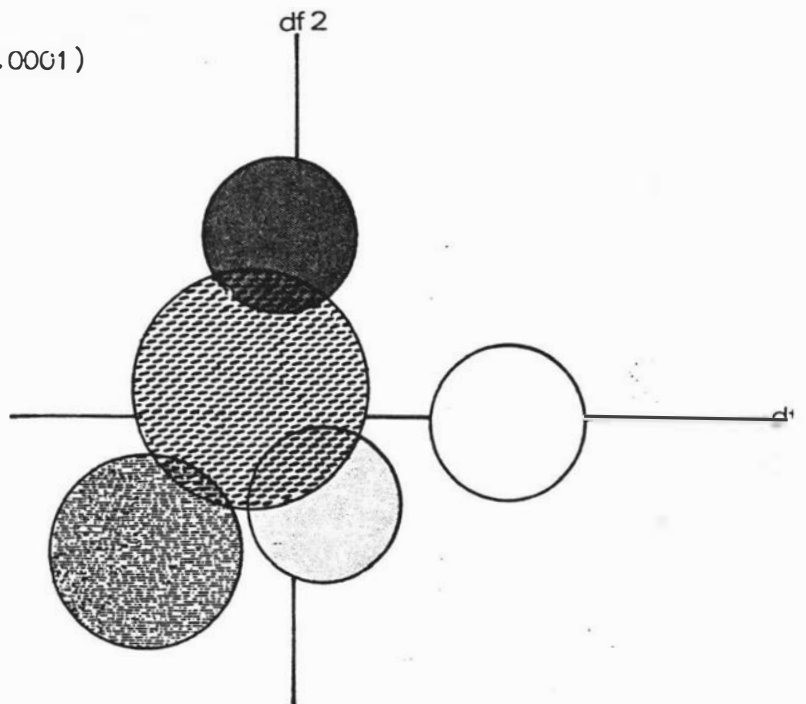
($\chi^2=357.72$ with $df=208$ at $P<0.0001$)



5(d): SELF-CONCEPT 1

(inferred)

($\chi^2=129.40$ with $df=64$ at $P<0.0001$)

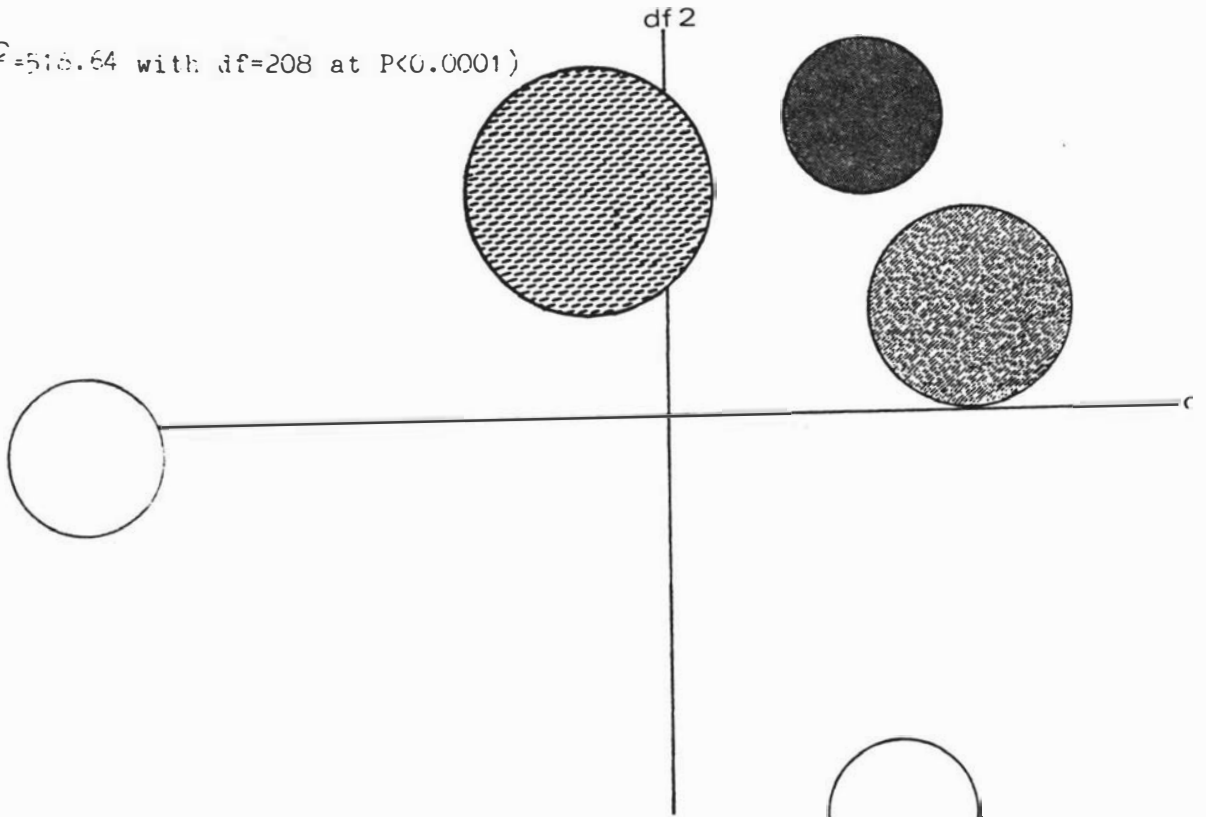


CONFIDENCE CIRCLES FOR CANONICAL MEANS

5(a): BODY-IMAGE 1

(inferred)

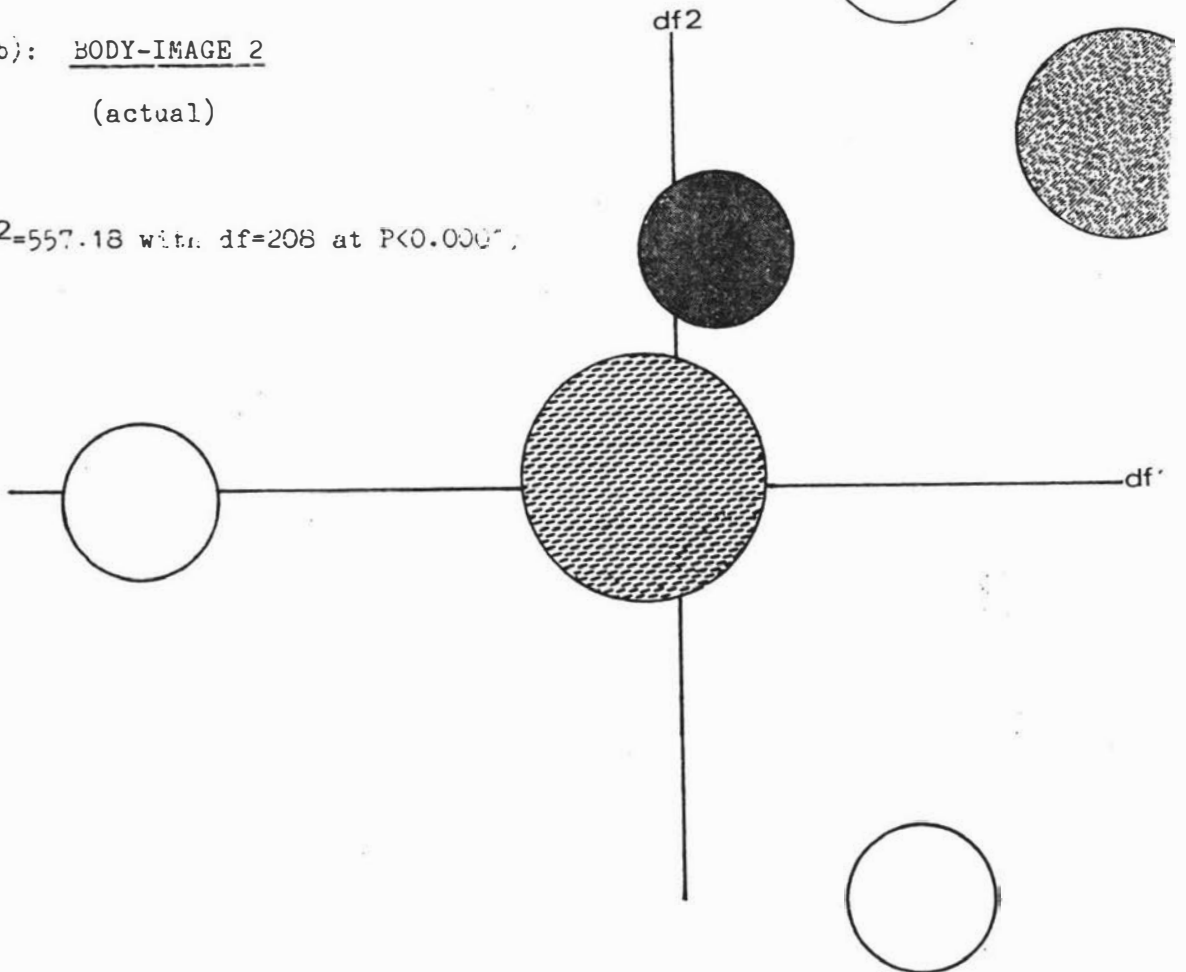
$\chi^2=518.64$ with $df=208$ at $P<0.0001$



5(b): BODY-IMAGE 2

(actual)

$\chi^2=557.18$ with $df=208$ at $P<0.0001$



are significantly negatively correlated ($r=-0.99$ at $P<0.025$), but there is no significant difference in cathexis ratings between the sexes ($Z=0.05$) (Appendix D). Similar relationships pertain between the individual disability groups (Table 6). From Appendix D the cathexis ratings show the same trends for all disability groups and both sexes: For the body in all groups, the actual cathexis rating (bC2, 4.24) is lower than the inferred cathexis rating (bC1, 4.32), but the ideal cathexis rating (bC3, 5.91) is greater than the other two. Self-cathexis shows a general decrease from the inferred rating (sC1, 3.31), through the actual rating (sC2, 3.22), to the ideal rating (sC3, 2.36). Of the 5 disability groups under consideration, the only exceptions to this trend are found in the following sub-groups: female quadraplegics and male paraplegics and MS Ss. These sub-groups reveal higher ideal body-cathexis ratings ($bC3>6.13$) than other disabled Ss (Appendix D).

TABLE 5: PEARSON CORRELATION COEFFICIENTS (r) FOR BODY-IMAGES AND SELF-CONCEPTS

significance levels indicated in parenthesis
(N=285)

	BI1	BI2	BI3	SC1	SC2
BI2	0.89 (P<0.001)				
BI3	0.35 (P<0.001)	0.36 (P<0.001)			
SC1	-0.28 (P<0.001)	-0.28 (P<0.001)	-0.09 P=****		
SC2	-0.22 (P<0.001)	-0.28 (P<0.001)	-0.11 (P<0.05)	0.72 (P<0.001)	
SC3	-0.10 (P<0.05)	-0.08 P=****	-0.14 (P<0.01)	0.40 (P<0.001)	0.40 (P<0.001)

BI1: inferred body-image SC1: inferred self-concept
 BI2: actual body-image SC2: actual self-concept
 BI3: ideal body-image SC3: ideal self-concept
 **** = not significant

Content of the Anxiety Indicators

Only 1 item (sex activities) out of 13 is common to all 3 body-image anxiety indicators (bAI1, bAI2, bAI3) for disabled Ss as a group, 12 are shared between those of the inferred and actual (i.e., bAI1 and bAI2) (Appendix D). The dissimilarity in content between the ideal AI and those of the actual and inferred body-images suggests a greater difference between the ideal body-image and the other two. Males and females share 9, 12, and 6 anxiety-producing items respectively for the 3 body-images (inferred, actual and ideal). None of these refer to sex-specific body parts (Appendix D).

TABLE 6: CORRELATIONS OF BODY-SELF CATHEXIS (r) FOR

	<u>DISABLED SUBJECTS</u>		
	GROUP	MALE	FEMALE
DISABLED	-0.99	-0.98	-0.99
SCI	-0.99	-0.98	-0.95
PARAPLEGIA	-0.98	-0.99	-0.99
QUADRAPLEGIA	-0.97	-0.99	-0.93
MULTIPLE SCLEROSIS	-0.99	-0.99	-0.99
RHEUMATOID ARTHRITIS	-0.99	-0.95	-0.99

(all are significant at $P < 0.025$)

However, when disabled Ss are separated according to pathology, sex differences begin to emerge. For the inferred and ideal anxiety indicators (bAI1 and bAI3) of males 3 and 6 common items respectively are identified and associated with physical appearance (e.g., waist, weight, hair) (Appendix D). For the inferred and ideal anxiety indicators of females, on the other hand, there are more items associated with physical attractiveness (e.g., arms, breasts, appetite) and others related to activity (e.g., energy level, legs, health). In male nervous system

pathology (para/quadruplegia, MS) 5 body parts associated mainly with mobility (e.g., legs, feet, ankles) are identified in the inferred and actual body-images as likely to produce anxiety, whilst few common elements are recognised in those of females. In the disease processes (MS & RA) males and females share 5 and 6 common items in the inferred and actual anxiety indicators respectively, the content again placing an emphasis upon mobility (e.g., legs, exercise, muscular strength). However, the content here is different (i.e., more generalised) from that characteristic of the nervous system pathologies above (Appendix D). The ideal anxiety indicator (bAI3) of female disease groups reveals 8 like items, whereas the males share only 3. RAs show a unique concern for their fingers, waist, neck and trunk, and MS Ss for their energy level, waist and general sexual function. Quadruplegics reveal anxiety over 9 body parts ranging from head to hip, and paraplegics for body items/functions from the waist down (Appendix D). These disparate findings suggest that concern about bodily matters as measured by the anxiety indicator is specific in content to both category, group and sex. Anxiety indicator scores for self-concept 1 (inferred) comprise the same 4 items (pleasant, kind, good, fair) common to normals for 3 disability groups (paraplegics, MS, RA). Disabled females show considerably more consistency than their male counterparts in the items causing anxiety in their self-concept (Appendix D). The 4 components characteristic of normals comprise the anxiety indicator of self-concept 1 (sAI1) for all disabled females, sAI2 (actual) for para/quadruplegic, RA females, and sAI3 (ideal) for those with MS and RA.

TABLE 7: MEAN BODY-CATHEXIS D-SCORES FOR ALL SUBJECT GROUPS

subject numbers given in parenthesis

	NORM	DISAB	SCI	QUAD	PARA	MS	RA
<u>MALES</u>							
	(N=50)	(N=142)	(N=71)	(N=30)	(N=41)	(N=34)	(N=19)
DI	6.55	9.07	8.63	9.42	8.05	9.94	9.11
D2	11.35	16.47	16.20	17.03	15.58	18.11	14.55
D3	11.28	16.49	16.40	17.33	15.71	17.01	15.91
<u>FEMALES</u>							
	(N=50)	(N=161)	(N=25)	(N=7)	(N=18)	(N=60)	(N=76)
D1	6.99	8.90	8.30	9.36	7.88	9.31	8.78
D2	11.16	17.38	15.51	18.03	14.53	18.26	17.29
D3	11.56	17.39	14.04	16.25	13.18	18.44	17.67
<u>GROUPS</u>							
	(N=100)	(N=285)	(N=37)	(N=59)	(N=94)	(N=94)	(N=95)
D1	6.76	8.97	8.54	9.41	8.00	9.54	8.85
D2	11.25	16.98	16.02	17.22	15.27	18.20	16.75
D3	11.42	16.99	15.78	17.12	14.94	17.95	17.30

NORM: normal Ss QUAD: quadraplegia
DISAB: disabled Ss PARA: paraplegia
MS: multiple sclerosis D1: inferred-actual D-score
SCI: spinal cord injury D2: actual-ideal D-score
RA: rheumatoid arthritis D3: inferred-ideal D-score
missing observations = 0
valid observations = 285 (disabled)
 100 (normals)

The female RA's are the only group to manifest the same 4 items in each of their 3 self-concept AI scores. For males, 3 items (definite, strong, fair) are commonly manifest in their anxiety indicators; the former in all 3 AI scores of RAs and the latter 2 in the ideals (sAI3) of those with nervous system pathologies (Appendix D). Thus, disabled women generally and RAs specifically (male and female) are consistent in their self-concept appraisals as revealed by the anxiety indicator.

D-score analysis reveals a greater degree of separation of the 3

component parts of body-image (inferred, actual, ideal) than is the case for normal Ss (Table 7).

8.6 DISCUSSION

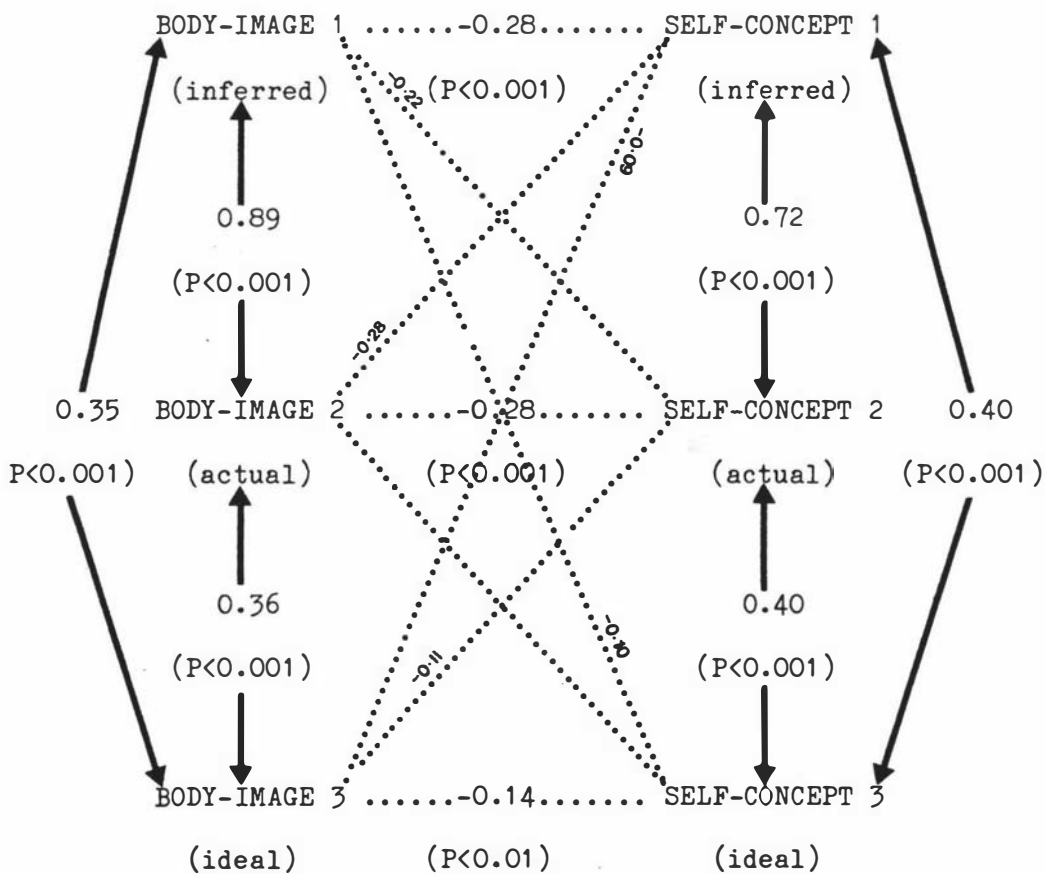
The clear identification of 3 related self-concepts, and 3 related body-images indicates that the tripartite theory of body perception, with its 3 body-images, is applicable to disabled and able-bodied persons alike. That the inferred concepts (BI1 and SC1), as with normals, had significant relationships with other body-images and self-concepts respectively (Figure 6), provided further support for their inclusion in self-theory.

Although the parallel relationships between body-image and self-concept were statistically significant (Figure 6), r was so low as to have little meaning. Whilst this contradicted earlier findings of a positive relationship between body and self-cathexis in able-bodied subjects (Secord & Jourard, 1953; Jourard & Secord, 1955b; Rosen & Ross, 1968; Weinstock, 1982), such an observation was to be expected in the presence of pathology. There is no logical reason why a negative evaluation of a physical disability should be reflected in a negative evaluation of the self. On the contrary, a restricted bodily focus, confined by negatively-evaluated, disability-imposed limitations, could effect a compensatory expansion of a protected, and internalised, self-concept in order to maintain some degree of wholeness or personal identity. Such may account for the suggested inverse relationship (Figure 6). Thus, the disabled person, like his able-bodied counterpart, was able to separate the

perception of his body from the perception of his self, although his self-concept showed less internalisation than that of the able-bodied, possibly as a result of the increased attention now placed upon it. Such findings are inconsistent with Kafka's (1971) suggestion that mental and bodily components would not be clearly differentiated in those with severe or advanced pathology.

FIGURE 6: RELATIONSHIP BETWEEN BODY-IMAGES AND SELF-CONCEPTS

GIVEN BY PEARSON'S r



However, the self-concept components were not as clearly distinguished as those of body-image (Figure 5), which was congruent

with phenomenological theory, and the notions of "public" body and "private" self. The results of discriminant function analysis revealed RA and normal subjects as having different inferred and actual body-images from those of the nervous system pathologies, whereas for the ideal, paraplegics appeared to identify with non-disabled subjects rather than with pathology. The distinction between the ideal self-concepts of disease groups (MS and RA), traumatic injury, and able-bodied subjects might well be indicative of the differential emphasis of the disability, and thus of the body-image content reflected in the anxiety indicator (Appendix D); alternatively, although highly speculative, it might result from a personality correlate. Whilst the RA's showed the exacting rigidity in self-expression (reflected in content of SAI and referred to above), which is often suggested as RA-specific (Alexander, 1952; Edwards et al, 1964), the general affinity of self-concepts (Figure 5) suggested some degree of commonality between individuals experiencing prolonged, incapacitating and distressful disabilities.

Discriminant function analysis clearly identified the body-images and self-concepts of the disabled as significantly different from those of normal subjects (Figure 5), although the formal relationship pertaining between them was essentially the same (Figure 6). Thus, the results support the contention that it is the content, and not the formal structure, of these concepts which is altered by disability. Since the physically disabled groups were clearly separated out by discriminant function analysis, contrary to the findings of Uelman (1978), the nature of the disability would appear to have an influential effect on body-image and self-concept. Since deviation from the norm in appearance or physique, and its effect on behaviour,

are both negatively evaluated in New Zealand (Chapter 7), it would seem very reasonable, if not to be expected, that disabled persons both share and apply this perception to themselves. The distinct difference between normal and disabled subjects revealed here by discriminant function analysis might reasonably be expected when society insists on perceiving the disabled as "different", and which intentionally, or through default, encourages them to see themselves in the same way. A different content combined with the strict formal conceptual structure of able-bodied persons (Chapter 7) suggests, in accord with Thomas (1982, 175), that what may have been once a specific difference, has now become a generalised stereotypical reaction; this notion is reinforced by the higher level of anxiety shown by the disabled towards their ideal body-image (Appendix D). Examination of the D-scores indicate that the disabled seemed aware that the presence of impairment would decrease their likelihood of attaining their ideal body-image, and thus conceptually distanced it (Figure 7). The increased separation here between their inferred and actual body-images revealed a degree of conflict, not apparent in normal persons (Chapter 6), between conscious (actual) and subconscious (inferred) self-evaluations. Clearly, a person cannot comfortably remain one kind of person when "looking in the mirror", and another kind of person when able to suppress the disturbing facts of the physical self. The differential importance of knowledge of their disablement and the emphasis placed upon their "public" body in such a perception is a matter for debate. Impairment seems to have ceased to be objective for the individual, but rather has fused, or become confused, with the perception of handicap.

Contrary to the findings of Secord & Jourard (1953), negative

feelings about the body were not especially associated with anxiety or disease. Rather, negative feelings about the body were associated with a decrease in anxiety (i.e., AI scores) for both the disabled and normal subjects. This corroborates the notion of the New Zealand ideal being extremely difficult to attain (Chapter 7). On the basis of the BC scores, it would appear that individuals noticeably avoid associating positive value-loadings to their bodies, which suggests that apart from the popularised, but totally unrealistic ideal, New Zealanders generally (able and disabled) attach little significance to their bodily structure and physical appearance. This was reinforced by the absence of any dramatic D-score sex differences, or differences in the anxiety indicator (AI) content of the 3 body-images between men and women. Thus, contrary to earlier findings (Fisher, 1964a, 11), there appeared to be no difference in bodily awareness or meaning between the sexes. Whilst the disabled may be comfortable adopting the negative value-loadings attached to them by society, it would seem that society itself has reinforced over the years a perceived inferiority of the entire population. Although highly speculative, it is not unreasonable, in a country which stringently fosters links with its pioneering past, to expect vestiges of the predominant styles of behaviour of the past (e.g., altruism) to exist today. A self-sacrificing approach is seen in the BC ratings of both normals and disabled, and thus the impact of disability on the latter groups is lessened.

One might reasonably have expected that experimentation with appearance, by way of cosmetics, would have enabled women to evaluate, more precisely than men, alterations in appearance associated with disability (Schilder, 1935; Fisher, 1970), and reflected in more

extreme responses. However, this was not the case. The actual body-image of women showed no greater proximity to the ideal than that of men (Table 7), which was suggestive of a lesser emphasis on "perfect-bodies" as a desirable female attribute (with exception of "legs") and on cosmetics for women in New Zealand (revealed during discussion with normal and disabled Ss) as compared with other Western countries, reinforcing the notion of a reduced emphasis on their outward appearance. Accordingly, it would follow that women in New Zealand do not suffer the pressures of the double disadvantage (i.e., being a woman and a disabled person) to the extent suggested by Campling (1979) and more recently by Jack et al (1982). Also, contrary to Fisher (1970), men were not able to tolerate perceptual alteration of their legs any more easily, or less critically, than women.

The bodily focus for the disabled individual appeared to be centered on those parts of the body intimately associated with the pathology in question, as revealed by the differential content of the anxiety indicator (e.g., RA - joint areas such as legs, feet, knees, fingers; quadraplegia - diffuse and wide ranging involving most bodily processes from ears, back view of head to back; paraplegia - narrow focus from waist down). This finding suggests impairment as one of the most potent sources of social identity afforded a disabled person. Indeed, it has long been recognised that amongst themselves, the disabled classify individuals according to disability type and its origin (Cohen & Clark, 1979, 354).

The fact that anxiety was focussed in the areas of impairment, and in the legs for women, may indicate that the impairment imposed by their disability posed a threat to their social and sexual

identification (i.e., to the traditional sedentary female role, and to their legs as objects of sexual attractiveness) as variously suggested by previous authors (Parsons & Bales, 1955; Secord & Jourard, 1953; Fisher, 1964a; Campling, 1979). Also, anxiety was more frequently associated with appendages, rather than bodily areas of perceptual intimacy which would be associated with the self and sexual identification (e.g., face, body build).

8.7 SUMMARY AND CONCLUSIONS

This experiment was designed to investigate the relationship between body-image and self-concept in disabled persons. A group of disabled Ss (N=285) suffering from either para/quadraplegia, multiple sclerosis or rheumatoid arthritis, and a control group of able-bodied Ss (N=100) were required to complete 3 Body Cathexis and 3 semantic differential scales in a single interview. These represented inferred, actual and ideal body-images and self-concepts respectively. The results, whilst supporting a common formal structure between body-image and self-concept for able-bodied and disabled persons alike, showed that the content was different and disease-specific. Such differences were considered to reflect the internalisation of society's perception of the disabled and their disability. Previous notions of anxiety being centered in the areas of pathology were affirmed, but sex differences were not corroborated. Similarly, the body-images of New Zealanders showed little similarity with those identified in other Western cultures. This difference must be

considered fundamental for those working with the disabled and in rehabilitation research where cross-cultural differences have not been considered in the past. It was argued that (1) the tripartite theory of body perception was equally applicable to disabled and able-bodied persons, and therefore, that it followed that (2) inferred concepts should be included in any future considerations of self-theory. Further, it was suggested that the insignificance attached to bodily structure and appearance by New Zealanders had its roots in vestigial links with the country's pioneering past. Thus, a practical implication of these findings is that the foundation for decision-making in New Zealand, being based on data from studies conducted in other Western countries, is not only distorting, but may be inappropriate. Only more detailed analysis of both conceptual and perceptual processes of those within New Zealand can help put rehabilitation within its correct perspective (i.e., that of its own culture). To ignore such processes is to rely on data from other cultural settings which may have little relevance to the New Zealand context, and which could generate unrealistic practices within rehabilitation programmes.

In conclusion from discriminant function analysis:

(1) The 3 body-images of the normals do differ significantly from those of the disabled.

(2) The self-concepts of normals and disabled differ significantly too, but to a lesser extent than do body-images.

and from Table 5:

(1) High positive relationships hold between actual and inferred body-images and between actual and inferred self-concepts.

(2) Lower, but still positive relationships were found between

the ideal and the other two body-images.

(3) Zero, or very small negative relationships exist between the 3 self-concepts and the 3 body-images. It would probably be realistic to say that self-concept stands independent from body-image.

In spite of the differences we may also contend

(1) that the formal body-self conceptual structure as measured by the inter-relationships among the specific images and concepts is the same for disabled and able-bodied Ss.

(2) that it is the content which is different and disease-specific.

(3) that anxiety is focussed in the loci of pathology.

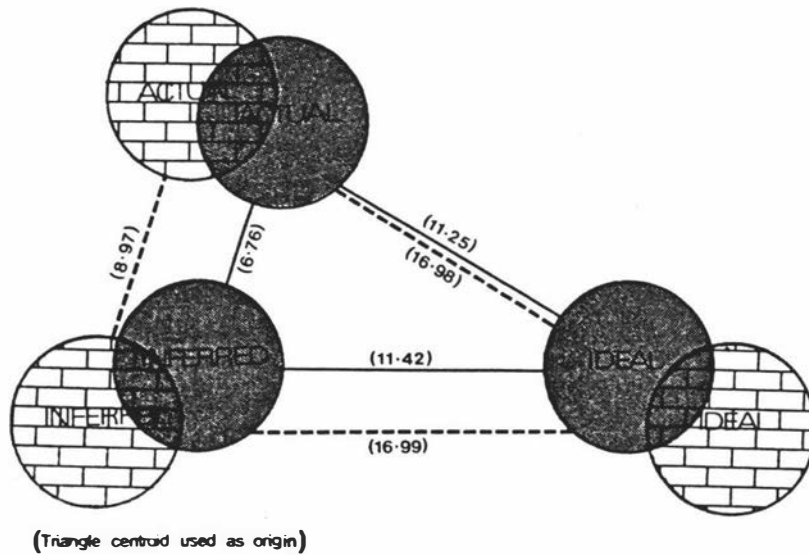
(4) that there is some degree of commonality amongst individuals experiencing incapacitating and distressful disabilities.

Further, the results suggest that one of the limitations of New Zealand society lies in its failure to comprehend the normality of disability and/or handicap. The similarities between the disabled and able-bodied subjects should not be neglected or overlooked in favour of dissimilarities. Whilst we have to accept that physical disability is both a natural and normal part of life - we all experience illness, and as we grow older time generally brings impairment - resulting from pathological process or trauma, and whilst the limitations due to impairment are real and effect a difference in the individual, it would seem that it is we who manufacture the handicap. Kierkegard (1954, 115) elaborated this: 'Undeniably, every man on seeing a deformed person has at once an inclination to associate this with the notion of moral depravity.'. Whilst representative of an extreme view, society's guilt about its feelings towards the disabled has long been recognised as potent in regulating the assistance provided

(Blaxter, 1977).

FIGURE 7 BODY-IMAGE CONFIGURATION IN SEMANTIC SPACE

D-scores given in parentheses



[]: disabled Ss

■: normal (able-bodied) Ss

Perhaps society has to create the illusion of "body-well" as its norm, and is threatened by this suppressed minority. However, this particular minority is part of normality, no less normal than the non-disabled sector of the community.

CHAPTER 9

BODY-IMAGE AND ADJUSTMENT TO DISABILITY

9.1 INTRODUCTION

This chapter investigates whether it is possible to distinguish different modes of adjustment from the way in which Ss view their body-images. Theoretical explanations of the psychological state of disabled persons are commonly ignored by those working within rehabilitation as useless and divorced from practical application. However, basic to all rehabilitative practices are theoretical assumptions regarding the very nature of disability, and the psychological incentives of those engaging in rehabilitation programmes. Implicit in the dismissal of such theory is an absence of an adequate orientation such that action is open to over simplification, and the individual's life experiences to misunderstanding. (Burham & Werner, 1978, 184). Impairment is not only important in providing social identity, but also in precipitating social judgements. For example, knowledge that a person is paraplegic not only provides us with '...their most important piece of biographical...' information (Thomas, 1982, 174), it also enables us to jump to gross value-laden generalisations such that impairment becomes inextricably linked with personality - for example, he is stubborn because he is paraplegic. Such perceptions are essential to the effective implementation of the "primitive" theories of personability and social typing prevalent in today's society, and reflected in associations between expected styles of behaviour and disability, which presumably oscillate with changes in the prevailing social values.

In the case of an acquired disability, there is not the stigma

of a hereditary defect. One could argue that the adult is better able to adjust to a disability because of his greater maturity than a vulnerable child, or alternatively, that the plasticity of the child would facilitate the accommodation of body-image changes. Although research has consistently demonstrated raised levels of psychological distress in the physically disabled, factors influential in such distress, or in adjustment to it, have evaded identification (Levin, 1982). Similarly, no sex differences or relationship between coping and adjustment have been firmly established (May, 1981; Levin, 1982). Contrary to popular belief, the notion of women being more attentive to health care, manifesting fewer medical complications, and thus showing better adjustment than men, has, to date, not been substantiated (May, 1981). However, psychological adjustment is still considered vital in adaptation to physical disability (Levin, 1982). Clearly '...conflicts are likely to exist as the newly disabled person fluctuates in his beliefs about himself.' (Thomas, 1982, 51).

Despite Ware et al's (1957) statement that '... the study of the individual's attitudes towards his body is a promising way of approaching the problem of adjustment to disability.' endorsed more recently by Fisher (1970, 58), only scant, and ineffectual empirical attention has been afforded such subject matter. Only recently has a body-image variable, Fisher & Cleveland's (1958) body-image Barrier Score, been significantly associated with adjustment (Euchner, 1980). The whole notion of adjustment to disability may not rest simply in the substitution of a former, or new, body-image for the present one, but rather upon resolving the dissonance between two incompatible body-images. For example,

maladjustment in terms of Rogers' (1951) theory is often interpreted as reflected in the magnitude of an actual/ideal discrepancy (Baughman, 1962; Byrne, 1966; Donelson, 1973). However, since it has been suggested that "ideal" conceptions are frequently similar for adjusted and maladjusted Ss (Baughman, 1962, 103; Byrne, 1966, 451), one might reasonably expect adjustment to be reflected in the inferred/actual concepts of the disabled. Recently, Thomas (1982, 51) made a more direct reference to disparity between such concepts (i.e., how others view Ss condition, and Ss private view of self). Acceptance of, or adjustment to disability is considered to refer to a relatively optimum condition in which the disabled person effects changes in his body-image, such that reality is not sacrificed (Safilios-Rothschild, 1970).

Clearly, an individual's reaction and adjustment to impairment is to some extent going to be dependent upon the type and degree of disability, and the crisis which he encounters post-injury or at disease-onset (Euchner, 1980; Kerner, 1980). Generally though, an overall inability to adjust to a changed functioning of the body and/or appearance is reported (Wright, 1960; Cardone et al, 1969; Norris, 1970; Garrett & Levine, 1973; Kleeman, 1977), despite wide acknowledgement of the essential incorporation of such alterations into body-image (i.e., perceptual awareness) in order to optimise functional recovery (Wright, 1960; Kleeman, 1977; Thomas, 1982). In cases where the disability has not been absorbed, rehabilitative efforts have had little success (Garrett & Levine, 1973).

If, as Gergen (1965) has suggested, changes in the privately held (inferred) self-concept and body-image are the result of the

public presentation of a very positive self-concept, then the foremost task in the rehabilitation of the disabled has to be the promotion again of a favourable, and realistic, body-image, which over time would presumably be reflected in the socially projected, actual self-concept. Not only would a negative body-image/self-concept predispose the individual negatively towards others, but it would strongly influence behaviour (Gergen, 1971). Similarly, Donelson (1971) held that a negative body-image was just as indicative of maladjustment as an extremely positive one maintained by the defensive denial of reality.

9.2 THEORETICAL BACKGROUND TO THE PRESENT STUDY

It was considered statistically acceptable (Hassard, 1983) for the able-bodied Ss (Chapter 7) to provide the criterion group (independent variable) against which the responses of disabled Ss (dependent variables) could be compared.

In normal adjustment (i.e., that manifested by able-bodied Ss), and in accord with the findings of Chapter 7, one might reasonably expect disabled Ss to manifest the same form, but not necessarily the same content, as that of non-disabled Ss.

In addition to "normal" adjustment, three common modes of adjustment which pervade contemporary literature concerned with the coping strategies of the disabled were elaborated upon by Safilios-Rothschild (1970) and more recently by Clinard and Meier (1979). The theoretical assumption that such modes of adjustment exist has remained largely untested and, by default, continues to

be highly speculative. Since these modes of adjustment appear to be widely recognised by those working in rehabilitation (Wright, 1960; DeLoach & Greer, 1961) it seems reasonable to adopt them in order to test their empirical validity. A variety of terms have been attached to each of these types of adjustment; however, for simplicity and accuracy those used by Safilios-Rothschild (1970, 97-98) have been adopted.

(1) Denial of the existence of impairment in a desperate effort to remain normal and avoid self-devaluation and drastic changes in self-concept that cannot be tolerated.

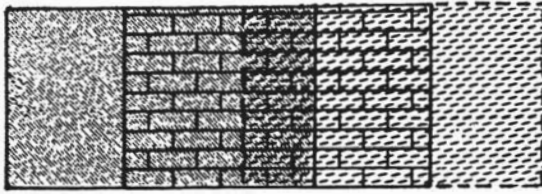
(2) A change of values concerning the body as well as health in general by enlarging them so as to encompass the present state of health as acceptable.

(3) Maximisation of impairment by accepting physical limitations and restrictions that could be overcome; there is no attempt to minimise the degree of disability nor maximise the remaining physical capacities.

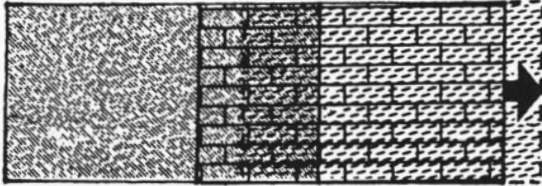
Since we are concerned with bodily impairment rather than body part loss, phantom restitution suggested by Fisher (1970) as a further mode of adjustment, does not strictly concern us.

The tripartite theory of body perception (Chapters 7 & 8) would suggest that each of these four modes of adjustment may be distinguished by a particular configuration of the inferred, socially projected actual, and ideal body-images (Figure 8). The relationships presented here are based upon the definitions provided above, and are interpreted in terms of possible distances which may pertain between the 3 body-images. The larger the disparity between 2 images, the greater the distance in perceptual

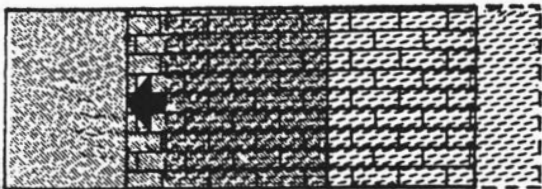
1 NORMAL ADJUSTMENT



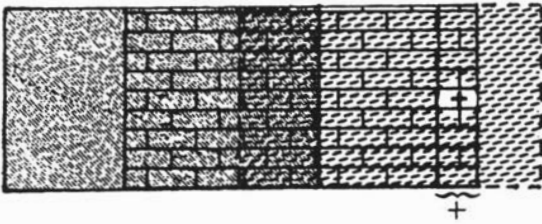
2 DENIAL



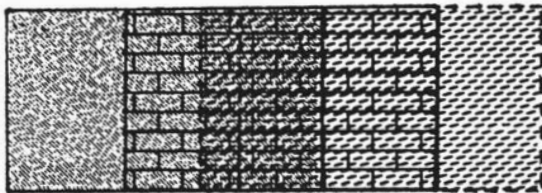
3 CHANGE OF VALUES



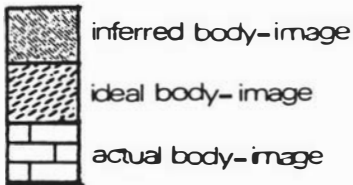
4 MAXIMISATION OF IMPAIRMENT



5 PHANTOM RESITUATION



phantom limb



(areas proportional to involvement)

FIGURE 8: RELATIONSHIP BETWEEN THE 3 BODY-IMAGES & ADJUSTMENT

space (e.g., a large hypothesised actual/ideal discrepancy would be reflected in a greater degree of separation between the actual and ideal body-images). The inferred body-image contains all the information ever absorbed about one's body, the acceptable parts of which may be accessible to the conscious mind and actual image, and the rest of which becomes repressed into the subconscious. The ideal body-image consists of an idealised representation of the "body beautiful", and provides the standard for evaluating one's own body. The actual body-image comprises those acceptable components of the inferred body-image together with those aspects of the ideal which can be attained, so that there is an attempt to match the actual body-image with the ideal as closely as possible.

For "normal" adjustment the relationship between the 3 body-images would be the same as that for able-bodied Ss (Chapter 7).

In the presence of denial which is considered to protect Ss from the reality of disablement by fostering the maintenance of pre-disability patterns and life activities (Safilios-Rothschild, 1970,79; Lindemann, 1981, 3), one might conjecture that aspects of the inferred body-image would be suppressed and attention refocussed on healthy body parts corresponding to the ideal. Such a pattern could conceivably be reflected in a shorter distance between the actual and ideal, and a larger distance between the inferred and actual body-images than is the case for able-bodied Ss (Figure 8).

For change of values, Ss are considered to resolve disability-related dissonance between their actual and ideal

body-images by effecting changes within their ideal body-image (Denbo, et al, 1956; Safilios-Rothschild, 1970). Thus, one would theoretically expect smaller distances between the inferred and actual, and actual and ideal body-images than those of able-bodied Ss (Figure 8).

Ss manifesting maximisation of impairment are considered to readily and eagerly absorb changes in body-image and dissonance created by disablement in an effort to improve their formerly held negative self-concept (Prosen, 1965, 1264; Safilios-Rothschild, 1970, 98). Consequently, such a pattern might be made manifest in a larger distance between the inferred and actual body-images than is the case for able-bodied Ss, but which is smaller than that considered characteristic for denial. Conversely, it is postulated that the distance between the actual and ideal body-images would be larger than revealed in denial, but smaller than that characteristic of normals.

9.3 AIMS AND HYPOTHESES

The aim of this study is to establish the construct validity of using the tripartite theory to identify 4 modes of adjustment in disabled Ss. It comprises a practical test of the theoretical predictions emanating from the theory. Since the literature suggests that forms of adjustment may be variously illustrated by discrepancies between body-images (e.g. actual/ideal (Baughmen, 1962; Byrne, 1966; Donelson, 1973) : self/ego-ideal (Robinson & Argyle, 1962)), such that the discrepancies can be illustrated by

the distance between the two concepts under consideration (Figure 8), then, it would seem reasonable to suggest that the 4 different modes of adjustment could be identified using a profile distance measure such as that provided by Osgood et al's (1957) D-score (Chapter 6) which would additionally provide insight into the conceptual congruity amongst disabled Ss and/or groups.

The hypothesis to be investigated is that 4 modes of adjustment to disability may be identified in the body-image configuration (i.e., the relationship between BI1, BI2, BI3) of the disabled given by body-cathexis D-scores. In the diagnostic formulations given below:

- D1 : inferred-actual D-score
- D2 : actual-ideal D-score
- D3 : inferred-ideal D-score
- (E) : experimental group (disabled)
- (C) : control group (able-bodied)
- : mean

Modes of adjustment

(1) Normal

The mean inferred-actual D-score of the disabled is equal to that of the able-bodied and the mean actual-ideal D-score is also equal to the corresponding one of the able-bodied.

$$\bar{D}_1(E) = \bar{D}_1(C) \text{ AND } \bar{D}_2(E) = \bar{D}_2(C)$$

(2) Denial

The mean inferred-actual D-score of the disabled is less than that the able-bodied and the mean actual-ideal D-score of the disabled is greater than that of the able-bodied.

$$\bar{D}_1(E) < \bar{D}_1(C) \text{ AND } \bar{D}_2(E) > \bar{D}_2(C)$$

(3) Change of values

The mean inferred-actual D-score of the disabled is greater than that of the able-bodied and the mean actual-ideal D-score of the disabled is equal to that of the able-bodied.

$$\bar{D}_1(E) > \bar{D}_1(C) \text{ AND } \bar{D}_2(E) = \bar{D}_2(C)$$

(4) Maximisation of impairment

The mean inferred-actual D-score of the disabled is less than that of the able-bodied and the mean actual-ideal D-score is greater than that of the disabled Ss manifesting denial.

$$\bar{D}_1(E) < \bar{D}_1(C) \text{ AND } \bar{D}_2(E) > \bar{D}_2(\text{DENIAL})$$

Since functional capacity is frequently considered important in considerations of adjustment in disablement (McDaniel, 1976; DeLoach & Greer, 1981; Smith, 1981; Parish & James, 1982) Ss incapacity (as measured by the ADL form), years of disablement and age were examined within the 4 adjustment categories outlined above.

9.4 SUBJECTS

The control group comprised Group 1 (100 able-bodied Ss : M=50, F=50). The experimental sample comprised Group 2 (285 Ss). Four sub-samples of disabled persons were considered : 2(1&2) spinal cord injury (1=paraplegia, 2=quadraplegia) (M=71, F=25), 2(3) multiple sclerosis (M=34, F=25), and 2(4) rheumatoid arthritis (M=20, F=75) (Chapter 6).

9.5 PROCEDURE

Measuring Instruments

The following instruments (Chapter 6) were used:

(1) Three Body Cathexis (BC) scales were used to identify and measure the content and form of the body-images.

(2) Sixteen bi-polar semantic differential scales were used to identify and measure the 3 aspects of self (i.e., the inferred, actual and ideal).

(3) Activities of Daily Living form was used to give an indication of disabled Ss degree of physical incapacity.

The above scales were presented to Ss in the context of individual interviews. No restriction was placed upon the time taken for completion. This method was time-consuming, but ensured that errors were minimised. The Ss age (in absolute years), and number of years of disablement were also recorded.

Statistical Analysis

Four types of scores were obtained from the scales (Chapter 6): (1) General cathexis (BC & SC), and (2) anxiety indicator (AI) ratings for each of the 3 body-images and 3 self-concepts and for each of the 4 types of adjustment (normal, denial, change of values, maximisation of impairment). (3) D-scores for the differences among the 3 body-cathexis scales, (4) Degree of incapacity was calculated from the ADL score.

Owing to the lack of power or discrimination ability of the measuring instruments to identify Ss clearly within any of the 4

adjustment categories, pattern analysis was used to compare the disabled Ss with the able-bodied criterion group (independent variable), wherein central values (i.e., mean D-scores) were used for an examination of qualitative fit between disabled Ss and the theoretical models given in Figure 8. Mean D-score values plus/minus 1 standard deviation (Appendix E) for able-bodied Ss (used as the criterion group in this study) provided the tolerance limits for the equations given above. Standard deviations were utilised in preference to truncated values since the aim was to identify the existence of theoretical constructs, and standard deviations were considered to better reflect variability which might pertain amongst individuals and/or in practice. The statistics used were classificatory only, to test whether or not the hypothesised taxonomy existed. The literature (Chapter 3) would suggest there to be no a priori reason for expecting any particular distribution of disabled Ss within the 4 hypothesised adjustment categories (see 9.1 and 9.2).

Chi-squared analysis was used to determine whether the balance of the sexes differed (1) for the 4 subject groups (quadraplegia, paraplegia, MS, RA), and (2) for the 4 adjustment categories (normal, denial, maximisation of impairment, change of values). In accord with Snedecor & Cochran (1967) expected values >1 were utilised.

One-way analyses of variance were used to identify differences between the 4 modes of adjustment and (1) Ss years of disablement, (2) age, and (3) degree of incapacity.

T-tests (2-tailed) were used to identify differences between (1) the 3 D-scores (D1, D2, D3) which might hold between Ss

manifesting different modes of adjustment, and (2) the mean body/self-cathexis and anxiety indicator (AI) scores for the 4 adjustment categories (normal, denial, maximisation of impairment, change of values).

9.6 RESULTS

Pattern analysis identified 36 Ss (20 females, 16 males) as manifesting one or other of the 4 types of adjustment (normal:5, denial:8, maximisation of impairment:9, change of values:14,) (Appendix E). Thus, the hypothesis, as stated in 9.3, is supported. Rheumatoid arthritic females represent the largest subject group and are identified in each of the 4 adjustment modes as are female paraplegics. Female Ss manifesting disease processes (i.e., MS & RA) are associated with maximisation of impairment (N=9), and male nervous system pathology (traumatic and disease) with change of values (N=9)(Table 8). The distribution of the sexes between (1) the 4 subject groups (quadraplegia, paraplegia, MS, RA), and (2) the 4 disability categories (normal, denial, maximisation of impairment, change of values) given in Table 8 are significantly different ($\chi^2=9.17$ with $df=3$ at $P<0.05$ and $\chi^2 =10.52$ with $df=3$ at $P<0.02$ respectively).

Although normal adjustment reveals the greatest average degree of incapacity (17.00), as indicated by the ADL (Table 9a), it is also associated with the greatest range (Table 9b). The largest number of Ss are associated with a change of values and all but 4 show some degree of functional incapacity, whilst maximisation of

impairment generally identifies older Ss (mean=44.67 years) who have suffered disablement for the greatest length of time, and denial reveals Ss with least incapacity.

TABLE 8: Ss NUMBERS FOR DISABILITY GROUPS AND ADJUSTMENT MODES

	QUAD		PARA		MS		RA		TOTAL	
	M	F	M	F	M	F	M	F	M	F
NORMAL	1	0	0	1	0	0	1	2	2	3
DENIAL	0	0	3	1	2	0	0	2	5	3
MAXIMISATION	0	0	0	1	0	3	0	5	0	9
VALUE CHANGE	3	1	4	2	2	1	0	1	9	5
TOTAL Ss	4	1	7	5	4	4	1	10	16	20

MAXIMISATION: maximisation of impairment
 VALUE CHANGE: change of values
 QUAD: quadraplegia RA: rheumatoid arthritis
 PARA: paraplegia MS: multiple sclerosis
 M: male F: female

The mean age of Ss associated with the adjustment modes is 40.43 years (Table 9a), and the greatest age range is identified with change of values (Table 9b). The 8 Ss (2 males, 6 females) identified below 25 years, with the exception of 1 female RA of 14 years standing, exhibit a maximum disablement of 3 years (RA: 3 females; MS: 2 females; quadraplegia: 1 male, 1 female; paraplegia: 1 male), the spinal cord injury Ss being associated with change of values, MS with maximisation of impairment, and 2 of the 3 RA's with normal adjustment. However, there are no significant differences in age, degree of incapacity or years of disablement between the 4 adjustment modes as given in Table 9b ($F=0.57$ at $P=0.64$, $F=0.38$ at $P=0.77$, $F=0.62$ at $P=0.61$ respectively).

TABLE 9: YEARS OF DISABLEMENT, INCAPACITY, AGE, & ADJUSTMENT9(a) Mean Scores

	YRDISAB	AGE	INCAP
NORMAL	9.80	33.20	17.00
DENIAL	8.15	43.15	8.75
MAXIMISATION	14.22	44.67	10.00
VALUE CHANGE	8.57	40.93	15.71

9(b) Individual Ss Scores (ID given in parentheses)

		YRDISAB	AGE	INCAP
NORMAL	(124)	6.00	25.00	75.00
	(202)	3.00	34.00	0.00
	(211)	14.00	20.00	0.00
	(287)	2.00	22.00	0.00
	(319)	24.00	65.00	10.00
DENIAL	(152)	2.00	39.00	0.00
	(247)	43.00	58.00	0.00
	(283)	7.00	30.00	5.00
	(285)	1.00	22.00	10.00
	(329)	2.00	48.00	20.00
	(337)	3.00	55.00	15.00
	(349)	1.00	34.00	0.00
	(356)	6.00	59.00	20.00
MAXIMISATION	(143)	17.00	39.00	15.00
	(187)	15.00	37.00	20.00
	(203)	7.00	47.00	0.00
	(256)	16.00	58.00	5.00
	(257)	42.00	56.00	30.00
	(277)	23.00	65.00	10.00
	(280)	3.00	57.00	10.00
	(363)	3.00	21.00	0.00
	(365)	2.00	22.00	0.00
VALUE CHANGE	(25)	11.00	32.00	5.00
	(29)	1.00	20.00	55.00
	(115)	3.00	22.00	10.00
	(128)	1.00	20.00	5.00
	(146)	3.00	31.00	5.00
	(147)	8.00	32.00	35.00
	(148)	8.00	31.00	0.00
	(172)	11.00	49.00	10.00
	(174)	8.00	43.00	65.00
	(195)	4.00	59.00	0.00
	(221)	12.00	57.00	0.00
	(325)	4.00	76.00	10.00
	(350)	22.00	58.00	20.00
(373)	24.00	43.00	0.00	

MAXIMISATION: maximisation of impairment

VALUE CHANGE: change of values

YRDISAB: years of disablement (absolute)

INCAP: degree of incapacity

AGE: age (in absolute years)

Change of values is associated with bodily anxiety (mean=4.41) revealed in raised body anxiety indicator (bAI) scores (Table 10), and the associated self-cathexis (sC) and self anxiety indicator (sAI) ratings are lower than those characteristic of the other adjustment categories.

TABLE 10: MEAN BODY/SELF-CATHEXIS AND BODY/SELF AI SCORES FOR ADJUSTMENT MODES

	NORMAL	MAXIM	CHANGE	DENIAL
BI1(bc1)	4.47	3.78	4.75	4.49
BI2(bc2)	4.41	3.77	4.81	4.42
BI3(bc3)	5.60	6.03	5.61	6.00
SC1(sC1)	3.43	3.36	3.03	3.25
SC2(sC2)	3.35	3.15	2.76	3.10
SC3(sC3)	2.74	2.42	2.14	2.35
BI1(bAI1)	3.90	3.02	4.10	3.89
BI2(bAI2)	3.60	2.95	4.06	3.85
BI3(bAI3)	5.17	5.28	5.09	5.53
SC1(sAI1)	2.70	2.16	1.89	2.44
SC2(sAI2)	2.10	1.83	1.76	2.22
SC3(sAI3)	1.55	1.28	1.14	1.28

bc1: inferred body-cathexis bAI1: inferred anxiety indicator
bc2: actual body-cathexis bAI2: actual anxiety indicator
bc3: ideal body-cathexis bAI3: ideal anxiety indicator
sC1: inferred self-cathexis sAI1: inferred anxiety indicator
sC2: actual self-cathexis sAI2: actual anxiety indicator
sC3: ideal self-cathexis sAI3: ideal anxiety indicator
MAXIM: maximisation of impairment
CHANGE: change of values

The greatest range of BC scores, extending beyond those of normals, is revealed in maximisation of impairment, from 3.78 and 3.77 for the inferred and actual body-images respectively to 6.03 for the ideal (Table 10). The range of these scores here extends beyond those of the non-disabled group (i.e., 4.20-5.03) (Table 4).

Denial, maximisation of impairment, change of values and normal adjustment share 2 common elements (legs, ankles) in the

anxiety indicator of the inferred body-image, 4 (hips, legs, feet, ankles) in that of the actual, and only 1 (forehead) in the ideal anxiety indicator (Appendix E). There is little commonality amongst items likely to produce anxiety across the 3 body-images of any of the 4 adjustment categories. The greatest number is manifested by change of values (4:legs, appearance of teeth, sex activities, ankles), whilst denial reveals 2 (back, profile), normal 1 (legs), and maximisation of impairment none. The greatest similarity in anxiety-producing items is shown between the inferred (BI1) and actual (BI2) body-images, the content of which bears little similarity to that of the ideal, with the exception of change of values which manifests 4 (waist, back digestion, sex organs) and 2 (feet, ankles) items common to the inferred and ideal, and actual and ideal body-images respectively. Only 1 common element is revealed in BI1 and BI3 of denial (nose) and normal adjustment (trunk). The affinity between the inferred and actual anxiety indicators is reflected in the 5, 7, 10 and 3 items common to them and representing normal adjustment, denial, maximisation of impairment and change of values respectively (Appendix E). There is an emphasis amongst these items upon words associated with mobility (e.g., feet, ankles, hips, knees). No commonality in anxiety indicator content is found between the actual (BI2) and ideal (BI3) body-images for denial and maximisation of impairment, nor between the inferred (BI1) and ideal (BI3) body-images of the latter adjustment category (Appendix E). However, there is no significant difference in mean cathexis or anxiety indicator ratings, as given in Table 10, between Ss manifesting the 4 different modes of adjustment ($F=1.15$ at $P=0.93$).

The AI scores of the self-concept show little variation in size from those of able-bodied Ss (Chapter 7). However, the 3 AI scores (inferred, actual, ideal) for change of values are lower than those of able-bodied Ss. Change of values is the only adjustment category to manifest the same AI content characteristic of able-bodied Ss in its inferred and actual self-concepts (i.e., pleasant, kind, good, fair). Changes in AI content are not gross, with only one item out of the 4 being replaced by, for example, "gentle" (denial (SC1), maximisation of impairment (SC1,SC2), "valuable" (denial (SC2, SC3), maximisation of impairment (SC3), normal (SC1)), "fortunate" (normal (SC2, SC3)) (Appendix E).

TABLE 11: MEAN BODY-IMAGE D-SCORES FOR THE 4

ADJUSTMENT MODES

(Standard deviations are given in parentheses)
(Individual D-scores are given in Appendix E)
(N=34)

	D1	D2	D3
NORMAL	6.59 (0.44)	12.11 (0.37)	11.25 (2.10)
DENIAL	4.43 (0.84)	13.87 (2.06)	13.74 (1.99)
MAXIMISATION	4.41 (0.87)	20.50 (1.43)	20.19 (1.47)
VALUE CHANGE	9.16 (1.82)	11.84 (0.41)	12.09 (2.33)

MAXIMISATION: maximisation of impairment

VALUE CHANGE: change of values

D1: inferred-actual D-score D2: actual-ideal D-score

D3: inferred-ideal D-score

The parameters for identification of the 4 different modes of adjustment (normal, denial, maximisation of impairment, change of values) using the 3 body-image scales in their present form, and the standard deviations of each scale item, are given in Appendix

F, and the Ss D-scores in Appendix E. Inspection of mean body-image D-scores (Table 11) reveals that Ss manifesting change of values and normal adjustment show a separation of their body-images similar to that of able-bodied Ss (Chapter 7).

TABLE 12: T-TEST ANALYSES OF Ss D-SCORES AND THE 4

		<u>MODES OF ADJUSTMENT</u>		
		T	DEGREES	2-TAIL
		VALUE	OF FREEDOM	PROBABILITY
<u>N&CV</u>	D1	5.07	17	0.00**
	D2	-1.55	17	0.20
	D3	0.71	17	0.49
<u>N&MAX</u>	D1	-5.17	12	0.00**
	D2	12.65	12	0.00**
	D3	9.42	12	0.00**
<u>N&DEN</u>	D1	-5.28	11	0.00**
	D2	1.87	11	0.09
	D3	2.15	11	0.05**
<u>DEN&CV</u>	D1	-6.89	20	0.00**
	D2	3.65	20	0.00**
	D3	1.67	20	0.11
<u>DEN&MAX</u>	D1	0.06	15	0.96
	D2	-7.80	15	0.00**
	D3	-7.68	15	0.00**
<u>MAX&CV</u>	D1	7.27	21	0.00**
	D2	-21.57	21	0.00**
	D3	-9.26	21	0.00**

N:normal
 DEN:denial
 D1:inferred-actual D-score
 D2:actual-ideal D-score
 D3:inferred-ideal D-score
 **:significant at P<0.001

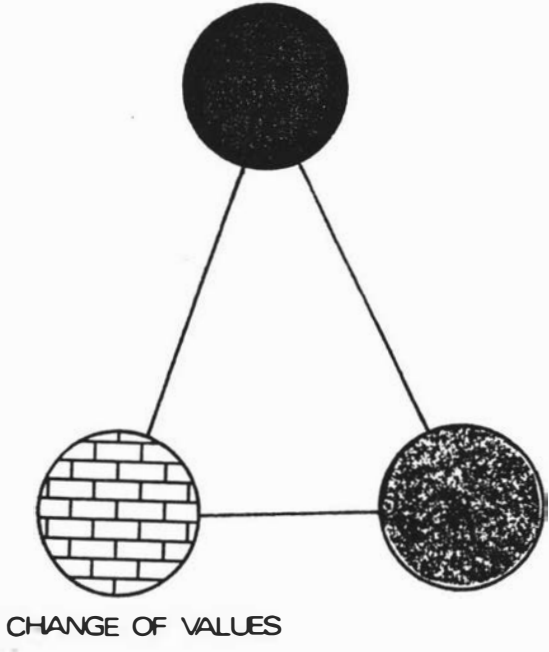
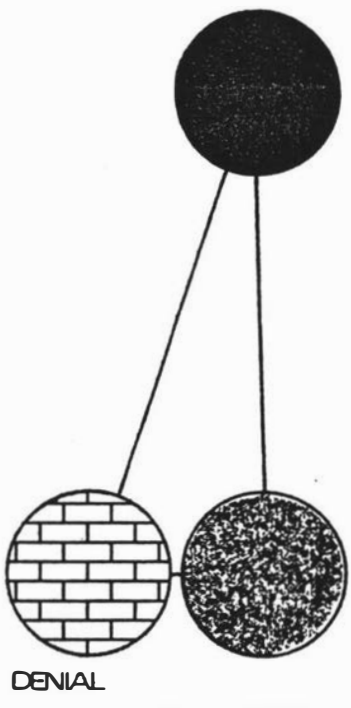
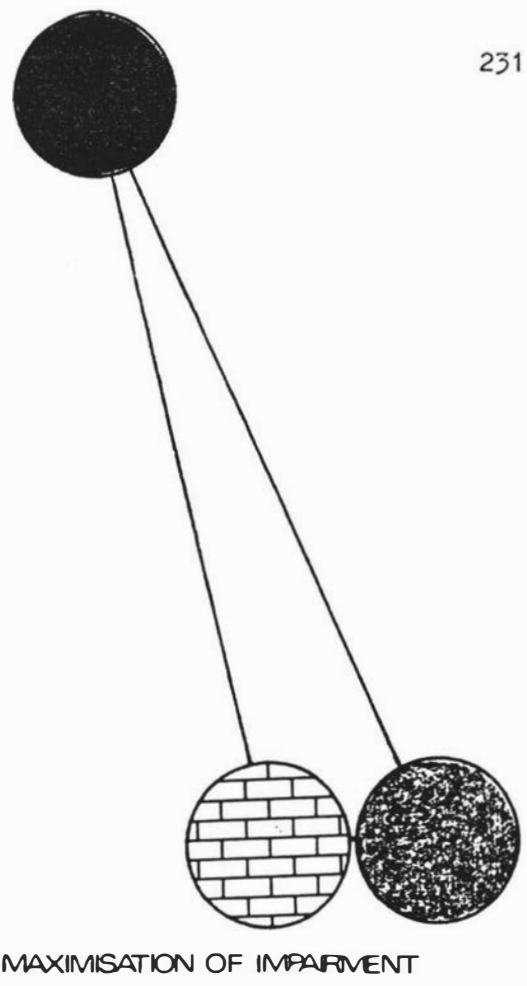
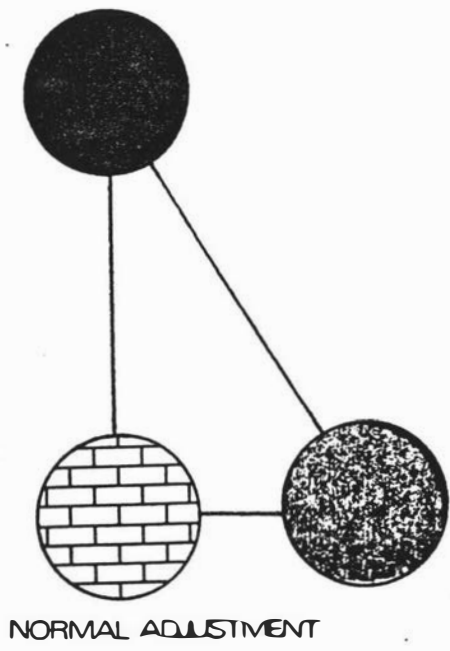
MAX:maximisation of impairment
 CV:change of values

D-score analysis identified the body-image configuration of Ss manifesting maximisation of impairment as being significantly different from those of change of values and normal adjustment (Table 12), which is clearly illustrated in Figure 9. D1 and D2 of maximisation of impairment were also significantly different from those characteristic of change of values. D1 and D2 were

significantly different for denial and a change of values, and D1 and D5 for denial and normal adjustment (Table 12). The body-image configuration of change of values and normals showed the greatest similarity (Figure 9) with only one D-score (D1) being significantly different (Table 12). Since 12 out of the 18 possible D-score combinations analysed were significantly different ($P < 0.001$), each of the 4 types of adjustment appears to be associated with a unique body-image configuration (Figure 9).

9.7 DISCUSSION

It should be emphasised at the outset that we are not concerned here with the process of adjustment to physical disability which involves the acquisition of many coping behaviours (Moos & Tsu, 1977, 12-15), but rather with the existence of 4 particular types of coping behaviour (i.e., normal, denial, maximisation of impairment, change of values) which may represent an individual's unique and characteristic response to disablement. Although 249 cases were not uniquely classified using the strict criteria to identify the 4 hypothesised adjustment strategies, the tripartite theory clearly referred to 36 cases including five subjects manifesting normal adjustment. Since 36 Ss were clearly placed in one of the 4 hypothesised adjustment modes, it would seem that, on the basis of D-score analysis (Table 12), and contrary to Safilios-Rothschild (1970,112), it is possible to distinguish between these prevalent ways of reacting to physical disability. Since 5 subjects were found to show normal adjustment, it cannot be



[triangle centroid used as origin]



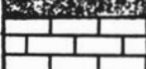
-  IDEAL BODY-IMAGE
-  ACTUAL BODY-IMAGE
-  INFERRED BODY-IMAGE

FIGURE 9: BODY-IMAGE CONFIGURATIONS ASSOCIATED WITH THE 4 TYPES OF ADJUSTMENT [given in mean D-Scores]

concluded that all disabled persons are maladjusted. There could well be other Ss who fall within this category but who were outside of the strict parameters used in this study. For these individuals, the relationship between the inferred, actual and ideal body-images bore the closest resemblance to that of able-bodied Ss (Chapter 7). Although highly speculative, it is conceivable that whilst the formal relationship between the body-images is the same as that of non-disabled persons (Chapter 8), the content would be different. Also, one must conclude that the majority of the disabled in this sample do not fall uniquely into any of the 4 categories, normal or abnormal.

Whilst the affinity of both body-cathexis scores and anxiety-indicator ratings with those of able-bodied Ss does not enable us to refute the protection Lindemann (1981) considered denial to afford an individual in protecting him from the implications of severe disability, neither do they corroborate the notion of denial as being "devastating in the short run to the self-concept" (Lindemann, 1981,3). If the latter were true, one might have expected the converse, with anxiety-indicator (AI) scores for the 3 self-concepts being higher than those of able-bodied Ss. Since measurements were in accord with the theoretical model (Figure 8), it would appear that the effect of disablement is minimised in the perceptual field. The increase in bodily anxiety for the ideal (Table 10) may well reflect the increased attention afforded it by the individual, which in turn might facilitate distortion of the actual body-image towards the ideal.

Thus, the possibility remains that denial may function selectively in the adult who, whilst admitting the existence of impairment, denies the implications of its presence which may be obvious to others. Aitken (1980, 19) elaborated further: 'Denial ... can be the psychological mechanism occurring in those who smile apparently cheerfully whilst surrounded by profoundly distressing problems.'. Although more SCI Ss, of an average of 3.5 years standing (Table 9b) manifested denial (Table 8), it could be considered as representative of the well documented early psychological shock to spinal cord injury (Siller, 1969; Lindemann, 1981). However, owing to the small number of Ss involved (9) it could equally be argued that denial may be, as has previously been considered, a mode of adaption based on pre-morbid personality type rather than particular disability (Weinstein & Kahn, 1955, 73).

In the case of maximisation of impairment, as for denial (Figure 8), a distortion of the actual body-image towards the ideal was suggested by a lower actual anxiety indicator score than that of normals (Table 10). However, whilst this distortion does not appear manifest in either anxiety-indicator content (Appendix E), or in the formal relationships between the three body-images as given by D-scores (Appendix E, Figure 9) the theoretical model received support. According to Prosen (1965, 1264) such an individual will '... persist in his belief that he is more disabled than he actually is. He will resist any kind of change that does away with his disability and thus will resist any positive help.', which is illustrated by the close affinity of the inferred and actual body-images and their detachment from the ideal

(Figure 9). Such a notion of the disablement becoming magnified is supported by the fact that the 9 Ss within this group had been disabled for the greatest period of time, but did not manifest the greatest degree of incapacity (Table 9). Since Ss had suffered disablement in excess of 4 years on average, it is feasible that their disability has become a major factor in their lives. Here, contrary to Safilios-Rothschild (1970), disablement does not appear to enable the individual to attain more aspects of his ideal body-image than presumably was possible prior to the onset of impairment (e.g., to fulfill self-suffering and punishment needs). It remains plausible, however, that Ss could still identify more readily with their own, internalised and previously inadequate ideal, whilst distancing society's ideal stereotype, since recognition of the latter could conceivably threaten their "disabled status".

It has long been argued that the requirements of the dependent/sick role, which often accompanies the onset of disablement (e.g., obedience and compliance with hospital rules, norms, decisions), frequently endure (Parsons, 1951; Thomas, 1970). Whether the adoption of such a role is encouraged by reinforced societal attitudes (i.e., physical abnormality equated with physical degradation) (Clinard & Meier, 1979, 535), or role adoption to a new and advantageous "disabled" status remains a matter of controversy.

For the 14 Ss manifesting a change of values, the theoretical model (Figure 8) was confirmed, which coupled with increased anxiety over the inferred and actual body-images (Table 10), supported the notion of their accommodating a change in values

within their ideal body-image (Denbo et al, 1956; Safiliros-Rothschild,1970) albeit with anxiety. Certainly, the raised body-cathexis scores for all 3 body-images (Table 10) indicated that Ss here regarded their present health status as acceptable. As a result of the similarity between the 3 body cathexis and 3 anxiety indicator scores (Table 10), one might reasonably suggest that the actual-ideal discrepancy imposed by disability was resolved by changing the ideal, such that it bore similarity to, and legitimised, the actual body-image. Put simply, Ss here appear able to change their values concerning health in general, their notion of ideal body, and their own bodily integrity. Their body-image configuration bears similarity to that of normals (Figure 9) with only D1 (inferred - actual D-score) being significantly different (Table 12).

The nature of the D-scores (Table 11) confirmed the relationships postulated in Figure 8, and were best portrayed utilising the principle of parsimony and "best-fit" paradigm in diagrammatic form so as to illustrate their possible configuration in semantic space (Figure 9). Whilst 4 discrete modes of adjustment were identified by D-score analysis (Table 12), the characteristic distancing of the 3 body-images by disabled Ss beyond that of normals (Chapter 8) was not evident (Figure 9). D-score analysis (Table 11) indicated, contrary to Kafka's (1971) reasoning, that Ss were able to differentiate clearly between their 3 body concepts, which is not incongruent with the findings of discriminant function analysis (Chapter 8). The absence of an inability to clearly separate the 3 body-images, and any significant relation between adjustment mode, age, years of

disablement and incapacity made it impossible to relate the adjustment category to any particular stage of the adjustment process, or with severe/advanced pathology in accord with Kafka's (1971) earlier work. Certainly, there is room here for profitable future investigation.

The general indication is that Ss being of the older age-groups, not recently disabled (Table 9a), showed less anxiety about their self (Table 10), and did not differ greatly from normals in their perception of their self (Appendix E), support those of earlier investigations (Potter & Fiedler, 1958, 241), in that persons who have been disabled for a long period of time appear adjusted to their disability. However, the impact of disablement upon self-concept should not be considered as the only indicator of adjustment. Since, the self-concept does not appear to be influenced greatly by physical impairment in its content (Chapter 8), or in its ability to provoke anxiety (Appendix E), one might argue the self-concept to be less threatened by physical disability than body-image. Despite the lack of significant differences in cathexis and anxiety-indicator ratings between 4 adjustment modes, the results (Table 10) still uphold the notion developed in chapter 8 of disability effecting a compensatory expansion of a protected, and internalised, self-concept so as to maintain some degree of personal identity (reflected in body/self cathexis and anxiety indicator scores), since that associated with the physical body is no longer intact. It should be pointed out however, that there is no logical reason why the integrity of the self-concept should be altered by physical disability. Rather, it is the more "public" and "external" body which is altered, and it

would seem that the individual is aware of this (Table 10). Whilst the lack of similarity between the raised AI scores and content of the inferred and actual body-images, and that of the ideal suggests, as in Chapter 8, that Ss are aware of their ideal body-image as being less attainable in the face of physical disability. This is nonetheless a great source of concern reflected in the raised ideal anxiety indicator scores for all 4 types of adjustment (Table 10). Conceivably, such a pathological preoccupation could account for Ss ability to clearly differentiate their altered body-images as seen in Figure 9. In line with Goldman's (1978) suggestion that many disabled incorporate the notion that a "beautiful body means beautiful person" and as a result maintain prejudice against themselves, it would appear on the basis of body cathexis scores (Appendix E), that the greater the discrepancy between their inferred/actual and ideal body-images the less beautiful a person they become (Table 10); conceivably this could be due to their inability to achieve their ideal body-image which is reflected in raised ideal anxiety indicator scores (Table 10).

The content of the body anxiety indicators (Appendix E) revealed concern regarding mobility across the 4 adjustment categories which suggests a lack of mobility to be a cause for anxiety in disablement generally rather than specific to a particular disability or coping strategy. The identification of a larger number of mobility-related, anxiety-provoking items in the actual body-images (hips, legs, feet, ankles; Appendix E) is congruent with the notion of heightened awareness at this level of body perception.

Generally, the findings (Table 10) do not support Wright's (1960) notion of spread, whereby the disabled feel that negative effects (disablement) should have negative causes (emotional instability). In the absence of substantially lowered body and self-cathexis scores and raised anxiety indicator ratings, it is difficult to see how the disabled might equate unattractive appearance (negative effect) with emotional instability (negative cause). Neither do the results (Table 8) confirm the popular belief of particular types of coping behaviours as being unique to specific disability groups. However, the clear identification of the 4 different types of coping behaviour according to the narrow criteria given by the tripartite theory of body perception, suggest the latter as an accurate theory applicable to both disabled body perception and practice (Table 12).

9.8 SUMMARY AND CONCLUSIONS

The investigation sought to identify the existence of 4 types of coping behaviours (normal, denial, maximisation of impairment, change of values) commonly cited in contemporary literature as psychological responses to disablement; and outlined by a theoretical model based upon the tripartite theory of body perception. 285 disabled Ss variously suffering from para/quadruplegia, multiple sclerosis, and rheumatoid arthritis were required to complete an Activities of Daily Living form, and 3 body-cathexis and 3 semantic differential scales representing inferred, actual and ideal body-images and self-concepts

respectively in a single interview. The results suggested that, contrary to popular belief, the 4 types of adjustment could be clearly distinguished according to strict criteria. Whilst the constructs suggested by the tripartite theory were validated, it was recognised that the measure as conceived of here required extensive research before its practical application. Contrary to previous theory, the results failed to identify better adjustment in those who had suffered disablement over long periods, revealed mobility as a general area of concern, but did not support common notions of negative spread, of denial as being devastating to the self-concept, and of particular types of adjustment as unique to specific pathologies. Whilst it was acknowledged that coping behaviours were a unique and characteristic response to disablement, it was argued that they were not directly precipitated by impairment, but rather by the individual's beliefs towards his disability. Finally, it was suggested that rehabilitation should address itself not only to the physical disability, but also to the body-image and associated emotional disturbance following body trauma.

In conclusion:

(1) The distribution of sexes differed significantly between types of disablement and mode of adjustment (Table 8).

(2) Age, degree of incapacity and years of disablement were not found to have any significant bearing upon the type of adjustment (Table 9b).

(3) No significant difference was found to exist between adjustment mode and Ss degree of bodily/self pleasure and levels of anxiety (Table 10).

(4) D-score analysis revealed an association between adjustment mode and body-image configuration (Table 12, Figure 9).

Thus, the results validated the constructs suggested by the tripartite theory. However, because of the variability of responses to the measures, at this stage the theory could not be used on its own to identify styles of adjustment in practice. Possible parameters for the 4 modes of adjustment are given in Appendix F. However, it is for future research to expand upon and refine the application of the measure and to provide templates for the analysis of different types of adjustment which the present analysis suggests could be possible. Finally, one might venture to suggest that disability does not directly elicit specific coping behaviours. Rather, it is the individual's beliefs about the disability which intervene and help form his emotional response. With this in mind, it is evident that for the disabled person feelings may constitute a greater handicap than his physical impairment. Accordingly, rehabilitation '... must be directed at the body-image as well as the physical disability.' (Prosen, 1965, 1261) and, in line with the findings, of Chapter 8, emotional disturbance following body trauma should be expected and its absence considered abnormal. Clarification of the types and range of coping behaviours which may be regarded as an acceptable response to disablement remains a topic for future investigation.

CHAPTER 10

THE INFLUENCE OF FUNCTIONAL IMPAIRMENT AND YEARS OF
DISABLEMENT UPON BODY-IMAGE

10.1 INTRODUCTION

The degree of functional incapacity has frequently been considered to have a deleterious influence upon the emotional behaviour of the physically disabled (Wallen, 1964; Moos & Solomon, 1965; Weiss et al, 1971), and is considered important in both the psychological and physical adjustment to disablement (Weiss et al, 1971; DeLoach & Greer, 1981; Smith, 1981; Parish & James, 1982). Weiss et al (1971, 74), on the basis of a reliable and methodologically sound investigation, reported conclusively that a relationship existed between severity of disablement and psychological and physical adjustment and concluded that 'Severity of disablement should not be discounted as an important factor ...'.

Smits (1965) reported that adolescents with more severe disabilities had less favourable self-concepts, whilst Moos & Solomon (1965) found an increase in physical symptomatology and complaints, depression, apathy, neurotic tendencies, and lack of behavioural control in female RAs manifesting a high degree of functional incapacity. However, both severely and mildly disabled, but successfully rehabilitated adults have been identified with a high incidence of emotional instability (Wallen et al, 1964), which suggests that (1) emotional stability is not necessarily a pre-requisite for successful rehabilitation, and that (2) emotional instability endures since all 66 adults were successful rehabilitants. It is conceivable that the guilt, hostility and raised anxiety outwardly directed in those mildly incapacitated, and internalised in the more severely incapacitated Ss (Wallen et

al, 1964) might be reflected in their body-image configuration.

Unfortunately, the majority of studies attempting to relate functional incapacity to adjustment in spinal cord injury subjects (Wittkower et al, 1954; Seymore, 1955) are of little consequence here, since the level of spinal transection provided the only index of incapacity and through default the findings could only be dealt with in a generalised manner. However, more recently Landau (1960) revealed a positive relationship between a body-image correlate (i.e., the body-image barrier score) and adjustment in 40 male traumatic spinal cord injury patients, but no association was found between body-cathexis and years of disablement.

The amount of resistance encountered in incorporating an acquired disability depends, according to Safilios-Rothschild (1970) and Shakespeare (1975), not only upon the '... symbolic meaning the physical change comes to have for the disabled' (Safilios-Rothschild, 1970, 96), but also upon the extent of functional impairment, and the length of time the individual has experienced the disability. If, as it was argued in Chapter 9, adjustment would be more adequately reflected in an inferred-actual, as opposed to actual-ideal, discrepancy, then one might similarly expect body-image disturbance to be reflected in the magnitude of the former. Also, since the disabled have to '... destroy in order to plan anew' (Schilder, 1935, 193), greater disparity between the inferred and actual body-images could conceivably be expected at the onset of disablement, and with severe functional incapacity in accord with that associated with the actual-ideal discrepancy (Horney, 1957; Byrne, 1966; Donelson, 1973). Thus, it would appear that the more severe the

functional impairment, the greater the difference would be between the body-image configuration of the disabled and non-disabled Ss, which would diminish over time (Schilder, 1935; Safilios-Rothschild, 1970).

Thus, the hypothesis to be investigated is that the severity of the body-image disturbance is proportional to the degree of functional incapacity and inversely proportional to the number of years of disablement. In terms of the tripartite theory of body-perception:

[] = difference

\propto = proportional

C(IA) = inferred-actual D-score of control group (able-bodied)

E(IA) = inferred-actual D-score of experimental group (disabled)

$$[C(IA) - E(IA)] \propto \frac{\text{functional incapacity}}{\text{years of disablement}}$$

10.2 SUBJECTS

The control group comprised Group 1 (100 able-bodied Ss; M=50, F=50). The experimental sample comprised Group 2 (285 Ss). Three sub-samples of disabled persons were considered: 2(1 & 2) spinal cord injury (M=71, F=25), 2(3) multiple sclerosis (M=34, F=25), and 2(4) rheumatoid arthritis (M=20, F=75) (Chapter 6).

10.3 PROCEDURE

Measuring Instruments

The following instruments (Chapter 6) were used:

(1) Two Body Cathexis (BC) scales (inferred and actual) were used to provide an indication of body-image disturbance calculated using D-scores.

(2) Activities of Daily Living (ADL) form was used to give an indication of disabled Ss degree of physical incapacity.

The above scales were presented to Ss in the context of individual interviews. No restrictions were placed upon the time taken for completion. This method was time-consuming, but ensured that errors were minimised. The Ss number of years of disablement was also recorded, since it was considered a more appropriate index of the effects of physical trauma upon body-image than age at onset which Ss frequently had difficulty in recalling. Years of disablement was taken from the year the diagnosis was confirmed up to the present. Because of the influence of culture upon an individual's maximum functional level, disability was evaluated in terms of the demands of the situation and the cultural setting in which the individual found himself, as assessed by the ADL form. It was felt that this measure of functional incapacity adequately reflected the psychological heterogeneity of the disabled group and enabled us to avoid the obliteration of the differential effects of disability upon body-image by intra-group variability.

Statistical Analysis

(1) D-scores were calculated from the 3 body-images (Chapter

6) to provide a profile distance measure as follows:

$D1 = \text{inferred-actual D-score}$, $D2 = \text{actual-ideal D-score}$.

(2) Correlational analysis based on the scattergram procedure (SPSS Version, 1981) was used to show the relations between the individual disabled Ss body-image disturbance plotted as:

$BIDIST1(\text{inferred-actual}) = D1(\text{able-bodied}) - D1(\text{disabled})$, and

$BIDIST2(\text{actual-ideal}) = D2(\text{able-bodied}) - D2(\text{disabled})$ respectively,

and (1) degree of incapacity, and (2) years of disablement.

(3) Discriminant function analysis using the revised SPSS Version (1981) was used to compare the scores for the 3 disabled groups (spinal cord injury, multiple sclerosis, rheumatoid arthritis), with those of normals (i.e., able-bodied Ss) on each of the 3 body cathexis (BC) scales with the inclusion of years of disablement and degree of incapacity.

10.4 RESULTS

Significant negative correlations were found between inferred-actual body-image disturbance and (1) degree of incapacity, and (2) years of disablement (Table 13). Thus, the hypothesis as stated above is rejected, although the latter negative correlation provides limited support for body-image disturbance being inversely proportional to the number of years of disablement. The hypothesis would also be rejected if expressed in its more traditional actual-ideal form since the relationship between years of disablement and body-image disturbance is not significant; although it just fails to meet conventional criteria

(i.e., $P=0.052$) (Table 13). None of the correlations in Table 13 are sufficiently strong to base any firm conclusions about the relationships involved.

TABLE 13: RELATIONSHIP BETWEEN BODY-IMAGE DISTURBANCE AND

(1) YEARS OF DISABLEMENT AND (2) DEGREE OF INCAPACITY

GIVEN BY PEARSON'S r

(significance levels are given in parentheses)
(N=285)

	YRDISAB	INCAP
BIDIST1	-0.10 ($P<0.05$)	-0.15 ($P<0.01$)
BIDIST2	-0.10 P=****	-0.18 ($P<0.05$)

BIDIST : body-image disturbance

BIDIST1: D1(able-bodied)-D1(disabled) (inferred-actual discrepancy)

BIDIST2: D2(able-bodied)-D2(disabled) (actual-ideal discrepancy)

YRDISAB: years of disablement

INCAP: degree of incapacity

**** = not significant

Discriminant function analysis (i.e., 3 BC scales including years of disablement and degree of incapacity by 4 subject groups: (1) normals (able-bodied), (2) spinal cord injury, (3) multiple sclerosis, (4) rheumatoid arthritis) confirms that when years of disablement and degree of incapacity are included significant differences exist between:

1. Body-image 1 (inferred) of the disabled and body-image 1 (inferred) of normals ($\chi^2=605.53$ with $df=162$ at $P<0.0001$).
2. Body-image 2 (actual) of the disabled and body-image 2 (actual) of normals ($\chi^2=602.62$ with $df=162$ at $P<0.0001$).
3. Body-image 3 (ideal) of the disabled and body-image 3

(ideal) of normals ($\chi^2=489.12$ with $df=162$ at $P<0.0001$).

The first two discriminant functions (Figure 10) account for 84.16%, 87.65% and 91.78% of the total variance for the inferred, actual and ideal body-images respectively. Certainly, incapacity and years of disablement are major factors in determining body perception, and have a role to play in distinguishing between the 4 subject groups, but do not operate in the manner hypothesised in this chapter. Whilst incapacity has a high loading, as given by the mean canonical discriminant function coefficients (SPSS Version, 1981), on factor 1 for the inferred (0.71) and actual (0.65) body-images (i.e., BI1 & BI2) and on factor 2 for the ideal (0.69), years of disablement has a loading of 0.50 on factor 2 for the inferred body-image, and 0.61 on factor 1 for the actual and ideal body-images respectively. Figure 10 indicates that discriminant function 1 separates the normal Ss from the disabled, whilst discriminant function 2 separates the disabled Ss.

10.5 DISCUSSION

Discriminant function analysis clearly identified significant differences between the 4 subject groups in terms of the 3 variables under consideration (i.e., body-image, years of disablement, degree of incapacity) (Figure 10). Since the physically disabled groups were not as clearly separated out by discriminant function analysis (cf., Figure 5), it would appear that the inclusion of the additional two variables (years of disablement, degree of incapacity) had some influential effect upon

IO c) BODY- IMAGE 3

[ideal]

[$\chi^2 = 489.12$ with $df=162$ at $P < 0.0001$]

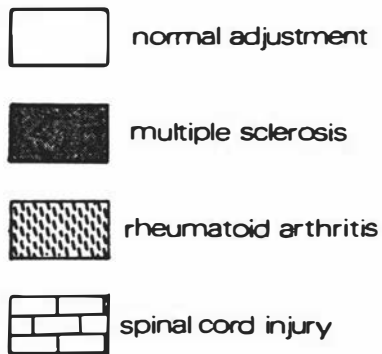
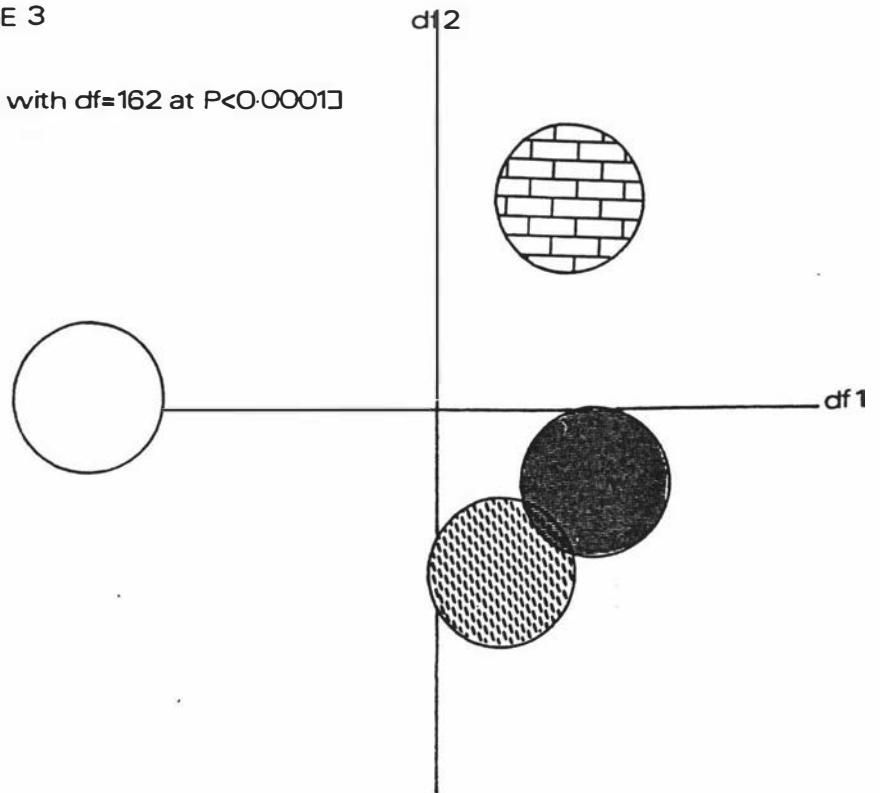
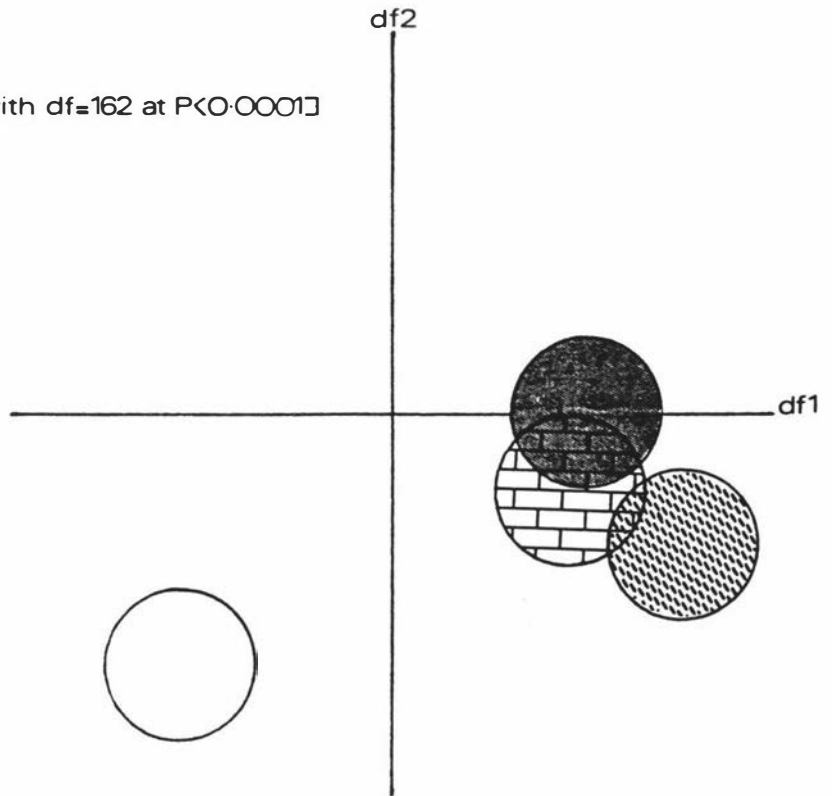


FIGURE 10: CONFIDENCE CIRCLES FOR CANONICAL MEANS FOR 3 BODY-IMAGES
WHEN YEARS OF DISABLEMENT AND DEGREE OF INCAPACITY ARE INCLUDED

IO a) BODY- IMAGE 1

[inferred]

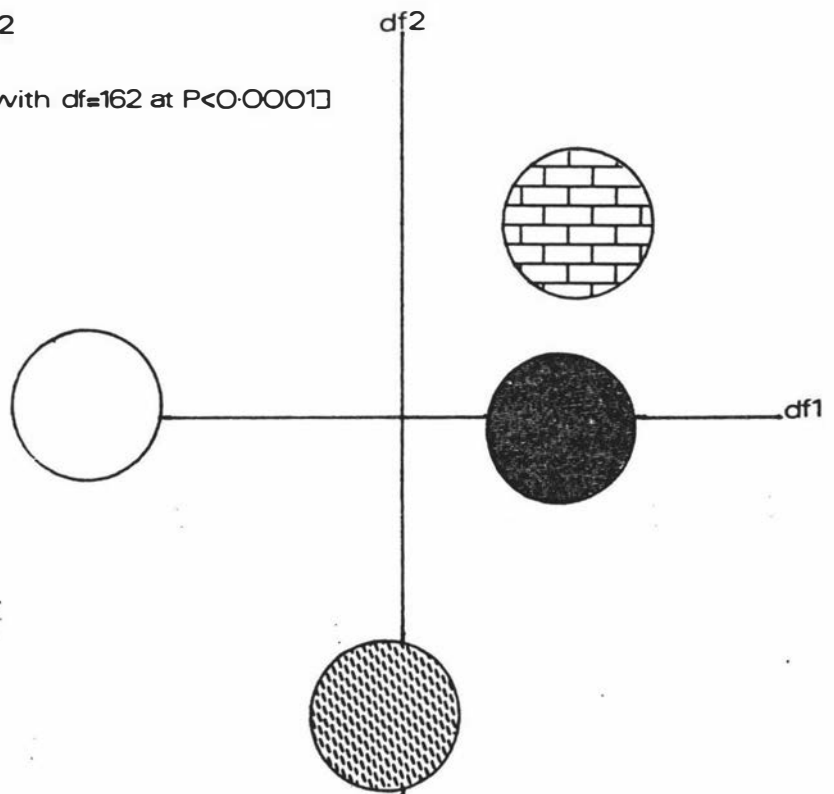
[$\chi^2=605.53$ with $df=162$ at $P<0.0001$]



IO b) BODY-IMAGE 2

[actual]

[$\chi^2=602.62$ with $df=162$ at $P<0.0001$]



body-image.

Whilst most of the relationships between either the inferred-actual or actual-ideal body-image disturbance were negative and statistically significant (Table 13), r was so low as to be of little consequence (Kline, 1982). The absence of any psychologically significant relationships between body-image disturbance and years of disablement or incapacity, combined with the importance of the latter two variables in body-image perception, as revealed by the discriminant function analysis, implies body-image disturbance to have a psychological origin rather than a basis in fact. What is important is the way in which the individual comes to understand his disablement rather than the extent of physical incapacity. In accord with Shakespeare (1975, 21):

Reaction to handicap acquired in adulthood is not proportionately related to the objective severity of the handicap.

Whilst such findings add credence to the psychoanalytic perspective concerning the symbolic importance of body parts to disabled Ss (Freud, 1923; Schilder, 1935; Jung, 1952; Wright, 1960; Miller, 1969; Safilios-Rothschild, 1970), they fail to substantiate the view that degree of incapacity and years of disablement strongly influence adjustment. Clearly, there are many other factors, aside from the two given consideration here, which might influence body-image disturbance (Shakespeare, 1975). For example, Ss awareness and interpretation of experiences with their disabled body would influence Ss attitudes towards, and perception of their

body (Adler, 1929; Beloff & Beloff, 1961; Hamachek, 1971), whether imagined or real (Diamond, 1957), as well as the physical consequences (Brown, 1977a). Further, the findings suggest that body-image distortion (Diamond, 1957), as outlined in Chapter 4, is different from body-image disturbance as reflected by discrepancies between the body-images.

Whilst it is conceivable that for some disabilities (e.g., obesity) continual derogatory social pressure might result in severe body-image disturbances (McCrea, 1982), the complete absence of any relationship between the variables under consideration here could reflect

(1) the inability of adults who acquire a disability to adjust to a changed bodily appearance/function (Chapter 4), or

(2) an artifact of the disabled sample (i.e., the functional incapacity of the disabled sample was not as great as would have been the case if it comprised institutionalised Ss or, for example, high level tetraplegics). Whilst none of the disabilities considered here deliberately involved visibility by way of facial features, many limitations (e.g., in the early stages of MS or RA) may be difficult for Ss to visualise and at present may lack clear definition in their body-image configuration and thus escape notice in any consideration of body-image disturbance defined in terms of body-image discrepancies. However, just as the non-disabled have difficulty in deciding how they look (Chapter 4), so might the disabled especially if their disablement is not clearly visible which could possibly confound attempts to evaluate their degree, if any, of body-image disturbance.

Investigations in this area of study tend to give the

impression that behavioural disturbance will be greater amongst the disabled as compared with the general population (Shakespeare, 1975, 88). However, this may not be the case since many of the studies are difficult to evaluate owing to variation in terminology, standards and definitions thereof, together with the fact that many conclusions have been drawn from selected groups (especially from "institutionalised Ss"), rather than from disabled Ss living in the community as is the case here.

It has already been pointed out that disablement need not (Adler, 1929), and does not impair self-concept (Chapter 8 & 9), and that it is the content which is altered rather than the formal relationships pertaining between the 3 self-concepts and body-images (Chapter 8 & 9). Following on from such reasoning, it then becomes plausible that body-image disturbance, rather than being reflected in various discrepancies between body-images (i.e., in the formal relationships existing between the inferred-actual, or actual-ideal), would be reflected in a discrepancy of content. Such would logically follow on from the findings of the investigations carried out in Chapters 8 and 9; to date these issues have received neither literary nor empirical attention. Alternatively, if as has been suggested (Chapter 9) that even in the face of severe functional limitations, Ss do not either suddenly or drastically alter their body-image (Lebovits & Lakin, 1957), then one would have no logical base upon which to construe body-image disturbance. Accordingly, there would be no a priori grounds for expecting disturbance or maladjustment as frequently defined, whether in terms of an inferred-actual or actual-ideal discrepancy.

10.6 SUMMARY AND CONCLUSIONS

This experiment was designed to investigate the relationship between body-image disturbance and years of disablement and degree of incapacity. A group of disabled Ss (N=285) suffering from spinal cord injury, multiple sclerosis or rheumatoid arthritis, and a control group of able-bodied Ss (N=100) were required to complete 3 Body Cathexis scales representing the inferred, actual and ideal body-images respectively, and an Activities of Daily Living (ADL) form in a single interview. Ss number of years of disablement from diagnosis was also recorded. The results were inconclusive in that they failed to identify any meaningful psychologically significant relationships between body-image disturbance and years of disablement or incapacity, and thus did not support common findings propagated by the literature. It was argued that (1) body-image disturbance was of psychological origin, (2) there were many other factors which would influence Ss perception of their body and thus body-image disturbance, and (3) body-image disturbance need not be viewed as maladaptive. Further, it was suggested that (1) the notion of body-image disturbance as expressed in terms of body-image discrepancy lacked a logical foundation and should not be an expected accompaniment of disablement, and (2) any disturbance as might exist would be reflected in a discrepancy of content rather than formal relationships pertaining between the body-images.

In conclusion, whilst body-image distortion does appear to be found in the area of impairment but does not become generalised to other body parts (Chapter 8), from correlational analysis:

(1) Body-image disturbance is not influenced by years of disablement or degree of incapacity.

and from discriminant function analysis:

(1) The 3 body-images of normals (able-bodied Ss) do differ significantly from those of the disabled when years of disablement and degree of incapacity are taken into account in the analysis.

(2) The body-images of the 3 disabled groups (spinal cord injury, multiple sclerosis, rheumatoid arthritis) show least separation for the inferred body-image and maximum for the actual.

Whilst it is acknowledged that the notion of body-image disturbance is central to disablement as it relates to present body-image theory, it is evident that such theory is either extremely confused or incorrect and thus requires more detailed analysis. The proposal that it is the individual's attitude towards his disablement which is considered to influence body-image disturbance, and is reflected in differential body-image content is certainly worthy of future investigation.

CHAPTER 11

FACTOR ANALYSIS AND DEVELOPMENT OF CATHEXIS SCALES

11.1 INTRODUCTION

During recent years a number of scales have been used to assess different aspects of self-concept amongst which may be included the Body Cathexis and semantic differential scales.

The Body Cathexis (BC) scale (Chapter 6.1) developed by Secord & Jourard (1953) purports to measure self-concept directly by way of its more visible and tangible physical structure expressed as 'the degree of feeling of satisfaction or dissatisfaction with various parts or processes of the body.' (Secord & Jourard, 1953, 343). Three versions of the BC scale have been used to date; the original 46-item version, a 40-item modification (Jourard & Secord, 1954), and the 52-item scale used in the present study. To complete the inventory Ss are required to evaluate each body part/function on a seven-point Likert scale ranging from 1 ("strong negative") to 7 ("strong positive").

Wylie (1974, 238) was amongst the first to suggest internal factor analysis of the BC scale, since 'none is available', so as to provide some understanding of its structure. Similarly, Burns (1979, 143) advocated that 'an internal factor analysis would be useful'. More recently, Tucker (1981, 691) argued that 'although considerable research has been conducted utilising the Body Cathexis Scale, few, if any, investigations have attempted to analyze its internal structure'. Further investigation is also required regarding the reliability of the scale (Wylie, 1974; Burns, 1979; Tucker, 1981). In this instance, we are concerned with that of the 52-item scale as a whole, and of the 13-item body Anxiety Indicator (AI) score derivatives.

Regarding the semantic differential, little is known about the way in which disabled persons judge concepts on such a type of scale. The present study provided an opportunity to explore this, and indicate to what extent factor scores were justified across groups. Again, Wylie (1974, 229) considered internal factor analysis essential for any new appreciation of the semantic differential format so as to overcome some of the problems inherent in its use at present (Chapter 6.2). If, as one might reasonably have supposed that the reliability and factor analytic work of Osgood et al (1957) would support the reliability and construct validity of the instrument, then conceivably one might expect a greater degree of commonality concerning these two aspects of the scale amongst the numerous semantic differential self-concept studies (80+: Wylie, 1974, 225; e.g., Ausubel & Schiff, 1955; Roth, 1959; Borislow, 1962; Back & Guptill, 1966; Salomon & McDonald, 1970; Zellner, 1970).

The aim of this study is to investigate the internal structure, and dimensionality of the 3 52-item Body Cathexis (BC) and 3 16-item semantic differential (SD) scales, and to determine the reliability of both instruments and the 13-item Anxiety Indicator (AI) of each BC scale. A secondary purpose is to compare the relative satisfaction of each factor.

11.2 SUBJECTS

A control sample (Group 1) comprised 100 non-disabled Ss (M=50; F=50). The experimental sample (Group 2) comprised 265 disabled Ss (M=125; F=160) variously suffering from spinal cord injury, multiple sclerosis and rheumatoid arthritis (Chapter 6).

Although the findings of earlier research suggest that response styles and attitudes concerning body-cathexis differ significantly between the sexes (Berscheid et al, 1973; Jourard & Remy, 1955; Kurtz, 1969) and have influenced the selection of subject samples in subsequent studies (Tucker, 1981), since no sex differences were isolated in the present study (Chapter 7 & 8), the subject samples were not limited to a single sex for control purposes.

11.3 PROCEDURE

Measuring Instruments

(1) Three 52-item Body-Cathexis (BC) scales (Secord & Jourard, 1953) were used to analyse the internal structure and reliability of the inventory for each of the 3 body-images.

(2) Three 16-item semantic differential (SC) scales were used to analyse the internal structure and reliability of the scale for the 3 aspects of self (inferred, actual, ideal) (Chapter 6).

Ss were interviewed individually and required to complete each of the 6 scales on one occasion only. No restriction was placed upon the time taken to complete the scales. This method was

time-consuming, but ensured that errors were kept to a minimum (Chapter 6).

Statistical Analysis

(1) Two types of scores were obtained from the scales: (1) Total BC (body-cathexis) or SC (self-cathexis), obtained by summing the ratings on the 52 body items, or 16 self items, and dividing by 52 or 16 respectively. (2) An anxiety indicator (AI) score obtained from the BC scale by calculating the sum of the lowest 13 scores and dividing by 13.

(2) The 3 BC scales and the 3 SC scales were subjected to factor analysis:

2.1 A principal components analysis with unities in the main diagonal was performed on each of the 3 BC and 3 SC scales using SPSS Version (1981).

2.2 The Scree Test criterion (Cattell, 1966) provided the standard used to determine the number of factors to be retained in each analysis.

2.3 The factor matrix was then orthogonally rotated using the varimax technique (SPSS Version, 1981) in order to (1) improve factor interpretation, and (2) maximise the variance of squared factor loadings.

2.4 Factor loading cut-off points were determined according to the following criteria: primary items=>0.59, secondary items=>0.45 to 0.59 (Linn, 1968).

(3) Reliability was calculated for (1) the 3 52-item BC forms using equal-length Spearman-Brown formula, (2) the 3 16-item SC scales using parallel forms, and (3) the 3 BC 13-item anxiety indicators (AI) using unequal-length Spearman-Brown formula.

(4) The grand means from the Likert ratings of the 5 variables loading highest on each factor were calculated so as to provide an indication of the relative satisfaction reported for each Body Cathexis factor.

11.4 RESULTS

After varimax rotation of the data matrix comprising 52 items of each of the 3 Body Cathexis scales for ABLE-BODIED Ss:

1. From Body Cathexis Form 1 (inferred body-image) 5 orthogonal factors were extracted:

1.1 Factor 1 contained 4 primary items (width of shoulders, arms, elimination, wrists; Table 14), and 8 secondary items (e.g., breathing, posture; Appendix G) and was labelled "Physique and Muscular Strength".

1.2 Factor 2 contained 5 primary items (digestion, health, appetite, exercise, resistance to illness; Table 14), and 5 secondary items (e.g., energy level, physical stamina; Appendix G) and was labelled "Health and Physical Fitness".

1.3 Factor 3 contained 5 primary items (body build, hips, knees, weight, trunk; Table 14), and 2 secondary items (legs, ankles; Appendix G) and was labelled "Body Build".

1.4 Factor 4 contained 1 primary item (height; Table 14), and 7 secondary items (e.g., hands, waist, profile, hair; Appendix G) and was labelled "Overall Appearance".

1.5 Factor 5 contained 2 primary items (skin texture, facial complexion; Table 14), and 3 secondary items (e.g., appearance of eyes, face; Appendix G) and was labelled "Facial Attractiveness".

2. From Body Cathexis Form 2 (actual body-image) 6 orthogonal factors were extracted:

2.1 Factor 1 contained 6 primary items (hands, arms, feet, fingers, wrists, ankles; Table 14), and 5 secondary items (e.g., chest, legs, knees; Appendix G) and was labelled "Mobility".

2.2 Factor 2 contained 3 primary items (body build, weight, trunk; Table 14), and 5 secondary items (e.g., hips, profile; Appendix G) and was labelled "Body Build".

2.3 Factor 3 contained 3 primary items (health, physical stamina, tolerance for pain; Table 14), and 6 secondary items (e.g., energy level, resistance to illness; Appendix G) and was labelled "General Health".

2.4 Factor 4 contained 4 primary items (shape of head, forehead, back view of head, chin; Table 14), and 2 secondary items (skin texture, ears; Appendix G) and was labelled "Facial Structure".

2.5 Factor 5 contained no primary items but 4 secondary items (appearance of teeth, sex activities, sex, sex drive; Appendix G) and was labelled "Sexuality".

2.6 Factor 6 contained 1 primary item (age; Table 14), and 2 secondary items (appearance of eyes, sleep; Appendix G) and was labelled "Maturity".

3. From Body Cathexis Form 3 (ideal body-image) 5 orthogonal

factors were extracted:

3.1 Factor 1 contained 16 primary items (e.g., energy level, body build, trunk, physical stamina; Table 14), and 8 secondary items (e.g., health, exercise, ankles; Appendix G) and was labelled "Physical Well-being".

3.2 Factor 2 contained 9 primary items (e.g., neck, shape of head, arms; Table 14), and 4 secondary items (e.g., knees, chin; Appendix G) and was labelled "Facial Structure and Mobility". The variable, elimination, also loaded significantly on the second axis, but the meaning of the association is not clear.

3.3 Factor 3 contained 2 primary items (height, age; Table 14), and 9 secondary items (e.g., hands, width of shoulders, appearance of eyes, sleep; Appendix G) and was labelled "Maturity".

3.4 Factor 4 contained 2 primary items (digestion, sleep; Table 14), and 6 secondary items (e.g., health, appetite, tolerance for pain; Appendix G) and was labelled "General Health".

3.5 Factor 5 contained 4 primary items (sex organs, sex activities, sex, sex drive; Table 14), and 3 secondary items

(physical stamina, muscular strength, resistance to illness; Appendix G) and was labelled "Sexuality".

After varimax rotation of the data matrix comprising 52 items on each of the 3 Body Cathexis scales for DISABLED Ss:

1. From Body Cathexis Form 1 (inferred body-image) 3 orthogonal factors were extracted:

1.1 Factor 1 contained 9 primary items (e.g., skin texture, lips, face, facial complexion; Table 15), and 9 secondary items (e.g., shape of head, age, chest; Appendix G) and was titled "Facial Attractiveness and Overall Appearance".

1.2 Factor 2 contained 4 primary items (energy level, exercise, physical stamina, muscular strength; Table 15), and 5 secondary items (e.g., health, resistance to illness; Appendix G) and was titled "Health and Physical Fitness".

1.3 Factor 3 contained 3 primary items (waist, body build, hips; Table 15), and 10 secondary items (e.g., chest, weight, trunk; Appendix G) and was titled "Body Build".

2. From Body Cathexis Form 2 (actual body-image) 4 orthogonal factors were extracted:

2.1 Factor 1 contained 12 primary items (e.g., skin texture, lips, face, facial complexion; Table 15), and 9 secondary items (e.g., height, age, chest; Appendix G) and was titled "Facial Attractiveness and Overall Appearance".

2.2 Factor 2 contained 4 primary items (energy level, sex activities, physical stamina, sex drive; Table 15), and 7 secondary items (e.g., digestion, sex organs, health; Appendix G) and was titled "Sexuality and General Health".

2.3 Factor 3 contained 5 primary items (hips, legs, feet, knees, ankles; Table 15), and 6 secondary items (e.g., back, body build, posture; Appendix G) and was titled "Mobility and Body Build".

2.4 Factor 4 contained 4 primary items (hands, fingers, wrists, muscular strength; Table 15), and 2 secondary items (arms, physical stamina; Appendix G) and was titled "Manipulative Ability".

3. From Body Cathexis Form 3 (ideal body-image) 3 orthogonal

**TABLE 14: SELF-EVALUATION FACTORS AND ROTATED FACTOR
LOADINGS OF DOMINANT VARIABLES FOR THE 3 BODY CATHEXIS**

SCALES OF ABLE-BODIED Ss

(1) BODY CATHEXIS SCALE 1: inferred body-image

FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
WIDSHOU 0.67	DIGEST 0.61	BOBUILD 0.80	HEIGHT 0.71
ARM 0.71	HEALTH 0.63	HIPS 0.63	
ELIM 0.61	APPET 0.60	KNEES 0.61	
WRIST 0.79	EXERCIS 0.60	WEIGHT 0.60	
	RESILL 0.64	TRUNK 0.69	
FACTOR 5			
SKTEXT 0.60			
FCOMPL 0.68			

FACTOR 1 : Physique & Muscular Strength
 FACTOR 2 : Health & Physical Fitness
 FACTOR 3 : Body build
 FACTOR 4 : Overall Appearance
 FACTOR 5 : Facial Attractiveness

(2) BODY CATHEXIS SCALE 2: actual body-image

FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
HANDS 0.76	BOBUILD 0.78	HEALTH 0.71	SHHEAD 0.60
ARMS 0.63	WEIGHT 0.78	RESILL 0.70	BHEAD 0.62
FINGERS 0.71			CHIN 0.65
WRISTS 0.64			
ANKLES 0.63			
FACTOR 5		FACTOR 6	
APTH 0.50	AGE 0.61		
SACTIV 0.56			
SEX 0.53			
SDRIVE 0.52			

FACTOR 1 : Mobility
 FACTOR 2 : Body Build
 FACTOR 3 : General Health
 FACTOR 4 : Facial Structure
 FACTOR 5 : Sexuality (secondary items)
 FACTOR 6 : Maturity

(3) BODY CATHEXIS SCALE 3: ideal body-image

FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
WAIST 0.68	NECK 0.71	HEIGHT 0.62	DIGEST 0.68
ENERGYL 0.67	SHHEAD 0.71	AGE 0.65	SLEEP 0.62
BOBUILD 0.73	ARMS 0.60		
PROFILE 0.65	FHEAD 0.60		
CHEST 0.74	BHEAD 0.70		
HIPS 0.65	ELIM 0.63		
LIPS 0.60	WRIST 0.71		
LEGS 0.66	EARS 0.69		
KNEES 0.64	ANKLES 0.63		
POSTURE 0.60			
FACE 0.71			
WEIGHT 0.69			
FCOMPL 0.75			
NOSE 0.72			
TRUNK 0.71			
PSTAM 0.68			
FACTOR 5			
SORG 0.72			
SACTIV 0.69			
SDRIVE 0.70			

FACTOR 1 : Physical Well-being
 FACTOR 2 : Facial Structure & Mobility
 FACTOR 3 : Maturity
 FACTOR 4 : General Health
 FACTOR 5 : Sexuality

factors were extracted:

3.1 Factor 1 contained 15 primary items (e.g., shape of head, lips, face, facial complexion; Table 15), and 16 secondary items (e.g., waist, back, chest; Appendix G) and was titled "Facial Attractiveness and Overall Appearance".

3.2 Factor 2 contained 17 primary items (e.g., hands, energy level, legs, resistance to illness; Table 15), and 7 secondary items (e.g., back, body build, tolerance for pain; Appendix G) and was titled "Mobility and General Health".

3.3 Factor 3 contained 3 primary items (sex organs, sex activities, sex drive; Table 15), but no secondary items, and was titled "Sexuality".

After varimax rotation of the 3 16-item semantic differential forms for ABLE-BODIED Ss:

1. From semantic differential Form 1 (inferred self-concept) 3

orthogonal factors were extracted:

1.1 Factor 1 contained 5 primary items (valuable, pleasant, kind, good, fair; Table 16), and 1 secondary item (gentle; Appendix G) and was titled "Evaluation".

1.2 Factor 2 contained 3 primary items (excitable, relaxed, mild; Table 16), and 2 secondary items (active, gentle; Appendix G) and was titled "Emotional Lability".

1.3 Factor 3 contained 1 primary item (definite; Table 16), and 4 secondary items (formal, active, strong, fortunate; Appendix G) and was titled "Determination".

2. From semantic differential Form 2 (actual self-concept) 3

orthogonal factors were extracted:

2.1 Factor 1 contained 5 primary items (valuable, pleasant, kind, good, fair; Table 16), and 3 secondary items (gentle, definite, strong; Appendix G) and was titled "Evaluation".

2.2 Factor 2 contained 2 primary items (relaxed, mild; Table 16), and 1 secondary item (excitable; Appendix G) and was titled "Composure".

TABLE 15: SELF-EVALUATION FACTORS AND ROTATED FACTOR
LOADINGS OF DOMINANT VARIABLES FOR THE 3 BODY CATHEXIS
SCALES OF DISABLED Ss

(1) BODY CATHEXIS SCALE 1: inferred body-image

	FACTOR 1	FACTOR 2	FACTOR 3
SKTEXT	0.60	ENERGYL 0.65	WAIST 0.63
LIPS	0.73	EXERCIS 0.63	BOBUILD 0.64
FHEAD	0.69	PSTAM 0.79	HIPS 0.60
FACE	0.68	MSTREN 0.70	
BHEAD	0.66		
FCOMPL	0.68		
NOSE	0.65		
EAR	0.74		
CHIN	0.72		

FACTOR 1 : Facial Attractiveness & Overall Appearance
 FACTOR 2 : Health & Physical Fitness
 FACTOR 3 : Body Build

(2) BODY CATHEXIS SCALE 2: actual body-image

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
SHHEAD	0.69	ENERGYL 0.63	HIPS 0.62	HANDS 0.75
PROFILE	0.65	SACTIV 0.66	LEGS 0.62	FINGERS 0.69
SKTEXT	0.63	PSTAM 0.63	FEET 0.62	WRIST 0.64
LIPS	0.69	SDRIVE 0.63	KNEES 0.66	MSTREN 0.60
FHEAD	0.74		ANKLES 0.65	
FACE	0.72			
HAIR	0.65			
FCOMPL	0.66			
NOSE	0.67			
EAR	0.66			
CHIN	0.69			

FACTOR 1 : Facial Attractiveness & Overall Appearance
 FACTOR 2 : Sexuality & General Health
 FACTOR 3 : Mobility & Body Build
 FACTOR 4 : Manipulative Ability

(3) BODY CATHEXIS SCALE 3: ideal body-image

	FACTOR 1	FACTOR 2	FACTOR 3
SHHEAD	0.68	HANDS 0.65	SORG 0.73
PROFILE	0.69	ENERGYL 0.74	SACTIV 0.82
HEIGHT	0.75	LEGS 0.76	SDRIVE 0.85
WIDSHOU	0.60	FEET 0.76	
APEYE	0.76	SLEEP 0.69	
LIPS	0.80	HEALTH 0.77	
FHEAD	0.75	KNEES 0.74	
FACE	0.78	POSTURE 0.66	
BHEAD	0.71	FINGERS 0.75	
HAIR	0.63	ELIM 0.66	
FCOML	0.70	WRIST 0.64	
NOSE	0.74	EXERCIS 0.78	
EARS	0.81	ANKLES 0.66	
CHIN	0.80	TRUNK 0.68	
		PSTAM 0.84	
		MSTREN 0.76	
		RESILL 0.76	

FACTOR 1 : Facial Attractiveness & Overall Appearance
 FACTOR 2 : Mobility & General Health
 FACTOR 3 : Sexuality

2.3 Factor 3 contained 2 primary items only (definite, strong; Table 16) and was titled "Determination".

3. From semantic differential Form 3 (ideal self-concept) 1 orthogonal factor was isolated:

3.1 Factor 1 contained 8 primary items (e.g., valuable, pleasant, kind, good, fair; Table 16), and 3 secondary items (beautiful, relaxed, fortunate; Appendix G) and was titled "General Ideal Self".

TABLE 16: SELF-EVALUATION FACTORS AND ROTATED-FACTOR

LOADINGS OF DOMINANT VARIABLES FOR THE 3 SEMANTIC

DIFFERENTIAL SCALES OF ABLE-BODIED Ss

(1) SEMANTIC DIFFERENTIAL SCALE 1: inferred self-concept

	FACTOR 1	FACTOR 2	FACTOR 3
VALUAB	0.66	EXCIT 0.70	DEFIN 0.73
PLEAS	0.74	RELAXED 0.77	
KIND	0.81	MILD 0.80	
GOOD	0.76		
FAIR	0.78		

FACTOR 1 : Evaluation
FACTOR 2 : Emotional Lability
FACTOR 3 : Determination

(2) SEMANTIC DIFFERENTIAL SCALE 2: actual self-concept

	FACTOR 1	FACTOR 2	FACTOR 3
VALUABL	0.62	RELAXED 0.85	DEFIN 0.63
PLEAS	0.76	MILD 0.81	STRONG 0.61
KIND	0.71		
GOOD	0.75		
FAIR	0.73		

FACTOR 1 : Evaluation
FACTOR 2 : Composure
FACTOR 3 : Determination

(3) SEMANTIC DIFFERENTIAL SCALE 3: ideal self-concept

	FACTOR 1
GENTLE	0.62
VALUABL	0.74
PLEAS	0.80
KIND	0.74
DEFIN	0.62
STRONG	0.73
GOOD	0.61
FAIR	0.70

FACTOR 1 : General Ideal Self

After varimax rotation of the 5 16-item forms for DISABLED Ss:

1. From semantic differential Form 1 (inferred self-concept) 4 orthogonal factors were extracted:

1.1 Factor 1 contained 3 primary items (kind, good, fair; Table 17), and 2 secondary items (gentle, pleasant; Appendix G) and was titled "Evaluation".

1.2 Factor 2 contained 3 primary items (active, definite, strong; Table 17), and 1 secondary item (valuable; Appendix G) and was titled "Determination".

1.3 Factor 3 contained 3 primary items (excitable, relaxed, mild; Table 17), and no secondary items, and was titled "Composure".

1.4 Factor 4 contained 2 primary items (formal, fortunate; Table 17), and no secondary items, and was titled "Social Skills".

TABLE 17: SELF-EVALUATION FACTORS AND ROTATED-FACTOR LOADINGS OF DOMINANT VARIABLES FOR THE 5 SEMANTIC DIFFERENTIAL SCALES OF DISABLED Ss

(1) SEMANTIC DIFFERENTIAL SCALE 1: inferred self-concept

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
KIND	0.77	ACTIVE 0.62	EXCIT 0.60	FORMAL 0.77
GOOD	0.79	DEFIN 0.72	RELAXED 0.67	FORT 0.43
FAIR	0.76	STRONG 0.72	MILD 0.76	

FACTOR 1 : Evaluation
FACTOR 2 : Determination
FACTOR 3 : Composure
FACTOR 4 : Social Skills

(2) SEMANTIC DIFFERENTIAL SCALE 2: actual self-concept

	FACTOR 1	FACTOR 2	FACTOR 3
PLEAS	0.72	ACTIVE 0.56	MILD -0.61
KIND	0.69	KIND -0.46	
GOOD	0.69	FORT 0.53	
FAIR	0.69		

FACTOR 1 : Evaluation
FACTOR 2 : Domination (secondary items)
FACTOR 3 : Emotional Reactivity

(3) SEMANTIC DIFFERENTIAL SCALE 3: ideal self-concept

	FACTOR 1
GENTLE	0.64
VALUABL	0.67
RELAXED	0.66
PLEAS	0.65
KIND	0.79
DEFIN	0.70
STRONG	0.70
GOOD	0.76
FAIR	0.75

FACTOR 1 : General Ideal Self

2. From semantic differential Form 2 (actual body-image) 3

orthogonal factors were extracted:

2.1 Factor 1 contained 4 primary items (pleasant, kind, good, fair; Table 17), and 4 secondary items (gentle, relaxed, valuable, strong; Appendix G) and was titled "Evaluation".

2.2 Factor 2 contained no primary items but 3 secondary items (active, kind, fortunate; Appendix G) and was titled "Domination".

2.3 Factor 3 contained 1 primary item (intense; Table 17), and 2 secondary items (excitable, relaxed; Appendix G) and was titled "Emotional Liability".

3. From semantic differential Form 3 (ideal self-concept) 1

orthogonal factor was extracted:

1.1 Factor 1 contained 9 primary items (e.g., valuable, pleasant, kind, good, fair; Table 17), and 1 secondary item (fortunate; Appendix G) and was titled "General Ideal Self".

The reliability estimates of the BC scale range from 0.81-0.98, with a mean reliability for the 3 scales (inferred, actual, ideal) for the total subject group of 0.92 (Table 18). The reliability coefficients of the anxiety indicator (AI) scales are lower for able-bodied Ss (mean=0.79) as compared with disabled Ss (mean=0.88). Parallel form reliability estimates of the semantic differential scales for both subject groups (able-bodied, disabled) are considerably lower than those of the BC scales with a range from 0.54-0.68 for the total subject group. The lowest reliability (0.29) is associated with the actual self-concept of able-bodied males, and the highest (0.69) with the ideal self-concept of disabled males. Higher reliability coefficients are reported for both instruments and the AI scale in conjunction with "ideal" concepts (Table 18).

TABLE 18: RELIABILITY COEFFICIENTS OF THE 3 BODY CATHEXIS,
3 SEMANTIC DIFFERENTIAL, AND 3 ANXIETY INDICATOR SCALES
FOR DISABLED AND ABLE-BODIED Ss

	WHOLE GROUP (N=385)			ABLE-BODIED (N=100)			DISABLED (N=285)		
	T (385)	M (174)	F (211)	T (100)	M (50)	F (50)	T (285)	M (124)	F (161)
*BC1 [N=52]	0.89	0.91	0.87	0.87	0.85	0.90	0.90	0.92	0.88
*BC2 [N=52]	0.92	0.93	0.91	0.81	0.79	0.83	0.94	0.95	0.93
*BC3 [N=52]	0.96	0.97	0.96	0.94	0.92	0.96	0.96	0.98	0.95
**AI1 [N=13]				0.82	0.57	0.82	0.86	0.79	0.87
**AI2 [N=13]				0.65	0.69	0.74	0.88	0.86	0.88
**AI3 [N=13]				0.91	0.87	0.94	0.91	0.95	0.89
***SC1 [N=16]	0.55	0.54	0.57	0.56	0.38	0.66	0.56	0.58	0.55
***SC2 [N=16]	0.60	0.59	0.61	0.57	0.29	0.71	0.61	0.64	0.59
***SC3 [N=16]	0.63	0.68	0.61	0.62	0.67	0.63	0.64	0.69	0.61

T : Total

M : Male

F : Female

() : Number of subjects in group

[] : Number of items in scale

* : Equal-length Spearman-Brown reliability

** : Unequal-length Spearman-Brown reliability

*** : Parallel forms reliability

Regarding the relative satisfaction of the BC dimensions, able-bodied Ss show greatest satisfaction towards their "Health and Physical Fitness" (factor 2 for BC scale 1), "Health" (factor 3 for BC scale 2), and "Sexuality" (factor 5) in the third Body Cathexis scale with "General Health" coming second (Table 19). They associate least satisfaction with "Body Build" (factors 3 & 2 for BC scales 1 and 2 respectively), and "Facial Structure and Mobility" for BC scale 3. Disabled Ss associate greatest satisfaction with "Facial Attractiveness and Overall Appearance" (factor 1 for BC scales 1 and 2) and "Mobility and General Health" (factor 3 for BC scale 3), and dissatisfaction with "Health and Physical Fitness" (factor 2 for BC scale 1), "Manipulative Ability"

(factor 4 for BC scale 2) and "Sexuality" for BC scale 3 (factor 3 comprising 3 items; Appendix K).

TABLE 19: RELATIVE SATISFACTION OF BC FACTORS FOR

ABLE-BODIED AND DISABLED Ss

(given by grand mean scores of the 5 highest loading variables on each factor)

	FACTOR	1	2	3	4	5	6
NORMAL	BC1	4.55	4.78	4.05	4.20	4.35	
	BC2	4.24	3.93	4.70	4.17	****	****
	BC3	5.45	4.85	5.33	5.46	5.63	
DISABLED	BC1	4.94	4.11	4.37			
	BC2	4.93	4.42	4.02	3.88		
	BC3	6.12	6.29	****			

****: factors comprising <5 items

BC1 : Body Cathexis Scale 1 (inferred body-image)

BC2 : Body Cathexis Scale 2 (actual body-image)

BC3 : Body Cathexis Scale 3 (ideal body-image)

The relative satisfaction of semantic differential dimensions are given by the grand mean scores of primary and secondary items (Appendix K). Disabled Ss associate satisfaction with "Social Skills" (factor 4 for SD scale 1) and "Emotional Reactivity" (factor 3 for SD scale 2), and dissatisfaction with "Self-Worth" (factor 1 for SD scales 1 and 2 respectively), and "General Ideal Self" (factor 1 for SD scale 3). A similar pattern is shown by able-bodied Ss who manifest greatest satisfaction towards "Emotional Lability" (factor 2 for SD scale 1) and "Composure" (factor 2 for SD scale 2), and greatest dissatisfaction towards "Self-Worth" (factor 1 for SD scale 1), "Determination" (factor 3 for SD scale 2) and "General Ideal Self" (factor 1 for SD scale 3) (Appendix K).

11.5 DISCUSSION

On a priori grounds, since it is the body of the physically disabled which is functioning abnormally, one would expect their restricted bodily focus, resulting from a shift in "self-perception" from the external emphasis characteristic of able-bodied individuals to an internal emphasis, to be reflected in a restricted body-image at whatever level (i.e., inferred, actual, ideal), and thus fewer factors to be isolated by factor analysis of the Body Cathexis scales of Disabled Ss. In addition, one might equally envisage a reduction of item-loadings within factors since the body is now of lesser importance to the individual's self-concept. As Barker et al (1946, 228-246) suggested it is:

..during physical impairment the individual's world undergoes a great reduction in scope, and the psychological world becomes egocentric, the latter reflected in increased internalisation ... Former determinants of behaviour lose their potency, and are restricted to a few persons and needs. A shift of attention takes place in which internal cues are much more potent than externally located ones.

If, as Barker et al (1946) contend, the disabled generally do manifest "internalised egocentricity", conceivably this could become evident in their expanding self-concept as it acquires a new-found, and almost exalted, importance. In accord with the notion of the egocentric psychological world of the disabled one would not only expect lower anxiety indicator (AI) scores for their

self-concept as have already been identified (Chapter 6; Appendix D), but also the extraction of a greater number of factors than for the self-concept of able-bodied Ss by factor analysis.

The findings appear to support the contention of a reduced external focus, with fewer orthogonal factors being isolated from the 52 Body Cathexis items representing the inferred (3), actual (4), and ideal (5) body-images respectively of the disabled (Table 15) as compared with able-bodied Ss (Table 14). However, this restricted focus was not reflected in reduced item-loadings within the factors (Appendix G), but rather in a lowering of some mean item cathexis ratings (Appendix K). Moreover, this reduction was not generalised, which implies that either (1) by reducing their external focus, presumably away from areas of gross pathology likely to cause stress, the disabled are able to achieve bodily satisfaction paralleling that of normals and reflected in the same formal structure (Chapter 7,8), or (2) simply a greater alertness and sensitivity to minor variations in physiological processes which the non-disabled person would be almost unaware of (Barker et al, 1946).

11.5.1 BODY CATHEXIS SCALE

The emergence of 5,6 and 5 orthogonal factors from the 3 BC scales of able-bodied Ss suggests that the Body Cathexis scale, as used in this study, is a complex measure of the self. Whilst the BC scale has been described as a complex measure of the self (Tucker, 1981) for able-bodied Ss, equally, it could be argued

that in order to so describe the scale, the Ss must manifest a complex self. Logically, it then follows that since fewer factors were isolated from the 5 BC scales of disabled Ss, that the self revealed by the disabled is less complex, which would be supportive of their body-image as a more elementary and less basic element of self-conception and evaluation, than is characteristic for the non-disabled. While it may be acknowledged that '... the body-image is subjective ... [and] ... no other element [of self-conception] is more open to private and public evaluation.' (Burns, 1979, 152), for the disabled a part of their formerly "private" self becomes "public" as their physical disability finds expression by way of their highly visible body, which through default renders their body-image less complex. However, factor analysis demonstrated clearly that bodily attitude was not a unidimensional construct for either disabled or able-bodied Ss, but rather was viewed from independent reference points depending upon the body-image in question. For example, 3 reference points for disabled Ss inferred (subconscious) body-image were apparent: (1) "Facial Attractiveness and Overall Appearance", (2) "Health and Physical Fitness", and (3) "Body Build" (Table 15), and 5 reference points for the inferred body-image of able-bodied Ss (Table 14).

Although a similarity in content with the 4 factors isolated from a shorter 40-item BC scale by Tucker (1981) was evident, it is reasonable that the number of factors extracted from the application of a larger scale should be in excess of this number. A factor bearing resemblance to Tucker's (1981, 893) '... complex factor lacking a central theme', which he

termed "Subordinate and Independent Body Features" was apparent in Factor 2 (Body Cathexis Form 2) of normals. However, although perhaps intuitively incongruent, here facial structure appeared linked with mobility. Whilst one may conjecture that the basis for such an association might lie in the societal importance attached to attractiveness and mobility as "agents" for social advancement and success (Parsons & Bales, 1955), its precise meaning remained unclear. The fact that there existed some degree of similarity between the factors isolated from the 3 BC scales of able-bodied Ss in this study, and those of Tucker's (1981), despite an unexplained departure in item content from those of the original scale he purported to use (e.g., over-all appearance, physical skills, coordination, muscle tone; Chapter 6), and his solely male sample, provided further support for the absence in New Zealand of dramatic differences between the sexes in attitudes towards the body identified earlier (Chapter 7), which is contrary to previous findings (Jourard & Remy, 1958; Kurtz, 1969; Berscheid et al, 1973).

Combined themes evident in the BC scales of disabled Ss (e.g., actual body-image: "Mobility and Body Build", "Sexuality and General Health"; Table 15) which separated out in the actual body-image of the non-disabled, manifesting as 4 discrete factors (i.e., "Mobility", "Body Build", "General Health", "Sexuality"; Table 14) further corroborated the notion of disablement narrowing the whole of the phenomenological field and focus.

Whilst concern with mobility has been identified as a

source of anxiety in the disabled generally (Chapter 8,9), factor analysis failed to reveal a differential emphasis, but rather identified the construct in both the actual and ideal body-images of the two subject groups (i.e., able-bodied and disabled). However, mobility for the disabled was associated with constructs essential for its existence, namely "Body build" in the actual body-image, and "General Health" in the ideal. Such an association implies knowledge of reality on the part of disabled Ss, since disablement frequently leads to impaired mobility and the latter to an increase in bodily weight, especially in those "wheelchair-bound" females. During the course of the interviews, disabled Ss frequently complained about excess bodily weight, or of poor health restricting their mobility generally, or specifically with reference to leisure pursuits.

"Manipulative Ability" was a construct unique to the disabled Ss actual body-image. It seemed reasonable that "Manipulative Ability" should be unique to the disabled persons conscious frame of reference, as reflected by its existence in their actual body-image, and because of its central importance in their ability to perform essential activities of daily living and thus their independence. Certainly, there is no evidence of Marx's false consciousness (Chapter 4) in disabled Ss, but rather an awareness of reality. The clear identification of "Sexuality" in both the actual and ideal body-images of non-disabled, and in the ideal of disabled Ss, coupled with an association of the latter with higher Likert scale scores (mean=5.68; Appendix k) than those of normals suggests

sexuality as important to disabled Ss, but by way of disablement of lesser consequence in their daily activities. However, the majority of disabled Ss interviewed expressed concern regarding some aspect of sexuality; males commonly complained about decreased libido, inability to gain erection and to satisfy their partner, whilst females centred upon the decrease in frequency of intimate relations and the potential effect which this could have upon their marriage/marriage potential and child-bearing. Both sexes, and frequently both partners, still felt a need for counselling in this area.

11.5.2 SEMANTIC DIFFERENTIAL SCALE

The identification of 3,3 and 1 orthogonal factors from the 3 semantic differential (SD) scales of able-bodied Ss, and 4,3 and 1 orthogonal factors from those of the disabled (Table 16,17) suggests the semantic differential scale, in its present form, to be a complex measure of the self, although to a lesser degree than is the case for the BC scale, for both able-bodied and disabled persons alike. As for the BC scale, the isolation of discrete factors for both subject samples (Appendix G), and the relative satisfaction of the factorial dimensions (Appendix K) demonstrated clearly that attitude towards self were not a global construct and thus corroborated the notion of a multifactorial self-concept. The extraction of 4 factors from SD scale 1 (inferred self-concept) provided only limited support for a compensatory expansion of the internalised and "less

visible" self-concept in the presence of disablement (Chapter 8). However, it still remains plausible that a restricted bodily focus could affect a greater protection of the self-concept which for the disabled now represents the only aspect of self-perception not confined by disability-imposed limitations.

Whilst the scales comprising the semantic differential were selected from the factor analytic work of Osgood et al (1957) for high loadings on the 3 factors they were purported to represent (i.e., evaluative, activity, potency), each of which was given equal weighting (Chapter 6.2), the evaluative factor was a consistent and dominant element in all 6 analyses.

For the able-bodied Ss the evaluative factor (factor 1) comprised of all the original evaluative dimensions as primary items (i.e., valuable, pleasant, kind, good, fair) for the 3 SD scales (inferred, actual, ideal) (Table 16), whilst the scales representing the activity and potency dimensions were not isolated in any meaningful pattern. Such findings corroborate those of other studies which identified the evaluative dimension as a dominant factor for normals (Osgood et al, 1957; Marks, 1965; Shouksmith, 1983).

Similarly, the evaluative dimension represented the only clearly identifiable items represented in factor 1 of all 3 SD scales for disabled Ss (Table 17), although less dominant than for normals. Again, no general trends distinguished the factor structure of the activity or potency dimensions. As for able-bodied Ss, some shifts were seen, but none were consistent.

Thus, the factor analyses justify the use of the 5

evaluative scales (Chapter 6.2) in combination as an evaluative factor. The collapse of the activity and potency factors into several specific factors on varimax rotation could be due to less stable groupings of scales. In any event, these two factors do not appear to hold up well to scrutiny in New Zealand (Shouksmith, 1983). Overall, these findings add credence to the suggestion of an association between the evaluative scale and attitudes towards self (Osgood et al, 1956; Rogers, 1962) for both normal and disabled Ss.

In line with earlier findings (Jourard & Remy, 1955; Weinberg, 1960; Tucker, 1981), the reliability of the BC scale was found to be consistent and satisfactory, unveiling split-half reliability estimates above the .84 and 'at least .91' reported by Weinberg (1960) (Table 1b). The reliability of the BC anxiety indicator was likewise adequate but lower than that of the total scale which is congruent with the original study of Secord and Jourard (1953). The reliability of the semantic differential scale as a measure of self-cathexis was considerably lower than that of the BC scale and the self-cathexis measure developed by Secord and Jourard (1953). However, the low reliability of the semantic differential does not negate further use of it in its present application, since lower reliabilities for any instrument purporting to measure such a phenomenological and abstract construct as self-concept would be expected. Similarly, raised reliability coefficients would be expected for a measure of body-cathexis, since the

visible nature of the body would render body-image constructs more concrete. The accompaniment of increased bodily preoccupation and awareness with disablement (Chapter 4), and associated importance of the body in the disabled person's life would explain their raised BC scale reliabilities over those of the non-disabled (Table 16) who would conceivably manifest lesser bodily concern.

In accord with the findings of Tucker (1981, 894-895), the relative satisfaction of the factorial dimensions of the BC scale for Ss (Table 19) showed clearly that body attitude was not a global construct. The findings illustrate the oversimplification which could result if body-image, or one of the 3 component parts considered here (i.e., inferred, actual, ideal), continues to be considered as global as has generally been the case to date. Knowledge of the multifactorial nature of the different aspects of body-image should enable us to develop more specific intervention programmes to meet the more clearly defined needs of the individual. For the disabled Ss comprising the present sample, attention might be directed towards an improvement in attitudes towards coping with disablement since relative dissatisfaction was shown towards "Health and Physical Fitness", "Manipulative Ability", and "Sexuality". Specifically, family health counselling directed at disability-related sexual problems might be employed, together with physiotherapy programmes designed to improve manipulative dexterity and general health.

The absence of gross differences in the relative satisfaction of the factorial dimensions of the semantic

differential between able-bodied and disabled Ss suggests disablement to have a lesser influence upon self-concept than upon body-image.

The importance of the belief in the reality of the "private self", localised somewhere in the body, in Western culture cannot be denied. It would appear that as Shontz (1974, 465) pointed out: 'real or illusory, the body-centered world of private experience cannot be ignored' by either able-bodied or disabled persons despite the restricted bodily focus of the latter. One might reasonably conjecture, in accord with recent findings (Fisher, 1970; Fast & Fisher, 1971; Magee & Fisher, 1971; Fisher, 1972; Clausen & Fisher, 1973) that the foundation of the differential emphasis of bodily self-perception shown by disabled and normal Ss lie in patterns of body awareness, and that it is through such patterns that the experiences and personality of the different subject groups are made manifest.

11.6 DEVELOPMENT OF CATHEXIS SCALES

The recognition that inventory items with low factor loadings (Appendix G) commonly reflected increased levels of specific and/or error variance (Rummel, 1970; Tucker, 1981) led to their omission in the refinement of the scale. Also, increasingly frequently shortened versions of scales are being sought for research purposes (Tucker 1981). Such shortened scales would have particular application in field-work within the community where the

researcher's time, and often Ss patience, is limited. For such purposes, a representative item sample would be provided by the selection of a small number (e.g., 4 or 5) of highly loading variables from each independent factor. In this case the revised scales comprised the primary items representing each factor isolated for that particular scale by factor analysis. The revised scales given below represent possibilities for use in future research. However, it is conceivable that some research milieus might benefit from scales comprising a selection of primary factor items, rather than the total number as have been incorporated here.

11.6.1 Revised Body Cathexis Scale for Normals

In the manner outlined above a revised 44-item BC scale for able-bodied Ss was constructed. The new scale incorporated 3 sub-scales (two of 17 items and a 33 item scale) which could be used to measure cathexis for the inferred (subconscious), actual (conscious), and ideal body-image constructs respectively (Appendix I). The 17-item "actual" scale (Body Cathexis Form 2) included an additional 4-item scale to measure "Sexuality". Since this factor consisted only of secondary items, it was decided that this scale should be considered optional. The 44-item revised scale and scoring protocols are given in Appendix 1.

11.6.2 Revised Body Cathexis Scale for Disabled Ss

A 39-item revised body Cathexis scale was constructed for disabled Ss. As for the normals, it consisted of only primary factor items, and subsumed 3 sub-scales comprising 16, 21, and 35 items respectively to provide measures of cathexis for the inferred (subconscious), actual (conscious), and ideal body-images respectively. The 39-item revision and scoring protocols are given in Appendix I.

11.6.3 Revised Semantic Differential Scale for Normals

As a result of factor analysis an 11-item bi-polar adjectival scale was constructed for able-bodied Ss comprising primary factor items. The scale incorporated 3 sub-scales (two of 9 items and an 8-item scale) which could be used to measure cathexis for the inferred (subconscious), actual (conscious), and ideal self-concepts respectively (Appendix J). All of the 5 evaluative dimensions in the original form were represented. The revised 11-item scale and scoring protocols are given in Appendix J.

11.6.4 Revised Semantic Differential Scale for Disabled Ss

A revised 14-item bi-polar adjectival scale was constructed for disabled Ss, consisting of only primary items, and subsuming 3 sub-scales comprising 11, 5 and 9 items respectively to provide a measure of self-cathexis for the inferred, actual and ideal self-concepts respectively. As for normals, the 5 evaluative dimensions were maintained. The 14-item revision, together with scoring protocols are given in Appendix J.

11.7 SUMMARY AND CONCLUSIONS

The primary purpose of this study was to examine the internal structure of the 3 Body Cathexis and 3 semantic differential scales, while secondary problems were to compare the relative satisfaction of each factor and to determine the reliability of the instruments together with that of the Anxiety Indicator scales. The scales were administered to a sample of 100 able-bodied and 285 disabled Ss individually in a single interview. The results, whilst corroborating the notion of a reduced external focus for disabled Ss, only offered limited support for a compensatory expansion of their self-concept. Whilst both the Body Cathexis and semantic differential scales were clearly demonstrated to be multifactorial, and thus complex measures of self-perception, combined themes evident in the BC scales of disabled Ss separated out into discrete factors in the BC scales of normals. The constructs isolated by factor analysis bore greater similarity

across than between subject groups, although only a few were unique to either subject sample. The reliability of the BC and AI scales were satisfactory and far exceeded those of the semantic differential scales. Such differences were attributed to the concrete and easily visualised nature of the body-image concept, as compared with the more abstract self-concept. On the basis of factor analytic results, revised 44 and 33-item BC scales were developed for able-bodied and disabled Ss respectively. Similarly, 11 and 14-item revisions of the semantic differential scale were introduced for normal and disabled Ss respectively.

It was argued that (1) in order to describe the scales as "complex", logically Ss must have manifested equally complex perceptions of self, (2) the similarity of BC factor content between normals in this study and males of a recent study (Tucker, 1981) provided further support for the absence of any significant sex differences in body-perception in New Zealand, (3) the higher reliability coefficients reported for all "ideal" concepts suggest the actual and inferred concepts as less stable, the ideal being given stability by the internalisation of societal stereotypes, and (4) that an awareness of reality (cf. false-consciousness) by the disabled sample was reflected in the associated constructs, essential for their mutual existence, manifested in the combined themes of their BC factors.

In conclusion, from factor analysis with varimax rotation:

(1) The number of independent factors isolated from the 3 BC scales of normals differed from those of the disabled.

(2) The number of independent factors isolated from the 3 SD scales of normals differed from those of the disabled, but to a

lesser extent than those of the BC scales.

(5) An evaluative factor was the dominant element in semantic judgment for both normals and disabled in the 5 SD scales representing the inferred, actual and ideal self-concepts.

Analysis of the relative satisfaction of factor scales indicated differences among the factors for both normal and disabled Ss. The items comprising the evaluative scale of the semantic differential were rated less favourably than variables on other dimensions.

The mean split-half reliability coefficient for the Body Cathexis scale was 0.92, that of the body Anxiety Indicator 0.83, and the parallel form reliability of the semantic differential was 0.59.

Finally, the usefulness of the factor analysis was demonstrated by its potential application: the relative satisfaction of Ss factorial dimensions was shown to have an important role to play in the development of more specific intervention programmes designed to best meet the individual's (normal or disabled) needs.

CHAPTER 12

OVERVIEW AND RECOMMENDATIONS

This chapter provides a summary of the findings relating to each hypothesis and discusses these findings before elaborating upon the tripartite theory of body-perception. It also provides suggestions for future research and recommendations for aiding the disabled.

12.1 RESULTS RELATING TO THE HYPOTHESES OUTLINED IN CHAPTER 5

(1) 3 body-images paralleling the 3 standard "selves" of self theory would be identified in normals.

This hypothesis was not supported. No significant parallel relationships between corresponding concepts were found to exist. However, support was obtained for body-image and self-concept (1) having the same formal structure, (2) not being unitary concepts, and (3) manifesting hierarchical organisation.

(2) The 3 body-images of the disabled differ from those of normals.

The results were supportive of this hypothesis. The 3 body-images of disabled Ss differed significantly from those of normals. High positive relationships existed between the actual and inferred body-images, and lower, but still positive relationships were found between the ideal and the other two body-images of the disabled. However, the formal structure pertaining between the 3 body-images of the disabled was not different from normals, but the disease-specific content was. Also, anxiety was found in the loci of pathology of the disabled but not for normals.

(3) The 3 self-concepts of the disabled differ from those of normals.

This hypothesis was supported. The self-concepts of the disabled differed significantly from those of normals, but to a lesser extent than did body-images. High positive relationships existed between disabled Ss actual and inferred self-concepts, but there was no difference in the formal structure of the self-concepts between disabled Ss and normals.

(4) The nature of the differences of the body-images in those groups of disabled showing differences from normals would be related to 3 different modes of adjustment.

This hypothesis was supported. In addition, evidence was provided for a further mode of adjustment amongst the disabled (i.e., normal). The distribution of the sexes differed significantly between the types of disablement and mode of adjustment. Age, degree of incapacity and years of disablement were not found to have any significant bearing upon adjustment type. Further, no significant difference was found to exist between adjustment mode and Ss degree of bodily/self pleasure and levels of anxiety. However, D-score analysis revealed an association between adjustment mode and body-image configuration.

(5) Body-image disturbance would be proportional to the degree of functional impairment, and inversely proportional to the number of years of impairment.

This hypothesis was not supported. Body-image disturbance was

not found to be influenced by years of disablement or degree of incapacity. However, the body-image configuration (inferred, actual, ideal) of normals was found to differ significantly from that of disabled Ss when years of disablement and degree of incapacity were taken into account, which supports the importance of the latter two variables in body-image perception of the disabled, and for the manifestation of body-image to be reflected in a discrepancy of content rather than of formal relationships pertaining between the 3 body-images.

(6) An exploratory study of the nature of the body and self-cathexis scales.

Confirmation was provided for both the Body Cathexis scale, and to a lesser extent the semantic differential scale, as being complex measures of self. The number of independent factors isolated from the BC scale of normals differed from those of the disabled. Similarly, the number of factors extracted from the semantic differential scales of normals differed from those of the disabled, but to a lesser extent. The evaluative factor was the dominant element in semantic judgement for both normals and disabled Ss across the 3 SD scales. The mean split-half reliability coefficient for the BC scale was 0.92, for the AI scale 0.83, and the parallel form reliability of the semantic differential was 0.59. Analysis of the relative satisfaction of factor scales scores indicated differences among the factors for normals and disabled Ss. As a result of factor analysis revised 44-item BC and 11-item semantic differential scales were introduced for normals, and a 39-item BC revision and 14-item semantic

differential for disabled Ss.

12.2 GENERAL CONSIDERATIONS

Those engaged in rehabilitation have a fundamental need to be able to understand, and if possible predict, the emotional responses of individuals to disablement. Despite the important implications of this for both rehabilitation and treatment, the problem has only recently received the attention of behavioural scientists. Similarly, not a great deal of objective information is available regarding the influence of disablement upon emotional behaviour (McDaniel, 1976, 67), particularly when the central nervous system is involved as in spinal cord injury and multiple sclerosis, two of the disabilities which have been considered in this research. Rather than focussing upon deficits characteristic of a wide range of disorders, body-image and self-concept were selected as a frame of reference representing perceptual processes operating in both able-bodied and disabled individuals alike.

It is important that body-image be placed in its proper perspective as an element of body-perception rather than as an exclusive and/or inclusive entity itself. Body-image is a theoretical entity and as such is an abstraction. The phenomenological perspective emphasised in this research may be adequately summed up thus:

One's body is the only perceptual object that remains phenomenally constant despite developmental and

accidental alterations. It is the only object that completely corresponds, spatially and temporally, with personal existence. It yields experiences that cannot be directly shared with others, and it forms a nucleus, around which the developing structure of personal values [are] synthesised. (Shontz, 1964, 1)

Whilst the notion of body-image has generated considerable interest, the diversity of investigation, lack of clarity in both definition and methodology together with the absence of a reliable and consistent theoretical perspective from which to interpret such studies has rendered it next to impossible to utilise findings in an applied setting.

That body-image as an element of self-perception has long been considered to have most of the properties attributed to the self-concept is hardly surprising, since the physical aspects of an individual's self-concept are widely recognised as comprising body-image. The intimate relationships between these two concepts implied and propagated by personality theory were not corroborated for either able-bodied or disabled Ss (Chapter 7,8).

Thus, it was argued that both general personality and psychoanalytic theory were incorrect in expounding body-image as the foundation for subsequent self-concept development, and not in any way paralleling the self-concept when developed, particularly in the absence of any logical connection between the two concepts.

However, the isolation of 3 corresponding body-image and self-concept configurations for both able-bodied and disabled Ss (Chapter 7, 8) enabled the tripartite theory of body-perception to

be proposed. Support was gained for this theory since, although speculative, the majority of the findings from this research could be interpreted within its parameters. The failure of much of this research to corroborate many commonly held beliefs concerning body-image was attributed to the uniqueness of the culture in which the studies were conducted. For example, for able-bodied Ss, the failure of women to place a lesser emphasis upon their legs as agents of mobility and to cathect their bodies more highly than men, together with the absence of sex differences regarding body/self anxiety (Chapter 7) were considered as reflecting the greater cultural equality of today, and the more active role of women in society. If anything, more social importance was attached to the male body-image in New Zealand.

Whilst the importance and fundamental nature of self-awareness to a conceptualisation of body-image has already received adequate attention (Chapter 3), it should be remembered that as a product of internal perception it is not usually accorded a large proportion of conscious experience (Mason, 1961). If, as Mason (1961) suggested, internal perception only becomes differentiated when individuals become aware of "feeling" associated with internal sensations, then it would logically follow that for disabled persons, by virtue of their incapacity and increased somatic preoccupation, that their body-image would become highly differentiated. Unfortunately, the results were unable to support such a conjecture, but rather the opposite in terms of a reduced bodily focus (Chapter 11).

The exclusion of many aspects of the ideal from the inferred body-image of the non-disabled (Chapter 7) suggested that the

"ideal" in New Zealand was both restrictive and difficult to obtain. A lesser emphasis upon "perfect bodies" as a desirable female attribute was corroborated by the lack of proximity of their actual and ideal body-images, with the exception of "legs".

Contrary to the findings of Uelman (1978), the nature of the disability appeared to have an influential effect on body-image and self-concept (Chapter 8). Also, the self-concept of disabled Ss showed less internalisation than that of the able-bodied (Chapter 8, 11), possibly as a result of increased attention now placed upon it. Further, the findings (Chapter 8) suggested that the similarities between disabled and able-bodied persons should not be overlooked in favour of dissimilarities. Thus, it would appear that one of the limitations of New Zealand society lies in its failure to comprehend the normality of disablement.

Support was gained for Shontz's (1975) description of body-image by the levels at which it operates. Factor analysis (Chapter 11) clearly showed body-image as a complex entity, and the relative satisfaction of factors suggested body experiences to be of different types, with some being more fundamental than others. His notion of body-image being hierarchically organised was also upheld (Chapter 7, 11).

Contrary to previous theory, better adjustment was not found in those who had suffered disablement over a long time period, particular adjustment modes were not identified as unique to specific pathologies, denial was not found to be devastating to the self-concept, and common of negative spread (Wright, 1960) were not corroborated (Chapter 9). However, support was provided for mobility being a general area of concern for the disabled. Whilst

it was acknowledged that coping behaviours were a unique and characteristic response to disablement, it was argued that they were not directly precipitated by impairment, but rather by the individual's beliefs regarding his disablement.

Whilst most of the findings in the present study are inconsistent with the majority of the research findings to date, it must be emphasised that much of the historical and contemporary research has been conducted either with restricted subject samples or institutionalised disabled subjects, and in a different cultural milieu. However, we can on the basis of this present investigation conclude that:

(1) The body-image and self-concept of able-bodied and disabled subjects have a common formal structure (Chapter 7, 8), but a different content which is disease-specific for disabled subjects (Chapter 8).

(2) The body-image and self-concept are hierarchically organised both in terms of degree of internalisation (Chapter 7) and bodily experience (Chapter 11).

(3) Body-image and self-concept are not unitary concepts, but rather complex entities of a multifactorial origin (Chapter 7, 10).

(4) An increase in body or self anxiety is not associated with disablement, but disabled subjects centred anxiety in areas of pathology (Chapter 8).

(5) Decreased bodily satisfaction and decreased anxiety are associated in the body-images of both normal and disabled subjects (Chapter 7, 8).

(6) The tripartite theory of body-perception is equally applicable to both disabled and able-bodied persons (Chapter 7, 8),

and that inferred concepts should be considered in any future consideration of self-theory.

However, in accord with Marks (1965, 111), the possibility remains that greater body/self anxiety could conceivably be common to the disabled as compared with normals, but which remained obscure and undetected in the present study by yielding less discriminating response patterns.

The majority of studies almost intuitively accord the disabled a "distorted" body-image, or at the very least one that should be easily identified as different from normals. However, on the basis of this research this would appear to be far from the case since (1) a difference does not imply distortion, and (2) some disabled subjects manifest "normal" adjustment. Researchers seem to have overlooked the fact that error is inherent in body-image perception (Nash, 1969a and b), since no perception can be absolute but only an approximation which may be modified and/or confirmed. Despite this rationale, changes in body-image, which are an expected accompaniment of disablement, by way of increased awareness and somatic preoccupation, are still referred to as "distortions".

12.3 TRIPARTITE THEORY OF BODY-PERCEPTION

In light of the earlier conceptual discussion and empirical findings, it is evident that an emerging theoretical perspective may be discerned. The tripartite theory of body perception, in drawing upon the study of the different disability groups, offers a speculative, but nonetheless useful, frame of reference for

interpreting studies on body perception as well as helping the clinician to better understand the consequences of physical disability upon body-image and the implications for rehabilitation.

This theoretical approach to body-perception embodies three different body-images:

(1) Ideal body-image: This is what its name suggests. It is an idealised representation of the "body beautiful" and provides the standard for evaluating or assessing one's own and other people's bodies.

(2) Inferred body-image: This image contains all the information ever absorbed about one's body, the acceptable parts of which may be accessible to the conscious mind and actual image, and the rest of which becomes repressed into the subconscious. Thus, the conscious mind acts as a filter or safety valve, selectively rejecting that information regarded as threatening or unacceptable. The part of the inferred image that is repressed is very much the private component.

(3) Actual body-image: This comprises those acceptable components of the inferred body-image together with those aspects of the ideal body-image which can be attained such that there is an attempt to match the actual body-image with the ideal as closely as possible. It is the actual body-image which is projected in public.

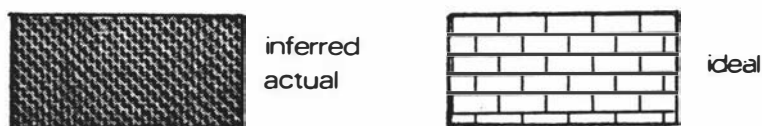
A variety of different relationships may be postulated to theoretically exist between the inferred, ideal and actual body-images based on the findings of the present research (Chapter 8, 9)

(1) Theoretical perfect: in which there is a perfect co-incidence

of all three body-images. As an example, one might think of the body-images of the early Greeks often embodied in marble statues.

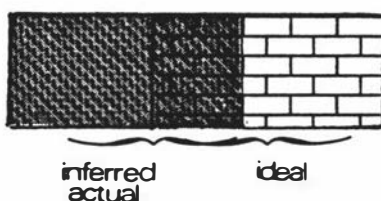


(2) Theoretical adjustment: in which there is a separation of the inferred and the ideal, such that the actual coincides with the inferred.



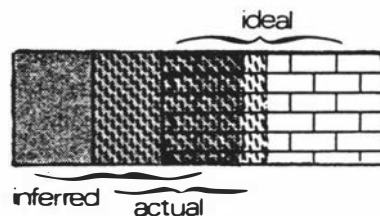
Here, the person sees himself in the inferred, accepts the inferred as the real, and does not distort his body-image towards his ideal body-image. The inferred is identical with the actual, thus there is no false-consciousness.

(3) Possible adjustment: in which there is an intersection of the inferred and the ideal body-images, such that some features are common to both, and the actual coincides with the inferred.



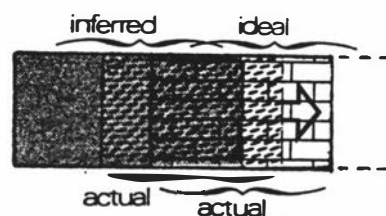
Any ideal component is included not because it is strived for, but rather because some aspects of the ideal may have identity with some aspects of the inferred.

(4) Normal: in which there is an intersection of the inferred and the ideal body-images, such that the actual body-image is not co-incident with the inferred, and also includes some of the ideal not coincidental with the inferred.



The actual body-image includes those aspects of the the inferred body-image accepted and approved of, (while the rest of the inferred is suppressed), plus those aspects of the ideal body-image which are attainable. There are moves to make the actual more like the ideal than the inferred.

(5) Possible maladjustment: in which there is an attempt to separate the inferred and the ideal body-images, such that the actual coincides with the ideal as much as is possible.



There is considerable false-consciousness as the inferred body-image is no longer identical with the actual, and the actual, not the inferred, is the body-image which is projected in public. Rather, the actual masks the inferred. While the inferred remains as the inferred (but hidden, known only to the person), the actual becomes the pseudo-inferred, projected in public, but this can be stripped away to reveal the inferred.

With a disabled person, the inferred body-image may be unacceptable, and thus be suppressed, to be supplanted by an actual body-image, one that he is more secure with and which is less threatening. As such, there is an attempt to make the actual body-image as much like the ideal body-image as possible. In day to day living, the disabled person will project the actual, distorted body-image, and will come to believe that this is his real (i.e. inferred) body-image. On occasions, the false-consciousness may be revealed to the disabled person (e.g. under stress, hypnosis).

(6) Theoretical maladjustment: in which there is a complete separation of the inferred and the ideal body-images, such that the actual coincides with the ideal.



As an example, one might think of extremely severe paranoid

schizophrenia (rare) where the delusions suffer little deterioration and are persistent, being strongly defended by the patient.

The body-images are not just singular entities, rather, each provides a cognitive framework consisting of a number of organised ideas or schemes. These schemes also act as a frame of reference for recording events or data and each has a memory. The inferred body-image is, in part, similar to Freud's id. It is indiscriminate in what it absorbs and only has conscious expression in the outside world by means of that part absorbed by the actual body-image.

In the normal course of events, the inferred body-image must undergo constant revision in accordance with the beliefs, values and attitudes expressed towards particular body parts (Simmel, 1956, 536-7) and in accordance with normal developmental changes in bodily appearance (Chapter 3). Acceptable aspects of such changes will be assimilated by the actual body-image which then accommodates itself accordingly to fit this new knowledge, and adaption to the new situation is thereby completed. It may well be that those changes in actual body-image always lag somewhat behind the current realities contained within the inferred body-image, perhaps because this type of learning or progression takes time and is one of small incremental adjustments. Generally speaking, within the limits of this small lag, the actual body-image can keep up with any slow progressive changes of the inferred body-image, whether due to the normal aging process, chronic organic illness or gradual absorption, as in leprosy (Simmel, 1956). In this event, the actual body-image appears able to absorb various perceptual and

learning processes associated with progressive changes in the inferred body-image. In this respect, the cognitive experience of the individual is of utmost importance in aiding gradual change.

One would expect the discrepancy between the inferred and actual body images to be too small to be noticed under normal conditions. In a similar vein, a large difference between the ideal and actual body-images would be considered normal, but too small a discrepancy would be indicative of psychological maladjustment (Shakespeare, 1975). If a person suffers severe, even life-threatening trauma (e.g., amputation, quadraplegia), there exists a discrepancy between the cognitive aspects of the actual body-image and physical reality as presented in the inferred body-image; the actual body-image cannot keep pace with the radical changes of the inferred. Accordingly, the former actual body-image endures and is persistent over time. Thus, such traumas pose a threat to the continual existence of the firmly established actual body-image. Only by the selective assimilation into the actual of acceptable components of the inferred may the conflict or large discrepancy between the two body-images be resolved. An individual may not be able, or may not wish, to accept all the information contained within the inferred body-image (Chapter 9), but the dissonance existing between the inferred and actual body-images has to be resolved. For example, in the case of sudden amputation, the phantom comes into existence within the inferred body-image, thus providing resolution for the conflict. The sensory and motor sensations of the former limb, maintained in the actual image are then transferred to the inferred phantom. In such a way, the continued perception of a missing body part enables the

actual body-image to persist. Gradual alteration in the phantom over time reflects the incremental changes necessitated in the actual body-image by the inferred. The reason for this progressive alteration of the actual body-image does not lie in the realisation of the physical loss, but rather upon the symbolic meaning the physical change comes to have for the individual in terms of the content of the actual body-image or '... features intrinsic to the schema itself.' (Simmel, 1956, 537). The phantom itself becomes part of the inferred body-image (i.e., accepted by the actual so as to minimise the change in the latter). Thus, it would seem that in accord with Simmel (1956), the changes which the actual body-image undergoes as a result of disability are initially in the direction of the lived phenomenal experience of the disability rather than in the direction of altered physical reality. The more disagreeable and negative the change in the inferred body-image, the greater the degree of resistance will be to incorporating such changes into the actual body-image. Similarly, modification of the actual body-image becomes more difficult in cultures where a high value is placed upon the "body beautiful" and where psychological conflict is not accepted as part of life (Chapter 8).

12.4 IMPLICATIONS OF THE TRIPARTITE THEORY FOR FUTURE STUDY

The tripartite theory of body perception provides an over-arching theoretical framework within which the earlier and largely disparate studies on body-image can be interpreted and incorporated into a more coherent conceptual-empirical scheme. How this can be achieved may be considered in the following examples.

Evidence for the existence of the (subconscious) inferred and (conscious) actual body-images was provided initially by Bierman et al (1958) who reported a limited conscious body-image disturbance, and also a considerably greater body-image disturbance manifest in projective measures, existing at the same time in a six year old, male polio victim. Their study clearly indicates the presence of an inferred, suppressed body image and a different actual one which was projected and used in public to conceal bodily concern.

Several tasks remain for future inquiry and development. One of the first is to refine the Body Cathexis scale further for assessing body-image functions at the three levels of experience (i.e., inferred, actual, ideal) used in this study. Further analysis of the relative satisfaction of factorial dimensions extracted by factor analysis may aid the development of more specific intervention programmes designed to best meet the individual's needs.

The restrictive nature of the ideal body-image (Chapter 7) and the failure to substantiate the relationship between body-image and self-concept characteristic of earlier research requires that this be investigated further. Only replication studies combined with a more rigorous philosophical analysis of psychological concepts may

help to clarify this area of personality research.

Since the body-images of New Zealanders were shown to have little similarity with those of other Western cultures, it would appear that the foundation for rehabilitative decision-making in New Zealand, being based on data from studies conducted in other Western countries, is not only distorting, but may be inappropriate and could generate unrealistic practices within rehabilitation programmes. Such a difference is fundamental for those working with the disabled and in rehabilitation research where cross-cultural differences have received little attention. Only more detailed analysis of both perceptual and conceptual processes of those within New Zealand can help put rehabilitation within its correct perspective (i.e., that of its own culture).

Quite what is related to one's body and what is not is dependent upon physiological fact (i.e., information gained from the proprioceptive branch of the afferent nervous system (Hamilton, 1974, 80). Accordingly, it might reasonably be argued that bodily preoccupation is not an obsession which is restricted to the disabled alone. A more detailed analysis of the relative satisfaction of the Body Cathexis scale content and of the associated anxiety indicators would aid clarification here.

Further surveys and normative studies are required to help identify and specify the frequency of occurrence of various types of body-image disorders in pathological states. Certainly the degree of commonality between individuals experiencing incapacitating and distressful disabilities suggested (Chapter 8) is in need of further investigation and clarification.

The absence of an association between disability-type and

adjustment mode (Chapter 9) suggested that the way in which individuals react psychologically to disablement does not stem directly from the disablement itself. Whether, in accord with Barker et al (1953) and Mayerson (1955), the coping strategy adopted depends upon the individual's acceptance of the reaction of, or devaluation by, others who Shontz (1974) considered judge the disabled as inferior because they lack tools of adjustment which society requires them to possess, or upon other emotional factors perhaps dependent upon the maturation of the body-image at the time of disablement (Prosen, 1965). Since immaturities of the body-image can hinder rehabilitation by influencing the reaction of the disabled person, and rehabilitation cannot occur until the body-image adjusts to encompass the disablement (Prosen, 1965; Brown, 1977a), there is an urgent need for future research to investigate further the association between body-image configuration, as given by the tripartite theory, and coping strategies adopted by the disabled.

The identification of 4 discrete modes of adjustment (Chapter 9) whilst validating constructs suggested by the tripartite theory, because of the variability of responses to the measures, at this stage the theory could not be used on its own to identify styles of adjustment in practice. It is for future research to expand upon and refine the application of the measure, not only by seeking to identify further types of adjustment which could conceivably be manifest amongst the many disabled subjects excluded from the present analysis, but also by providing templates for the analysis of the different types of adjustment which the present study suggests could be possible.

Whilst it was acknowledged that the notion of body-image disturbance is central to disablement as it relates to present body-image theory, it was evident (Chapter 10) that such theory is either extremely confused or incorrect and thus require more detailed analysis. The proposal that it is the individual's attitude towards his disablement which is considered to influence body-image disturbance, and is reflected in differential body-image content is certainly worthy of further investigation. Finally, new approaches to the solution of body-image problems should be developed and evaluated, and treatment alternatives elaborated on the basis of such findings.

12.5 RECOMMENDATIONS FOR HELPING THE DISABLED

One of the central problems facing the disabled today is that while non-disabled people (e.g., physician, spouse) can understand the physical aspects of disability, it becomes more problematic as to whether they are able to decide how the disabled person ought to be rehabilitated, since rehabilitation is largely dependent upon the interpretation and meaning of the disability to the disabled person. Clearly, there is a complex interaction between emotional factors, disablement and response to rehabilitative treatment about which we still have a great many more questions than answers. However, now that behavioural research into rehabilitation has become popular, it is perhaps realistic to expect changes, not only in practice but also in the training of rehabilitation

professionals.

In terms of physical appearance, body-image is an important stimulus for others, but for the disabled it can often be a stigma (Walster et al, 1960). In a similar fashion the disabled person may be limited in showing his individuality via his body. Since difficulties in motivating the physically disabled to take an active part in their own rehabilitation are frequently seen as stemming from disturbances in body-image, then a knowledge of what constitutes a normal body-image for the disabled would not only enable the clinician to identify and predict disturbance causing distress in an effort to assist the individual in his coping with impairment, but would also enable the disabled person adjust himself to physical disablement by readjusting his body-image. As Prosen (1965, 1262) made clear, 'the crippling seen after physical injury may be that of body-image rather than that of the physical body'. By thus reducing the psychological handicapping effect of disablement, we would not only be aiding the rehabilitation of the disabled, but also their right to social equality as outlined in a recent charter presented to the General Assembly of the United Nations (Cunniffe, 1980). Those disabled persons in New Zealand must be regarded as normal members of the community and not as a group separate from it.

If, as was suggested in Chapter 9, it is the individual's beliefs about his disability which intervene and help form his emotional response, then it is evident that for the disabled person feelings may constitute a greater handicap than his physical impairment. Accordingly, rehabilitation must be directed at both the body-image and physical disability, and emotional disturbance

following body trauma should be expected and its absence considered abnormal. However, only when "health education" seeks to teach the communication of emotions in psychological, as opposed to somatic, terms will the cost of secondary/tertiary problems in "ill-health" be reduced in New Zealand, thus reducing the total health expenditure from \$1.8 billion (i.e., 12% of the estimated Government expenditure for the year ending 31 March 1983), and related social welfare benefits from 22% New Zealand Government, 1982, 8-10).

It is the authors belief that the remaking of body-image after trauma equals rehabilitation. For a disabled individual to regain a favourable body-image requires that they have knowledge of the alternatives open to them to surmount things that they have lost and that they see themselves again as sexual human beings with the potential of leading a satisfying life.

In conclusion, the findings of this investigation suggest that rehabilitation should address itself not only to the physical disability but also to the body-image and associated emotional disturbance following body trauma.

APPENDIX A
CASE STUDIES

CASE HISTORY 1

CASE HISTORY. A skilled aircraft engineer suffered a compression fracture (T 12) at age 32 years in a motorcycle accident as he was leaving the driveway of his home. He was married with 2 young children. He had not had to change his occupation as a result of the injury, but felt that the lack of understanding, especially of the difficulties he had in coping with his bowels and bladder would diminish his chances of professional advancement. When interviewed 2 years after the accident, his situation was clearly very stressful to him. Although happy with his marriage, and able to walk, albeit with pressure sores on his toes and the outside of his feet, he was very anxious and admitted to being '...depressed from time to time... (and) ... having a fear of the future.'. These appeared to have their basis in the difficulties he had in coping with elimination, and his periodically diminished sex drive and sexual problems which were still current. He was unable to achieve orgasm which previously had been very important to him. As a result he showed a great dislike of his sex organs and felt that he would never be able to relate to, or satisfy his wife in a sexual relationship. His wife was understanding, although her husband's frustrations were clearly a source of great concern. The couple had received no supportive counselling which appeared wanting.

CASE HISTORY 2

CASE HISTORY. A 39 year-old woman had suffered MS since the age of 24. She had unhappy relationships with her parents, who separated when she was 12. She was a nervous child, and at first did badly at school, but later gained confidence and passed School Certificate, but was unable to continue her education because of her deteriorating health, the dominating symptoms being pain, difficulty in walking, and fatigue for which physicians were unable to provide a diagnosis. During her adolescent years she lived with her Grandmother, of whom she was especially fond, but gradually withdrew from social encounters, eventually becoming a social isolate. With hindsight, she recalls these very lonely years, and explains her withdrawal as self-punishment for her "neurotic behaviour". She began to think increasingly badly of herself to the point where she indulged in self-destructive activities (scraping ventral bodily surfaces and self-poisoning), especially after an enjoyable experience, as if she were unworthy of it. Similarly, she blamed herself for her Grandmother's sudden death, and recalled her Grandmother's last words as if they reinforced her delaterious image of herself. After the bereavement, her mental and physical health declined rapidly. She rarely ventured out, finding excuses if her health was satisfactory. The same symptoms continued to dominate her life, and she was unable to understand what was wrong. Physicians seemed to consider her neurotic. As if to fulfill this prophecy, she began to develop

suicidal tendencies, and was hospitalised twice following overdoses. At 20 years she sought employment, and although offered many jobs seemed unable to remain in employ for very long, usually handing in her resignation, sometimes only after a couple of hours, either because she felt the job was too much for her, or that her ill-health would eventually lead to her dismissal. Although she had a few friends, she still remained lonely and isolated. Bitter as a consequence of her ill-health, she came to regard herself as a failure; the sense of failure became so powerful that the actions of herself and those around her took on a particular significance. She began to set herself goals beyond her physical ability, which when not accomplished reinforced her feelings of inadequacy. Likewise, she came to regard what others said and did within a framework of criticism and unfair competition where she could never win. Thus, by twisting the words and deeds of others to fit her own conception of herself, she continually strengthened her distorted self-image. She spent her 21st birthday alone, and refused to let anyone celebrate it with her. Not long afterwards, as if to punish herself further, she "killed-off" her fiance, who had existed in her "actual reality" and had provided great comfort at times of stress, especially after her Grandmother's death. It was at this time that she took a near-fatal overdose and was found unconscious in the kitchen of her flat. Her GP was very supportive, but the psychiatrist to whom she was referred considered specialist help unwarranted. To recover from her "grief" she spent some months with her Mother, of whom she was scared. She tried to appear healthy, but in actuality was deteriorating rapidly physically. Her vision became blurred, her gait more unsteady, and even the simplest tasks became difficult. Not only could she no longer understand the apparently "cruel" motives of others, but they could not understand the self-destructive nature of her interactions with them. She became clearly anxious, very unhappy, and rarely went out. She would sit for hours staring into space (a behaviour which distressed her Mother deeply), and showed little interest in anything. Eventually, at age 24 she was seen by a neurologist who confirmed a diagnosis of MS, and provided much support. Over the next year she became less anxious, more confident, found employment and left home, although resident in the same town as her Mother. Two years later she married, and quickly had two children. The disease continued to be gradually progressive, but her husband and neurologist continued to be supportive. Her self-destructive tendencies disappeared and she is now able to talk openly about the reality she built up for herself. Thirteen years later, she is severely handicapped by MS, but remains alert and articulate, and would like to do State examinations.

APPENDIX B

INDEX OF VARIABLE ABBREVIATIONS

INDEX

(1)HANDS:	hands	(24)FEET:	feet
(2)BREATH:	breathing	(25)SLEEP:	sleep
(3)WAIST:	waist	(26)VOICE:	voice
(4)ENERGYL:	energy level	(27)HEALTH:	health
(5)BACK:	back	(28)SACTIV:	sex activities
(6)NECK:	neck	(29)KNEES:	kness
(7)SHHEAD:	shape of head	(30)POSTURE:	posture
(8)BOBUILD:	body build	(31)FACE:	face
(9)PROFILE:	profile	(32)WEICHT:	weight
(10)HEIGHT:	height	(33)SEX:	sex
(11)AGE:	age	(34)BHEAD:	back view of head
(12)WIDSHOU:	width of shoulders	(35)HAIR:	hair
(13)ARM:	arms	(36)FCOMPL:	facial complexion
(14)CHEST:	chest or breasts	(37)APPET:	appetite
(15)APEYE:	appearance of eyes	(38)NOSE:	nose
(16)DIGEST:	digestion	(39)FINGERS:	fingers
(17)HIPS:	hips	(40)ELIM:	elimination
(18)SKTEXT:	skin texture	(41)WRIST:	wrists
(19)LIPS:	lips	(42)EAR:	ears
(20)LEGS:	legs	(43)CHIN:	chin
(21)SORG:	sex organs	(44)EXERCIS:	exercise
(22)APTH:	appearance of teeth	(45)ANKLES:	ankles
(23)FHEAD:	forehead	(46)TRUNK:	trunk
(47)PSTAM:	physical stamina	(6)GENTLE:	gentle-mild
(48)MSTREN:	muscular strength	(7)VALUABL:	valuable-worthless
(49)KSENCE:	keenness of senses	(8)RELAXED:	relaxed-tence
(50)TOLPAIN:	tolerance for pain	(9)MILD:	mild-intense
(51)RESILL:	resistance to illness	(10)PLEAS:	pleasant-unpleasant
(52)SDRIVE:	sex drive	(11)KIND:	kind-cruel
(1)FORMAL:	formal-informal	(12)DEFIN:	definite-uncertain
(2)BEAUT:	beautiful-ugly	(13)STRONG:	strong-weak
(3)LARGE:	large-small	(14)GOOD:	good-bad
(4)EXCIT:	excitable-calm	(15)FAIR:	fair-unfair
(5)ACTIVE:	active-passive	(16)FORT:	fortunate-unfortunate

(numbers in partheses = order of presentation on forms)

APPENDIX C

ANXIETY INDICATOR, BODY AND SELF-CATHEXIS SCORES

ABLE-BODIES SUBJECTS

INDEX

bc1: inferred body-cathexis bAI1: inferred anxiety indicator
bc2: actual body-cathexis bAI2: actual anxiety indicator
bc3: ideal body-cathexis bAI3: ideal anxiety indicator
sC1: inferred self-cathexis sAI1: inferred anxiety indicator
sC2: actual self-cathexis sAI2: actual anxiety indicator
sC3: ideal self-cathexis sAI3: ideal anxiety indicator
missing observations = 0
valid observations = 100

BODY AND SELF-CATHEXIS SCORES AND BODY AND SELF ANXIETY
INDICATOR SCORES

BODY AND SELF-CATHEXIS SCORES BODY AND SELF ANXIETY
INDICATOR SCORES

<u>GROUP</u> (N=100)		<u>GROUP</u> (N=100)	
BI1(bc1)	4.28	BI1(bAI1)	3.97
BI2(bc2)	4.20	BI2(bAI2)	3.79
BI3(bc3)	5.03	BI3(bAI3)	4.53
SC1(sC1)	3.28	SC1(sAI1)	2.45
SC2(sC2)	3.29	SC2(sAI2)	2.38
SC3(sC3)	2.45	SC3(sAI3)	1.45
<u>MALES</u> (N=50)		<u>MALES</u> (N=50)	
BI1(bc1)	4.36	BI1(bAI1)	4.04
BI2(bc2)	4.29	BI2(bAI2)	3.90
BI3(bc3)	5.16	BI3(bAI3)	4.72
SC1(sC1)	3.24	SC1(sAI1)	2.42
SC2(sC2)	3.30	SC2(sAI2)	2.37
SC3(sC3)	2.46	SC3(sAI3)	1.55
<u>FEMALES</u> (N=50)		<u>FEMALES</u> (N=50)	
BI1(bc1)	4.18	BI1(bAI1)	3.78
BI2(bc2)	4.10	BI2(bAI2)	3.59
BI3(bc3)	4.68	BI3(bAI3)	4.45
SC1(sC1)	3.34	SC1(sAI1)	2.47
SC2(sC2)	3.28	SC2(sAI2)	2.40
SC3(sC3)	2.44	SC3(sAI3)	1.34

CONTENT OF ANXIETY INDICATOR FOR SELF-CONCEPT

<u>GROUPS</u>		<u>MALES</u>		<u>FEMALES</u>	
SC1	pleasant kind good fair	SC1	pleasant kind good fair	SC1	pleasant kind good fair
SC2	pleasant kind good fair	SC2	pleasant kind good fair	SC2	pleasant kind good fair
SC3	pleasant kind good fair	SC3	pleasant kind good fair	SC3	pleasant kind good fair

CONTENT OF ANXIETY INDICATOR FOR BODY-IMAGE

<u>GROUP</u>		<u>MALES</u>		<u>FEMALES</u>	
BI1	WAIST BACK NECK PROFILE HIPS LIPS LEGS APTH KNEES WEIGHT NOSE CHIN TRUNK	BI1	WAIST BACK AGE DIGEST LIPS KNEES POSTURE WEIGHT BHEAD FCOMPL NOSE EARS TRUNK	BI1	HANDS WAIST BACK NECK BOBUILD PROFILE HIPS LEGS APTH KNEES WEIGHT NOSE TRUNK
BI2	WAIST BACK NECK BOBUILD PROFILE AGE HIPS LEGS APTH KNEES WEIGHT NOSE TRUNK	BI2	WAIST BACK BOBUILD AGE DIGEST APTH KNEES POSTURE WEIGHT BHEAD NOSE EARS TRUNK	BI2	WAIST ENERGL BACK NECK BOBUILD PROFILE HIPS LEGS KNEES FACE WEIGHT NOSE TRUNK
BI3	HANDS BACK NECK PROFILE AGE	BI3	HANDS WAIST BACK NECK SHHEAD	BI3	HANDS BACK NECK PROFILE AGE

GROUP		MALES		FEMALES	
B13	WIDSHOU	B13	AGE	B13	WIDSHOU
	HIPS		ARM		HIPS
	FHEAD		FHEAD		FHEAD
	KNEES		KNEES		FEET
	BHEAD		BHEAD		KNEES
	WRIST		WRIST		BHEAD
	ANKLES		CHIN		WRIST
	TRUNK		ANKLES		TRUNK

APPENDIX D

ANXIETY INDICATOR, BODY AND SELF-CATHEXIS SCORES

DISABLED SUBJECTS

INDEX

bC1: inferred body-cathexis bAI1: inferred anxiety indicator
 bC2: actual body-cathexis bAI2: actual anxiety indicator
 bC3: ideal body-cathexis bAI3: ideal anxiety indicator
 sC1: inferred self-cathexis sAI1: inferred anxiety indicator
 sC2: actual self-cathexis sAI2: actual anxiety indicator
 sC3: ideal self-cathexis sAI3: ideal anxiety indicator
 QUAD:quadraplegia DISAB:disabled Ss
 MS: multiple sclerosis PARA: paraplegia
 SCI: spinal cord injury RA: rheumatoid arthritis
 missing observations = 0
 valid observations = 285

BODY AND SELF-CATHEXIS SCORES

<u>GROUPS</u>	DISAB	SCI	QUAD	PARA	MS	RA
	(N=285)	(N=96)	(N=37)	(N=59)	(N=94)	(N=95)
BI1(bC1)	4.32	4.47	4.38	4.45	4.42	4.03
BI2(bC2)	4.24	4.36	4.36	4.38	4.31	4.07
BI3(bC3)	5.91	5.86	6.15	5.68	6.18	5.68
SC1(sC1)	3.31	3.27	3.39	3.19	3.41	3.27
SC2(sC2)	3.22	3.31	3.17	3.09	3.31	3.17
SC3(sC3)	2.36	2.37	2.44	3.32	2.32	2.32
<u>MALES</u>						
	(N=124)	(N=71)	(N=30)	(N=41)	(N=34)	(N=19)
B11(bC1)	4.39	4.34	4.34	4.34	4.64	4.21
BI2(bC2)	4.32	4.33	4.33	4.35	4.43	4.12
BI3(bC3)	5.96	5.89	5.68	6.14	6.35	5.48
SC1(sC1)	3.29	3.29	3.21	3.40	3.37	3.18
SC2(sC2)	3.18	3.14	3.10	3.17	3.41	2.97
SC3(sC3)	2.41	2.37	2.34	2.42	2.55	2.35
<u>FEMALES</u>						
	(N=161)	(N=25)	(N=7)	(N=18)	(N=60)	(N=76)
BI1(bC1)	4.24	4.71	4.62	4.71	4.28	4.07
BI2(bC2)	4.16	4.46	4.35	4.50	4.22	4.03
BI3(bC3)	5.87	5.80	6.19	5.65	6.13	5.73
SC1(sC1)	3.35	3.21	3.36	2.90	3.41	3.30
SC2(sC2)	3.24	3.10	3.15	3.08	3.35	3.22
SC3(sC3)	2.31	2.38	2.49	2.33	2.32	2.31

BODY AND SELF ANXIETY INDICATOR SCORES

<u>GROUPS</u>	DISAB	SCI	QUAD	PARA	MS	RA
	(N=285)	(N=96)	(N=37)	(N=59)	(N=94)	(N=95)
BI1(bAI1)	3.69	3.74	3.61	3.69	3.72	3.35
BI2(bAI2)	3.59	3.64	3.54	3.54	3.75	3.27
BI3(bAI3)	5.68	5.64	5.90	5.40	5.92	5.39

	DISAB	SCI	QUAD	PARA	MS	RA
SC1(sAI1)	2.30	2.50	2.48	2.39	2.34	2.16
SC2(sAI2)	2.21	2.19	2.20	2.16	2.27	2.11
SC3(sAI3)	1.48	1.49	1.52	1.45	1.58	1.35

MALES

	(N=124)	(N=71)	(N=30)	(N=41)	(N=34)	(N=19)
BI1(bAI1)	3.67	3.71	3.64	3.59	4.05	3.45
BI2(bAI2)	3.74	3.66	3.53	3.55	3.74	3.42
BI3(bAI3)	5.74	5.66	5.46	5.90	6.12	5.14
SC1(sAI1)	2.49	2.50	2.42	2.53	2.60	2.26
SC2(sAI2)	2.31	2.25	2.25	2.23	2.54	2.07
SC3(sAI3)	1.63	1.51	1.50	1.53	1.82	1.45

FEMALES

	(N=161)	(N=25)	(N=7)	(N=18)	(N=60)	(N=76)
BI1(bAI1)	3.53	3.70	3.66	3.82	3.50	3.27
BI2(bAI2)	3.45	3.52	3.29	3.49	3.41	3.36
BI3(bAI3)	5.57	5.44	5.81	5.16	5.78	5.42
SC1(sAI1)	2.13	2.07	2.03	2.09	2.18	2.14
SC2(sAI2)	2.10	2.02	2.07	2.00	2.12	2.11
SC3(sAI3)	1.33	1.39	1.39	1.34	1.33	1.31

CONTENT OF ANXIETY INDICATOR FOR SELF-CONCEPT

	DISAB	SCI	QUAD	PARA	MS	RA
<u>GROUPS</u>						
SC1	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair
SC2	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair	gentle kind good fair	gentle kind good fair
SC3	pleasant kind fair fortunate	kind strong fair fortunate	valuable kind fair fortunate	kind strong fair fortunate	pleasant good fair fortunate	pleasant kind fair fair
<u>MALES</u>						
SC1	pleasant kind good fair	pleasant kind good fair	kind strong good fair	pleasant kind definate fair	pleasant kind good fair	kind definate good fair
SC2	gentle kind good fair	pleasant kind good fair	pleasant kind good fair	gentle kind good fair	gentle kind good fair	kind definate good fair

	DISAB	SCI	QUAD	PARA	MS	RA
SC3	pleasant strong fair fortunate	kind strong fair fortunate	kind strong fair fortunate	kind strong fair fortunate	pleasant strong good fortunate	pleasant kind definate fair

FEMALES

SC1	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair
SC2	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair	pleasant kind good fair	gentle kind good fair	pleasant kind good fair
SC3	pleasant kind good fair	valuable kind fair fortunate	valuable pleasant kind fair	valuable kind fair fortunate	pleasant kind good fair	pleasant kind good fair

CONTENT OF ANXIETY INDICATOR FOR BODY-IMAGE

	DISAB	SCI	QUAD	PARA	MS	RA
<u>GROUPS</u>						
BI1	ENERGYL LEGS FEET SACTIV KNEES POSTURE FINGERS ELIM EXERCIS ANKLES TRUNK PSTAM MSTREN	WAIST BACK HIPS LEGS SORG FEET SACTIV KNEES POSTURE ELIM EXERCIS ANKLES TRUNK	HANDS LEGS FEET SACTIV KNEES POSTURE FINGERS ELIM WRIST EXERCIS ANKLES TRUNK MSTREN	WAIST BACK LEGS SORG APTH FEET SACTIV KNEES POSTURE WEIGHT ELIM ANKLES TRUNK	ENERGYL LEGS FEET SACTIV KNEES POSTURE ELIM EXERCIS ANKLES TRUNK PSTAM MSTREN SDRIVE	LEGS FEET HEALTH SACTIV KNEES POSTURE WEIGHT FINGERS WRIST EXERCIS ANKLES PSTAM MSTREN
BI2	HANDS ENERGYL LEGS FEET SACTIV KNEES POSTURE FINGERS ELIM EXERCIS ANKLES PSTAM	WAIST BACK HIPS LEGS SORG FEET SACTIV KNEES POSTURE ELIM EXERCIS ANKLES	HANDS WAIST ARM LEGS FEET SACTIV POSTURE FINGERS ELIM WRIST ANKLES TRUNK	WAIST BACK HIPS LEGS SORG FEET SACTIV KNEES POSTURE WEIGHT ELIM EXERCIS	WAIST ENERGYL LEGS FEET SACTIV KNEES POSTURE ELIM EXERCIS ANKLES PSTAM MSTREN	HANDS ENERGYL NECK LEGS FEET HEALTH SACTIV KNEES FINGERS WRIST EXERCIS ANKLES

	DISAB	SCI	QUAD	PARA	MS	RA
	MSTREN	TRUNK	MSTREN	ANKLES	SDRIVE	MSTREN
B15	WAIST	BACK	WAIST	WAIST	WAIST	HANDS
	BACK	AGE	SHHEAD	BACK	NECK	WAIST
	SHHEAD	DIGEST	HIPS	AGE	SHHEAD	SHHEAD
	WIDSHOU	HIPS	SACTIV	DIGEST	WIDSHOU	HEIGHT
	ARM	SORG	KNEES	HIPS	SORG	WIDSHOU
	SORG	FHEAD	POSTURE	LEGS	FHEAD	ARM
	FHEAD	FEET	BHEAD	FEET	SACTIV	SORG
	SACTIV	KNEES	APPET	KNEES	BHEAD	FHEAD
	BHEAD	BHEAD	NOSE	BHEAD	NOSE	SACTIV
	NOSE	APPET	ELIM	APPET	EAR	BHEAD
	EAR	EAR	EAR	WRIST	CHIN	CHIN
	CHIN	CHIN	CHIN	EAR	SDRIVE	TRUNK
	SDRIVE	ANKLES	FHEAD	CHIN	ARM	SDRIVE

MALES

BI1	WAIST	WAIST	WAIST	HANDS	ENERGYL	PROFILE
	SORG	HIPS	HIPS	LEGS	LEGS	LEGS
	FEET	LEGS	LEGS	SORG	SORG	FEET
	SACTIV	SEX	SORG	FEET	FEET	SACTIV
	KNEES	FEET	APTH	KNEES	HEALTH	KNEES
	POSTURE	SACTIV	FEET	POSTURE	SACTIV	POSTURE
	WEIGHT	KNEES	SACTIV	FINGERS	KNEES	WEIGHT
	ELIM	POSTURE	KNEES	ELIM	POSTURE	NOSE
	EXERCIS	ELIM	POSTURE	WRIST	ELIM	FINGERS
	ANKLES	EXERCIS	WEIGHT	EXERCIS	EXERCIS	WRIST
	TRUNK	ANKLES	ELIM	ANKLES	ANKLES	ANKLES
	PSTAM	TRUNK	ANKLES	MSTREN	PSTAM	PSTAM
	MSTREN	MSTREN	TRUNK	TRUNK	MSTREN	MSTREN
BI2	ENERGYL	WAIST	WAIST	HANDS	ENERGYL	HANDS
	BACK	BACK	ENERGYL	WAIST	LEGS	BACK
	LEGS	HIPS	BACK	ARM	SORG	NECK
	FEET	LEGS	HIPS	LEGS	FEET	ARM
	SACTIV	SORG	LEGS	FEET	HEALTH	LEGS
	KNEES	FEET	SORG	SACTIV	SACTIV	FEET
	POSTURE	SACTIV	FEET	POSTURE	KNEES	HEALTH
	FINGERS	KNEES	SACTIV	FINGERS	POSTURE	SACTIV
	ELIM	POSTURE	KNEES	ELIM	EXERCIS	KNEES
	EXERCIS	WEIGHT	POSTURE	WRIST	ANKLES	FINGERS
	ANKLES	FINGERS	WEIGHT	ANKLES	PSTAM	WRISTS
	PSTAM	ELIM	ELIM	TRUNK	MSTREN	ANKLES
	MSTREN	ANKLES	ANKLES	MSTREN	SDRIVE	MSTREN
BI3	WAIST	WAIST	BACK	WAIST	HANDS	HANDS
	BACK	BACK	DIGEST	SHHEAD	WAIST	WAIST
	SHHEAD	SHHEAD	HIPS	AGE	BACK	NECK
	AGE	HIPS	LEGS	HIPS	NECK	ARM
	HIPS	FHEAD	FEET	LIPS	SHHEAD	SKTEXT
	SORG	SACTIV	KNEES	FHEAD	AGE	LEGS
	FHEAD	KNEES	BHEAD	SACTIV	ARM	APTH
	FEET	BHEAD	HAIR	KNEES	SORG	FHEAD
	BHEAD	APPET	APPET	POSTURE	FHEAD	FEET

DISAB	SCI	QUAD	PARA	MS	RA
HAIR	NOSE	WRIST	BHEAD	BHEAD	FACE
NOSE	WRIST	EAR	NOSE	HAIR	CHIN
CHIN	CHIN	CHIN	ELIM	NOSE	ANKLES
ANKLES	ANKLES	ANKLES	ANKLES	CHIN	TRUNK

FEMALES

B11	ENERGYL	WAIST	HANDS	WAIST	ENERGYL	HANDS
	LEGS	BACK	BACK	BACK	LEGS	LEGS
	FEET	BOBUILD	BOBUILD	HIPS	FEET	FEET
	HEALTH	HIPS	HIPS	LEGS	SACTIV	HEALTH
	SACTIV	LEGS	LEGS	FEET	KNEES	KNEES
	KNEES	FEET	FEET	HEALTH	POSTURE	POSTURE
	POSTURE	SACTIV	SACTIV	SACTIV	ELIM	FINGERS
	FINGERS	KNEES	KNEES	KNEES	EXERCIS	WRIST
	EXERCIS	POSTURE	FINGERS	POSTURE	ANKLES	EXERCIS
	ANKLES	ELIM	ELIM	EXERCIS	TRUNK	ANKLES
	TRUNK	EXERCIS	WRIST	ANKLES	PSTAM	PSTAM
	PSTAM	ANKLES	TRUNK	BOBUILD	MSTREN	MSTREN
	MSTREN	TRUNK	MSTREN	TRUNK	SDRIVE	SDRIVE
B12	HANDS	WAIST	HANDS	WAIST	WAIST	HANDS
	ENERGYL	BACK	HIPS	BACK	ENERGYL	ENERGYL
	LEGS	HIPS	LEGS	BOBUILD	LEGS	NECK
	FEET	LEGS	KNEES	LEGS	FEET	LEGS
	SACTIV	SORG	POSTURE	SORG	SACTIV	FEET
	KNEES	FEET	WEIGHT	FEET	KNEES	HEALTH
	POSTURE	KNEES	FINGERS	SACTIV	POSTURE	KNEES
	FINGERS	POSTURE	ELIM	KNEES	ELIM	FINGERS
	ELIM	WEIGHT	WRIST	POSTURE	EXERCIS	WRIST
	EXERCIS	ELIM	EXERCIS	ELIM	ANKLES	EXERCIS
	ANKLES	EXERCIS	TRUNK	EXERCIS	TRUNK	ANKLES
	PSTAM	ANKLES	PSTAM	ANKLES	PSTAM	PSTAM
	MSTREN	TRUNK	MSTREN	TRUNK	MSTREN	MSTREN
B13	WAIST	BREATH	WAIST	BREATH	NECK	HANDS
	SHHEAD	WAIST	SHHEAD	WAIST	SHHEAD	SHHEAD
	WIDSHOU	BACK	WIDSHOU	ENERGYL	WIDSHOU	HEIGHT
	ARM	AGE	POSTURE	BACK	ARM	WIDSHOU
	CHEST	CHEST	BHEAD	AGE	CHEST	ARM
	SORG	DIGEST	F COMPL	CHEST	SORG	SORG
	FHEAD	HIPS	APPET	DIGEST	FHEAD	FHEAD
	SACTIV	LEGS	NOSE	HIPS	SACTIV	KNEES
	BHEAD	FHEAD	ELIM	LEGS	BHEAD	BHEAD
	APPET	FEET	EAR	SORG	APPET	CHIN
	EAR	BHEAD	CHIN	FEET	EAR	TRUNK
	CHIN	APPET	FHEAD	FHEAD	CHIN	SDRIVE
	SDRIVE	CHIN	SDRIVE	TRUNK	SACTIV	SACTIV

APPENDIX E

ANXIETY INDICATOR, BODY, SELF-CATHEXIS AND D-SCORES

FOR 4 TYPES OF ADJUSTMENT

(denial, change of values, maximisation of impairment, normal)

INDEX

bC1: inferred body-cathexis bAI1: inferred anxiety indicator
 bC2: actual body-cathexis bAI2: actual anxiety indicator
 bC3: ideal body-cathexis bAI3: ideal anxiety indicator
 sC1: inferred self-cathexis sAI1: inferred anxiety indicator
 sC2: actual self-cathexis sAI2: actual anxiety indicator
 sC3: ideal self-cathexis sAI3: ideal anxiety indicator
 D1:inferred-actual D-score D2: actual-ideal D-score
 D3:inferred-ideal D-score
 missing observations = 0
 valid observations = 34

BODY AND SELF-CATHEXIS SCORES AND BODY AND SELF AI SCORESBODY AND SELF CATHEXIS SCORESBODY AND SELF AI SCORESNORMAL ADJUSTMENT
(N=5)

BI1(bC1) 4.47
 BI2(bC2) 4.41
 BI3(bC3) 5.60
 SC1(sC1) 3.43
 SC2(sC2) 3.35
 SC3(sC3) 2.74

DENIAL
(N=8)

BI1(bC1) 4.49
 BI2(bC2) 4.42
 BI3(bC3) 6.00
 SC1(sC1) 3.25
 SC2(sC2) 3.10
 SC3(sC3) 2.35

MAXIMISATION OF IMPAIRMENT
(N=9)

BI1(bC1) 3.78
 BI2(bC2) 3.77
 BI3(bC3) 6.03
 SC1(sC1) 3.36
 SC2(sC2) 3.15
 SC3(sC3) 2.42

CHANGE OF VALUES
(N=14)

BI1(bC1) 4.75

NORMAL ADJUSTMENT
(N=5)

BI1(bAI1) 3.90
 BI2(bAI2) 3.60
 BI3(bAI3) 5.17
 SC1(sAI1) 2.70
 SC2(sAI2) 2.10
 SC3(sAI3) 1.55

DENIAL
(N=8)

BI1(bAI1) 3.89
 BI2(bAI2) 3.85
 BI3(bAI3) 5.53
 SC1(sAI1) 2.44
 SC2(sAI2) 2.22
 SC3(sAI3) 1.26

MAXIMISATION OF IMPAIRMENT
(N=9)

BI1(bAI1) 3.02
 BI2(bAI2) 2.95
 BI3(bAI3) 5.28
 SC1(sAI1) 2.16
 SC2(sAI2) 1.83
 SC3(sAI3) 1.28

CHANGE OF VALUES
(N=14)

BI1(bAI1) 4.10

CHANGE OF VALUES

BI2(bc2)	4.81
BI3(bc3)	5.61
SC1(sc1)	3.03
SC2(sc2)	2.76
SC3(sc3)	2.14

CHANGE OF VALUES

BI2(bAI2)	4.06
BI3(bAI3)	5.09
SC1(sAI1)	1.89
SC2(sAI2)	1.76
SC3(sAI3)	1.14

CONTENT OF ANXIETY INDICATOR FOR SELF-CONCEPT

<u>MAXIMISATION</u>	<u>VALUE CHANGE</u>	<u>DENIAL</u>	<u>NORMAL</u>
SC1 gentle pleasant good fair	SC1 pleasant kind good fair	SC1 gentle pleasant kind fair	SC1 valuable pleasant good fair
SC2 gentle kind good fair	SC2 pleasant kind good fair	SC2 valuable pleasant kind fair	SC2 kind good fair fortunate
SC3 valuable kind good fair	SC3 relaxed kind definite fair	SC3 valuable pleasant kind fair	SC3 kind good fair fortunate

CONTENT OF ANXIETY INDICATOR FOR BODY-IMAGE

<u>MAXIMISATION</u>	<u>VALUE CHANGE</u>	<u>DENIAL</u>	<u>NORMAL</u>
BI1 ENERGYL NECK BACK HIPS LEGS FEET VOICE HEALTH FINGERS ELIM WRIST ANKLES MSTREN	BI1 WAIST BACK ARM DIGEST HIPS LEGS SORG APTH SACTIV POSTURE ELIM WRIST ANKLES	BI1 WAIST BACK BOBUILD PROFILE HEIGHT LEGS FEET KNEES WEIGHT NOSE ELIM ANKLES TRUNK	BI1 WAIST DIGEST HIPS LEGS FEET KNEES FINGERS ANKLES TRUNK PSTREN SACTIV WRIST MSTREN
BI2 ENERGYL NECK HIPS LEGS FEET HEALTH FINGERS ELIM WRIST EXERCIS ANKLES	BI2 BOBUILD PROFILE HIPS LEGS APTH FEET SLEEP SACTIV KNEES POSTURE ANKLES	BI2 WAIST BACK BOBUILD PROFILE HIPS LEGS FEET KNEES POSTURE WEIGHT EXERCIS	BI2 WAIST BOBUILD CHEST HIPS LEGS FEET KNEES WEIGHT APPET ANKLES ENERGYL

PSTAM MAXIMISATION		TRUNK VALUE CHANGE		ANKLES DENIAL		PROFILE NORMAL	
BI2	MSTREN		WRIST		TRUNK		POSTURE
BI3	SHHEAD	BI3	HANDS	BI3	BREATH	BI3	BREATH
	PROFILE		WAIST		BACK		BACK
	WIDSHOU		BACK		NECK		WIDSHOU
	LIPS		DIGEST		SHHEAD		ARM
	SORG		LEGS		PROFILE		CHEST
	FHEAD		SORG		LIPS		DIGEST
	SACTIV		APTH		FHEAD		SORG
	BHEAD		FHEAD		BHEAD		FHEAD
	EARS		FEET		NOSE		NOSE
	CHIN		SACTIV		FINGERS		EARS
	SDRIVE		KNEES		EARS		CHIN
	NOSE		ANKLES		CHIN		TRUNK
	HEIGHT		SDRIVE		HANDS		LEGS

D-SCORES FOR THE 4 ADJUSTMENT MODES

<u>MAXIMISATION OF IMPAIRMENT</u>				<u>CHANGE OF VALUES</u>		
<u>S-NO</u>	<u>D1</u>	<u>D2</u>	<u>D3</u>	<u>D1</u>	<u>D2</u>	<u>D3</u>
1	4.47	19.54	20.30	7.55	12.21	11.66
2	4.90	22.52	21.79	11.22	11.70	13.00
3	5.10	21.54	20.05	10.00	12.29	9.11
4	4.80	17.72	17.41	8.12	11.87	12.29
5	5.10	21.49	21.86	12.41	11.62	16.34
6	4.12	19.44	18.68	8.31	11.83	11.87
7	2.83	20.78	21.02	10.54	12.41	11.36
8	3.16	21.14	21.00	9.22	11.31	11.70
9	5.20	20.35	19.57	7.21	12.37	11.53
10				9.38	11.31	7.35
11				7.66	11.62	12.08
12				7.28	11.40	13.38
13				12.00	12.29	16.22
14				7.28	11.45	11.40

DENIAL

<u>S-NO</u>	<u>D1</u>	<u>D2</u>	<u>D3</u>
1	4.36	12.33	12.37
2	3.87	14.63	14.59
3	5.10	13.86	13.49
4	3.32	10.77	11.18
5	5.00	16.22	14.49
6	5.29	14.76	14.56
7	5.20	11.92	11.79
8	3.32	16.49	17.41

NORMAL

<u>D1</u>	<u>D2</u>	<u>D3</u>
7.07	12.37	14.87
6.24	12.57	11.00
6.32	12.08	9.80
6.24	11.62	10.77
7.07	11.92	9.80

STANDARD DEVIATIONS FOR EACH OF THE 3 BODY-IMAGES

(nos in parentheses indicate body-image item (Appendix A))

<u>MAXIMISATION</u>	<u>VALUE CHANGE</u>	<u>DENIAL</u>	<u>NORMAL</u>
BI1(1) 1.74	BI1 1.61	BI1 0.89	BI1 1.34
(2) 1.12	1.25	1.07	1.14
(3) 1.80	1.83	1.41	0.89
(4) 1.90	1.47	0.74	1.52
(5) 1.50	1.65	0.93	1.14
(6) 0.93	1.53	1.20	1.14
(7) 0.67	1.69	1.19	1.52
(8) 1.58	1.99	1.25	1.14
(9) 0.71	2.10	1.07	1.14
(10) 0.78	1.44	1.07	1.23
(11) 1.27	1.95	1.51	0.84
(12) 0.93	1.48	0.52	1.30
(13) 1.12	1.75	0.46	1.14
(14) 0.83	1.27	0.92	1.30
(15) 0.87	1.45	0.84	0.45
(16) 1.45	1.55	1.04	1.23
(17) 1.72	1.62	1.07	0.45
(18) 1.33	1.64	1.04	0.84
(19) 0.97	1.29	0.74	0.89
(20) 1.39	1.51	1.20	0.89
(21) 1.12	1.71	0.99	0.89
(22) 1.17	1.81	1.28	0.84
(23) 0.33	1.19	0.87	1.34
(24) 1.36	1.83	1.39	1.00
(25) 1.01	1.93	1.41	1.48
(26) 1.39	1.45	1.40	1.30
(27) 1.83	1.71	1.51	0.89
(28) 0.60	1.98	1.40	1.10
(29) 1.51	1.40	0.70	1.84
(30) 0.88	1.45	1.06	1.84
(31) 1.00	1.86	0.84	0.00
(32) 1.58	1.95	1.28	0.84
(33) 0.84	1.60	1.60	1.14
(34) 0.41	1.44	1.20	1.00
(35) 1.59	1.99	1.30	0.45
(36) 1.13	1.96	0.99	0.45
(37) 1.17	1.92	1.13	0.89
(38) 1.67	1.92	0.64	1.52
(39) 1.66	1.51	0.92	1.00
(40) 1.50	1.73	1.07	0.55
(41) 1.58	1.54	1.07	0.45
(42) 0.78	1.37	0.74	0.84
(43) 0.97	1.35	0.74	0.55
(44) 1.66	1.65	0.92	0.45
(45) 0.93	1.38	1.39	1.00
(46) 0.78	1.45	0.99	0.45
(47) 1.88	1.51	1.30	1.00
(48) 1.30	1.53	1.40	1.64

(49)	1.27	1.22	1.89	0.55
(50)	1.50	1.76	1.20	1.30
(51)	1.45	2.05	1.30	0.55
(52)	1.00	1.85	0.76	1.14
BI2(1)	2.13	BI2 2.10	BI2 1.04	BI2 0.84
(2)	1.36	1.69	1.17	0.89
(3)	1.72	1.77	1.30	0.71
(4)	1.12	1.61	1.51	1.00
(5)	1.51	1.59	0.99	1.84
(6)	0.93	1.30	1.19	0.89
(7)	0.67	1.24	1.19	1.30
(8)	1.80	1.73	0.93	1.10
(9)	0.87	1.73	1.13	0.17
(10)	0.78	1.34	1.31	1.64
(11)	1.39	1.50	1.69	0.84
(12)	0.78	1.65	0.92	1.41
(13)	1.39	1.54	1.13	1.52
(14)	0.88	1.49	0.76	0.89
(15)	0.87	1.59	0.99	0.84
(16)	1.67	1.22	0.76	1.30
(17)	1.72	1.20	1.31	0.45
(18)	1.12	1.15	0.84	0.71
(19)	1.05	1.18	0.92	0.55
(20)	1.54	1.44	0.99	1.34
(21)	1.23	1.82	1.26	1.14
(22)	1.01	1.83	1.19	1.30
(23)	0.33	1.27	0.93	0.55
(24)	1.50	1.34	1.19	0.84
(25)	1.24	1.87	1.51	1.64
(26)	1.42	1.16	1.04	0.45
(27)	1.66	1.70	1.69	1.23
(28)	0.93	2.05	1.41	1.14
(29)	1.23	1.56	0.84	0.84
(30)	1.01	1.49	1.36	1.23
(31)	0.60	1.69	1.04	1.14
(32)	1.30	1.96	1.41	0.50
(33)	0.76	1.80	1.96	0.84
(34)	0.50	1.24	1.19	1.00
(35)	1.59	1.81	1.39	0.55
(36)	1.01	1.50	0.99	0.84
(37)	1.41	1.70	1.51	0.84
(38)	1.59	1.44	0.92	1.14
(39)	1.87	1.64	0.87	0.71
(40)	1.64	1.55	1.04	1.14
(41)	1.56	1.40	1.13	0.89
(42)	0.78	1.49	1.04	0.84
(43)	0.88	1.22	1.06	1.14
(44)	1.79	1.58	1.04	0.55
(45)	1.12	1.29	1.51	0.89
(46)	1.00	1.54	0.71	0.71
(47)	1.64	1.47	1.41	0.55
(48)	1.48	1.39	1.51	1.48
(49)	1.30	1.09	1.07	0.55
(50)	1.51	2.02	1.04	1.30

(51)	1.58	1.55	1.31	0.71
(52)	1.09	1.77	0.71	1.14
BI3 (1)	1.12	BI3 1.57	BI3 0.71	BI3 0.89
(2)	0.97	1.07	1.07	1.25
(3)	1.09	1.41	0.76	0.55
(4)	1.05	1.44	0.71	1.10
(5)	0.83	1.68	1.19	1.30
(6)	0.83	1.40	1.07	0.84
(7)	1.00	1.17	1.06	1.41
(8)	0.53	1.83	0.76	0.71
(9)	1.13	1.40	0.92	1.14
(10)	1.00	0.89	0.64	0.84
(11)	1.30	1.74	1.28	1.34
(12)	1.13	1.05	1.04	1.10
(13)	0.83	1.40	1.04	0.84
(14)	0.97	0.98	0.84	0.71
(15)	0.97	0.77	1.13	0.84
(16)	0.71	2.17	0.99	0.45
(17)	0.87	1.29	1.13	1.14
(18)	1.12	1.64	0.93	0.84
(19)	0.73	1.00	1.20	0.71
(20)	0.71	1.72	1.07	0.89
(21)	1.32	1.62	0.64	1.64
(22)	1.09	1.88	0.52	1.23
(23)	0.87	1.35	0.92	0.84
(24)	0.53	1.42	1.13	0.89
(25)	1.09	1.17	0.64	0.89
(26)	0.71	0.80	0.99	0.55
(27)	0.33	1.66	0.46	0.71
(28)	1.17	1.86	0.52	0.84
(29)	0.78	1.44	1.20	0.84
(30)	0.93	1.07	0.89	0.55
(31)	1.00	1.24	0.93	0.45
(32)	1.09	1.33	0.74	1.10
(33)	0.52	1.44	0.52	0.90
(34)	0.78	1.28	1.28	1.14
(35)	1.09	1.70	0.93	0.45
(36)	1.05	1.20	0.84	0.89
(37)	0.97	1.55	0.54	0.89
(38)	0.71	1.20	1.20	0.84
(39)	1.05	1.07	1.20	0.84
(40)	1.00	1.80	1.13	0.84
(41)	0.93	1.05	1.04	1.14
(42)	1.05	0.92	1.20	0.84
(43)	0.78	1.01	1.06	0.84
(44)	0.73	1.54	0.76	0.89
(45)	0.51	1.41	0.89	0.89
(46)	0.44	1.61	0.71	0.71
(47)	0.73	1.58	0.52	0.00
(48)	0.53	1.58	0.52	0.84
(49)	0.78	1.80	0.52	0.71
(50)	0.78	1.14	1.07	0.71
(51)	0.73	1.46	0.52	0.84
(52)	1.30	1.66	0.52	0.89

APPENDIX F

BODY-IMAGE SCALES GIVING PARAMETERS OF ADJUSTMENT

MODES USING STANDARD DEVIATION SCORES

ADJUSTMENT MODES

[—] = NORMAL

[- -] = DENIAL

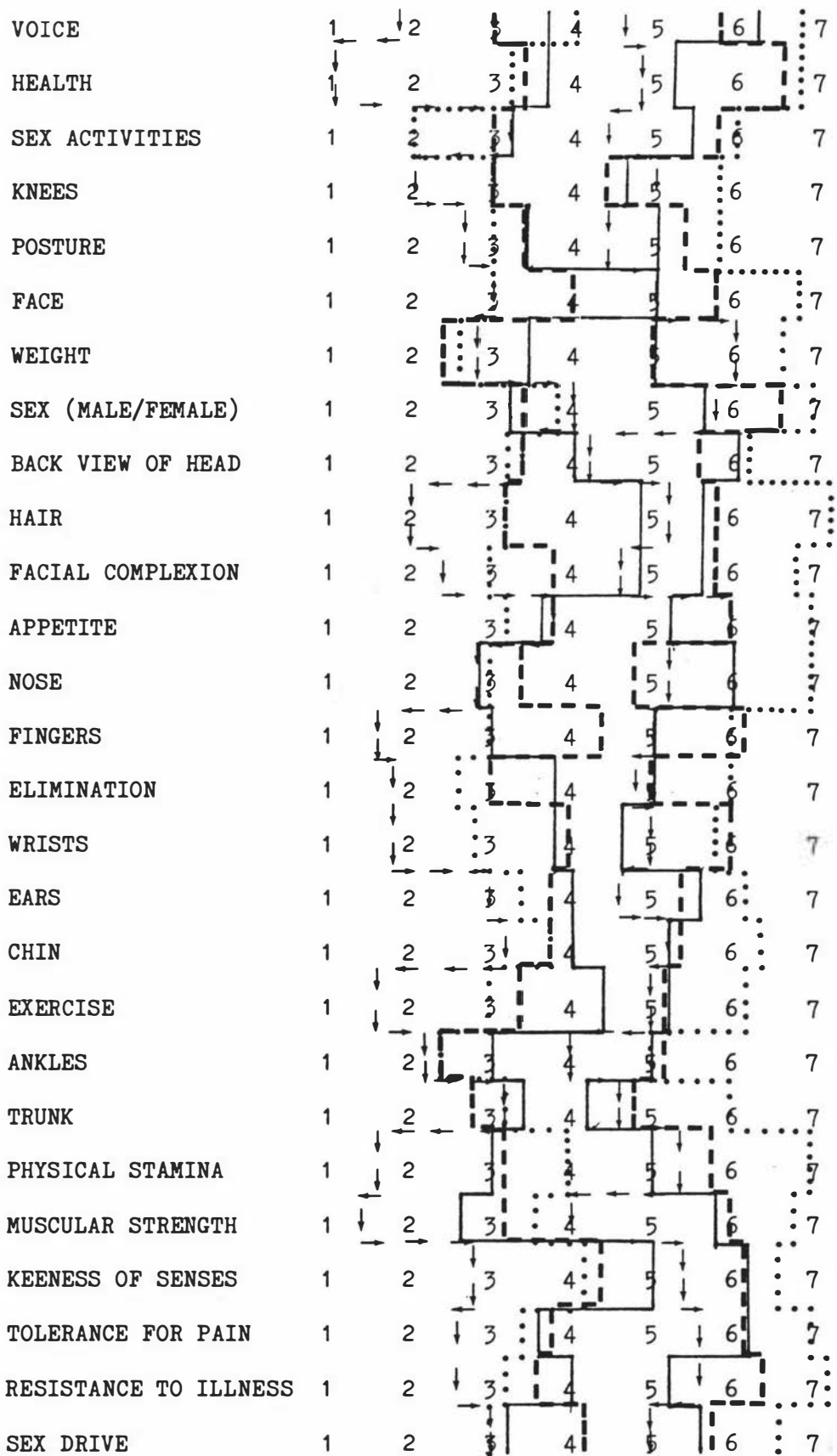
[...] = CHANGE OF VALUES

[→] = MAXIMISATION OF IMPAIRMENT

FORM 1

INFERRED BODY-IMAGE: "ME, AS OTHERS SEE ME"

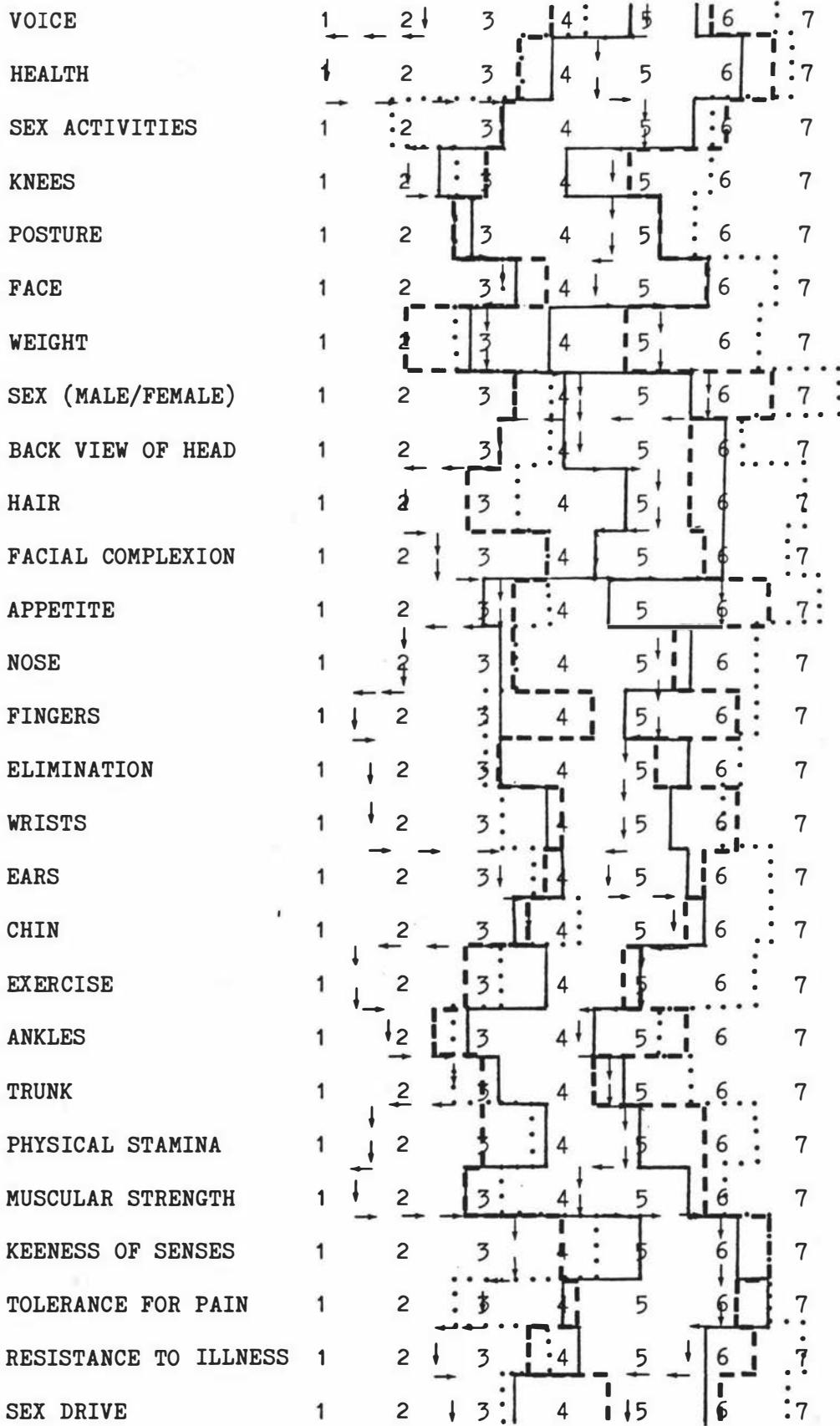
HANDS	1	↓ 2	↓ 3	↓ 4	↓ 5	↓ 6	7
BREATHING	1	2	3	4	5	6	7
WAIST	1	2	3	4	5	6	7
ENERGY LEVEL	1	2	3	4	5	6	7
BACK	1	2	3	4	5	6	7
NECK	1	2	3	4	5	6	7
SHAPE OF HEAD	1	2	3	4	5	6	7
BODY BUILD	1	2	3	4	5	6	7
PROFILE	1	2	3	4	5	6	7
HEIGHT	1	2	3	4	5	6	7
AGE	1	2	3	4	5	6	7
WIDTH OF SHOULDERS	1	2	3	4	5	6	7
ARMS	1	2	3	4	5	6	7
CHEST (OR BREASTS)	1	2	3	4	5	6	7
APPEARANCE OF EYES	1	2	3	4	5	6	7
DIGESTION	1	2	3	4	5	6	7
HIPS	1	2	3	4	5	6	7
SKIN TEXTURE	1	2	3	4	5	6	7
LIPS	1	2	3	4	5	6	7
LEGS	1	2	3	4	5	6	7
SEX ORGANS	1	2	3	4	5	6	7
APPEARANCE OF TEETH	1	2	3	4	5	6	7
FOREHEAD	1	2	3	4	5	6	7
FEET	1	2	3	4	5	6	7
SLEEP	1	2	3	4	5	6	7



FORM 2

ACTUAL BODY-IMAGE: "ME, AS I AM"

HANDS	1	↓	2	:	3		4		5	↓	6	:	7	
BREATHING	1		2		3		4		5		6	↓	7	
WAIST	1		2		3		4		5		6	:	7	
ENERGY LEVEL	1	↓	2	:	3		4	↓	5		6	:	7	
BACK	1	↓	2		3		4	↓	5		6	:	7	
NECK	1		2	↓	3		4		5		6	:	7	
SHAPE OF HEAD	1		2		3		4	↓	5		6	:	7	
BODY BUILD	1	↓	2	:	3		4		5	↓	6	:	7	
PROFILE	1		2	:	3		4		5		6	:	7	
HEIGHT	1		2		3		4		5		6	:	7	
AGE	1		2		3	↓	4	:	5		6		7	
WIDTH OF SHOULDERS	1		2		3		4	↓	5		6	:	7	
ARMS	1	↓	2	:	3		4		5		6	:	7	
CHEST (OR BREASTS)	1		2		3		4		5	↓	6	:	7	
APPEARANCE OF EYES	1		2		3		4		5	↓	6	:	7	
DIGESTION	1		2		3		4	:	5		6	:	7	
HIPS	↓	2		3		4		5		6	:	7		
SKIN TEXTURE	1	↓	2	↓	3		4	↓	5		6	:	7	
LIPS	1		2		3	:	4		5	↓	6	:	7	
LEGS	1	↓	2		3		4	↓	5		6	:	7	
SEX ORGANS	1		2	:	3		4		5		6	:	7	
APPEARANCE OF TEETH	1		2		3		4	↓	5		6	:	7	
FOREHEAD	1		2		3		4		5		6	:	7	
FEET	↓	1		2		3		4	↓	5		6	:	7
SLEEP	1		2		3		4		5		6	:	7	



FORM 3

IDEAL BODY-IMAGE: "ME, AS I WOULD LIKE TO BE

HANDS	1	2	3	4	5	6	7
BREATHING	1	2	3	4	5	6	7
WAIST	1	2	3	4	5	6	7
ENERGY LEVEL	1	2	3	4	5	6	7
BACK	1	2	3	4	5	6	7
NECK	1	2	3	4	5	6	7
SHAPE OF HEAD	1	2	3	4	5	6	7
BODY BUILD	1	2	3	4	5	6	7
PROFILE	1	2	3	4	5	6	7
HEIGHT	1	2	3	4	5	6	7
AGE	1	2	3	4	5	6	7
WIDTH OF SHOULDERS	1	2	3	4	5	6	7
ARMS	1	2	3	4	5	6	7
CHEST (OR BREASTS)	1	2	3	4	5	6	7
APPEARANCE OF EYES	1	2	3	4	5	6	7
DIGESTION	1	2	3	4	5	6	7
HIPS	1	2	3	4	5	6	7
SKIN TEXTURE	1	2	3	4	5	6	7
LIPS	1	2	3	4	5	6	7
LEGS	1	2	3	4	5	6	7
SEX ORGANS	1	2	3	4	5	6	7
APPEARANCE OF TEETH	1	2	3	4	5	6	7
FOREHEAD	1	2	3	4	5	6	7
FEET	1	2	3	4	5	6	7
SLEEP	1	2	3	4	5	6	7

VOICE	1	2	3	4	5	6	7
HEALTH	1	2	3	4	5	6	7
SEX ACTIVITIES	1	2	3	4	5	6	7
KNEES	1	2	3	4	5	6	7
POSTURE	1	2	3	4	5	6	7
FACE	1	2	3	4	5	6	7
WEIGHT	1	2	3	4	5	6	7
SEX (MALE/FEMALE)	1	2	3	4	5	6	7
BACK VIEW OF HEAD	1	2	3	4	5	6	7
HAIR	1	2	3	4	5	6	7
FACIAL COMPLEXION	1	2	3	4	5	6	7
APPETITE	1	2	3	4	5	6	7
NOSE	1	2	3	4	5	6	7
FINGERS	1	2	3	4	5	6	7
ELIMINATION	1	2	3	4	5	6	7
WRISTS	1	2	3	4	5	6	7
EARS	1	2	3	4	5	6	7
CHIN	1	2	3	4	5	6	7
EXERCISE	1	2	3	4	5	6	7
ANKLES	1	2	3	4	5	6	7
TRUNK	1	2	3	4	5	6	7
PHYSICAL STAMINA	1	2	3	4	5	6	7
MUSCULAR STRENGTH	1	2	3	4	5	6	7
KEENESS OF SENSES	1	2	3	4	5	6	7
TOLERANCE FOR PAIN	1	2	3	4	5	6	7
RESISTANCE TO ILLNESS	1	2	3	4	5	6	7
SEX DRIVE	1	2	3	4	5	6	7

APPENDIX G

VARIMAX ROTATED FACTOR LOADINGS

1. NORMALS

<u>BODY-IMAGE 1</u>						<u>SELF-CONCEPT 1</u>			
<u>FACTORS</u>	1	2	3	4	5	1	2	3	
HANDS1	0.28	-0.29	0.10	0.56	0.17	FORMAL1	-0.04	0.15	0.46
BREATH	0.46	0.06	0.23	0.20	0.20	BEAUT1	0.19	-0.04	0.35
WALST	0.10	0.27	0.42	0.47	-0.17	LARGE1	0.03	-0.03	-0.24
ENERGYL1	-0.00	0.51	0.42	0.12	0.12	EXCIT1	-0.18	0.70	0.07
BACK1	0.53	0.05	0.23	0.27	-0.15	ACTIVE1	0.03	0.47	0.56
NECK	0.45	0.07	0.19	0.51	0.02	GENTLE1	0.50	0.57	-0.10
SHHEAD1	0.57	0.21	0.08	0.20	0.13	VALUABL1	0.66	0.00	0.08
BOBUILD1	0.09	0.08	0.79	0.22	-0.03	RELAXED1	0.03	0.76	0.27
PROFILE1	-0.07	0.27	0.27	0.59	0.40	MILD1	-0.09	0.80	-0.04
HEIGHT1	0.16	0.07	-0.06	0.70	-0.30	PLEAS1	0.73	0.22	0.00
AGE1	-0.01	-0.05	0.12	0.53	0.05	KIND1	0.81	0.00	-0.11
WIDSHOU1	0.66	-0.03	0.26	0.21	0.09	DEFIN1	0.11	-0.01	0.72
ARM1	0.70	0.07	0.31	0.31	0.07	STRONG1	0.41	-0.04	0.56
CHEST1	0.35	-0.16	0.40	0.33	0.33	GOOD1	0.75	-0.04	0.21
APEYE1	0.10	0.01	0.01	0.09	0.57	FAIR1	0.78	0.09	0.25
DIGEST1	0.04	0.60	-0.09	0.05	0.41	FORT1	0.06	-0.08	0.47
HIPS1	0.30	0.26	0.63	0.01	0.04				
SKTEXT1	0.16	-0.00	0.00	0.02	0.60				
LIPS1	0.20	-0.15	0.15	0.53	0.29				
LEGS1	0.07	-0.29	0.59	-0.06	0.20				
SORG1	0.12	0.04	0.36	0.04	0.44				
APTH1	0.12	0.14	-0.17	0.40	0.13				
FHEAD1	0.36	0.18	-0.06	0.09	0.46				
FEET1	0.09	0.21	0.02	-0.01	0.45				
SLEEP1	0.16	0.47	-0.16	0.16	-0.06				
VOICE1	0.04	0.38	-0.22	0.22	0.18				
HEALTH1	0.14	0.63	0.19	-0.09	0.11				
SACTIV1	0.37	0.18	0.19	-0.18	0.17				
KNEES1	0.32	-0.06	0.60	-0.20	0.05				
POSTURE1	0.54	0.09	0.22	0.12	0.12				
FACE1	0.15	0.20	0.08	0.40	0.50				
WEIGHT1	-0.03	0.30	0.60	0.28	-0.26				
SEX1	0.56	-0.09	-0.04	-0.23	0.10				
BHEAD1	0.46	0.38	-0.03	0.23	0.28				
HAIR1	-0.08	0.14	0.05	0.55	0.29				
FCOMPL1	0.07	0.08	0.00	0.07	0.67				
APPET1	0.04	0.60	0.23	-0.10	0.21				
NOSE1	0.19	0.13	0.16	0.19	0.27				
FINGERS1	0.54	-0.24	0.01	0.39	0.13				
ELIM1	0.60	0.09	0.04	-0.05	0.20				
WRIST1	0.79	-0.05	0.07	0.03	0.12				
EAR1	0.04	0.29	-0.05	0.12	0.45				
CHIN1	0.16	0.22	-0.09	0.43	0.28				
EXERCIS1	-0.06	0.60	0.39	-0.01	0.06				
ANKLES1	0.39	-0.14	0.57	-0.10	0.17				
TRUNK1	0.25	0.16	0.69	0.21	-0.06				
PSTAM1	-0.08	0.58	0.31	0.15	0.29				

<u>FACTORS</u>	1	2	3	4	5	6
MSTREN1	0.07	0.47	0.00	0.32	-0.00	
KSENCE1	0.52	0.29	-0.16	0.05	0.17	
TOLPAIN1	0.01	0.52	-0.10	-0.29	0.25	
RESILL1	0.14	0.63	-0.03	-0.27	-0.04	
SDRIVE1	0.42	0.25	0.17	-0.21	0.28	

BODY-IMAGE 2SELF-CONCEPT 2

<u>FACTORS</u>	1	2	3	4	5	6		1	2	3
HANDS2	0.75	-0.00	-0.26	-0.30	0.01	-0.11	FORMAL2	0.09	-0.06	0.29
BREATH2	0.29	0.20	0.11	0.25	0.25	-0.17	BEAUT2	0.34	-0.20	0.10
WAIST2	0.02	0.54	-0.00	0.11	0.38	-0.19	LARGE2	-0.25	-0.08	0.30
ENERGYL2	0.00	0.42	0.57	0.06	-0.02	-0.30	EXCIT2	-0.19	-0.57	0.03
BACK2	0.12	0.07	0.08	-0.03	-0.31	-0.34	ACTIV2	0.23	-0.36	0.27
NECK2	0.47	0.13	0.27	0.23	0.31	-0.18	GENTLE2	0.54	0.18	-0.41
SHHEAD2	0.18	0.17	0.09	0.60	0.20	-0.15	VALUABL2	0.62	-0.12	0.06
BOBUILD2	0.18	0.78	-0.02	-0.02	0.08	0.07	RELAXED2	0.23	0.84	0.02
PROFILE2	0.34	0.52	0.06	0.37	-0.02	-0.20	MILD2	0.05	0.81	-0.10
HEIGHT2	0.14	0.50	-0.18	0.08	-0.26	0.02	PLEAS2	0.75	-0.08	-0.26
AGE2	-0.18	0.30	-0.13	-0.01	0.01	0.61	KIND2	0.71	-0.20	-0.35
WIDSHOU2	0.59	0.31	-0.11	0.21	-0.13	-0.06	DEFIN2	0.48	0.28	0.63
ARM2	0.62	0.33	0.12	0.26	0.03	-0.03	STRONG2	0.52	0.02	0.60
CHEST2	0.54	0.41	-0.16	0.04	-0.10	0.20	GOOD2	0.75	-0.23	-0.02
APEYE2	0.22	0.05	-0.07	0.17	-0.03	0.54	FAIR2	0.73	-0.03	-0.15
DIGEST2	-0.14	-0.13	0.56	0.33	0.20	0.36	FORT2	0.28	0.08	0.35
HIPS2	0.12	0.56	0.16	0.15	0.39	-0.05				
SKTEXT2	0.09	0.18	-0.01	0.46	0.09	0.14				
LIPS	0.33	0.36	-0.24	0.17	-0.33	0.28				
LEGS2	0.54	0.24	-0.12	-0.15	-0.07	0.15				
SORG2	0.22	0.18	0.02	0.02	0.44	0.13				
APTH2	0.39	-0.00	0.00	0.23	-0.50	0.04				
FHEAD2	0.31	0.12	0.04	0.65	-0.08	-0.27				
FEET2	0.66	0.02	0.10	0.10	0.21	0.25				
SLEEP2	0.11	-0.14	0.50	-0.06	-0.01	0.57				
VOICE2	0.14	0.20	0.28	0.33	-0.14	0.41				
HEALTH2	0.09	0.03	0.71	0.07	0.08	0.10				
SACTIV2	-0.03	0.11	0.11	0.21	0.55	0.01				
KNEES2	0.27	0.40	0.32	0.09	0.21	-0.15				
FACE2	0.22	0.53	-0.10	0.44	-0.03	-0.01				
WEIGHT2	-0.08	0.78	0.11	-0.01	0.12	0.16				
SEX2	0.23	-0.07	-0.07	0.03	0.83	-0.11				
BHEAD2	0.07	-0.07	0.21	0.61	0.16	-0.03				
HAIR2	0.13	0.22	-0.34	0.36	-0.18	0.30				
FCOMPL2	0.11	-0.01	0.02	0.45	0.08	0.16				
APPET2	0.00	0.43	0.53	0.24	0.25	0.11				
NOSE2	-0.06	0.24	0.08	0.41	0.04	-0.39				
FINGERS2	0.71	0.02	-0.22	0.27	0.04	-0.10				
ELIM2	0.09	0.05	0.30	0.30	0.40	-0.02				
WRIST2	0.54	0.10	0.02	0.24	0.32	0.14				
EAR2	0.00	-0.07	0.22	0.55	0.11	0.14				

<u>FACTORS</u>	1	2	3	4	5	6
CHIN2	-0.01	0.14	0.08	0.64	-0.04	0.06
EXERC1S2	-0.19	0.43	0.54	0.12	0.09	-0.16
ANKLES2	0.63	0.00	0.19	-0.20	0.16	0.06
TRUNK2	0.32	0.77	0.08	0.03	0.05	0.08
PSTAM2	0.05	0.16	0.65	0.07	-0.11	-0.39
MSTREN2	0.35	0.09	0.45	0.06	-0.45	-0.31
KSENCE2	0.33	0.04	0.35	0.08	0.09	0.03
TOLPAIN2	-0.13	-0.08	0.49	0.29	0.01	-0.04
RESILL2	-0.08	-0.21	0.69	0.01	0.06	-0.04
SDRIVE2	0.20	0.05	0.08	0.25	0.51	-0.06

BODY-IMAGE 3SELF-CONCEPT 3

<u>FACTORS</u>	1	2	3	4	5		1
HANDS3	0.47	0.40	0.49	0.03	0.16	FORMAL3	-0.28
BREATH3	0.24	0.42	0.28	0.08	0.31	BEAUT3	0.48
WAIST3	0.68	0.38	0.26	-0.03	0.24	LARGE3	0.06
ENERGYL3	0.66	0.05	0.25	0.11	0.37	EXCIT3	-0.20
BACK3	0.39	0.41	0.26	0.36	0.26	ACTIVE3	0.21
NECK3	0.24	0.71	0.17	0.21	0.24	GENTLE3	0.62
SHHEAD3	0.22	0.71	0.18	0.25	0.19	VALUABL3	0.73
BOBUILD3	0.72	0.18	0.43	0.12	0.18	RELAXED3	0.50
PROFILE3	0.64	0.33	0.30	0.21	0.16	MILD3	-0.04
WEIGHT3	0.38	0.17	0.62	0.10	0.05	PLEAS3	0.80
AGE3	0.19	0.12	0.65	0.07	0.14	KIND3	0.74
WIDSHOU3	0.29	0.48	0.46	-0.06	0.31	DEFIN3	0.61
ARM3	0.45	0.59	0.43	-0.08	0.20	STRONG3	0.72
CHEST3	0.74	0.32	0.37	0.11	0.09	GOOD3	0.60
APEYE3	0.36	0.10	0.59	0.30	0.17	FAIR3	0.70
DIGEST3	0.23	0.32	0.16	0.68	0.04	FORT3	0.55
HIPS3	0.65	0.37	0.25	0.12	0.12		
SKTEXT3	0.56	0.12	0.22	0.33	0.17		
LIPS3	0.60	0.27	0.35	0.36	0.00		
LEGS3	0.66	0.16	0.49	-0.11	0.19		
SORG3	0.21	0.16	0.07	-0.00	0.71		
APTH3	0.17	0.26	0.56	0.19	0.24		
FHEAD3	0.21	0.60	0.25	0.45	0.13		
FEET3	0.25	0.30	0.55	0.34	-0.09		
SLEEP3	0.15	0.14	0.47	0.62	0.17		
VOICE3	0.33	0.20	0.46	0.52	0.12		
HEALTH3	0.47	0.00	0.15	0.59	0.28		
SACTIV3	0.25	0.25	0.19	0.25	0.69		
KNEES3	0.64	0.50	0.06	0.10	0.15		
POSTURE3	0.60	0.41	0.09	0.32	0.26		
FACE3	0.71	0.23	0.24	0.36	0.20		
WEIGHT3	0.69	0.20	0.29	0.27	0.17		
SEX3	0.00	0.31	0.26	-0.12	0.60		
BHEAD3	0.10	0.70	0.25	0.21	0.23		
HAIR3	0.59	0.26	0.30	0.37	-0.02		
FCOMPL3	0.74	0.23	0.16	0.31	0.21		

<u>FACTORS</u>	1	2	3	4	5
APPET3	0.31	0.44	0.00	0.59	0.13
NOSE3	0.72	0.39	0.05	0.26	0.13
FINGERS3	0.57	0.58	0.07	0.15	0.07
ELIM3	0.21	0.63	0.06	0.30	0.15
WRIST3	0.36	0.71	0.24	0.04	0.22
EAR3	0.22	0.69	0.04	0.45	0.02
CHIN3	0.41	0.51	0.05	0.57	0.09
EXERCIS3	0.58	0.19	0.01	0.37	0.39
ANKLES3	0.47	0.62	0.17	-0.13	0.20
TRUNK3	0.70	0.33	0.16	0.19	0.14
PSTAM3	0.67	0.08	0.01	0.35	0.46
MSTREN3	0.42	0.14	0.14	0.34	0.50
KSENSE3	0.27	0.33	0.35	0.16	0.42
TOLPAIN3	-0.01	0.01	0.52	0.46	0.34
RESILL3	0.11	-0.20	0.12	0.44	0.52
SDRIVE3	0.29	0.13	0.05	0.20	0.69

2 DISABLEDBODY-IMAGE 1

<u>FACTORS</u>	1	2	3
HANDS1	0.14	0.32	0.34
BREATH1	0.31	0.06	0.44
WAIST1	0.06	-0.12	0.62
ENERGYL1	0.03	0.64	0.22
BACK1	0.19	0.17	0.43
NECK1	0.36	0.18	0.38
SHHEAD1	0.55	-0.03	0.32
BOBUILD1	0.15	0.14	0.63
PROFILE1	0.40	0.09	0.47
HEIGHT1	0.38	0.00	0.44
AGE1	0.48	0.19	0.26
WIDSHOU1	0.53	0.06	0.40
ARM1	0.40	0.14	0.49
CHEST1	0.48	0.16	0.46
APEYE1	0.55	0.19	0.22
DIGEST1	0.39	0.23	0.24
HIPS1	0.22	0.18	0.60
SKTEXT1	0.59	0.18	0.13
LIPS1	0.72	0.13	0.17
LEGS1	0.00	0.37	0.46
SORG1	0.22	0.53	0.23
APTH1	0.49	0.16	0.18
FHEAD1	0.69	0.05	0.33
FEET1	0.17	0.33	0.46
SLEEP1	0.23	0.33	0.09
VOICE1	0.89	0.22	0.07
HEALTH1	0.27	0.53	0.10
SACTIV1	0.18	0.59	0.06

SELF-CONCEPT 1

	1	2	3	4
FORMAL1	-0.05	0.01	-0.14	0.77
BEAUT1	0.22	0.40	0.13	0.12
LARGE1	-0.07	0.21	-0.13	-0.35
EXCIT1	-0.30	0.12	-0.60	0.09
ACTIVE1	-0.06	0.62	-0.21	0.19
GENTLE1	0.47	-0.00	0.42	0.36
VALUABL1	0.42	0.49	0.07	-0.00
RELAXED1	-0.00	0.29	0.67	-0.26
MILD1	-0.00	-0.01	0.76	0.18
PLEAS1	0.59	0.18	0.35	0.06
KIND1	0.76	0.03	-0.02	-0.13
DEFIN1	0.01	0.71	0.04	-0.13
STRONG1	0.11	0.72	0.10	-0.14
GOOD1	0.79	0.06	0.10	-0.12
FAIR1	0.75	0.03	0.01	0.11
FORT1	-0.10	0.33	-0.01	0.43

<u>FACTORS</u>	1	2	3
KNEES1	0.07	0.39	0.52
POSTURE1	0.14	0.33	0.50
FACE1	0.67	0.28	0.17
WEIGHT1	0.34	0.19	0.46
SEX1	0.39	0.42	0.05
BHEAD1	0.65	0.22	0.28
HAIR1	0.55	0.29	0.09
Fcompl1	0.68	0.25	0.11
APPET1	0.44	0.37	0.09
NOSE1	0.65	0.19	0.20
FINGERS1	0.33	0.37	0.28
ELIM1	0.09	0.41	0.26
WRIST1	0.36	0.31	0.37
EAR1	0.74	-0.02	0.24
CHIN1	0.72	0.05	0.27
EXERCIS1	0.00	0.63	0.29
ANKLES1	0.11	0.37	0.49
TRUNK1	0.23	0.35	0.89
PSTAM1	0.10	0.78	0.07
MSTREN1	0.13	0.69	0.11
KSENSE1	0.84	0.34	-0.09
TOLPAIN1	0.43	0.39	0.03
RESILL1	0.31	0.48	0.11
SDRIVE1	0.21	0.53	0.13

BODY-IMAGE 2

<u>FACTORS</u>	1	2	3	4
HANDS2	0.25	0.06	0.02	0.74
BREATH2	0.39	0.34	0.09	0.24
WAIST2	0.36	0.16	0.47	0.02
ENERGYL2	0.09	0.63	0.25	0.40
BACK2	0.19	0.28	0.48	0.04
NECK2	0.38	0.18	0.33	0.32
SHHEAD2	0.68	0.05	0.27	0.13
BOBUILD2	0.40	0.01	0.56	0.17
PROFILE2	0.65	-0.00	0.32	0.16
HEIGHT2	0.52	-0.05	0.28	0.09
AGE2	0.51	0.18	0.20	0.21
WIDSHOU2	0.58	0.03	0.20	0.35
ARM2	0.43	0.17	0.25	0.49
CHEST2	0.54	0.19	0.26	0.14
APEYE2	0.54	0.31	0.11	0.02
DIGEST2	0.31	0.48	0.17	0.08
HIPS2	0.30	0.19	0.61	-0.03
SKTEXT2	0.63	0.18	0.09	0.20
LIPS2	0.69	0.16	0.08	0.15
LEGS2	0.02	0.19	0.61	0.22
SORG2	0.25	0.55	0.36	-0.12
APTH2	0.50	0.37	0.06	0.02

SELF-CONCEPT 2

	1	2	3
FORMAL2	-0.11	0.17	-0.29
BEAUT2	0.23	0.31	0.15
LARGE2	0.02	0.11	0.03
EXCIT2	-0.30	-0.05	0.54
ACTIVE2	0.09	0.56	0.34
GENTLE2	0.55	-0.30	-0.29
VALUABL2	0.57	0.31	0.13
RELAXED2	0.46	0.43	-0.44
MILD2	0.37	0.01	-0.60
PLEAS2	0.72	-0.08	-0.09
KIND2	0.68	-0.46	0.15
DEFIN2	0.44	0.40	0.03
STRONG2	0.46	0.41	0.14
GOOD2	0.69	-0.35	0.31
FAIR2	0.69	-0.34	0.27
FORT2	0.26	0.52	0.19

<u>FACTORS</u>	1	2	3	4
FHEAD2	0.73	0.17	0.23	0.12
FEET2	0.12	0.22	0.62	0.31
SLEEP2	0.15	0.47	0.17	0.06
VOICE2	0.82	0.34	0.02	0.09
HEALTH2	0.15	0.56	0.12	0.41
SACTIV2	0.08	0.66	0.15	0.00
KNEES2	0.15	0.17	0.65	0.24
POSTURE2	0.23	0.45	0.54	0.01
FACE2	0.72	0.17	0.14	0.06
WEIGHT2	0.39	0.15	0.54	-0.03
SEX2	0.46	0.35	0.15	0.03
BHEAD2	0.74	0.11	0.21	0.07
HAIR2	0.64	0.29	0.05	0.11
Fcompl2	0.66	0.25	0.03	0.17
APPET2	0.36	0.52	0.08	0.01
NOSE2	0.67	0.06	0.13	0.19
FINGERS2	0.32	0.01	0.15	0.69
ELIM2	0.09	0.40	0.36	-0.00
WRIST2	0.25	0.03	0.34	0.64
EAR2	0.66	0.09	0.28	0.03
CHIN2	0.68	0.05	0.26	0.03
EXERCIS2	-0.01	0.46	0.37	0.36
ANKLES2	0.08	0.13	0.65	0.35
TRUNK2	0.36	0.19	0.59	0.12
PSTAM2	0.03	0.62	0.20	0.47
MSTREN2	0.02	0.47	0.16	0.59
KSENCE2	0.47	0.42	-0.08	0.08
TOLPAIN2	0.34	0.37	0.07	0.09
RESILL2	0.27	0.37	0.14	0.26
SDRIVE2	0.09	0.63	0.17	0.00

BODY-IMAGE 3

<u>FACTORS</u>	1	2	3
HANDS3	0.24	0.64	0.18
BREATH3	0.47	0.43	0.06
WAIST3	0.52	0.44	0.13
ENERGYL3	0.19	0.74	0.29
BACK3	0.48	0.54	0.14
NECK3	0.55	0.39	0.23
SHHEAD3	0.67	0.20	0.19
BOBUILD3	0.46	0.57	0.14
PROFILE3	0.68	0.44	0.09
HEIGHT3	0.74	0.27	0.19
AGE3	0.59	0.28	0.24
WIDSHOU3	0.60	0.22	0.38
ARM3	0.48	0.52	0.33
CHEST3	0.50	0.38	0.40
APEYE3	0.75	0.20	0.16
DIGEST3	0.40	0.49	0.26

SELF-CONCEPT 3

	1	2
FORMAL3	-0.13	0.35
BEAUT3	0.28	0.06
LARGE3	-0.13	-0.17
EXCIT3	-0.31	-0.05
ACTIVE3	0.31	-0.04
GENTLE3	0.63	0.41
VALUABL3	0.67	0.20
RELAXED3	0.66	0.30
MILD3	0.31	0.59
PLEAS3	0.65	0.38
KIND3	0.78	-0.27
DEFIN3	0.69	-0.01
STRONG3	0.70	0.06
GOOD3	0.75	-0.26
FAIR3	0.75	-0.39
FORT3	0.53	-0.13

<u>FACTORS</u>	1	2	3
HIPS3	0.55	0.52	0.18
SKTEXT3	0.59	0.44	0.11
LIPS3	0.60	0.25	0.18
LEGS3	0.52	0.75	0.17
SORG3	0.59	0.50	0.72
APTH3	0.45	0.49	0.31
FHEAD3	0.74	0.25	0.27
FEET3	0.57	0.76	0.05
SLEEP3	0.24	0.69	0.18
VOICES3	0.49	0.44	0.19
HEALTH3	0.16	0.76	0.21
SACTIV3	0.18	0.33	0.82
KNEES3	0.46	0.73	0.12
POSTURE3	0.44	0.66	0.18
FACE3	0.78	0.33	0.06
WEIGHT3	0.58	0.45	0.14
SEX3	0.46	0.40	0.39
BHEAD3	0.70	0.23	0.29
HAIR3	0.62	0.45	0.17
FCOMPL3	0.70	0.37	0.06
APPET3	0.47	0.28	0.28
NOSE3	0.74	0.34	0.08
FINGERS3	0.54	0.74	0.05
ELIM3	0.32	0.65	0.18
WRIST3	0.46	0.64	0.17
EAR3	0.80	0.15	0.14
CHIN3	0.80	0.24	0.15
EXERCIS3	0.22	0.77	0.26
ANKLES3	0.48	0.66	0.08
TRUNK3	0.48	0.67	0.16
PSTAM3	0.15	0.84	0.26
MSTREN3	0.22	0.76	0.22
KSENSE3	0.54	0.42	0.10
TOLPAIN3	0.42	0.54	0.08
RESILL3	0.26	0.75	0.19
SDRIVE3	0.24	0.24	0.84

APPENDIX H

INSTRUMENTS USED IN INVESTIGATION

3 BODY CATHEXIS FORMS AND ADL FORM

BODY IMAGE AND SELF CONCEPT
QUESTIONNAIRES

DEPARTMENT OF PSYCHOLOGY

MASSEY UNIVERSITY



About this study.....

We all accept that physical disability is both a natural and normal part of life, in that all of us experience illness, and that time generally brings impairment. Thus, the functioning of our bodies is of central importance to our well-being, which in turn directs the sort of life we lead. It is our internal image of our body, otherwise known as our body image, which enables us to identify ourselves and provides the foundation upon which our self-concept is built. Our body image is also extremely important in both maintaining and restoring our health after injury.

With this study we are attempting to discover the ways in which physical disability effects an individuals body image. Once we are able to understand what constitutes a characteristic body image for disabled people, we would then be better able to help them cope and come to terms with their disability more quickly and effectively than they might if left unaided. It is hoped that the knowledge gained from this study will help to remove a lot of the frustration and painful distress borne by those who find themselves faced with physical impairment or disability. Once the clinician is made aware of the changes in body image which may accompany disability, he is able to encourage the development of an undistorted body image and self concept, and by so doing, increase the disabled persons chances of rehabilitative success which would in turn, optimise their recovery.

We would like to thank you for your time in providing the information requested in this booklet.

Professor George Shouksmith
Research Director
Psychology Department
Massey University

Ms. Jane Phillips
Researcher

data summary

E	C
---	---

Fill in the squares with appropriate numbers.

1. Sex

male = 0 female = 1

2. Disability

0 = none
 1 = nervous system dysfunction (paraplegia)
 2 = bone and joint disease (RA)
 additional remarks _____

3. Age at onset of disability (years)

4. Date of birth (day/month/year)

--	--	--	--	--	--	--	--	--	--

5. Present age (years)

6. Years of disablement

7. Additional comments _____

Data Summary

BC (B/I)

E_r = _____

E_a = _____

E_i = _____

C_r = _____

C_a = _____

C_i = _____

SD (S/C)

E_r = _____

E_a = _____

E_i = _____

C_r = _____

C_a = _____

C_i = _____

D-Scores

BC (B/I)

E_{AI} = _____

E_{RA} = _____

E_{RI} = _____

C_{AI} = _____

C_{RA} = _____

C_{RI} = _____

SD (S/C)

E_{AI} = _____

E_{RA} = _____

E_{RI} = _____

C_{AI} = _____

C_{RA} = _____

C_{RI} = _____

data summary

Real BC Scale

Apparent BC Scale

Ideal BC Scale

BC score = _____

BC score = _____

BC score = _____

AI score = _____

AI score = _____

AI score = _____

ADL score = _____

Mean factor scores

- 1. Me, as others see me
- 2. Me, as I am
- 3. Me, as I would like to be

e	p	a

Total

Total means

S/C

fortunate-unfortunate _____

1. Strongly dislike, and wish change could somehow be made.
2. Don't like, but can put up with.
3. Slightly displeased with.
4. Have no particular feelings one way or the other.
5. Slightly pleased with.
6. Definitely like, am pleased with.
7. Consider myself particularly and unusually fortunate.

"ME: AS OTHERS SEE ME"

	1	2	3	4	5	6	7
Sex organs							
Appearance of teeth							
Forehead							
Feet							
Sleep							
Voice							
Health							
Sex activities							
Knees							
Posture							
Face							
Weight							
Sex (male or female)							
Back view of head							
Hair							
Facial complexion							
Appetite							
Nose							
Fingers							
Elimination							
Wrists							
Ears							
Chin							
Exercise							
Ankles							
Trunk							
Physical stamina							
Muscular strength							
Keeness of senses							
Tolerance for pain							
Resistance to illness							
Sex drive							

BC score = _____ AI score = _____

independent judgement. Work at a fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate 'feelings' about the items, that we want. On the other hand please do not be careless, because we want your true impression.

WHEN YOU ARE SURE THAT YOU UNDERSTAND THE INSTRUCTIONS, PLEASE BEGIN BELOW.

ME, AS OTHERS SEE ME

informal	_: _: _: _: _: _: _:	formal	e	p	a
ugly	_: _: _: _: _: _: _:	beautiful			
large	_: _: _: _: _: _: _:	small			
calm	_: _: _: _: _: _: _:	excitable			
passive	_: _: _: _: _: _: _:	active			
violent	_: _: _: _: _: _: _:	gentle			
valuable	_: _: _: _: _: _: _:	worthless			
tense	_: _: _: _: _: _: _:	relaxed			
intense	_: _: _: _: _: _: _:	mild			
unpleasant	_: _: _: _: _: _: _:	pleasant			
kind	_: _: _: _: _: _: _:	cruel			
uncertain	_: _: _: _: _: _: _:	definite			
weak	_: _: _: _: _: _: _:	strong			
good	_: _: _: _: _: _: _:	bad			
fair	_: _: _: _: _: _: _:	unfair			
unfortunate	_: _: _: _: _: _: _:	fortunate			
		factor scores			
		mean factor scores			

ME, AS I AM

informal	__ : __ : __ : __ : __ : __ : __	formal	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>e</td><td>p</td><td>a</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table>	e	p	a																																																
e	p	a																																																				
ugly	__ : __ : __ : __ : __ : __ : __	beautiful																																																				
large	__ : __ : __ : __ : __ : __ : __	small																																																				
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valuable	__ : __ : __ : __ : __ : __ : __	worthless																																																				
tense	__ : __ : __ : __ : __ : __ : __	relaxed																																																				
intense	__ : __ : __ : __ : __ : __ : __	mild																																																				
unpleasant	__ : __ : __ : __ : __ : __ : __	pleasant																																																				
kind	__ : __ : __ : __ : __ : __ : __	cruel																																																				
uncertain	__ : __ : __ : __ : __ : __ : __	definite																																																				
weak	__ : __ : __ : __ : __ : __ : __	strong																																																				
good	__ : __ : __ : __ : __ : __ : __	bad																																																				
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		mean factor scores	<table border="1" style="border-collapse: collapse; text-align: center;"><tr><td></td><td></td><td></td></tr></table>																																																			

Instructions:

Below and on the following page are listed a number of things characteristic of yourself, or related to you. You are asked to indicate which things you worry about and would like to change if it were possible, and which things you have no feelings about one way or the other.

Consider each item listed below and encircle the number which best represents your feelings about YOURSELF AS YOU ARE NOW according to the following scale:

1. Strongly dislike, and wish change could somehow be made.
2. Don't like, but can put up with.
3. Slightly displeased with.
4. Have no particular feelings one way or the other.
5. Slightly pleased with.
6. Definitely like, am pleased with.
7. Consider myself particularly and unusually fortunate.

So that you will be able to judge each item carefully in terms of the above seven statements, the scale will be at the top of each page. You may refer back to the scale as often as necessary to make your judgment of how you feel. Judge each item carefully. Do not use the same number for each item.

	<u>"ME: AS I AM"</u>							
Hands	1	2	3	4	5	6	7	
Breathing	1	2	3	4	5	6	7	
Waist	1	2	3	4	5	6	7	
Energy level	1	2	3	4	5	6	7	
Back	1	2	3	4	5	6	7	
Neck	1	2	3	4	5	6	7	
Shape of head	1	2	3	4	5	6	7	
Body build	1	2	3	4	5	6	7	
Profile	1	2	3	4	5	6	7	
Height	1	2	3	4	5	6	7	
Age	1	2	3	4	5	6	7	
Width of shoulders	1	2	3	4	5	6	7	
Arms	1	2	3	4	5	6	7	
Chest or breasts	1	2	3	4	5	6	7	
Appearance of eyes	1	2	3	4	5	6	7	
Digestion	1	2	3	4	5	6	7	
Hips	1	2	3	4	5	6	7	
Skin texture	1	2	3	4	5	6	7	
Lips	1	2	3	4	5	6	7	
Legs	1	2	3	4	5	6	7	

- 1. Strongly dislike, and wish change could somehow be made.
- 2. Don't like, but can put up with.
- 3. Slightly displeased with.
- 4. Have no particular feelings one way or the other.
- 5. Slightly pleased with.
- 6. Definitely like, am pleased with.
- 7. Consider myself particularly and unusually fortunate.

	"ME: AS I AM"							
	1	2	3	4	5	6	7	
Sex organs	1	2	3	4	5	6	7	
Appearance of teeth	1	2	3	4	5	6	7	
Forehead	1	2	3	4	5	6	7	
Feet	1	2	3	4	5	6	7	
Sleep	1	2	3	4	5	6	7	
Voice	1	2	3	4	5	6	7	
Health	1	2	3	4	5	6	7	
Sex activities	1	2	3	4	5	6	7	
Knees	1	2	3	4	5	6	7	
Posture	1	2	3	4	5	6	7	
Face	1	2	3	4	5	6	7	
Weight	1	2	3	4	5	6	7	
Sex (male or female)	1	2	3	4	5	6	7	
Back view of head	1	2	3	4	5	6	7	
Hair	1	2	3	4	5	6	7	
Facial complexion	1	2	3	4	5	6	7	
Appetite	1	2	3	4	5	6	7	
Nose	1	2	3	4	5	6	7	
Fingers	1	2	3	4	5	6	7	
Elimination	1	2	3	4	5	6	7	
Wrists	1	2	3	4	5	6	7	
Ears	1	2	3	4	5	6	7	
Chin	1	2	3	4	5	6	7	
Exercise	1	2	3	4	5	6	7	
Ankles	1	2	3	4	5	6	7	
Trunk	1	2	3	4	5	6	7	
Physical stamina	1	2	3	4	5	6	7	
Muscular strength	1	2	3	4	5	6	7	
Keeness of senses	1	2	3	4	5	6	7	
Tolerance for pain	1	2	3	4	5	6	7	
Resistance to illness	1	2	3	4	5	6	7	
Sex drive	1	2	3	4	5	6	7	

BC score = _____

AI score = _____

1. Strongly dislike, and wish change could somehow be made.
2. Don't like, but can put up with.
3. Slightly displeased with.
4. Have no particular feelings one way or the other.
5. Slightly pleased with.
6. Definitely like, am pleased with.
7. Consider myself particularly and unusually fortunate.

"ME: AS I WOULD LIKE TO BE"

Sex organs	1	2	3	4	5	6	7	
Appearance of teeth	1	2	3	4	5	6	7	
Forehead	1	2	3	4	5	6	7	
Feet	1	2	3	4	5	6	7	
Sleep	1	2	3	4	5	6	7	
Voice	1	2	3	4	5	6	7	
Health	1	2	3	4	5	6	7	
Sex activities	1	2	3	4	5	6	7	
Knees	1	2	3	4	5	6	7	
Posture	1	2	3	4	5	6	7	
Face	1	2	3	4	5	6	7	
Weight	1	2	3	4	5	6	7	
Sex (male or female)	1	2	3	4	5	6	7	
Back view of head	1	2	3	4	5	6	7	
Hair	1	2	3	4	5	6	7	
Facial complexion	1	2	3	4	5	6	7	
Appetite	1	2	3	4	5	6	7	
Nose	1	2	3	4	5	6	7	
Fingers	1	2	3	4	5	6	7	
Elimination	1	2	3	4	5	6	7	
Wrists	1	2	3	4	5	6	7	
Ears	1	2	3	4	5	6	7	
Chin	1	2	3	4	5	6	7	
Exercise	1	2	3	4	5	6	7	
Ankles	1	2	3	4	5	6	7	
Trunk	1	2	3	4	5	6	7	
Physical stamina	1	2	3	4	5	6	7	
Muscular strength	1	2	3	4	5	6	7	
Keeness of senses	1	2	3	4	5	6	7	
Tolerance for pain	1	2	3	4	5	6	7	
Resistance to illness	1	2	3	4	5	6	7	
Sex drive	1	2	3	4	5	6	7	

BC score = _____ AI score = _____

**ACTIVITIES OF DAILY LIVING
(ADL) FORM**

DEPARTMENT OF PSYCHOLOGY

MASSEY UNIVERSITY



Activities of Daily Living Form1. Bowel control

- 10 Patient is able to control his bowels and have no accidents. He can use a suppository or take an enema when necessary (as for spinal cord injury patients who have had bowel training).
- 5 Patient needs help in using a suppository or taking an enema or has occasional accidents.

2. Bladder control

- 10 Patient is able to control his bladder day and night. Spinal injury patients who wear an external device and leg bag must put them on independently, clean and empty bag, and stay dry day and night.
- 5 Patient has occasional accidents or cannot wait for the bed pan or get to the toilet in time or needs help with an external device.

3. Feeding

- 10 Independent. The patient can feed himself a meal from a tray or table when someone puts the food within his/her reach. He must be able to put on an assistive device if this is needed, cut up the food, use salt and pepper, spread butter etc. He must accomplish this in a reasonable time.
- 5 Some help is necessary (with cutting up food, etc., as listed above).

4. Personal toilet

- 5 Patient can wash hands and face, comb hair, clean teeth, and shave. He may use any kind of razor but must put in blade or plug in razor without help as well as get it from drawer or cabinet. Female patients must put on make-up, if used, but need not braid or style hair
- 0 Require help.

5. Bathe

- 5 Patient may use a bath tub, a shower, or take a complete sponge bath. He must be able to do all the steps involved in whichever method is employed without another person being present.
- 0 Some help is necessary.

6. Bed → WC → bed

- 15 Independent in all phases of this activity. Patient can safely approach the bed in his wheelchair, lock brakes, lift footrests, move safely to bed, lie down, come to a sitting position on the bed, change the position of the wheelchair, if necessary, to transfer back into it safely, and return to the wheelchair.
- 10 Either some minimal help is needed in some step of this activity or the patient needs to be reminded or supervised for safety of one or more parts of this activity.
- 5 Patient can come to a sitting position without the help of a second person but needs to be lifted out of bed, or if he transfers with a great deal of help.

7. Propel WC

- 5 If a patient cannot ambulate but can propel a wheelchair independently. He must be able to go around corners, turn around, manoeuvre the chair to a table, bed, toilet, etc. He must be able to push a chair at least 50 yards. Do not score this item if the patient gets score for walking.
- 0 Unable to propel WC
- SCORE ONLY IF UNABLE TO WALK

8. Dress and undress

- 10 Patient is able to put on and remove and fasten all clothing, and tie shoe laces (unless it is necessary to use adaptations for this). The activity includes putting on and removing and fastening corset or braces when these are prescribed. Such special clothing as suspenders, loafer shoes, dresses that open down the front may be used when necessary.
- 5 Patient needs help in putting on and removing or fastening any clothing. He must do at least half the work himself. He must accomplish this in a reasonable time.

9. On and off toilet

- 10 Patient is able to get on and off toilet, fasten and unfasten clothes, prevent soiling of clothes, and use toilet paper without help. He may use a wall bar or other stable object for support if needed. If it is necessary to use a bed pan instead of a toilet, he must be able to place it on a chair, empty it, and clean it.
- 5 Patient needs help because of imbalance or in handling clothes or in using toilet paper.

10. Walk on level

- 15 Patient can walk at least 50 yards without help or supervision. He may wear braces or prothesis and use crutches, canes or walkerette but not a rolling walker. He must be able to lock and unlock braces if used, assume the standing position and sit down, get the necessary mechanical aides into position for use, and dispose of them when he sits. (Putting on and taking off braces is scored under dressing).
- 10 Patient needs help or supervision in any of the above but can walk at least 50 yards with a little help.

11. Stairs

- 10 Patient is able to go up and down a flight of stairs safely without help or supervision. He may and should use handrails, canes, or crutches when needed. He must be able to carry canes or crutches as he ascends or descends stairs.
- 5 Patient needs help with or supervision of any one of the above items.

A SCORE OF 0 IS GIVEN IN ALL OF THE ABOVE ACTIVITIES WHEN THE PATIENT CANNOT MEET THE CRITERIA AS DEFINED ABOVE.

Total ADL score _____

APPENDIX I

REVISED FORMS AND SCORING PROTOCOLS OF THE BODY CATHEXIS

SCALES FOR DISABLED AND ABLE-BODIED SUBJECTS

REVISED BODY-IMAGE FORM FOR ABLE-BODIED PERSONS

2	HANDS	1	2	3	4	5	6	7
3	WAIST	1	2	3	4	5	6	7
3	ENERGY LEVEL	1	2	3	4	5	6	7
3	NECK	1	2	3	4	5	6	7
23	SHAPE OF HEAD	1	2	3	4	5	6	7
123	BODY BUILD	1	2	3	4	5	6	7
3	PROFILE	1	2	3	4	5	6	7
1 3	HEIGHT	1	2	3	4	5	6	7
23	AGE	1	2	3	4	5	6	7
1	WIDTH OF SHOULDERS	1	2	3	4	5	6	7
123	ARMS	1	2	3	4	5	6	7
3	CHEST OR BREASTS	1	2	3	4	5	6	7
1 3	DIGESTION	1	2	3	4	5	6	7
1 3	HIPS	1	2	3	4	5	6	7
1	SKIN TEXTURE	1	2	3	4	5	6	7
3	LIPS	1	2	3	4	5	6	7
3	LEGS	1	2	3	4	5	6	7
3	SEX ORGANS	1	2	3	4	5	6	7
	APPEARANCE OF TEETH*	1	2	3	4	5	6	7
23	FOREHEAD	1	2	3	4	5	6	7
2	FEET	1	2	3	4	5	6	7
3	SLEEP	1	2	3	4	5	6	7
12	HEALTH	1	2	3	4	5	6	7
3	SEX ACTIVITIES*	1	2	3	4	5	6	7
1 3	KNEES	1	2	3	4	5	6	7
3	POSTURE	1	2	3	4	5	6	7
3	FACE	1	2	3	4	5	6	7
123	WEIGHT	1	2	3	4	5	6	7
3	SEX (male/female)*	1	2	3	4	5	6	7
23	BACK VIEW OF HEAD	1	2	3	4	5	6	7
1 3	FACIAL COMPLEXION	1	2	3	4	5	6	7
1	APPETITE	1	2	3	4	5	6	7
3	NOSE	1	2	3	4	5	6	7
2	FINGERS	1	2	3	4	5	6	7
1 3	ELIMINATION	1	2	3	4	5	6	7
123	WRISTS	1	2	3	4	5	6	7
3	EARS	1	2	3	4	5	6	7
2	CHIN	1	2	3	4	5	6	7
1	EXERCISE	1	2	3	4	5	6	7
23	ANKLES	1	2	3	4	5	6	7
123	TRUNK	1	2	3	4	5	6	7
23	PHYSICAL STAMINA	1	2	3	4	5	6	7
2	TOLERANCE FOR PAIN	1	2	3	4	5	6	7
1	RESISTANCE TO ILLNESS	1	2	3	4	5	6	7
3	SEX DRIVE*	1	2	3	4	5	6	7

REVISED BODY-IMAGE FORM FOR DISABLED PERSONS

3	HANDS	1	2	3	4	5	6	7
1	WAIST	1	2	3	4	5	6	7
123	ENERGY LEVEL	1	2	3	4	5	6	7
23	SHAPE OF HEAD	1	2	3	4	5	6	7
1	BODY BUILD	1	2	3	4	5	6	7
23	PROFILE	1	2	3	4	5	6	7
3	HEIGHT	1	2	3	4	5	6	7
3	AGE	1	2	3	4	5	6	7
3	WIDTH OF SHOULDERS	1	2	3	4	5	6	7
3	APPEARANCE OF EYES	1	2	3	4	5	6	7
12	HIPS	1	2	3	4	5	6	7
12	SKIN TEXTURE	1	2	3	4	5	6	7
123	LIPS	1	2	3	4	5	6	7
23	LEGS	1	2	3	4	5	6	7
3	SEX ORGANS	1	2	3	4	5	6	7
123	FOREHEAD	1	2	3	4	5	6	7
23	FEET	1	2	3	4	5	6	7
3	SLEEP	1	2	3	4	5	6	7
3	HEALTH	1	2	3	4	5	6	7
23	SEX ACTIVITIES	1	2	3	4	5	6	7
23	KNEES	1	2	3	4	5	6	7
3	POSTURE	1	2	3	4	5	6	7
123	FACE	1	2	3	4	5	6	7
123	BACK VIEW OF HEAD	1	2	3	4	5	6	7
23	HAIR	1	2	3	4	5	6	7
123	FACIAL COMPLEXION	1	2	3	4	5	6	7
123	NOSE	1	2	3	4	5	6	7
3	FINGERS	1	2	3	4	5	6	7
3	ELIMINATION	1	2	3	4	5	6	7
3	WRISTS	1	2	3	4	5	6	7
123	EARS	1	2	3	4	5	6	7
123	CHIN	1	2	3	4	5	6	7
1 3	EXERCISE	1	2	3	4	5	6	7
23	ANKLES	1	2	3	4	5	6	7
3	TRUNK	1	2	3	4	5	6	7
123	PHYSICAL STAMINA	1	2	3	4	5	6	7
1 3	MUSCULAR STRENGTH	1	2	3	4	5	6	7
3	RESISTANCE TO ILLNESS	1	2	3	4	5	6	7
23	SEX DRIVE	1	2	3	4	5	6	7

SCORING PROTOCOL

The numbers to the left hand side of the body part/function indicate which of the forms that particular item may be scored for. For example, all items with 1 to the left would be scored to assess

Body Cathexis for Form 1 ("ME: AS OTHERS SEE ME") for both able-bodied and disabled Ss. Items with 2 or 3 to the left would be used to assess Body Cathexis for Forms 2 ("ME: AS I AM") and 3 ("ME: AS I WOULD LIKE TO BE") respectively for able-bodied or disabled Ss:

- 1 : FORM 1: Body-image 1 (inferred)
- 2 : FORM 2: Body-image 2 (actual)
- 3 : FORM 3: Body-image 3 (ideal)

An item with 123 to the left would be scored for all 3 body-images, depending upon the one under consideration at the time.

APPENDIX J

REVISED FORMS AND SCORING PROTOCOLS OF THE SEMANTIC
DIFFERENTIAL SCALES FOR DISABLED AND ABLE-BODIED SUBJECTS

REVISED SEMANTIC DIFFERENTIAL FORM FOR ABLE-BODIED PERSONS

1	CALM	__:	__:	__:	__:	__:	__:	EXCITABLE
3	VIOLENT	__:	__:	__:	__:	__:	__:	GENTLE
123	VALUABLE	__:	__:	__:	__:	__:	__:	WORTHLESS
12	TENSE	__:	__:	__:	__:	__:	__:	RELAXED
12	INTENSE	__:	__:	__:	__:	__:	__:	MILD
123	UNPLEASANT	__:	__:	__:	__:	__:	__:	PLEASANT
123	KIND	__:	__:	__:	__:	__:	__:	CRUEL
123	UNCERTAIN	__:	__:	__:	__:	__:	__:	DEFINITE
23	WEAK	__:	__:	__:	__:	__:	__:	STRONG
123	GOOD	__:	__:	__:	__:	__:	__:	BAD
123	FAIR	__:	__:	__:	__:	__:	__:	UNFAIR

REVISED SEMANTIC DIFFERENTIAL FORM FOR DISABLED PERSONS

1	INFORMAL	__:	__:	__:	__:	__:	__:	FORMAL
1	CALM	__:	__:	__:	__:	__:	__:	EXCITABLE
1	PASSIVE	__:	__:	__:	__:	__:	__:	ACTIVE
3	VIOLENT	__:	__:	__:	__:	__:	__:	GENTLE
3	VALUABLE	__:	__:	__:	__:	__:	__:	WORTHLESS
1 3	TENSE	__:	__:	__:	__:	__:	__:	RELAXED
12	INTENSE	__:	__:	__:	__:	__:	__:	MILD
23	UNPLEASANT	__:	__:	__:	__:	__:	__:	PLEASANT
123	KIND	__:	__:	__:	__:	__:	__:	CRUEL
1 3	UNCERTAIN	__:	__:	__:	__:	__:	__:	DEFINITE
1 3	WEAK	__:	__:	__:	__:	__:	__:	STRONG
123	GOOD	__:	__:	__:	__:	__:	__:	BAD
123	FAIR	__:	__:	__:	__:	__:	__:	UNFAIR
1	UNFORTUNATE	__:	__:	__:	__:	__:	__:	FORTUNATE

SCORING PROTOCOL

The numbers to the left hand side of the bipolar adjectival scales indicate which of the forms that particular item may be scored for. For example, all items with 1 to the left would be scored to assess Self Cathexis for Form 1 ("ME: AS OTHERS SEE ME") for both able-bodied and disabled Ss. Items with 2 or 3 to the left would be used to assess Self Cathexis for Forms 2 (ME: AS I AM") and 3 ("ME: AS I WOULD LIKE TO BE") respectively for able-bodied or disabled Ss:

1	:	FORM 1	:	Self-concept 1 (inferred)
2	:	FORM 2	:	Self-concept 2 (actual)
3	:	FORM 3	:	Self-concept 3 (ideal)

APPENDIX K

MEAN SCORES ON LIKERT SCALES ASSOCIATED WITH PRIMARY

AND SECONDARY ITEMS FOR THE 3 BODY CATHEXIS SCALES

AND 3 SEMANTIC DIFFERENTIAL SCALES

(able-bodied and disabled Ss)

INDEX

- 1 : primary item
 2 : secondary item
 X : grand mean of Likert scale items of each factor
 1=negative 1=positive

ABLE-BODIED SsMEAN FACTOR ITEM SCORES FOR BC SCALE 1 (inferred body-image)

<u>FACTOR 1</u>				<u>FACTOR 2</u>			
1 ITEMS		2 ITEMS		1 ITEMS		2 ITEMS	
widshou	4.32	breath	4.17	digest	4.27	energyl	4.41
arm	4.19	back	3.89	health	4.96	sleep	4.42
elim	4.27	shhead	4.27	appet	4.57	pstam	4.52
wrist	4.35	posture	4.16	exercis	4.14	mstren	4.24
	X=4.28	sex	5.06	resill	5.20	tolpain	4.64
		bhead	4.18		X=4.63		X=4.45
		fingers	4.38				
		ksenses	4.65				
			X=4.35				
<u>FACTOR 3</u>				<u>FACTOR 4</u>			
1 ITEMS		2 ITEMS		1 ITEMS		2 ITEMS	
bobuild	4.12	legs	3.98	height	4.35	hands	4.15
hips	4.06	ankles	4.19		X=4.35	waist	3.78
knees	3.73		X=4.19			neck	4.04
weight	3.87					profile	4.04
trunk	4.00					age	4.11
	X=3.96					lips	4.10
						hair	4.28
							X=4.07
<u>FACTOR 5</u>							
1 ITEMS		2 ITEMS					
sktext	4.19	apeye	4.83				
fcompl	4.22	fhead	4.34				
	X=4.21	face	4.20				
			X=4.46				

MEAN FACTOR ITEM SCORES FOR BC SCALE 2 (actual body-image)

<u>FACTOR 1</u>				<u>FACTOR 2</u>			
1 ITEMS		2 ITEMS		1 ITEMS		2 ITEMS	
hands	4.17	neck	3.96	bobuild	3.77	waist	3.65
arm	4.00	widshou	4.21	weight	3.62	profile	3.81

FACTOR 1

feet 4.16
 fingers 4.57
 wrist 4.30
 ankles 4.07
 X=4.16

chest 4.17
 legs 3.88
 knees 3.67
 X=3.98

FACTOR 2

trunk 3.78
 X=3.72
 height 4.10
 hips 3.90
 face 4.07
 X=3.91

FACTOR 3

1 ITEMS
 health 4.94
 pstam 4.53
 tolpain 4.65
 X=4.64

2 ITEMS
 energyl 4.21
 digest 4.34
 sleep 4.26
 appet 4.44
 exercis 4.34
 resill 5.14
 X=4.56

FACTOR 4

1 ITEMS
 shhead 4.22
 fhead 4.23
 bhead 4.15
 chin 4.10
 X=4.18

2 ITEMS
 sktext 4.14
 ear 4.12
 X=4.15

FACTOR 5

1 ITEMS

2 ITEMS
 apth 3.94
 sactiv 4.52
 sex 5.37
 sdrive 4.86
 X=4.62

FACTOR 6

1 ITEMS

age 3.81
 X=3.81

2 ITEMS

apeye 4.68
 sleep 4.26
 X=4.77

MEAN FACTOR ITEM SCORES FOR BC SCALE 3 (ideal body-image)FACTOR 1

1 ITEMS
 waist 4.75
 energyl 5.47
 bobuild 5.00
 profile 4.73
 chest 4.92
 hips 4.70
 lips 4.77
 legs 5.04
 knees 4.47
 posture 5.11
 face 5.02
 weight 4.93
 fcompl 5.25
 nose 4.79
 trunk 4.72
 pstam 5.71
 X=4.96

2 ITEMS
 hands 4.62
 arms 4.74
 sktext 5.21
 health 6.01
 hair 5.00
 fingers 4.89
 exercis 5.6711
 ankles 4.71
 X=5.10

FACTOR 2

1 ITEMS
 neck 4.53
 shhead 4.70
 arms 4.74
 fhead 4.60
 bhead 4.50
 elim 4.87
 wrist 4.63
 ear 4.98
 ankles 4.71
 X=4.70

2 ITEMS
 widshou 4.73
 knees 4.47
 fingers 4.89
 chin 4.75
 X=4.71

FACTOR 3

1 ITEMS		2 ITEMS	
height	4.79	hands	4.62
age	4.35	widshou	4.73
	X=4.57	apeye	5.19
		legs	5.04
		apth	5.32
		feet	4.77
		sleep	5.21
		voice	5.23
		tolpain	5.71
			X=5.09

FACTOR 4

1 ITEMS		2 ITEMS	
digest	5.05	fhead	4.60
sleep	5.21	voice	5.23
	X=5.13	health	6.01
		appet	5.15
		chin	4.75
		tolpain	5.71
			X=5.24

FACTOR 5

1 ITEMS		2 ITEMS	
sorg	5.09	pstam	5.71
sactiv	5.33	mstren	5.39
sex	5.54	resill	6.15
sdrive	5.37		X=5.75
	X=5.33		

MEAN FACTOR ITEM SCORES FOR SD SCALE 1 (inferred self-concept)FACTOR 1

1 ITEMS		2 ITEMS	
valuabl	2.79	gentle	2.89
pleas	2.59		X=2.89
kind	2.31		
good	2.53		
fair	2.36		
	X=2.52		

FACTOR 2

1 ITEMS		2 ITEMS	
excit	4.66	active	3.36
relaxed	3.81	gentle	2.89
mild	3.75		X=3.14
	X=4.08		

FACTOR 3

1 ITEMS		2 ITEMS	
defin	3.41	formal	4.23
	X=3.41	active	3.38
		strong	3.10
		fort	2.96
			X=3.42

MEAN FACTOR ITEM SCORES FOR SD SCALE 2 (actual self-concept)FACTOR 1

1 ITEMS		2 ITEMS	
valuabl	2.91	gentle	2.82

FACTOR 2

1 ITEMS		2 ITEMS	
relaxed	4.09	excit	4.15

FACTOR 1		FACTOR 2				
pleas	2.84	defin	3.42	mild	3.92	X=4.15
kind	2.33	strong	3.27		X=4.00	
good	2.43		X=3.17			
fair	2.25					
	X=2.49					

FACTOR 3

1 ITEMS		2 ITEMS
defin	3.42	
strong	3.27	
	X=3.35	

MEAN FACTOR ITEM SCORES FOR SD 3 (ideal self-concept)FACTOR 1

1 ITEMS		2 ITEMS	
gentle	2.19	beaut	2.45
valuabl	1.64	relaxed	1.87
pleas	1.50	fort	1.72
kind	1.45		
defin	1.82		
strong	1.73		
good	1.52		
fair	1.31		
	X=1.65		

DISABLED SsMEAN FACTOR ITEM SCORES FOR BC SCALE 1 (inferred body-image)FACTOR 1

1 ITEMS	
sktext	4.51
lips	4.75
fhead	4.70
face	4.57
bhead	4.47
fcompl	4.48
nose	4.35
ear	4.65
chin	4.57
	X=4.56

2 ITEMS	
shhead	4.93
age	4.87
widshou	4.77
chest	4.57
apeye	4.99
apth	4.33
voice	4.66
hair	4.68
ksense	5.15
	X=4.77

FACTOR 2

1 ITEMS		2 ITEMS	
energyl	3.95	legs	3.38
exercis	3.70	health	4.04
pstam	3.76	sactiv	3.82
mstren	3.59	resill	4.70
	X=3.75	sdrive	4.04
			X=4.00

FACTOR 3

1 ITEMS		2 ITEMS	
waist	4.07	profile	4.42
bobuild	4.35	arm	4.37
hips	4.15	chest	4.57
	X=4.19	legs	3.38
		feet	3.62
		knees	3.47
		posture	3.64
		weight	4.07
		ankles	3.44
		trunk	3.85
			X=3.88

MEAN FACTOR ITEM SCORES FOR BC SCALE 2 (actual body-image)FACTOR 1

1 ITEMS		2 ITEMS	
shhead	4.75	height	4.67
profile	4.32	age	4.85
sktext	4.47	widshou	4.69
lips	4.72	chest	4.36
fhead	4.55	apeye	4.89
face	4.51	apth	4.25
bhead	4.51	voice	4.65
hair	4.50	sex	4.97
fcompl	4.54	ksense	5.18
nose	4.29		X=4.72
ear	4.78		
chin	4.59		
	X=4.54		

FACTOR 2

1 ITEMS		2 ITEMS	
energy1	3.57	digest	4.69
sactiv	3.57	sorg	4.07
pstam	3.75	sleep	4.23
sdrive	4.04	health	4.10
	X=3.73	appet	5.00
		exercis	3.52
		mstren	3.63
			X=4.18

FACTOR 3

1 ITEMS		2 ITEMS	
hips	3.97	waist	3.93
legs	3.41	back	3.93
feet	3.30	bobuild	4.21
knees	3.39	posture	3.70
ankles	3.43	weight	4.03
	X=3.50	trunk	3.95
			X=3.96

FACTOR 4

1 ITEMS		2 ITEMS	
hands	3.74	arm	4.23
fingers	3.78	pstam	3.75
wrist	3.92		X=3.99
mstren	3.63		
	X=3.77		

MEAN FACTOR ITEM SCORES FOR BC SCALE 5 (ideal body-image)

<u>FACTOR 1</u>				<u>FACTOR 2</u>			
1 ITEMS		2 ITEMS		1 ITEMS		2 ITEMS	
shhead	5.65	breath	5.86	hands	5.81	back	5.78
profile	5.88	waist	5.70	energyl	6.00	bobuild	6.02
height	5.91	back	5.78	legs	5.95	arm	5.73
age	5.80	neck	5.82	feet	5.87	digest	5.88
widshou	5.77	arm	5.73	sleep	6.15	hips	5.77
apeye	6.04	chest	5.85	health	6.34	apth	6.01
lips	5.87	hips	5.77	knees	5.80	tolpain	6.24
fhead	5.55	sktext	6.05	posture	5.90		X=5.92
face	6.00	voice	6.02	fingers	6.04		
bhead	5.52	knees	5.80	elim	5.94		
hair	5.95	weight	5.99	wrist	5.88		
fcompl	6.02	sex	6.10	exercis	6.20		
nose	5.76	bobuild	6.02	ankles	5.83		
ear	5.76	appet	5.81	trunk	5.85		
chin	5.60	wrist	5.88	pstam	6.27		
	X=5.81	ankles	5.83	mstren	6.25		
		trunk	5.85	resill	6.35		
			X=5.90		X=6.03		

FACTOR 3

1 ITEMS		2 ITEMS	
sorg	5.65		
sactiv	5.70		
sdrive	5.68		
	X=5.68		

MEAN FACTOR ITEM SCORES FOR SD SCALE 1 (inferred self-concept)

<u>FACTOR 1</u>				<u>FACTOR 2</u>			
1 ITEMS		2 ITEMS		1 ITEMS		2 ITEMS	
kind	2.14	gentle	2.74	active	3.50	valuabl	3.07
good	2.45	pleas	2.40	defin	3.13		X=3.07
fair	2.21		X=2.57	strong	2.88		
	X=2.27				X=3.17		

FACTOR 3

1 ITEMS		2 ITEMS	
excit	4.52		
relaxed	3.73		
mild	3.72		
	X=3.99		

FACTOR 4

1 ITEMS		2 ITEMS	
formal	4.70		
fort	4.14		
	X=4.42		

MEAN FACTOR ITEM SCORES FOR SD SCALE 2 (actual self-concept)

<u>FACTOR 1</u>				<u>FACTOR 2</u>		
1 ITEMS		2 ITEMS		1 ITEMS	2 ITEMS	
pleas	2.42	gentle	2.44		active	3.62
kind	2.04	valuabl	2.95		kind	2.04
good	2.27	relaxed	3.82		fort	3.40
fair	2.09	strong	2.93			X=3.02
	X=2.21		X=3.04			

<u>FACTOR 3</u>			
1 ITEMS		2 ITEMS	
mild	3.55	excit	4.54
	X=3.55	relaxed	3.82
			X=4.18

MEAN FACTOR ITEM SCORES FOR SD SCALE 3 (ideal self-concept)

<u>FACTOR 1</u>			
1 ITEMS		2 ITEMS	
gentle	1.83	fort	1.51
valuabl	1.58		X=1.51
relaxed	1.79		
pleas	1.51		
kind	1.48		
defin	1.65		
strong	1.60		
good	1.58		
fair	1.43		
	X=1.61		

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