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Improving Psychological Adjustment to Amputation through Strategic Self-Presentation

By

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Contents

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Thesis Abstract

Amputation represents an enormous challenge to the individual in terms of adjustment and coping. There are significant implications for psychological well being, as well as physical adjustments to come to terms with. The first paper outlines the theoretical and empirical literature relating to the understanding of disability and associated adjustment and coping processes. Important factors pertaining to these processes are discussed, such as self-identity (self-esteem and self-efficacy in particular) and mental appraisals of the event. Conclusions are made regarding the complex nature of adjustment and coping processes, and the relative lack of research on amputation and more specifically on interventions to facilitate the adjustment process.

The second paper describes a study that investigated the efficacy of an intervention with amputees designed to facilitate adjustment. Strategic self-presentation was proposed as an appropriate intervention given the existing understanding of disability and the important factors involved in adaptive adjustment to amputation. A comparison between an intervention group and control group was made using various measures of adjustment. The hypothesised intervention effect was not supported for the majority of adjustment measures, although an interesting significant effect was demonstrated with the coping repertoire. The most likely conclusion about results is that the intervention failed to yield improved adjustment due to the small sample size, the atypical sample characteristics, and the lack of strength of the intervention. Suggestions for further research were provided, including replication of the study with a larger sample.

Literature Review Paper

Psychological adjustment to amputation: a review of the literature.

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Prepared as if for submission to the British Journal of Health Psychology (see Appendix I for instructions to authors).

Running head: Adjustment to amputation

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Psychological adjustment to amputation: a review of the literature

Introduction and focus of the review

The importance of psychological processes in the experience and management of health and disability has increasingly been recognised. Researchers and clinicians have developed models that can aid our understanding of the psychological processes involved and in turn determine approaches to psychological management and intervention with individuals with illness or disability. The broad purpose of this paper is to review the literature on the processes involved in adjustment to disability and also to examine the literature on facilitating psychological adjustment to disability. To begin, a brief look at the definitions and models of disability that currently exist will be provided, followed by consideration of the processes of adjustment and coping involved. Factors that have been shown to be important in mediating or moderating these processes, such as aspects of self-identity, will be examined. In particular, the literature pertaining to amputation will be addressed as an example of an experience that results in varying degrees of disability.

Amputation is something that a significant number of the population experience, with patients having to face numerous major physical, occupational, social and psychological adjustments. However, it is an area within clinical health research that has received comparatively little attention over the years. Comment will be made regarding the apparent lack of research on methods of facilitating adjustment in individuals who are having difficulty in adapting to their altered way of life after amputation.

Definitions

Pollock (1993) proposed that health is not necessarily or even predominantly identified with the absence of illness, but is defined in functional terms as the ability to carry out normal, everyday tasks and activities. It is often the disruption of this ability that can lead to distress and poor adjustment in individuals in such circumstances. The World Health Organisation (WHO, 1980) distinguishes between impairment, disability and handicap: Impairment is defined as "any loss or abnormality of psychological, physiological or anatomical structure or function". It is effectively the malfunctioning part of the (human) organism. Leading on from this, disability refers to the functioning aspect, that is "any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being". Handicap is the ensuing "disadvantage for a given individual resulting from an impairment or disability that limits or prevents the fulfilment of a role for the individual", and is hence defined by social and environmental factors.

Understanding disability

Such definitions as outlined above imply a relatively straightforward model of disability: a disease or disorder leads to impairment, which in turn leads to a form of disability, which then results in relative handicap. However this simple 'cause and effect' view has been challenged over the years. More comprehensive models of health and disability have given greater consideration to the role of psychological factors (such as perception, attitude and control). For instance, the Theory of Planned Behaviour (Azjen, 1988) suggests that behaviour, including that defined under disability, is determined by intention to act along with perceived behavioural control. It is these mental representations (behavioural intention and control cognitions) that are thought to mediate the relationship between impairment and disability. For example, if an individual experiences repeated failure in doing a task, that person will likely develop a negative attitude towards the task and develop poorer perceived behavioural control, which leads to less likelihood that the individual will attempt the behaviour (lowered intention to act). Thus, there will be greater disability and handicap.

Social cognition models such as the Social Cognitive Theory (Bandura, 1986) have also contributed to our understanding of disability and introduced variables such as internal representations, including concepts such as self-efficacy (Bandura, 1977), and eliciting cues (internal motivations and external triggers to action). Self-efficacy is a concept that appears central to many views and models of health and disability. It is discussed in more detail later in this paper. However, it is useful to say here that self-efficacy is based on the premise that "cognitive events are induced and altered most readily by the experience of mastery arising from effective performance" (Bandura, 1977, p.191). The individual estimates that a given behaviour will lead to certain outcomes (outcome expectancy) and that one can successfully execute the behaviour required to produce the outcomes (efficacy expectation/belief). An individual who believes that a particular course of action will result in certain outcomes will only go on to perform the necessary action if they also believe that they can perform the activity. This obviously has important implications for health and disability-related behaviour, coping and the process of adjustment. For instance, if an amputee does not believe that attempting to stand following their operation will actually result in them being able to walk again (outcome expenctancy), or that they have the strength in the remaining intact limb or the determination to practice (efficacy expectancy), then they are unlikely to attempt the action. This will result likely in increased disability due to decreased mobility.

Similarly, Leventhal's Self-Regulation Theory (Leventhal, Nerenz & Steele, 1984) proposed that individuals develop mental representations of their impairments, which in turn determine and regulate health-related behaviour and coping. These 'common-sense' (Leventhal, Meyer & Nerenz, 1980) mental representations guide the interpretation of symptoms and health care seeking throughout the course of the illness or disability. There are five proposed types of representation. They are (1) attributions about the cause, (2) perceptions of timeline or course, (3) perceptions of control and self-efficacy, (4) identity of the health status – such as symptoms and/or diagnosis, and (5) ideas about the consequences for the person's life. The model proposes that these cognitive representations of the impairment affect disability and psychological adjustment by determining the individual's appraisal of the situation (such as related to self-efficacy, perceived competence and catastrophising) and subsequent coping behaviour. Leventhal also proposed that these representations can change over time and are strongly related to self-management interventions. For instance, when an individual is enabled (via self-interventions or directed by others) to focus attention upon developing a clear perceptual representation of the situation, they can direct their behaviour towards realistic problem solving as opposed to simply reacting with emotional expression. It is then possible to redefine the meaning of the perceptual experience (via cognitive restructuring) from threatening to benign, and so allow the individual to apply effective coping procedures. However, whilst the empirical evidence supporting the model's explanatory and predictive usefulness, as well as its application to a variety of conditions, is increasing (Lau & Hartman, 1983; Leventhal, Diefenbach & Leventhal, 1992; Petrie & Weinman, 1997), more research needs to be done in this area. For instance, it may be possible that control cognitions and coping strategies result from rather than cause disability, as some longitudinal studies would suggest. Revenson and Felton (1989) found that a change in disability resulted in a change in coping strategy. The question remains as to whether mental representations influence coping which in turn determines disability; or whether coping affects the mental representations, which then determine disability. It may be that mental representations have more of a direct role in determining disability than coping strategies do. Or it may be, as suggested by Petrie & Weinman (1997), that mental representations work by affecting the individual's emotional state, which in turn affects disability. Thus, Leventhal's model opens up a number of issues that require further clarification and investigation.

Summary

Models of disability have moved from a simple cause and effect approach to understanding disability. Whilst the World Health Organisation definitions provide a useful starting point, they fail to adequately account for psychological factors that mediate the relationships between impairment, disability and handicap. In understanding the impact of disability on the individual, attention needs to be given to factors such as perceived control and self-efficacy, intention to act, and other internal mental representations and appraisals relating to the disability. More comprehensive models over the years have been applied to health and disability in an attempt to take account of these factors, such as the Theory of Planned Behaviour, Social Cognitive Theory, and Self-Regulation Theory. Such models complement existing literature on the factors and processes involved in facilitating adaptive adjustment to and coping with disability and illness.

Adjustment and coping

The literature in the area of adjustment and coping is vast and multifaceted, and will be selectively reviewed here focusing on studies directly relevant to the issues of adjustment to disability and illness, and specifically amputation. Within the relatively small field of literature on amputation, there is ample evidence to show that limb amputation poses serious threats to psychological well being (Williamson & Walters, 1996; Williamson, Schultz, Bridges & Behan, 1994). However, there are studies that comment on the overall good adjustment of amputees to the challenges it poses (e.g., Postma *et al*, 1992). Sidell (1997), in her review of the literature on adjustment to illness, proposed that "the ultimate goal of individuals affected.... is to adapt" (1997, p.8). She suggested that this process is unique, difficult to define, dynamic, influenced by multiple forces and often happens at an uneven pace.

Adjustment and coping are terms that are often used interchangeably. However, it may be more helpful to understand adjustment as the task of adapting to and coming to terms with the situation as it presents itself. Coping is more specifically related to the means by which this is achieved – the style and strategies employed in the process of adaptation and adjustment. For instance, the cognitive processes whereby the individual learns how to tolerate or put up with the effects of the illness … or in the case of amputation, disability (Bury, 1991). Coping involves the application of strategies; that is, what people do and the actions they take to mobilise resources and increase the likelihood of obtaining favourable outcomes (Bury, 1991). The style of coping refers to the attitude people take to their situation and the way in which they respond to the important features of their illness or disability. Bury (1991) concludes that coping basically involves "maintaining a sense of value and meaning in life, in spite of the symptoms and their effects" (p. 461).

Models of adjustment/adaptation

It is possible to draw from the broader models of disability, adjustment and coping, as well as specific studies on amputees, when considering how individuals come to terms with the tasks they are faced with as a result of an amputation. Levels of adaptation vary and there are a number of psychological and psychosocial variables that contribute to the adjustment process. Thus, the primary question to be addressed in terms of the multifaceted adjustment to such a disability is which biological, psychological and socio-ecological processes act together in contributing to the process of adaptation/adjustment?

A study by Moos & Tsu (1977) found six factors associated with adjustment to disability and illness, and from them developed a life crisis model. The factors associated with good adjustment included cognitive restructuring (changing one's goals and beliefs), acceptance of one's disability, seeking information, and threat minimisation. The factors associated with poor adjustment were wish-fulfilment (fantasies of getting better), and negative emotional expression (such as taking it out on other people). Their model emphasised the importance of the individual's cognitive appraisal of the significance of the 'crisis' (cf. Leventhal's self-regulation model), which then led to the application of adaptive tasks to which coping skills could be applied. The adaptive tasks would include (1) preserving an emotional balance by managing upsetting feelings, (2) preserving a satisfactory self-image, sense of mastery and competence, and goal adjustment, (3) preserving family and social relationships, and (4) preparing for uncertainty whilst maintaining hope. Other tasks were suggested to be more illness or disability related, such as dealing with the symptoms, dealing with the treatment and procedure associated stress, and developing good relationships with the professionals involved. These tasks are accomplished by the application of coping skills.

Radley & Green (1985, 1987) proposed a model that highlighted two relationships through which they suggest it is possible to conceptualise adjustment. Their model took account of both the demands of the relationship of the individual to society (that is, whether social participation is lost or retained), and the demands of the self in relation to the condition (whether or not the self is 'complementary' to or 'opposed' to the illness or disability). Complementarity suggests acceptance of the condition and attempts to work round its constraints. Where the self is complementary and social participation is retained there is likely to be an accommodation to the disability. Where the self is complementary but social participation is lost, there is likely to be a search for and construction of the positive qualities that result from the disability. On the other hand, self in opposition to the disability or illness reflects an attempt to fight, overcome and defeat it. Where this interacts with the retention of social participation, an style of active-denial results whereby the individual carries on regardless and attempts to participate in normal life as far as is possible. However, where self in opposition interacts with a loss of social participation, the authors propose a resignation stance. Thus, adjustment depends on these two dimensions (loss/retention of social participation and complementarity/opposition to the condition or disability), and the interaction or balance of the two modalities. The authors also recognised the role of context, resources and significant others in determining the style of adjustment and the negotiation of differing demands.

These two models of adjustment both highlight the important role of social and psychological factors in contributing to the adjustment of an individual. An integral facet of the adjustment process is the application of coping styles, strategies and skills.

Coping

One of the major areas of work in the field of disability and illness focuses on how people cope with the different demands of their condition. When considering amputation, there are many challenges and demands to cope with – physical, emotional/psychological and social, as 'severe physical disability is an extreme test of coping resources' (Visotsky, Hamburg, Goss & Lebovits, 1961, p.51). For instance, there are potential mobility difficulties that have implications for adjustment (Carrington, Mawdsley, Morley, Kincey & Boulton, 1996). Many amputees suffer with phantom limb pain (Pucher, Kickinger & Frischenschlager (1999) and other amputation related pain which has implications for levels of disability, and therefore adjustment and quality of life (Marshall, Helmes & Deathe, 1992; Walters & Williamson, 1998). As well as such physical challenges, higher rates of anxiety and depression are commonly reported in amputees (Breakey, 1997; Christ, Lane & Marcove, 1995; Cutson & Bongiorni, 1996; Frank, Kashani, Wonderlich, Umlauf & Ashkanazi (1984); Langer, 1995).

There have been many conceptual changes over the years regarding coping and researchers have varied in their opinions and emphasis. One of the primary assumptions in the area is that disability and the effects of it (such as emotional state) is determined or mediated by coping (Bennett, Weinman & Spurgeon, 1990). Coping is itself influenced by psychological factors such as self-esteem, self-efficacy and control beliefs, other mental representations, and the dual demands of adjustment (as described by Radley & Green, (1987) – (1) the demands of the relationship between the individual and society, and (2) the demands of the self in relation to the disability). Lazarus & Folkman (1984) proposed that a person's choice of coping style or strategy is determined by the nature of the situation, the social and psychological and personal resources available (e.g., self-esteem and self-efficacy/mastery; Pearlin & Schooler, 1978), and the type of appraisal adopted. Whatever conceptual position is taken, there is agreement that understanding how people cope with illness or disability is of central importance. The overall aim of coping has been said to be the achievement of mastery, control or resolution (Weisman & Worden, 1976). Coping may be seen as functional in its attempts to manage demands, by changing them, redefining them or adapting to them.

In their early work, Pearlin & Schooler (1978) proposed three distinct types of coping with a stressful situation. Stress arises form a mismatch between the demands of the situation and one's available resources to deal with those demands. Firstly, coping responses that change the situation out of which stress arises. Secondly, there are responses that control the meaning of the stressful experience. And thirdly, responses that address control of the stress itself once it has emerged. Thus coping is seen to be a multidimensional construct that "functions at a number of levels and is attained by a plethora of behaviours, cognitions and perceptions". (p.7-8). Similarly, Lazarus & Folkman (1984) viewed coping as context-specific behavioural and emotional processes in which an individual appraises, encounters and recovers from contact with a stressor, whatever form this stressor takes. Cognitive and behavioural efforts are made to manage specific external or internal demands that are appraised as exceeding the resources of the person. These authors also viewed coping as a dynamic process, independent of outcome; that is, irrespective of whether the application of a particular coping strategy or style was successful or not. Pearlin & Schooler (1978) make the comment that effective coping is judged primarily on how well it prevents a stressful experience from resulting in emotional stress, as opposed to removing the source of stress from our lives. Visotsky, Hamburg, Goss & Lebovits (1961) proposed that coping is basically effective if uncomfortable feelings of anxiety, fear, grief or guilt are contained; hope is generated; self-esteem is enhanced (or at least maintained); relationships with others are preserved; and a state of wellness is maintained or improved.

There has been some consistency in conceptualising coping as a generally dichotomous concept. For instance, Roth & Cohen (1986) highlight the approach-avoidance distinction in formulating coping behaviours (see also Livneh, Antonak & Gerhardt, 2000). Approach strategies are oriented toward the 'threat' or stressor, and can be useful in allowing appropriate action to be taken along with the ventilation of emotion. Avoidance strategies on the other hand reduce stress by not confronting it. There are studies that have been carried out that consider the application of both these strategies in the process of adaptation and adjustment to illness or disability. For example, Peterson (1989) found that an active, information-seeking approach was associated with less anxiety, greater pain tolerance, and increased co-operation in children undergoing stressful medical procedures. An avoidant, information-denying style on the other hand was associated with more anxiety, less co-operation, and lower pain tolerance. Mikulincer & Florian (1996) also concluded that relying more heavily on avoidance was linked to less beneficial adjustment to life stresses and challenges. Livneh, Antonak & Gerhardt (1999) conducted research on coping strategies with amputees. They found that active problem solving (an approach strategy) was negatively associated with depression and internalised anger, and positively associated to adjustment and acceptance of disability. Cognitive disengagement and emotion focusing was positively associated with anxiety, depression and externalised hostility, and negatively associated with acceptance of disability. Mullen & Suls (1982) found a consistent pattern across a number of studies and concluded that avoidance can be adaptive in the short term, whereas approach strategies were more adaptive in the long term. However, their study focused particularly on physical adaptation and did not consider the psychological or emotional adjustment. Thus, we may conclude that avoidance can be a valuable type of coping in the initial period of adjustment where emotional resources are often limited (Roth & Cohen, 1986).

Another dichotomy that has been identified in the area of coping with an event such as amputation is that of emotion-focused versus cognitive-focused/problem-solving coping (Livneh, Antonak & Gerhardt, 2000). Emotional coping refers to the strategies that attempt minimise the emotional impact of the disability, for example by facilitating the venting of emotions regarding the disability and seeking of emotional support. Cognitive and problem based strategies on the other hand refer to the use of techniques that influence the experience via the individual's cognitive processes. For example, by using distraction or reinterpreting the experience (Hill, 1993). Again studies have demonstrated links between the style and strategy adopted and the adjustment process. For instance, Livneh, Antonak & Gerhardt (1999) found a positive link between emotion focusing, and depression and externalised hostility. Felton, Revenson & Hinrichsen (1984) found that cognitive strategies, such as information seeking, were related to positive affect. Emotion focused strategies, such as those involving avoidance, blame and emotional ventilation, were related to lowered self-esteem and poorer adjustment to illness. The link between the use of more passive, emotion-focused coping and psychosocial maladjustment in amputees was also found in a study of phantom limb pain. For instance, studies by Hill (1993) and Hill, Niven & Knussen (1995) demonstrated that catastrophising and feeling helpless were related to in increased pain and psychological distress in amputees, even though it accounted for only a small amount of variance.

Conceptualising coping behaviours and styles in such dichotomous terms may be helpful to some extent in identifying those behaviours and approaches that tend to be associated with increased distress and less effective adjustment. However, many researchers over the years have commented on the necessity of a varied repertoire of coping. For example, Pearlin & Schooler (1978) concluded that "the greater the scope and variety of the individual's coping repertoire, the more protection coping affords" (p. 18). Likewise, Folkman & Lazarus (1980) and Lazarus (1985) commented that people tend to use a mixture of coping mechanisms (problem focused and emotion focused). Roth & Cohen (1986) also allude to the importance of being able to alternate between approach and avoidance strategies depending on the demands of the situation at any one time, and comment that these two particular aspects of coping are not mutually exclusive.

Summary

The process of adjustment and the means by which one copes with an experience such as amputation is inevitably varied and multifaceted, and can depend greatly on the social and psychological resources that the individual has to draw on. General models of adaptation point to the importance of the person's cognitive appraisal of the situation, the ability to maintain a sense of self-esteem and efficacy or control, and the application of adaptive coping strategies, along with social factors and the role of maintaining important interpersonal relationships. Coping itself is influenced by psychological factors such as aspects of self-perception and identity. Whilst there is a degree of variability in the literature on coping, there is a general consensus that some coping responses aid the process of adjustment more than others in the long term (e.g., active/approach versus passive/avoidant styles, or cognitive versus emotional coping). Thus, all types of coping strategy and style may have their place in the process and there are arguments for a varied and flexible repertoire in preference to a particular rigid style. Coping is seen to be effective if the outcome is a reduction in emotional stress and maintenance of self-identity in the face of a 'crisis', and not simply the removal of the source of stress.

Self-identity and disability

One of the integral concepts in adjustment and coping processes is the notion of 'self-identity', and how one's experience of the self is imperative in determining adjustment and coping with disability. Radley (1994) highlighted the point that we use our bodies as a means by which we engage with other people and the world. He argued that when our bodies are affected, there are two types of consequence. Firstly, there are implications on a performance level whereby things need to be done more slowly or potentially given up altogether (as identified in the WHO definitions). However, there are also important consequences for the perception of oneself living in a social environment. Hence, disability can become a crisis when it removes or challenges the basis upon which an individual has established his or her identity. Gallagher & MacLachlan (2001) reported that "the loss of a limb calls into question the way in which the person perceives him or herself and the way in which the body influences self-imag" (p. 90). Problems with body image are also common with amputees (Breakey, 1997; Frierson & Lippman, 1987; Rybarczyk, Nyenhuis, Nicholas, Cash & Kaiser; 1995), especially where the foundation of one's identity places great emphasis on the physical form. Radley proposed that adapting to a disability or chronic illness thus requires the renegotiation of the person's social identity when living in the world of the healthy. For instance, some cultures have a high value on personal independence, physical attractiveness and task performance. Disability is thus discredited in the eyes of the healthy, based on such judgements of what is acceptable and normative.

Charmaz (1983) likewise pointed out that living with a chronic illness or disability requires the reconstructing of a sense of self that has been lost. This loss is exacerbated by four social psychological factors. First, living a restricted life (either directly or indirectly), which potentially fosters an "all-consuming retreat" (Radley, 1994, p.147) into the condition. For example, Burger & Marincek (1997) found that after amputation, most participants in their study engaged less frequently in social activities, especially older amputees. Williamson, Schulz, Bridges & Behan (1994) provided evidence that activity restriction resulting from amputation is pivotal in mediating the relationship between amputation and depressed mood. Williamson (1998) proposed that this is because "being unable to continue to perform activities related to a meaningful life represents a threat to a sense of self" (p. 341). Second, existing in social isolation can be enforced either directly in relation to the disability or through fear of social exclusion and stigma (e.g., Crocker & Major, 1989; Rybarczyk, Nicholas & Nyenhuis, 1997; Susman, 1994). For instance, Rybarczyk *et al* (1995) looked at the relationship of body image and perceived social stigma in amputees. They found that perceived social stigma contributed to depression in amputees. They commented that "perceived social stigma could be a projection of self-stigma, or self-stigma could be an introjection of the stigmatising attitudes held by the public" (p.106). They also noted that perceived stigma could be an early warning sign for poor adjustment in amputees. There are also a number of studies that demonstrate that a high level of social isolation exists in amputees as a group (Thompson & Haran, 1984; Postma *et al*, 1992; Burger & Marincek, 1997).

Social isolation can consequently be associated with greater risk of psychiatric illness and inhibition of the expression of need (Thompson & Haran, 1984). Third, people with a disability can experience discredited definitions of the self through other people's curiosity, hostility or discomfort about the condition. This can be especially true where the symptoms are highly visible (as with many amputations, especially where no prosthesis has been fitted). And finally, becoming a burden can have a profound effect upon a person's social identity, particularly where identity has been based on doing things independently.

Studies such as these highlight the importance of a sense of self in adjustment. Two important concepts that are identified in the literature on the self are self-efficacy and self-esteem. These will now be considered in more detail.

Self-efficacy

Self-efficacy is a concept that is frequently referred to within the field of health and disability. There are many studies over the years that have pointed to the impact of efficacy beliefs on adjustment to disability and chronic illness in both children and adults (Burckhardt, 1985; Fung & Lee, 1996; Helgeson, 1992; Rutter, 1987; Thompson, Gustafson, Gil, Godfrey & Bennett, 1998), and also on subsequent health related behaviour (Kaplan, Atkins & Reinsch, 1984; Taylor, Bandura, Ewart, Miller & DeBusk, 1985). Self-efficacy as a concept was developed primarily by Bandura as part of his social learning theory (see Bandura, 1977, for a more detailed discussion of self-efficacy). It refers to the strength of an individual's conviction that he or she is able to successfully execute a behaviour (efficacy expectancy) that will result in the desired outcome (outcome expectancy). Rutter (1987) proposed that confidence and a conviction that one can cope successfully with life's challenges is protective, and other researchers have supported this view in relation to adjustment to disability. Thus, efficacy beliefs and expectations of personal efficacy can influence coping behaviour through affecting the degree of effort with which people engage in a course of action, and their persistence in the face of obstacles (such as disability), consequently affecting the adjustment process. For instance, Taylor *et al* (1985) found that recovery after a cardiac operation was improved by self-perceptions of the person's own coping resources and their self-efficacy.

A related concept is that of control. A sense that one has some control (an internal locus of control) over the experience and outcome of chronic illness or disability is vital in fostering adaptive adjustment, positive coping, and reducing the aversiveness of the experience (e.g., Burckhardt, 1985). Frierson & Lippman (1987) pointed out that, whilst feelings of loss of control are not unique to amputees, it is a common experience. Helgeson (1992) looked at the relationship between perceived control and adjustment. She found that perceptions of personal control were associated with better adjustment in cardiac patients. The influence of reality and severity were also noted; that is, where the 'threat' (health issue) is actually controllable, and where that 'threat' is more severe in terms of its implications for the individual and their health. Dunn (1996) also concluded that gaining a sense of personal control following amputation can lead people to feel better about themselves, cope better with adversity, and promote physical and psychological well-being. Hill (1993) found that a sense of helplessness was related to psychological distress and greater reports of phantom limb pain in amputees, thus implying that the converse, a sense of control, is beneficial. Williamson, Schulz, Bridges & Behan (1994) suggested that shifts in mastery and control occur in response to the external environment and the opportunities and constraints encountered (such as a restriction in activity following amputation).

It has been found to be possible to affect self-efficacy and control perceptions as a result of interventions. O'Leary, Shoor, Lorig & Holman (1988) hypothesised that self-efficacy would mediate disease management in arthritis. They found evidence of increased perceived self-efficacy, reduced levels of depression and stress, increased coping, and also reduced pain and joint inflammation following a cognitive-behavioural treatment. Hener, Weisenberg & Har-Even (1996) also found evidence of improved psychosocial adjustment to kidney dialysis following interventions that included elements of facilitating self-efficacy and self-control. Likewise, Atala & Carter (1992), and Fung & Lee, (1996) demonstrated the importance of interventions that provide a sense of control and mastery in facilitating adjustment to amputation in children.

Self-esteem

It has been suggested that the self-concept develops partly through efficacious interaction with the environment (Crocker & Major, 1989). By learning that one can control and manipulate the environment, one acquires the view of the self as able, successful, competent, and subsequently one has a high sense of self-esteem. Fitzgerald-Miller (1992) defined self-esteem as "the evaluative component of the self-concept...a judgement about one's worth" (p.397). Rosenberg (1965) states that self-esteem is an attitude of approval or disapproval of self. Therefore, individuals with a high sense of self-esteem perceive themselves as worthwhile, significant and confident in influencing desired outcomes. On the other hand, individuals with low self-esteem perceive themselves to be worthless, of little significance and unable to affect outcomes. Thus, self-esteem is a concept closely linked to self-efficacy. Hunter, Linn & Harris (1981-82) found that people with low self-esteem were more apt to see their lives as being at the mercy of external forces (external locus of control), rather than having a sense of personal control (internal locus of control) over outcome and fate. Similarly, Dunn (1996) found (as predicted) that heightened perception of control over one's amputation was linked with higher self-esteem.

Research findings about whether people with a chronic illness or disability have lower self-esteem than healthy people are inconclusive. Some findings suggest that higher self-esteem is positively correlated to adjustment to illness and disability (e.g., Burckhardt, 1985; Linkowski & Dunn, 1974, Thompson *et al,* 1998). Hunter, Linn & Harris (1981-82), and Breakey (1997) also demonstrated a link between physical disability and lower self-esteem, and Postma *et al* (1992) found lower levels of self-esteem amongst amputees as compared to limb salvage patients. However, other writers have maintained that self-esteem is not necessarily lower in chronically ill or disabled groups of people (Radley, 1994). Crocker & Major (1989) suggested that membership of a socially stigmatised group (such as 'the disabled') might actually serve to protect the self-concept and esteem. Radley (1994) proposes that "Where they can selectively devalue those things that they are not good at, and value those attributes on which they excel, then it is possible for their self-esteem to be raised, at least for a time" (p.159). Some early work looked at designing strategies to enhance self-esteem. For instance, Turk (1979) commented that (a) gaining knowledge, (b) having the ability to use coping strategies (particularly taking a problem-solving approach), (c) having a social support system, (d) having a sense of personal control, and (e) having motivation to implement the required health and disability related behaviours; all contribute to enhanced self-esteem. In addition, Miller (1987) suggested that helping the individual to discover his or her own assets and strengths in the face of illness and disability was of great value in enhancing adolescents' self-esteem, and therefore adjustment.

Summary

Self-efficacy and self-esteem are two aspects of self-identity that appear to significantly contribute to an individual's adjustment process. Where there is a strong sense of being able to have some influence over the outcome and an awareness of having the resources to make it happen, along with a sense of worth and esteem about oneself, then adaptive coping resources can be mobilised to facilitate adaptation to an experience like amputation.

Bringing it together – a place for intervention?

The various aspects of coming to terms with a potentially disabling experience such as amputation have been considered. Models of adaptation reflect the dynamic and varied nature of the adjustment process. Coping plays a large mediating part in that process (Gallagher & MacLachlan, 1999) as does the role of psychological factors such as appraisal and mental representations, self-esteem, and efficacy/control beliefs. Pearlin & Schooler (1978) suggested that there are three main sources of competence in dealing with stressful situations, such as a disability. These are the (1) the freedom from negative attitudes towards self, (2) having a sense that one is in control of the forces impinging on the self (a sense of self-efficacy), and (3) the presence of favourable attitudes toward self (a sense of self-esteem). Thus, for most individuals, long-term adjustment depends on how they access these sources of competence to cope effectively with the psychosocial stressors of amputation or other forms of disability.

Having an understanding of the role of coping skills, self-efficacy and self-esteem, and mental appraisals in the adjustment process in amputation should inform clinical practice in dealing with individuals who are struggling to come to terms with their situation or who are experiencing significant distress as a result. For instance, interventions that focus upon enhancing a sense of self-esteem and self-efficacy will be beneficial (Fitzgerald-Miller, 1992), as will interventions that address protective factors such as a sense of optimism, and positive meaning (Dunn, 1996), and interventions that enhance adaptive coping strategies (Viney & Westbrook, 1982). However, there are few studies that have looked at how to improve adjustment by testing a specific experimental manipulation. Most of the available studies focus on children rather than adults, utilise case illustrations, and focus on health issues other than amputation.

Kent & Fyfe (1999) argued that rehabilitation programmes for amputees are not simply prosthetic services, but need to take account of the whole patient, and so potentially address the adjustment process and skills involved. Fung & Lee (1996) supported this view and considered the psychological management of children with amputations as a result of cancer. They proposed that interventions should augment a sense of control and efficacy, and enhance adaptive coping strategies, and illustrated their suggestions with a case study. Atala & Carter (1992) also addressed psychotherapeutic interventions to enhance coping and adjustment in paediatric patients undergoing limb amputation. They utilised play strategies and a cognitive-behavioural package to improve coping and adjustment.

The package focused on techniques that helped the children gain a sense of control, developed positive coping self-statements (such as 'I know I can do it), facilitated mastery and reinforced the use of positive, active coping strategies. Again, their intervention was supported by a case illustration. Other studies of interventions with adults with different types of disability or illness also promote the use of techniques that facilitate self-efficacy and coping skills. For example, Hener, Weisenberg & Har-Even (1996) used a cognitive-behavioural approach with patients having home peritoneal kidney dialysis. Although they found few differences between a supportive intervention versus a cognitive-behavioural intervention in achieving adjustment, they did find an overall intervention effect above no-intervention in achieving and maintaining self-efficacy and adjustment. Similarly, O'Leary, Shoor, Lorig & Holman (1988) found suggestive evidence of an enhancement in perceived self-efficacy and psychosocial functioning following a cognitive-behavioural treatment for rheumatoid arthritis.

However, the relative lack of studies looking at successful interventions (utilising other methodologies than case studies) for adult amputees suggests that much more research needs to be done in this area. Interventions that enhance aspects of the self-identity in the face of an amputation as well as reinforcing adaptive coping strategies are needed. One such intervention is strategic self-presentation (SSP).

Strategic Self-Presentation

The literature on strategic self-presentation stems mainly from social psychology although it has more recently been applied to health related issues. Social psychologists have, for many years, argued that public self-presentations have a strong influence on private appraisals of the self, which can in turn determine future behaviour. This notion draws on two main theories in social psychology. One of these is Bem's self-perception theory (see Bem, 1972, for a detailed description of the self-perception theory). The first supposition of self-perception theory is that, "Individuals come to know their own attitudes, emotions, and other internal states partially by inferring them from observations of their own overt behaviour and/or the circumstances in which this behaviour occurs" (Bem, 1972, p.5). Thus, the individual's own behaviour will act as a source of evidence for his or her beliefs and attitudes, and potentially motivate attitude change towards the self. The self-concept can ultimately be altered to be consistent with the self-presentation. A variant of self-perception theory, biased scanning (Jones, Rhodewalt, Berglas & Skelton, 1981) is particularly pertinent to strategic self-presentation. Biased scanning proposes that the self-concept is made up of a complex set of alternative, competing self-beliefs that shift in salience. Public self-presentations work by drawing attention to existing congruent self-beliefs, making that self-belief more salient.

The second theory that has impacted views on attitude change and consequently strategic self-presentation is that of Festinger's theory of cognitive dissonance (1957). Cognitive dissonance concerns itself with the relationship between cognitions and the internal motivating drive to maintain consistency between relevant cognitions (Fazio, Zanna & Cooper, 1977). We want our actions to be in accord with our emotions, and so search for cognitive consistency. Dissonance is argued to be a state of aversive arousal as a result of performing counter-attitudinal behaviour. The individual is then motivated to reduce this arousal, potentially by changing their attitude. Thus, self-presentations that are discrepant with one's existing self-conception lead to a sense of conflict or dissonance, which can be reduced by changing one's private self to reflect the public behaviour (Leake, Friend & Wadhwa, 1999). Whilst these two theories have been largely conceptualised as competing theories some authors have developed an integrated framework that allows for the operation of both processes (dissonance and self-perception/biased scanning) in a complementary way (Fazio, Zanna & Cooper, 1977; Rhodewalt & Agustsdottir, 1986).

Strategic self-presentation draws on the premises of these two theories in order to achieve attitude change, and consequently behaviour change. The basic suppositions of strategic self-presentation are the acceptance that (1) a person's self-identity (or self-concept) has an important influence on behaviour, and also (2) that repeated behaviours influence a person's self-concept, which then become important to that person, developing a role identity consistent with the behaviour (Sparks & Shepherd, 1992). Engaging in strategic self-presentation typically leads the individual's view of self to shift in the direction of the presentational episode (Rhodewalt & Agustsdottir, 1986). Jones, Rhodewalt, Berglas & Skelton (1981) demonstrated this where subjects instructed to be self-enhancing in an interview subsequently showed elevated self-esteem, where those instructed to present themselves to the interviewer as self-depreciating subsequently showed lowered self-esteem. Likewise, Kowalski & Leary (1990) demonstrated similar effects whereby tactical self-enhancing presentation was associated with enhanced self-evaluation, whereas self-denigration resulted in lower self-evaluation. This effect has been found to be even more potent when the presentations are public in nature (Doherty & Schlenker, 1991; Schlenker, Dlugolecki & Doherty, 1994) and when the individual has lower self-esteem to begin with (Tice & Baumeister, 1990).

Even though there have been numerous studies on the effects of strategic self-presentation with non-clinical populations (such as Jones *et al*, 1981; Rhodewalt & Agustsdottir, 1986; Tice & Baumeister, 1990), there is little application of this technique to clinical or health problems. The literature on health and disability, and specifically that on amputation, suggests that this is a technique that could be well utilised for improving adjustment and coping with the experience. The roles of the self-identity and aspects of the self-concept (such as self-esteem and self-efficacy) have been demonstrated to have important implications for the adjustment of amputees, and strategic self-presentation fits well theoretically with this view. We know that amputation has significant impact on the person's sense of self (Gallagher & MacLachlan, 2001) and can also result in significant psychological stress (Williamson & Walters, 1996). Strategic self-presentation has good empirical backing to show its impact on self-evaluations and so it seems logical that the use of such a technique in facilitating adjustment would be beneficial to the individual's sense of esteem, efficacy, identity and thus adjustment and coping. In an early study, Weisman & Sobel (1979) argued for the use of self-guiding language and self-instruction (an element of strategic self-presentation) with patients with cancer in order to gain more control over their experience, and so enhance their self-esteem. Previous cognitive-behavioural studies (e.g., Hener, Weisenberg & Har-Even, 1996) have found that providing patients with the means to solve their own problems is more effective than simply providing emotional support (as self-generated responses are more easily internalised). Strategic self-presentation provides the opportunity for patients to generate their own coping solutions and reinforces existing adaptive responses. A study by Langer (1995) identified a link between self-rated disability and depression in amputees, which might suggest that altering the amputees' perception of self as severely disabled (possibly via strategic self-presentation) would have an impact on their levels of depression. Leake, Friend & Wadhwa (1999) used strategic self-presentation directly as an intervention to facilitate and improve adjustment to home dialysis in end stage renal failure patients. They hypothesised that strategic self-presentation would indirectly manipulate the self-concept when the person presented themselves as a successful coper, so that the identity of a well-adjusted patient would become more salient. They found that those patients in the self-presentation group reported better adjustment, fewer physical symptoms and more coping skills compared to the control groups in their study. Whilst their findings are supportive of strategic self-presentation being applied as a technique to improve adjustment to clinical health problems, the study does have some limitations. For instance, their only measure of adjustment was depression level, and their measure of coping was weak (self-rated number of coping skills).

Overall summary and conclusions

The existing literature on adjustment and coping with amputation and other disabilities is vast and comprehensive. A number of factors that play a part in mediating the process of adaptation have been highlighted (such as appraisal and mental representations, self-esteem, and efficacy/control beliefs). However, there is a dearth of studies that use this existing literature and knowledge to inform clinical practice and few studies have reported on possible interventions to facilitate adaptive adjustment. The existing research is limited both methodologically and in its field of application. One possible intervention that takes account of those factors considered is strategic self-presentation. This approach stems from social psychology literature and researchers have recently seen the potential for its application to clinical health issues. More research is needed to evaluate the effectiveness of this approach and others in facilitating adjustment.

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Empirical Paper

Improving psychological adjustment to amputation through strategic self-presentation: an empirical study.

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Running head: Adjustment to amputation

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Abstract

Objectives: To investigate the efficacy of strategic self-presentation as an intervention to facilitate adjustment following amputation.

Method: Twenty amputees were allocated to one of two groups – an intervention group and a control group, with ten participants in each group. They were all given a variety of psychometric measures of adjustment including the Hospital Anxiety and Depression Scale, measures of self-esteem and self-efficacy, the Coping Responses Inventory, and the Psychosocial Adjustment to Illness Scale. Pre and post measures were compared to test for an intervention effect. The intervention comprised a strategic self-presentation structured interview and completion of a diary for one month following the intervention. The control group engaged in a general discussion of their amputation experience and did not complete the diary.

Results: No significant intervention effect was demonstrated on the measures of adjustment. However significant results were yielded with the cognitive-approach coping strategies of the Coping Responses Inventory, indicating a shift in the use of these strategies in the intervention group.

Conclusions: The lack of significant results was explained by the small sample size, the atypical characteristics of the sample (in that they were all quite well adjusted to begin with, resulting in a possible ceiling effect), and the lack of strength of the intervention. Directions for future research are suggested.

Improving Psychosocial Adjustment to Amputation through Strategic Self-Presentation: an empirical study

Introduction

Amputation is a field within clinical health research that has received relatively little attention over the years compared to other health and disability issues. Yet disability following lower limb amputation is permanent and those who survive an operation to remove a limb face major physical, occupational, social and psychological adjustments. There is ample evidence to show that limb amputation poses serious threats to psychological well-being (Williamson, Schultz, Bridges & Behan, 1994; Williamson & Walters, 1996). For instance, Marshall, Helmes & Deathe (1992) comment on the multiple challenges that amputees face. These include residual stump pain and phantom limb pain, a potentially disrupted self-image, depression and anxiety, limited mobility and associated forced changes in physical and social activities. Other researchers have demonstrated similar findings in terms of common problems associated with limb amputation. Along with the actual experience of stump pain and phantom limb pain (Gallagher & MacLachlan, 1999; Hill, Niven & Knussen, 1995; Pucher Kickinger & Frischenschlager, 1999) come the associated effects of pain, such as distress and a sense of helplessness (Hill, 1993). Anxiety and depression levels are often found to be higher in this group (Breakey, 1997; Cutson & Bongiorni, 1996; Frank *et al,* 1984; Langer, 1995; Shukla, Sahu, Tripathi & Gupta, 1982). Factors influencing levels of depression among amputees are thought to be activity restriction and mobility difficulties (Burger & Marincek, 1997; Williamson, 1998; Williamson, Schultz, Bridges & Behan, 1994). Social isolation following amputation is also associated with a greater risk of psychiatric morbidity (Postma *et al*, 1992; Thompson & Haran, 1984). Amputees are often thought to show a trend towards lower self-esteem (Breakey, 1997; Postma *et al,* 1992). However, research findings in this area are inconsistent and some authors have suggested that having a social identity with a group (such as amputees) can actually be protective for the individual's self-esteem (Crocker & Major, 1989). Breakey (1997), Frierson & Lippman (1987) and Rybarczyk, Nyenhuis, Nicholas, Cash & Kaiser (1995) all proposed that amputation can lead to body image disturbance, which in turn is related to an increase in a person's tendency towards anxiety, depression, low self-esteem and less satisfaction with life. Sexual activity may be affected after amputation (due to variables associated with pain, motion, body image linked with self-confidence and desirability). Studies have demonstrated a link between satisfaction with sexual activity and depression and overall quality of life (Walters & Williamson, 1998; Williamson & Walters, 1996). However, whilst psychological adjustment problems are common among both children and adults with leg amputations (Rybarczyk *et al*, 1995), there are studies that comment on the overall good adjustment of amputees to the challenges it poses (e.g., Postma *et al*, 1992). Dunn (1996) adopted a positive perspective on the aftermath of the disabling experience of amputation and examined how individuals deal favourably with the experience. She demonstrated that amputees who find meaning following amputation, demonstrate optimism and perceived control exhibited lower depression and higher self-esteem.

Given the potential for multiple difficulties following the experience of amputation, it is important to understand how it is that individuals come to terms with their new situation and deal with the challenges that are presented. Sidell

(1997), in her review of the literature on adjustment to illness, proposed that "the ultimate goal of individuals affected.... is to adapt" (1997, p.8). She suggested that this process is unique, difficult to define, dynamic, influenced by multiple forces and often happens at an uneven pace. The literature on adjustment and coping with disability is vast and multifaceted. Models of adaptation and theories of coping have been proposed that complement the existing understanding of what disability is and how it impacts an individual's life. The framework for understanding disability has developed from a simple definition, that is: "any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being" (World Health Organisation, 1980), to more comprehensive frameworks that place greater emphasis on psychological factors. Such views draw on established theories such as Azjen's (1988) Theory of Planned Behaviour, Bandura's (1986) Social Cognitive Theory, and Leventhal's Self-Regulation Theory (Leventhal, Nerenz & Steele, 1984). These theories highlight the role of mental representations and appraisals in addition to physical limitations in determining levels of disability. They argue for the role of control cognitions, self-efficacy beliefs and perceived competence in mediating the impact of disability.

Similarly, models of adaptation (Moos & Tsu, 1977; and Radley & Green, 1985, 1987) have highlighted the role of psychological factors associated with adjustment. Emphasis is placed on the individual's cognitive appraisal and meaning of the event, and also their ability to balance the 'dual-demands' of the disability: the demands of the relationship between the individual and society, and the demands of the self in relation to the disability (Radley & Green, 1987). The task of adjustment is to manage upsetting emotions, maintain a satisfactory self-image and sense of competence, preserve important relationships, and prepare for uncertainty whilst maintaining hope and optimism (Moos & Tsu, 1997).

Coping on the other hand is more specifically related to the means by which this is achieved – the style and strategies employed in the process of adaptation and adjustment. For instance, the cognitive processes whereby the individual learns how to tolerate or put up with the effects of the illness, or in the case of amputation, disability (Bury, 1991). Coping involves the application of strategies; that is, what people do and the actions they take to mobilise resources and increase the potential for favourable outcomes (Bury, 1991). The style of coping refers to the attitude people take to their situation and the way in which they respond to the important features of their illness or disability. Bury (1991) concludes that coping basically involves "maintaining a sense of value and meaning in life, in spite of the symptoms and their effects" (p. 461).

There are many challenges and demands to cope with after amputation, and research has pointed to various styles, strategies and resources that can aid in the adjustment process. In a broad sense, coping can be categorised in terms of being approach or avoidance in nature (Roth & Cohen, 1986), and problem focused (cognitive) or emotion-focused (Livneh, Antonak & Gerhardt, 2000). Approach strategies are oriented toward the 'threat' or stressor, and can be useful in allowing appropriate action to be taken along with the ventilation of emotion. Avoidance strategies on the other hand reduce stress by not confronting it. Emotion-focused coping refers to attempts to minimise the emotional impact of the disability by facilitating the venting of emotions regarding the disability and seeking of emotional support. Cognitive and problem based strategies on the other hand influence the experience via the individuals' cognitive processes, such as cognitive reappraisal or information seeking behaviour. For example, by using distraction or reinterpreting the experience (Hill, 1993). Research generally suggests that, in the long-term, the use of avoidant styles is less adaptive whereas approach strategies are more adaptive. For example, Peterson (1989) found that an active, information-seeking approach was associated with less anxiety, greater pain tolerance, and increased co-operation in children undergoing stressful medical procedures. An avoidant, information-denying style was associated with more anxiety, less co-operation, and lower pain tolerance. Mikulincer & Florian (1996) also concluded that relying more heavily on avoidance was linked to less beneficial adjustment to life stresses and challenges. Livneh, Antonak & Gerhardt (1999) conducted research on coping strategies with amputees. They concluded that active, problem solving (an approach strategy) resulted in lower levels of depression and anger, and greater levels of adjustment and acceptance. Cognitive disengagement on the other hand was positively associated with greater anxiety, depression and externalised hostility, and negatively associated with acceptance of disability. Mullen & Suls (1982) found a consistent pattern across a number of studies and concluded that avoidance can be adaptive in the short term, whereas approach strategies were more adaptive in the long term. However, their study focused particularly on physical adaptation and did not consider the psychological or emotional adjustment. Studies have demonstrated links between the style and strategy adopted and the adjustment process in terms of emotion-focused and problem focused coping. For instance, Livneh, Antonak & Gerhardt (1999) found a positive link between emotion focusing, and depression and externalised hostility. Felton, Revenson & Hinrichsen (1984) found that cognitive strategies, such as information seeking, were related to positive affect. Emotion focused strategies, such as those involving avoidance, blame and emotional ventilation, were related to lowered self-esteem and poorer adjustment to illness. The link between the use of more passive, emotion-focused coping and psychosocial maladjustment in amputees was also found in studies looking at phantom limb pain. For instance, studies by Hill (1993) and Hill, Niven & Knussen (1995) demonstrated that catastrophising and feeling helpless were associated with increased pain and psychological distress in amputees, even though they accounted for only a small amount of variance.

Whilst these distinctions in understanding coping are useful in a general sense, it is important to acknowledge that all strategies and styles have their place and use. People tend to utilise a mix of coping mechanisms (Folkman & Lazarus, 1980), and evidence suggests that a varied and flexible coping repertoire is more important than the use of a singular approach (Roth & Cohen, 1986). Radley (1994) commented that "The idea that some ways of coping are good and some are bad has been seen as being too simple" (p.149). It is likely that the dimensions proposed are not mutually exclusive.

Coping and adjustment processes are influenced by the person's sense of self, particularly as we exist in a social world. Radley (1994) highlighted this point by saying that "Because our bodies are the medium through which we engage the world and other people, when they are affected there are consequences at two different levels… In relation to identity, there are important consequences for how the illness will reflect upon the sufferer as a social individual" (p.145). He also commented that "the problems of living with chronic illness … or disability and handicap… are those of living with it in a world of health" (p.146). A sense of identity within the world is imperative in determining adjustment and coping, and amputation can pose a threat to the integrity of an individual's self-image (Gallagher & MacLachlan, 2001). Aspects of the self, such as a sense of self-esteem and self-efficacy or control are therefore essential in mediating adjustment. Studies have demonstrated this with amputees. For example, Frierson & Lippman (1987) pointed out that, whilst feelings of loss of control are not unique to amputees, they are a common experience. Hill (1993) found that a sense of helplessness was related to psychological distress and greater reports of phantom limb pain in amputees, thus implying that the converse, a sense of control, is beneficial. Williamson, Schulz, Bridges & Behan (1994) suggested that shifts in mastery and control occur in response to the external environment and the opportunities and constraints encountered (such as a restriction in activity following amputation). Dunn (1996) concluded that gaining a sense of personal control following amputation can lead people to feel better about themselves, cope better with adversity, and promote physical and psychological well-being. A heightened perception of control over one's amputation as a disabling event was consequently linked with higher self-esteem.

We know that amputation can have serious implications for psychological well being, and there is awareness of the role of psychological factors (such as appraisal, self-efficacy, self-esteem) and coping responses in facilitating the adaptive adjustment to amputation. Whilst a substantial percentage of amputees adapt quite well to their disability (Williamson & Walters, 1996), there are reports of up to 50% of amputees requiring psychological intervention (Frank *et al*, 1984; Williamson, Schulz, Bridges & Behan, 1994). However, there are few studies that have looked at how to facilitate adjustment and coping or evaluated specific therapeutic interventions with amputees. Interventions that focus upon enhancing a sense of self-esteem and self-efficacy are likely to be beneficial (Fitzgerald-Miller, 1992), as will interventions that address protective factors such as a sense of optimism, and positive meaning (Dunn, 1996), and interventions that enhance adaptive coping strategies (Viney & Westbrook, 1982). Kent & Fyfe (1999) argued that rehabilitation programmes for amputees are not simply prosthetic services, but need to take account of the whole patient, and so potentially address the adjustment process and skills involved. Fung & Lee (1996) supported this view in considering the psychological management of children with amputations as a result of cancer. They proposed that interventions should augment a sense of control and efficacy, and enhance adaptive coping strategies, and illustrated their suggestions with a case study. Atala & Carter (1992) also addressed psychotherapeutic interventions to enhance coping and adjustment in paediatric patients undergoing limb amputation. They utilised play strategies and a cognitive-behavioural package to improve coping and adjustment. The package focused on techniques that helped the children gain a sense of control, developed positive coping self-statements (such as 'I know I can do it), facilitated mastery and reinforced the use of positive, active coping strategies. Again, their intervention was supported by a case illustration. However, these studies focus mainly on paediatric amputees and rely on case descriptions. There is a need for more research utilising other methodologies, such as experimental manipulation and evaluation, along with research into other age groups of amputees. For instance, older adults (over 65 years) account for approximately 75% of all amputations, with 75-80% being due to peripheral vascular disease (Williamson, Schultz, Bridges & Behan, 1994). Studies have also highlighted to greater potential for psychiatric complications and maladjustment among older amputees

(Frank *et al*, 1984), yet this group of amputees is relatively neglected in terms of research into beneficial interventions.

One potential intervention that has the capacity to address the issues outlined so far comes from the arena of social psychology. Strategic self-presentation draws on the well-established premise in social psychology that public self-presentations have a strong influence on private appraisals of the self, which can in turn determine future behaviour. This is thought to work through one of two processes – cognitive dissonance (Festinger, 1957) and/or biased scanning (a derivative of self-perception theory, Bem, 1972). Either self-presentations that are discrepant with one's existing self-conception lead to a sense of conflict (dissonance), which is reduced by the changing of one's view of self to reflect the public behaviour (self-presentation); or public self-presentations work by drawing attention to existing congruent self-beliefs, thus making a particular belief more salient. The basic suppositions of strategic self-presentation are thus the acceptance that (1) a person's self-identity (or self-concept) has an important influence on behaviour, and also (2) that repeated behaviours influence a person's self-concept, developing an important role identity consistent with the behaviour (Sparks & Shepherd, 1992). Engaging in strategic self-presentation typically leads the individual's view of self to shift in the direction of the presentational episode (Rhodewalt & Agustsdottir, 1986). This approach has recently been considered as applicable to clinical health issues, such as adjustment to end stage renal failure (Leake, Friend & Wadhwa, 1999). By strategically presenting themselves as a successful coper and competent to deal with the challenges facing them, individuals may benefit from improved adjustment, increased self-efficacy and self-esteem, and more adaptive coping responses in dealing with a disability such as amputation. Some existing studies with amputees point to the potential benefits of an intervention like strategic self-presentation, given the theoretical underpinnings of the approach and how it links in with existing research on adjustment and coping processes. For example, Langer (1995) identified a link between self-rated disability and depression in amputees, implying that altering the amputees' perception of self as severely disabled would have an impact on levels of depression and thus adjustment. However, this is an area that has not been widely investigated and requires much more research.

The aim of the current study was thus to evaluate the efficacy of strategic self-presentation as a brief intervention with amputees. An experimental study, comparing an intervention group of new amputees with a control group of new amputees, to investigate whether strategic self-presentation is beneficial in facilitating and improving adjustment to amputation was proposed.

The hypothesis for the study is that the intervention group will demonstrate improved adjustment following strategic self-presentation, in comparison to a control group.

Method

Design

The study utilised both a within and between subjects design (pre and post comparison, and between group comparison). Participants were allocated to either an intervention group or a control group. Those participants that responded with agreed consent first were allocated to the intervention group in order to ensure sufficient numbers for that group. Participants were allocated to the control group after the intervention group was complete. The intervention group received a single session of Strategic Self-Presentation (SSP), thus the intervention group will be referred to as the SSP group from here on. The control group received a single visit from the researcher but did not experience SSP.

Participants

The participants were 20 amputees (6 female and 14 male) recruited from three general hospitals in the Central South and South West regions. All participants had had an amputation between 6 weeks and 4 months previously when they took part in the study. This time scale was to allow some initial recovery from the operation and return to the home environment. Professional and medical advice was also taken regarding the time scale and it was advised that most individuals begin to contemplate and assimilate their experience, and leave hospital after 3–6 weeks post-operation. The sample was restricted to vascular patients with acquired limb loss. This was because amputation is a diverse disability and so the psychological sequelae of adjustment to vascular amputations can be different to traumatic or congenital limb loss (Rybarczyk, Nicholas & Nyenhuis, 1997). The sample was also restricted to lower limb amputations in order to reduce the potential for variability. Appendix II shows the original available pool of amputees provided by the hospitals, and the number of individuals who declined or were unable to participate for various reasons (some of which were not available to the researcher). Patients with anxiety or depression scores in the severe range as measured by the HAD (scores of 15 or above) (Zigmond & Snaith, 1983) were excluded from the study due to the potential emotional aspect of participation.

In the SSP group, the mean age of participants was 62.4 years (SD 9.29, range 48-72 years). The mean time since amputation was 13.3 weeks (SD 3.16, range 8-16 weeks). Six out of the ten SSP participants had a below knee amputation, two an above knee amputation, and two a bilateral amputation. Only one of the participants was still in hospital during their participation (both for the initial visit and the follow-up time). In the control group the mean age of participants was 66.7 years (SD 9.33, range 51-84 years). The mean time since amputation was 13.7 weeks (SD 2.98, range 8-16). Four of the control group had a below knee amputation, four an above knee amputation and two a bilateral amputation.

Measures and Apparatus

The participants in both groups were given a battery of self-report questionnaire measures prior to the initial visit by the researcher, and again at follow-up. The measures were chosen as they assessed the various domains that are suggested by the literature to be important. These were the dependent variables. The battery consisted of: -

1. Hospital Anxiety and Depression scale (HADS); (Zigmond & Snaith, 1983).

This 14-item self-report measure is designed to measure anxiety and depression in the physically ill. Other measures of mood include a number of items that tend to overlap significantly with somatic complaints and so it was thought that the HADS would be more appropriate to use with this sample group. Items on the HADS are divided into two subscales, one for anxiety and one for depression. Patients rate each item on a four-point scale. Responses given for each item are totalled, with higher scores indicating greater levels of depression and anxiety. Scores of 11 and above fall into the moderate to severe range of difficulty. The authors demonstrate satisfactory construct and concurrent validity (0.37 to 0.55, and 0.54 to 0.79, respectively) and reliability (0.89 to 0.92 for test-retest reliability). The scale has also been shown to have good internal consistency within the subscales (Cronbach's alpha of 0.93 for anxiety and 0.90 for depression) (Moorey *et al*, 1991).

2. Rosenberg self-esteem scale (RSE); (Rosenberg, 1965, 1989).

This widely used ten-item scale has two subscales measuring positive self-esteem (high self-worth and positive attitude towards the self) and negative self-esteem (uselessness and low self-worth). Subjects respond on a four-point scale of agreement for each of the ten items, which are scored from one to four in the direction of negative self-esteem. Thus, low scores indicate high self-esteem. Although originally designed for use with adolescents, it does have supportive psychometric data based on a large sample of 18-65 year olds.

3. Generalised self-efficacy scale (GSES); (Schwarzer, 1993).

The GSES is a ten-item measure of generalised self-efficacy. That is, a general belief about one's ability to respond to and control environmental demands and challenges (Schwarzer, 1992). The higher the score, the greater the individual's generalised sense of self-efficacy. Although the scale has only been formally tested on German populations so far, it has high internal consistency ratings over sample populations (alpha's ranging from 0.82 to 0.93). It has been shown to have reasonable reliability (0.47 to 0.63), as well as satisfactory concurrent and predictive validity (correlations ranging form 0.40 to 0.58). It is also thought to be comparable with other standardised scales being used in the study, such as the RSE (Schwarzer, 1993).

4. *Psychosocial adjustment to illness scale: self-report (PAIS-SR); (Derogatis, 1983).*

This 46-item self-report version of the original semi-structured interview covers 7 domains of adjustment to an illness or health condition. The scale measures adjustment in related but distinct areas of life, rather than overall quality of life. The domains of adjustment covered include personal, family and work relationships and performance, social and leisure time activities, and emotional effects. Ratings for each question within each domain are made on a four-point scale, which are summed to generate a raw score. High scores reflect more distress. It is highly correlated with other scales of adjustment (Bowling, 1995; Morrow, Feldstein & Adler, 1981). The PAIS-SR has reasonably good inter-rater reliability (the coefficient for the total scale score is 0.86, with subtest coefficients ranging from 0.33 to 0.83, with all but one being over 0.60) (Derogatis, 1986; Morrow, Chiarello, & Derogatis, 1978). The PAIS-SR also has been demonstrated to have a strong degree of criterion validity (Morrow, Chiarello, & Derogatis, 1978) and also predictive validity (Derogatis, 1986)

5. *Coping responses inventory (CRI); (Moos, 1993).*

This is a 48-item questionnaire based on eight subscales of coping responses and strategies. The scale provides a profile of coping strategies enabling crude distinctions between approach and avoidance coping responses, and cognitive or behavioural coping strategies. The coping responses measured (illustrated and defined further in Figure 1) include logical analysis, positive reappraisal, seeking support, problem-solving, cognitive avoidance, acceptance, seeking alternative rewards, and emotional discharge. The authors propose that the higher the score on the approach subscales, the more adaptive the coping repertoire. The higher the score on the avoidance subscales, the less adaptive the coping. Each of the 48 coping items is scored between 0 and 3, yielding a subscale score that ranges from 0-18. A coping profile can then be constructed from the subscale scores. It is considered suitable for use with adult and general medical patients. It has also been considered appropriate to use for monitoring styles over time, such as before and after a therapeutic intervention (Moos, 1993). The questionnaire has satisfactory internal consistency alphas (0.58 to 0.74), and validity coefficients (0.56 to 0.83) (Moos, 1993).

Insert Figure 1 about here

Procedure

After ethical permission for the study was approved (see Appendix III), permission to approach potential participants was sought from the consultant vascular surgeons in the respective hospitals, who then made patients aware of the study and the possibility of being approached for consent to participate. The secretaries to the consultants or relevant research nurse in each hospital then provided the names of possible participants. The eligible participants were initially contacted by the researcher by phone and were then sent a letter inviting them to participate in the study, along with an information sheet, criteria for eligibility sheet, and consent form. Consenting participants were sent the first battery of questionnaire measures for completion prior to meeting with the researcher. They were then seen in a quiet room at their home at their convenience within two weeks of consenting. The same researcher saw all participants for approximately forty-five minutes. The interviews were tape recorded in both conditions. The purpose of this was to provide the opportunity for a check (at face value) of criterion validity by an independent researcher. Having listened to a random selection of 10 tapes (5 from the SSP group and 5 from the control group), the independent researcher, who was blind to the condition, decided which condition each tape belonged to. This confirmed that the SSP intervention condition was distinct from the control condition, as all ten tapes were correctly matched with the condition that they represented.

After a period of one month had passed, the participants in both groups were sent a second battery of questionnaire measures for completion and return to the researcher.

Strategic Self Presentation group (see Appendix IV for interview protocol)

The intervention group took part in a structured interview that utilised the approach of strategic self-presentation (as described in Leake, Friend & Wadhwa, 1999). The interview focused on the participant's presentation of himself or herself as a successful coper. The participants in this condition were asked to selectively attend to, recall, and generate positive coping skills that they had found to be helpful in their adjustment process. The goal was for them to focus more on their strengths rather than on their difficulties or inadequacies. There were 12 questions in the structured interview altogether, considering four domains of adjustment: rehabilitation, social life, family relationships, and affect and the self. Questions pertaining to the rehabilitation domain related to coping with phantom limb pain, residual stump pain, and balance and mobility problems. Questions pertaining to the social life domain related to coping with difficulties getting out socially, activity restriction, and social relationships. Questions pertaining to the family relationship domain related to coping with maintaining independence, sexual and intimate relationships, and roles within the family. Finally, questions pertaining to the affect and self-domain related to coping with changes in appearance and body image, depression, anxiety, and feeling of grief or loss.

These domains were chosen because of their compatibility with the PAIS-SR identified areas of adjustment (Derogatis, 1983), and by drawing on common difficulties experienced by amputees as noted in the literature, and following advice from professionals working in the arena of rehabilitation for amputees. The participants were asked a three-part question for each area of adjustment in order to generate coping responses. The question explored whether they had (1) experienced a particular difficulty, (2) how they managed to cope well with it and what adaptive coping strategies they had successfully utilised, and (3) what they would suggest to other amputees experiencing the same difficulty to help them to cope better with it. The interviewer verbally reinforced the successful coping reported throughout the interview, by summarising and reflecting back the reported coping strategy and positive gains that had been identified as a result of its use. All of the participants in the study were able to generate their own coping responses and did not need to be presented with possible options from the researcher. If the participant began focusing on the difficulties experienced they were encouraged to think about how they had overcome the challenges of their amputation, and to again present themselves as a successful coper.

After the interview, the SSP group was instructed to fill in a weekly diary (see appendix V) for four weeks, structured in the same format as the interview. The purpose of this was to strengthen the potential impact of the SSP intervention by maintaining a focus on the self as an adaptive coper as identified in the interview. All participants but one completed the diary. The participants were asked to comment on how they had managed to cope well with the various domains of adjustment and areas of difficulty over the past week, and also to provide any further suggestions for successful coping.

Control group

The participants allocated to the control group were engaged in a more general discussion about their experience, e.g., focusing on their experience of being in hospital. This was to control for any non-specific factors having an influence, such as time and attention from the researcher, the opportunity for a discussion of their experiences etc. If, during the course of the interview, the participant began focusing on their coping skills, then the researcher steered the discussion away from specific examples and any encouragement of certain strategies or successes towards more general information about their experience. They did not have to complete the diary forms as there was no intervention to strengthen in this case, and simply completed the questionnaires for a second time one month after the initial contact.

Results

Participant Characteristics

Initial analysis of the sample using independent samples t-tests identified that there were no significant systematic differences between the intervention (SSP) and control group in terms of age (t=1.03, *df*=18, *p*=0.315) or time since amputation (t=0.291, *df*=18, *p*=0.774). The results are represented in Table 1. Chi-square analysis revealed that the two groups did not differ significantly in terms of gender (χ =3.2, *df*=1, *p*=.074), type of amputation (χ =2.8, *df*=2, *p*=.247), or prosthesis use (χ =3.20, *df*=1, *p*=.074).

Insert Table 1 about here

An independent samples t-test also revealed that the two groups did not differ significantly in terms of levels of adjustment on most of the dependent measures prior to the intervention or control period. The control group were however found to have significantly higher scores on the measure of depression to begin with than the SSP group (t=2.455, *df*=18, *p*=0.024). The results for the PAIS-SR were also approaching significance (t=2.086, *df*=18, *p*=0.051), suggesting that the control group were slightly more distressed and less well adjusted than the intervention group to begin with. The results are represented in Table 2. Given that only one of the dependent measures initial scores (relating to depression scores) was found to be significantly different between the groups, it is likely that any overall significant differences between the scores of the groups at the second scoring of the dependent variables are due to an intervention effect. However, this difference needs to be noted.

Insert Table 2 about here

It was hypothesised that the intervention group would demonstrate improved adjustment scores on the dependent variables as a result of the SSP intervention, in comparison to the control group. Table 3 shows the means and standard deviations for the pre and post scores for both groups.

Insert Table 3 about here

Analysis of variance (ANOVA) was used to compare the difference between pre and post scores on the Psychosocial Adjustment to Illness Scale ($F = 2.215$, $df = 1$, $p = 0.154$). Multivariate analysis of variance (MANOVA) was used to compare the difference between pre and post scores on the other dependent variables: measures of mood/psychiatric symptoms as measured by the Hospital Anxiety and Depression Scale ($F = 0.758$, $df = 2$, $p = 0.484$), measures of self-identity as measured by the Rosenberg Self-Esteem Inventory and the Generalised Self-Efficacy Scale ($F = 0.475$, $df = 2$, $p = 0.630$, and measures of coping as measured by the Coping Responses Inventory ($F = 1.483$, $df = 8$, $p = 0.267$). The results showed that there was no overall significant intervention effect for any of these dependent measures. The results of the ANOVA and MANOVAs for the various dependent measures are represented in Table 4.

Insert Table 4 about here

On closer inspection, an interesting result was noted in the results of the MANOVA for the Coping Responses Inventory (CRI). Individual analysis on variance highlighted showed a significant effect for two of the eight coping responses profiled. The two significant results related to the use of logical analysis (F = 6.255, $p = .022$) and positive reappraisal (F = 4.412, $p = .050$). These are identified as cognitive-approach strategies in the CRI. Logical analysis describes cognitive attempts to understand and prepare mentally for a stressor and its consequences. Positive reappraisal describes cognitive attempts to construe and restructure a problem in a positive way while still accepting the reality of the situation. These results suggest that strategic self-presentation potentially has an effect on an individual's repertoire of coping responses.

Thus, while the hypothesis was not supported for the majority of dependent measures of adjustment used in the study, the results relating to the individual's coping responses reflect a shift in the direction of adaptive coping. This is because the use of approach strategies is often linked to better adjustment in the literature.

Discussion

There were a variety of fluctuations in the pre and post scores of the participants, as some showed improvements and some did not. Of those who did show improvements on the measures of adjustment, there were no obvious commonalities between them. Due to the lack of an overall significant intervention effect it is likely that these fluctuations are by chance and due to the natural process of coming to terms with the amputation over time and not directly related to the intervention. The results of the study did not, in the main, support the hypothesis that those amputees receiving a strategic self-presentation intervention would demonstrate better adjustment following this input compared to a control group of amputees. No such improvement was found.

However, an interesting result was shown in relation to the coping responses inventory. Here, significant results were demonstrated with regard to the use of cognitive-approach coping strategies. The use of cognitive-approach strategies, such as logical analysis and positive reappraisal, has been linked with less depression in medical inpatients (Rosenberg, Peterson & Hayes, 1987). We know that depression is linked with poorer adjustment, and so the findings of this study go some way to support the hypothesis. A result like this could be anticipated, given that strategic self-presentation works primarily within a cognitive framework, leading the person to reappraise their attitudinal stance towards themselves. It could be expected that employing strategic self-presentation would affect the person's understanding and mental preparation about the amputation and how to cope with it (logical analysis) as well as helping them to reframe the event in a more positive way, such as a challenge to be overcome rather than simply a negative life event (positive reappraisal). Lazarus

& Folkman (1984) presented a cognitive-behavioural approach to coping with stress. They stressed the lack of accommodation of the person to the demands of his or her environment as being integral to eliciting stress. Thus, successful coping depends on the accurate appraisal of environmental demands and possessing the necessary coping skills and resources to carry out the required actions and so maintain emotional equilibrium. Strategic self-presentation works on this premise by reinforcing existing adaptive coping skills and resources and by emphasising the notion of self as a successful coper. The process of discussing self-generated, specific coping techniques may have thus prompted this shift in the use of cognitive-approach strategies. Hener, Weisenberg & Har-Even (1996) concluded that providing patients with the means to solve their own problems (such as by eliciting their own adaptive coping strategies) was more effective than providing emotional support. Leake, Friend & Wadhwa (1999) commented that "strategic self-presentation has the advantage of letting patients generate coping solutions themselves rather than providing answers for them. This strengthens the manipulation inasmuch as self-generated responses are more easily internalised and likely to endure" (p.60). The effect may also have been influenced by the fact that stressors appraised as challenging tend to elicit more approach and less avoidance coping (Moos, Brennan, Fondacaro & Moos, 1990). Many of the amputees interviewed commented on the challenge that they faced and spoke of the desire to overcome the challenge and not be beaten by it. It is impossible to determine exactly which self-presentation processes (cognitive dissonance or biased-scanning) were responsible for the shift in the cognitive-coping repertoire in this particular study. However, it could be assumed that a biased-scanning mechanism operated to the extent that the participants were identifying existing effective coping strategies that then became more salient (Leake, Friend & Wadhwa, 1999), and integrated as a strong reflection of the self-concept. Fazio, Zanna & Cooper (1977) proposed that self-perception theory (including biased-scanning) characterises attitude change in the context of attitude-congruent behaviour.

These points then raise the question about why no other significant changes in the adjustment measures were found. There are a number of possible explanations for the findings, a number of which relate to methodological limitations of the study.

One of the main limitations of the study was the small sample. There were a number of difficulties in recruiting amputees to the study. A possible reason for this was that the available patients were often older (over 65 years) and many had comorbid health problems, such as diabetes, cancer and arthritis. Having to deal with these other health concerns may have made some patient less inclined to participate. There is also quite a high mortality rate with amputees. Variable rates have been quoted; between 14% and 94% die within one year of the operation (Frank *et al*, 1984; Frierson & Lippman, 1987), especially in older patients. This was partly observed to be the case with the available pool of amputees initially provided by the hospitals (see Appendix II), with eight out of the initial 77 names provided (10%) having died since the operation. A further four remained in hospital with health complications during the period of the research and subsequently died, bringing the mortality rate for this study alone to 15%. Of the remaining forty-two eligible participants only twenty consented to participate in the study (47%), leaving a sample of ten participants to be allocated to each group condition. Given the small sample size, a statistical significance would not be expected in the analysis. The significant results found relating to the coping responses may indicate a trend in the hypothesised direction that warrants further investigation with a larger sample with greater statistical power.

The sample itself was not typical, nor was it in accordance with the existing literature on the psychological effects of amputation. The participants were reasonably well adjusted to begin with (even taking into account the difference between the means of the two groups on the measure of depression). None of the participants exhibited signs of significant depression or anxiety as would be predicted by the existing literature (Breakey, 1997; Cutson & Bongiorni, 1996; Frank *et al,* 1984; Langer, 1995; Shukla, Sahu, Tripathi & Gupta, 1982). Only one of the control group scored on the borderline for moderate depression on the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983) at the beginning of the study. Likewise none of the participants scored low on initial self-efficacy or general overall adjustment. Only one of the control group participants scored over the standardised mean on the measure of self-esteem, indicating notably low self-esteem. This may partly be due to the fact that individuals who were coping less well or were less well adjusted did not consent to take part. Also, it may be that those with comorbid health difficulties tended not to consent as they 'already had enough to deal with' (Quote from one potential participant with comorbid health concerns when approached about the study). The existing literature suggests that additional health concerns may contribute to poorer adjustment in amputees (Cutson & Bongiorni, 1996). Therefore, there may have been a ceiling effect in the study. It may be that people with high self-esteem to begin with are already focusing on and emphasising individual achievements and abilities and so have less room for improvement in terms of seeing themselves as successful copers. A less well-adjusted sample may have benefited more from the strategic self-presentation intervention. Kowalski & Leary (1990) commented that "the self-concepts of people with low self-esteem are more malleable than those of people with high self-esteem" (p. 332), suggesting that strategic self-presentation may show greater effects with people who have low self-esteem to begin with. This may help to explain the lack of significant results in the present study.

Another potential limitation of the study was the intervention itself. It may be that whilst the effects of strategic self-presentation are well established within non-clinical samples, it may not be a technique that is easily transferable to clinical health issues. However, some studies have demonstrated its usefulness with clinical populations (Leake, Friend & Wadhwa, 1999). It may be that the nature of the intervention was too weak to have an impact in the short time scale of this study. The intervention was strengthened by the completion of the diaries; although it may be that strategic self-presentation is more effective when applied over a significant period of time, or as part of a broader package such as cognitive-behaviour therapy (e.g., Hener, Weisenberg & Har-Even, 1996; O'Leary, Shoor, Lorig & Holman, 1988). Strategic self-presentation may be one means by which individuals can be helped to reappraise their situation and coping resources. However, it may be that it is not sufficient in itself to bring about the desired changes in a clinical population.

There is another issue that may contribute to an explanation of the lack of significant results. The measures of adjustment utilised in the study were used in order to give a broad picture of adjustment and to address those issues deemed to be important in the literature, such as mood, self-esteem, self-efficacy and coping.

Another study evaluating the use of strategic self-presentation with a health issue (Leake, Friend & Wadhwa, 1999) only considered depression as a measure of overall adjustment. Therefore it was thought important to measure other aspects of adjustment as well in the present study. However, it may be that the constructs measured are too stable in nature to demonstrate a measurable shift in the time scale of the study (four weeks between pre and post measurements). Some authors see the self-concept (including self-esteem) as relatively stable over time, although others have suggested that this is not the case. For instance, dissonance theory (Festinger, 1957) would emphasise the stability of the internal self-concept in explaining attitude shifts resulting from cognitive and behavioural discrepancies. Self-perception theory (Bem, 1972) on the other hand does not hold to this idea and sees the possibility of change within the self-concept as it is made up alternative competing views of self that shift in prominence. Kowalski & Leary (1990) proposed that people with low self-esteem are more easily influenced than those with high self-esteem, possibly because they have a less well-defined self-concept. Their self-concept is thus susceptible to change. Similarly, Rhodewalt and Agustsdottir (1986) studied the effects of self-presentation on the 'phenomenal self'. They considered that people have an integrated representation of who they are and the phenomenal self represents a summary of the self-relevant information accessible at that time. However, "as one's available self-knowledge is too vast to fit into awareness at any one moment, situational and motivational cues render certain aspects more accessible than others and lead to moment-to-moment shifts in the phenomenal self" (p.47). Thus, it is possible to influence the phenomenal self by engaging in self-presentations.

Although the Psychosocial Adjustment to Illness Scale (PAIS-SR) (Derogatis, 1983) and the other scales of adjustment used claim to be useful in evaluating changes in adjustment over time, it may be that one month is not sufficient time to allow any significant changes to occur. All of the amputees in the study were new amputees with all being no longer than four months post-operative at the time of participating. This is an important period of adjustment to amputation with many amputees experiencing psychological difficulties (Frierson & Lippman (1987), and it may be too soon to intervene or to estimate long term adjustment. Many studies indicate the moderating effect of time since amputation in people's adjustment (e.g., Frank *et al*, 1984) and have shown that increased time since the amputation can be linked to better adjustment (Livneh, Antonak & Gerhardt, 1999). It may be more appropriate to apply therapeutic techniques such as strategic self-presentation with those who demonstrate pervasive poor adjustment over a period of time.

Another potential limitation of the study was the choice of measures of adjustment scales. It may have been more appropriate to use specific health related scales as the constructs measured may not be unitary. For instance, it could be that health related self-efficacy is distinct from other areas of life, and health related locus of control measures may have been more appropriate to use in this study (such as the Multidimensional Health Locus of Control Scales (Wallston, Wallston & DeVellis, 1978). However, it has also been suggested that general measures of health related locus of control are fairly weak in predicting health related behaviour and that condition specific measures are required to pick up on the aspects of self and adjustment directly relevant to disability and specifically amputation (Myers & Midence, 1998). No such measure relating to amputees is readily available. Likewise, the PAIS-SR relates primarily to illness conditions and not specifically to disability or amputation. It may have been more appropriate to use something like the Acceptance of Disability Scale (Linkowski, 1971) or the newly developed Trinity Amputation and Prosthesis Experience Scale (TAPES), (Gallagher & MacLachlan, 2000) to measure adjustment. However, the PAIS was thought to be appropriate given the domains of adjustment covered in assessment and their complementarity with the known areas of potential difficulty for amputees. More research and development needs to be done in the area of disability-specific measures of adjustment.

It was also noted that all of the dependent measures were self-report. It would be useful in future research to consider objective observer rated measures of adjustment in adjunct to the self-report scales. The Global Adjustment to Illness Scale (GAIS; Morrow, Feldstein & Adler, 1981) is an example of a rating scale designed to record the judgement of a trained clinical observer in relation to psychosocial adjustment to a known medical illness, although again this has its limitations for use with a sample of amputees.

The lack of significant results obtained could also be explained by the role of non-specific factors common to both conditions (intervention and control group). Hener, Weisenberg & Har-Even (1996) in their study of supportive versus cognitive-behavioural intervention programmes in achieving adjustment to home kidney dialysis found that both interventions were effective in aiding and maintaining psychosocial adjustment in comparison with a no-intervention group. They highlighted the role of non-specific factors in explaining the lack of significance in their study. Such factors may also have influenced the results in this study. For instance, the time and care provided by the researcher was the same for both conditions. This may itself have been therapeutic in providing some social and emotional support, and the contact with the therapist may have an impact on any sense of hopelessness about the situation in a non-direct way. Simply having someone to talk through their experience with could have motivated the participants to search for additional coping strategies, and indeed may have acted as a coping resource in itself and influenced their sense of control and efficacy about their situation. However, this does not explain the lack of within subject changes. If non-specific factors facilitated in the adjustment process, then we may expect both groups to demonstrate significant changes. This was not found to be the case.

Conclusions

In conclusion, although the study did not yield significant results in terms of an intervention effect, it did demonstrate the ease and acceptability of using a strategic self-presentation approach with a clinical sample. There may well be a place for its use as a stand alone therapeutic intervention or as part of a wider intervention package for clinical health populations. However, this needs to be evaluated with a bigger sample, with a wider spread of initial adjustment levels within the sample and with other health issues. Future research would benefit from using specific disability or amputation relevant measures of adjustment. A future direction for research in this area could also concentrate on the characteristics of those individuals most likely to benefit from a strategic self-presentation approach (such as those with lower self-esteem). Longitudinal research is lacking in this area and it would be of benefit to investigate the long-term effects of therapeutic interventions with amputees.

Table 1:

T-test comparisons for age and time since amputation across groups

	SSP group		Control group				
	Mean	**SD**	**Mean**	**SD**	*df*	*t*	*sig*
Age	62.4	9.29	66.7	9.33	18	1.03	0.315 **(NS)**
Time since amputation	13.3	3.16	13.7	2.98	18	0.291	0.774 **(NS)**

Table 2:

T-test comparisons for initial levels of adjustment across groups

	SSP group		Control group				
	Mean	**SD**	**Mean**	**SD**	*df*	*t*	*sig*
HADS (anx)	5.8	3.19	4.9	2.37	18	0.715	0.484 (**NS**)
HADS (dep)	3.4	1.71	5.9	2.72	18	2.455	0.024 (**sig**)
RSE	17.5	3.65	22.7	6.62	18	2.175	0.43 (**NS**)
GSES	31.5	2.54	31.9	4.95	18	0.227	0.823 (**NS**)
PAIS	28.1	9.73	38.4	12.20	18	2.086	0.051 (**NS**)

Key:

HADS (anx) = Hospital anxiety and depression scale, anxiety subscale

HADS (dep) = Hospital anxiety and depression scale, depression subscale

RSE = Rosenberg Self Esteem Inventory

GSES = Generalised Self-Efficacy Scale

PAIS = Psychosocial Adjustment to Illness Scale

Table 3:

Means and (Standard Deviations) for pre and post measures across groups

	SSP group		**Control group**	
	Pre	**Post**	**Pre**	**Post**
HADS (anx)	5.8 (3.19)	5.6 (2.01)	4.9 (2.37)	5.3 (2.83)
HADS (dep)	3.4 (1.71)	2.9 (2.23)	5.9 (2.72)	5.7 (2.54)
RSE	17.5 (3.65)	17.5 (2.91)	22.7 (6.62)	22.5 (6.82)
GSES	31.5 (2.54)	31.4 (1.90)	31.9 (4.95)	29.1 (6.04)
PAIS	28.1 (9.73)	27.6 (10.1)	38.4 (12.2)	37.1 (16.6)

Key:

HADS (anx) = Hospital anxiety and depression scale, anxiety subscale

HADS (dep) = Hospital anxiety and depression scale, depression subscale

RSE = Rosenberg Self Esteem Inventory

GSES = Generalised Self-Efficacy Scale

PAIS = Psychosocial Adjustment to Illness Scale

Table 4:

Statistical analysis summary table - ANOVA and MANOVA results for the dependent variables

Dependent Measure	*df*	F	sig
PAIS (ANOVA)	**1**	**2.215**	**.154 (NS)**
Mood (MANOVA)	**2**	**0.758**	**.484 (NS)**
HADS – anx	1	1.520	.233 (NS)
HADS – dep	1	.021	.887 (NS)
Self Identity (MANOVA)	**2**	**0.475**	**.630 (NS)**
RSEI	1	.232	.636 (NS)
GSES	1	.448	.512 (NS)
Coping (MANOVA)	**8**	**1.483**	**.267 (NS)**
CRI - LA	1	6.255	.022 (sig)
PR	1	4.412	.050 (sig)
SG	1	.098	.758 (NS)
PS	1	.110	.774 (NS)
CA	1	.928	.348 (NS)
AR	1	2.464	.134 (NS)
SR	1	1.127	.302 (NS)
ED	1	.139	.713 (NS)

Key:

HADS (anx) = Hospital anxiety and depression scale, anxiety subscale

HADS (dep) = Hospital anxiety and depression scale, depression subscale

RSE = Rosenberg Self Esteem Inventory

GSES = Generalised Self-Efficacy Scale

PAIS = Psychosocial Adjustment to Illness Scale

CRI = Coping responses Inventory (see Figure 1 for definitions of subscales)

LA = Logical analysis
PR = Positive reappraisal
SG = Seeking guidance/support
PS = Problem solving
CA = Cognitive avoidance
AR = Acceptance/resignation
SR = Seeking alternative rewards
ED = Emotional discharge

Figure 1:

The eight subscales of the Coping Responses Inventory (CRI)

	Approach coping responses	**Avoidance coping responses**
Cognitive coping Strategies	Logical anlysis Positive reappraisal	Cognitive avoidance Acceptance or resignation
Behavioral coping Strategies	Seeking guidance and support Taking problem-solving Action	Seeking alternative rewards Emotional discharge

Definitions (as provided by Moos, 1993)

1. **Logical analysis** – cognitive attempts to understand and prepare mentally for a stressor and its consequences.
2. **Positive reappraisal** – cognitive attempts to construe and restructure a problem in a positive way.
3. **Seeking guidance and support** – behavioural attempts to seek information, guidance or support.
4. **Problem-solving** – behavioural attempts to take action and deal directly with the problem.
5. **Cognitive avoidance** – cognitive attempts to avoid thinking realistically about a problem.
6. **Acceptance or resignation** – cognitive attempts to react to the problem by accepting it.
7. **Seeking alternative rewards** – behavioural attempts to get involved in substitute activities and create new sources of satisfaction.
8. **Emotional discharge** – behavioural attempts to reduce tension by expressing negative feelings.

Appendices

Appendix I -	Instructions for authors
Appendix II -	Original pool of amputees
Appendix III -	Letters indicating ethical approval
Appendix IV -	Strategic self-presentation protocol
Appendix V -	Diary sheets
Appendix VI -	Participant information sheet
Appendix VII –	Consent form

Appendix I

Instructions to authors

NOTES FOR CONTRIBUTORS

1. The aim of the *British Journal of Health Psychology* is to provide a forum for high quality research relating to health and illness. The scope of the Journal includes all areas of health psychology across the life span, ranging from experimental and clinical research on aetiology and the management of acute and chronic illness, responses to ill-health, screening and medical procedures, to research on health behaviour and psychological aspects of prevention. Research carried out at the individual, group and community levels is welcome, and submissions concerning clinical applications and interventions are particularly encouraged.

The following types of paper are invited:

(a) Papers reporting original empirical investigations
(b) Theoretical papers which may be analyses or commentaries on established theories in health psychology, or presentations of theoretical innovations
(c) Review papers, which should aim to provide systematic overviews, evaluations and interpretations of research in a given field of health psychology
(d) Methodological papers dealing with methodological issues of particular relevance to health psychology.

2. The Journal is international in its authors and readers. Contributors should bear the international readership in mind, particularly when referring to specific health services.

3. Pressure on Journal space is considerable and brevity is requested. Papers should normally be no more than 5000 words.

4. Supplementary data too extensive for publication may also be deposited with the British Library Document Supply Centre. Such material should be submitted to the Editors together with the article for simultaneous refereeing. Further details of the scheme are given in the *Bulletin of the British Psychological Society*, 1977, 30, February, p. 58.

5. This Journal operates a policy of blind peer review. Papers will normally be scrutinized and commented on by at least two independent expert referees as well as by an editor or associate editor. The referees will not be made aware of the identity of the author. All information about authorship including personal acknowledgements and institutional affiliations should be confined to a removable front page (and the text should be free of such clues as identifiable self-citations ('In our earlier work...').) The paper's title should be repeated on the first page of text.

6. The editors will reject papers which evidence discriminatory, unethical or unprofessional practices.

7. Submission of a paper implies that it has neither been published elsewhere nor is under consideration by another journal.

8. In preparing material for submission authors should follow these guidelines:

(*a*) Contributions must be typed in double spacing with wide margins and on only one side of each sheet. Sheets must be numbered. Four good copies of the manuscript should be submitted and a copy should be retained by the author.

(*b*) Tables should be typed in double spacing, each on a separate sheet of paper. Each should have a self-explanatory title and be comprehensible without reference to the text.

(*c*) Figures are usually produced direct from authors' originals and should be presented as good black and white images preferably on high contrast glossy paper, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns or lines and shading should be avoided. Captions should be listed on a separate sheet.

(*d*) The Editors propose to adopt structured abstracts and all articles should be preceded by a structured abstract of between 100 and 250 words (less in the case of a short paper), giving a concise statement of the intention and results or conclusions of the article. Authors requiring further details on structured abstracts should contact the Journals Department (details on inside front cover).

(*e*) Bibliographic references in the text should quote the author's name and the date of publication thus: Hunt (1995). Multiple citations should be given alphabetically rather than chronologically: (Blackburn, 1996; Fortheringhame, 1994; Norman, 1995). If a work has two authors, cite both names in the text throughout: Choi and Salmon (1995). In the case of reference to five authors, use all the names on the first mention and *et al.* thereafter except in the reference list. For six or more, use *et al.* throughout.

(*f*) References cited in the text must appear in the list at the end of the article. The list should be typed double spaced in the following format:

Hunter, M. (1994). *Counselling in obstetrics and gynaecology.* Leicester: The British Psychological Society.

Pruitt, S.D., & Elliott, C.H. (1989). Paediatric procedures. In M. Johnstone & L. Wallace (Eds.), *Stress and medical procedures* (pp. 157–174). Oxford: Oxford University Press.

Ray, C., Phillips, L., & Weir, W.R.C. (1993). Quality of attention in chronic fatigue syndrome: Subjective reports of everyday attention and cognitive difficulty, and performance on tasks of focused attention. *British Journal of Clinical Psychology, 32*, 357–364.

Note that journal titles are cited without abbrevation.

(*h*) Measurements should be in units of the International System.

(*i*) If the title of the article is longer than 80 characters, a short title should be provided for use as a running head.

(*j*) Footnotes are expensive to set and should be avoided.

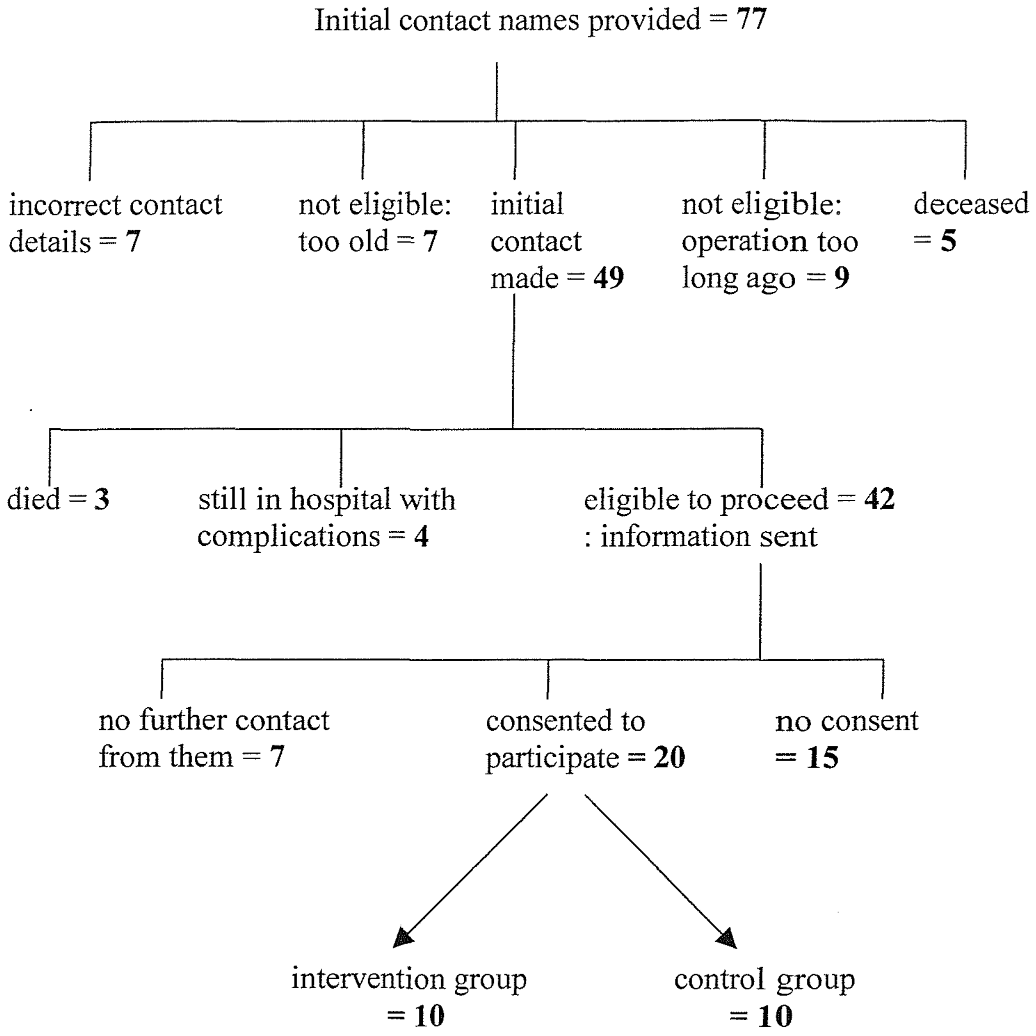
(9) Proofs are sent to the corresponding author for correction of print but not for rewriting or the introduction of new material. Fifty complimentary copies of each paper are supplied to the corresponding author, but further copies may be ordered on a form supplied with the proofs.

(10) Authors should consult the Journal editor concerning prior publication in any form or in any language of all or part of their article.

(11) To protect authors and journals against unauthorized reproduction of articles, The British Psychological Society requires copyright to be assigned to itself as publisher, on the express condition that authors may use their own material at any time without permission. On acceptance of a paper submitted to the Journal, authors will be requested to sign an appropriate assignment of copyright form.

Appendix II

Original pool of names of amputees provided by the hospitals


Initial contact names provided = 77
incorrect contact details = 7
not eligible: too old = 7
initial contact made = 49
not eligible: operation too long ago = 9
deceased = 5
died = 3
still in hospital with complications = 4
eligible to proceed = 42 : information sent
no further contact from them = 7
consented to participate = 20
no consent = 15
intervention group = 10
control group = 10

Appendix III

Letters indicating ethical approval

SOUTHAMPTON & SOUTH WEST HANTS
JOINT LOCAL RESEARCH ETHICS COMMITTEE

Chairman: Dr Audrey Kermode

Administrator: Ms Clair ~~Wilkinson~~ Wright
Trust Management Offices
Mailpoint 18
Southampton Generl Hospital
Tremona Road
Southampton
SO16 6YD

Tel: (023) 8079 4912
Fax: (023) 8079 8678

Ref: CPW/DBL

6 October 2000

Mrs J Heyes
18 Old Farm Way
Crossways
Dorchester
Dorset DT2 8TU

Dear Mrs Heyes

Submission No:229/00 - Improving psychological and psychosocial adjustment to amputation through strategic self presentation.

The Joint Ethics Committee considered your recent response in accordance with the decision to withhold approval for the above study now that all identified concerns have been addressed I am pleased to inform you that **approval is now granted**.

May I draw your attention to the enclosed conditions of approval which **must be complied with. In particular: it is mandatory that ALL correspondence, information sheets, consent forms, advert etc. carry the LREC submission number.**

This committee is fully compliant with the International Committee on Harmonisation/Good Clinical Practice (ICH) Guidelines for the Conduct of Trials involving the participation of human subjects as they relate to the responsibilities, composition, function, operations and records of an Independent Ethics Committee/Independent Review Board. To this end, it undertakes to adhere as far as is consistent with its constitution, to the relevant clauses of the ICH Harmonised Tripartite Guideline for Good Clinical Practice, adopted by the Commission of the European Union on 17 January 1997.

The composition of the committee is enclosed for your files and confirms which members were present at the meeting. Most pharmaceutical companies request this information and we would be grateful if you could forward this to them if appropriate.

Should any unforeseen problem of either an ethical or procedural nature arise during the course of this research and you feel the Joint Ethics Committee may be of assistance, please do not hesitate to contact us.

Yours sincerely,

pp

Clair Wright (Mrs)
Administrator

POOLE
HOSPITAL
NHS TRUST

Our Ref : GPC/RCH/LREC NO. 85/00/B

1 October 2000

Mrs Joanna Heyes,
Trainee Clinical Psychologist
18 Old Farm Way
Crossways
Dorchester
Dorset DT2 8TU

Dear Mrs Heyes

Improving psychological & psychosocial adjustment to amputation through strategic self presentation
LREC NO 85/00/B

The East Dorset Local Research Ethics Committee met on 28 September 2000 to further consider the above submission.

They noted your response of 1 September 2000 and therefore granted ethical approval.

Conditions of approval are set out in the attached sheet.

Present at the meeting :

G P Clein, Chairman
T Howard
S Kidman
S Wheeler, Vice-Chairman
C Maunders
R Day
M Burrows
D Tory
R Hanson
M Leggett
B J Waltho

Please quote the above LREC number in all correspondence.
Protocol amendments : must be precised onto one page and accompany any documentation.
Serious Adverse Events : summarise on the attached sheet and accompany any documentation.

Your sincerely

RACHAEL HANSON
ADMINISTRATOR, EAST DORSET LOCAL RESEARCH ETHICS COMMITTEE

Longfleet Road, Poole, Dorset BH15 2JB Telephone: 01202 665511

ROYAL BOURNEMOUTH
CHRISTCHURCH HOSPITALS
TRUST

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Tel: (Direct Line)

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01202 704077 (Fax)
email: simon.dursley@rbch-tr.swest.nhs.uk
POST POINT B28

SCD/PLH/research2000\HEYES25.00

14th September 2000

Mrs J Heyes
Trainee Clinical Psychologist
Department of Psychology
University of Southampton
Highfield
Southampton Hants S017 1BJ

Dear Mrs Heyes,

RESEARCH PROJECT : RE 25/00(RBH)
(Please quote the RE number on all future correspondence relating to this project)

IMPROVING PSYCHOLOGICAL ADJUSTMENT TO AMPUTATION

The Trust's Research Committee has approved the above project, subject to the following conditions:-

(i) approval of the project on ethical grounds by the East Dorset LREC;

(ii) you must satisfy the Financial Accountant, Mr Keith Skillings (Ext. 4480), prior to the project commencing, on all its financial implications. In particular, you must confirm that any additional activity over and above routine care, e.g. additional outpatient attendances/tests, has been discussed with and has the approval of the relevant Head of Department and will be fully funded by payments to the relevant departments. You must also be able to satisfy Mr Skillings as to how that will be done; and

(iii) you must submit a report to me, at the conclusion of the project, setting out the results achieved from it. This report will be for the information of our own Committee and also the LREC.

Yours sincerely,

Simon Dursley

SIMON DURSLEY
TRUST SECRETARY

c.c. Dr G P Clein, Chairman, East Dorset LREC, Poole Hospital NHS Trust
Mr K Skillings, Financial Accountant

WDGH NHS TRUST

West Dorset General Hospitals NHS Trust

Dorset County Hospital, Williams Avenue,
Dorchester, Dorset DT1 2JY
Telephone: Dorchester (STD 01305) 251150

Ref: GP/DM *Your Ref:*

Dial: (01305) 254645 (Secretary)

6 October 2000

Mrs Joanna Heyes
Trainee Clinical Psychologist
18 Old Farm Way
Crossways
DORCHESTER
Dorset

Dear Mrs Heyes

Title: **Improving psychological adjustment to Amputation**

Date of Submission: **12 July 2000**

Date of Approval: **6 October 2000**

Research Worker: **Mrs J Heyes**

Ethical approval is given for this project to be conducted to the submitted protocol in West Dorset for a period of two years. If the project is not started within this time, further approval should be sought.

You are required to notify us if the questionnaire changes significantly after the pilot.

You are required to keep raw data in hard copy for a period of ten years to avoid the fraudulent use of any data collected.

① You must notify the NHS body under whose auspices the research will take. In the case of the West Dorset General Hospitals NHS Trust, this notification should be made to the Medical Director of the Trust. Your research must not proceed until the Medical Director has given you his agreement. Could you also note that you should register your study in the National UK ② Research Register, contact Ben Toth at the Research & Development Directorate at the NHS Executive South West (Website: http://www.doh.gov.uk./nrr.htm) and agree to make your results publicly accessible.

We wish you well with the Project. You are required to provide this Committee with a brief report on progress of the project at least once a year.

Yours sincerely

pp

DR G PHILLIPS
Chairman
Local Research Ethics Committee

c c Mr David Fakely Dorset Health Authority

Appendix IV

Protocol for strategic self-presentation interview (intervention group)

'Some people have difficulty in adjusting to various things after having had an amputation. The purpose of our meeting is to provide you with support and to explore effective ways of coping that you have found. I will be asking you a series of questions about different aspects of having an amputation, whether or not you have experienced them, and exploring your coping strategies.'

For each area of difficulty ask all three parts of the question.

1. ***Some people report [...] after an amputation.***

2. ***Have you experienced this?***
If so: ***How have you managed to cope well with this?***
If not: ***If you did experience [...] in the future, what could you do to cope well with it?***

3. ***What would you suggest to other patients who are having difficulty in adjusting to this?***

Insert the following areas of difficulty into the gaps in each part of the question.

Rehabilitation
(a) Experiencing phantom limb pain
(b) Experiencing difficulties with their residual limb healing
(c) Mobility problems and balance difficulties

Social life
(d) Having difficulty getting out socially
(e) Experiencing restrictions in their normal social activities
(f) Difficulty making new relationships with people

Family relationships
(g) Experiencing difficulties in maintaining their independence at home
(h) Difficulties in sexual or intimate relationships
(i) Differences in their role at home and find it hard to adjust to a new role

Affect and self
(j) Difficulties coming to terms with the change in their appearance
(k) Feelings of depression, hopelessness or anxiety about the future
(l) Feelings of grief and loss

Appendix V

Diary form for intervention group
(Condensed format to save space)

Diary Form

Name: ______________________________

Week: **1** **2** **3** **4** **(please circle)**

Please provide responses to the following questions at the end of each week for the next four weeks.

Question 1.
Please comment on how you have managed to cope well with aspects of your rehabilitation (including experiencing phantom limb pain, residual limb healing, medication management, and mobility or balance problems).

Question 2.
Please comment on how you have managed to cope well with aspects of your social life (such as getting out socially, potential restrictions on activities, making new relationships).

Question 3.
Please comment on how you have managed to cope well with aspects of your family relationships (including maintaining independence, intimate or sexual relationships, role changes).

Question 4.
Please comment on how you have managed to cope well with aspects of your mood and self (such as change in appearance, feelings of depression or anxiety, feelings of grief and loss, questioning the meaning of life).

Question 5.
Do you have any further suggestions about how you could cope well with any of these aspects of having had an amputation? Is there anything else that you would suggest to help people who are perhaps having difficulty adjusting to an amputation?

Thank you for taking the time to complete this form.

Appendix VI

Participant information letter

TAKING PART IN RESEARCH
Participant Information Sheet

You are being invited to take part in a research project. Here is some information to help you decide whether or not to take part. Please take time to read the following information carefully and discuss with friends, relatives and others if you wish. Please ask us if there is anything you do not understand or if you would like more information. Thank you for reading this.

Title of study: **Improving Psychological Adjustment to Amputation *through Strategic Self-Presentation.***

I am a trainee clinical psychologist at the University of Southampton. As part of my doctoral degree I am conducting a research study that looks at how to improve adjustment to having had an amputation. Results from the study will enable us to have a better understanding of the process of adjustment and coping, and will help us to develop appropriate strategies to assist those who are having difficulty adjusting.

The study will involve a group of approximately 40 individuals from the south region who have recently had an amputation. You will be asked to complete a few questionnaires about coping and adjusting to a physical condition, such as amputation, and then take part in a structured interview about how you cope with having had an amputation. This interview will be audiotaped. (The tapes will be anonymous, confidential, and destroyed at the end of the study.) The questionnaires should take about 45 minutes to complete and you are under no obligation to finish them all. The interview will then take approximately 30 minutes to do. You will be asked to keep a structured diary for one month following the interview. You will then be asked to complete the questionnaires a second time approximately one month afterwards.

It is up to you to decide whether or not to take part, and participation in this research study is entirely voluntary. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. Any information that you give in the course of the study will be confidential. Any relevant information will only be passed on to the appropriate professional with your consent. If you decide to take part you are still free to withdraw at any time and without giving a reason. This will not affect the standard of care you receive (current or future). A copy of the findings would be available for your information at your request. The study has been approved by the local research ethics committees for the East Dorset, West Dorset and Southampton regions.

If you require further information about the study, or would like a copy of the findings on completion of the research, please feel free to contact Sandra Horn, Health Psychologist (Research supervisor) or myself, Jo Heyes, at:

Training Course in Clinical Psychology, University of Southampton,
Shackleton Building, Highfield, Southampton, SO17 1BJ
Tel: 02380/595321

Thank you for taking the time to read this and for considering taking part in the study.

Appendix VII

Consent Form

CONSENT FORM

Title of project: **Improving Psychological Adjustment to Amputation through Strategic Self-Presentation.**

Researcher: Joanna Heyes, Trainee Clinical Psychologist

Please complete the following: -

	Please circle response	
Have you read the participant information sheet?	Yes	No
Have you had the opportunity to ask questions and discuss the study?	Yes	No
Have you received satisfactory answers to all your questions?	Yes	No
Have you received enough information about the study?	Yes	No
Do you understand that your participation is confidential and voluntary and that you are free to withdraw from the study: • at any time • without having to give a reason • without any affect on your current or future treatment.	Yes	No
Do you agree to take part in this research?	Yes	No
Do you consent to the interview being audiotaped?	Yes	No

I HEREBY CONSENT to take part in a clinical research investigation about which I have received written information.

Name: ....

Signature: ....

Date: ....

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