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Social Skills Training for the Traumatic Brain Injured

Donald John Kastuk

A dissertation submitted to the Faculty of Graduate Studies
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Graduate Programme in Psychology
York University
Toronto, Ontario
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Abstract

The efficacy of social skills cognitive rehabilitation training for the traumatic brain injured was investigated. Nine adult (eight males, one female) traumatic brain injured volunteers received twenty four hours (12 sessions over six weeks) of social skills training. The brain injured participants were videotaped in mock social situations as prescribed by the Simulated Social Interaction Test. The training employed much guided self critique and, among other techniques, the DESC system; the study also afforded the development of some original training techniques. Using a pre test / post test design, the social skill behaviours of six of the participants were evaluated (by three independent raters watching the videotapes) at three points in time: Pre training, Post training, and One month post training. A significant difference was found for the One month post training / Pre training comparison. At the completion of the programme, the nine participants completed a Client Satisfaction Survey and also engaged in a structured interview, which served as descriptive measures of the training programme. Each of the nine participants reported a very high level of satisfaction regarding their respective experience in the training programme. The findings support the notion that the traumatic brain injured may be well served by a cognitive rehabilitative social skills training programme.

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with all the good friends I had at Belmore; Emily "Monkey" Ridlington; Julie"Beastly" Ridlington; Sean Pidgeon; Andrew Thompson; Lynn Hiley; Steve Pauley; Tobi McGrory; Dave DeMonte, Rosie Carusi and the staff at the Field House; Jennifer Steeves; Leo; Jarmil; and Dr. Allen Sokolowski along with Lisa, Rema and staff.

I herby express my ongoing condolences to my parents who are now left to speculate about what job avoiding schemes I could, after a Ph.D., possibly have left. The completion of this dissertation ends all financial obligations that my Auntie Mary and Uncle Rich have towards me, said obligations having been lovingly and unwaveringly maintained until this contractually agreed upon time.

If I was able to do for the participants of this project, even a small fraction of what they, in their enthusiasm, effort, and selflessness did for me, then something worthwhile has been achieved with this study. I know, at least, that I could not have done it without them!

The caring and support of Carol "Mike" Nelson meant a lot to me, leant meaning to the work, and helped me complete the Ph.D..

Whatever good comes of this, I owe to S, M, B, and W.

... Heaven have mercy on us all ... for we are all somehow dreadfully cracked about the head, and sadly need mending.*

- So says Ishmael, in Herman Melville's "*Moby-Dick* " (1985, p.178; first published in 1871 as "*The Whale*").

*That we all of course live with our own limitations, diagnosed of injury or not, and that we all nevertheless may have opportunities to better ourselves, was an often expressed sentiment by the brain injured individuals who, as part of this study, engaged in the difficult work of self evaluation and personal change.

Personality is defined as patterns of emotional and motivational responses that develop over the life of the organism; are highly influenced by early life experiences; are modifiable, but not easily changed, by behavioural or teaching methods; and greatly influence (and are influenced by) cognitive processes. In humans, these patterns of emotional and motivational responses are in part self recognized, but they may remain outside the individual's realm of conscious awareness. Others who are familiar with the individual's daily behavioural characteristics may recognize emotional and motivational responses that the person may not be fully aware of or able to report subjectively. Finally, the form of a given emotional or motivational response is highly dependent on the environmental consequences as on the biological state of the organism [Prigatano, Fordyce, Zeiner, Roueche, Pepping, & Wood, 1986, p. 30].

As cited by Blumer and Benson (1975, in Kolb & Whishaw, 1980) the case of iron worker Phineas Gage is a well known and spectacular example of the personality and behavioural changes that can result as a consequence of a change in the "biological state of the organism". Gage was an iron worker who survived an explosion in 1868 that blasted an iron bar through the front of his head. As described in the passage below, post-trauma, Gage's personality was observed to change.

The equilibrium or balance, so to speak, between his intellectual faculties and animal propensities seems to have been destroyed. He is fitful, irreverent, indulging at times in the grossest profanity, manifesting but little deference for his fellows, impatient of restraint or device when it conflicts with his desires, at times pertinaciously obstinate, yet capricious and vacillating, devising many plans of operation, which are no sooner arranged than they are abandoned in turn for others appearing more feasible. A child in his intellectual capacity and manifestations, he has the animal passions of a strong man [Harlow, 1868, in Kolb & Wishaw, 1980, p. 293].

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In their book, *Fundamentals of Human Neuropsychology*, Kolb and Whishaw (1980) contrast the case of Phineas Gage to that of a young downhill skier who took a fall in a race in 1977 and landed on his head at a speed in "excess of 60 miles [100 kilometers] per hour". Compression and twisting of the brain stem resulted in a closed head injury that left the skier in a permanent coma. Gage's frontal lobe lesion (a penetration injury caused by an iron tamping bar that traveled through a portion of his skull) was 20 to 30 times larger than the tissue damage to the skier's brainstem, yet Gage was only stunned for a few seconds and reportedly managed to walk to medical assistance.

Although some traumatic brain injuries are catastrophic, others (particularly where the lesion is largely limited to the neocortex) leave the survivors with perhaps more subtle and less life threatening but still debilitating difficulties, such as personality and behavioural changes. Newton and Johnson (1985), for instance, concluded that head injured (defined below) patients have impaired social skills. Godfrey, Knight, Marsh, Moroney, and Bishara (1989) found head injured patients to be less talkative, to speak more slowly, to make less eye contact, to make fewer spontaneous contributions to conversation, and to speak more monotonously than control subjects (Spence, Hamish, Godfrey, Knight, & Bishara, 1993).

Further to these findings, a clinical study found adolescent head injured clients to make comparatively little eye contact and use of hand gestures during conversation (A. Cancelliere, personal communication, April, 1996). This study investigated the efficacy of a social skills training programme for survivors of traumatic brain injury who, subsequent to trauma, report (the post-traumatic behavioural changes

may be self identified or identified by close others) or are diagnosed as, demonstrating detrimental changes to their social skills.

The Silent Epidemic

A traumatic brain injury can occur as a result of a penetration wound to the skull, and as the result of a non penetrating wound. A closed head injury is a traumatic brain injury due to acceleration / deceleration forces acting on the brain, where cerebral damage has occurred in the absence of a penetration wound to the skull (Jennett & Teasdale, 1981). Furthermore, even without a direct blow to the head, bodily impact can transmit inertial loading to the brain sufficient to cause a traumatic brain injury (Ommaya & Gennarelli, 1974). Thus, brain injury can be caused by a blunt blow to the head and the impact of the brain against the interior of the skull and / or by the violent movement of the brain within the skull such as might occur in a sudden deceleration in an automobile accident. This study investigated the efficacy of social skills training for the traumatic brain injured, a category that includes closed head injury and traumatic brain injury where a penetration wound to the head has also occurred (Note that the two terms are not synonymous, traumatic brain injury includes closed head injury; at the same time, brain injury as a result of vascular insult is distinct from both closed head injury and traumatic brain injury. Head injury and brain injury are, at least herein, if not commonly, used synonymously, inreferring to traumatic brain injury.).

The case of Phineas Gage illustrates the predicament of the traumatic head injured and of those who treat them. A brain injury (regardless of a penetration wound) is a change in the "biological state of the organism" that can be responsible for subsequent changes, either directly or indirectly, in personality,

cognition, and behaviour. Moreover, any recovery of function after brain injury does not result from the restoration of the damaged anatomical structure (neurons do not regenerate). Apparent recovery, rather, is a readjustment, neurologically and in the sense of the psychological experience; the traumatic brain injured must learn to cope with lost or lesser function (Prigatano, 1987). As well, as studies discussed herein describe, the traumatic brain injured face the challenge of re-learning lost skills, to the extent that their post-traumatic neurologic condition will allow.

In 1980, Klasbeek, McLaurin, Harris, and Miller reported the results of their "National Head and Spinal Cord Injury Survey": 100,000 people per year in the United States die as a result of head injuries; the incidence of new cases of head injury requiring hospitalization was 422,000 per year or 200 per 100,000 population in the United States; and, the highest incidence of head trauma occurs between the ages of 16 to 25 years, two thirds of the over 400,000 patients were less than 30 years of age upon admittance to hospital. Head injury is the major cause of death in the United States in adults under 35 years of age (Adamovich, Henderson, & Auerbach, 1984).

In 1981, Selecki estimated that for each year in the 15 to 24 age group, one male in 27, in Great Britain, attends hospital with a head injury. Head injury accounts for 15% of all deaths among young adults in the United Kingdom (Jennett & McMillan, 1981). The most reliable guide to incidence of head injury is probably attendance rates at accident and emergency departments (McClelland, 1988). In Scotland, for example, head injury is responsible for 18 attendances each year for every 1000 of the population (Strong, MacMillan, & Jennett, 1978, cited in McCelland, 1988).

Meanwhile, the number of patients who survive after brain damage as a result of a head injury is steadily growing as medical technology continues to advance (Karpman, Wolfe, & Vargo, 1986). Head injury constitutes a major health care problem in western and westernized countries (Jennett & Teasdale, 1981).

In contrast to the majority of reports, there has been at least one call for a cautious accounting of the symptoms that are attributed to traumatic head injury. Dikmen (1986), who pointed out that his findings are in contrast to an influential article by Rimel (1981, cited in Dikmen, 1986), argued that head injury is overestimated as the cause of symptoms with which patients present following episodes of trauma. Dikmen (1986) suggested that lack of control for pre-injury characteristics of the patient and injuries suffered in trauma to other systems is likely responsible for some of the symptoms that are attributed to head injury.

Although the bulk of the evidence appears to suggest that head injury does constitute a major health care problem, Dikmen's (1986) position serves as a pointed reminder to clinicians to consider multiple and interactive causes for the symptoms experienced by the head injured. Adamovich, Henderson, and Auerbach (1984) called head injury the "silent epidemic" of our time, blaming the fast pace of modern life compounded by the increased probability of survival as a result of advances in health care technology.

The Pathophysiology of Head Injury and the Hierarchical Organization of the Nervous System

The pattern that is common to head injury, as an effect of acceleration / deceleration forces acting on the skull, shows evidence of bilateral, but not symmetrical frontotemporal lesions (see the next section, Frontal Lobe Involvement). Macroscopic and microscopic changes are observed (Prigatano, 1992).

With brain injuries there is often widespread damage. McClelland (1988) enumerated several investigations and findings of the commonly observed damage in closed head injuries. Axonal lesions (Strich, 1956, cited in McClleland, 1988), particularly in the brain stem and the cerebral hemispheres, result from the shearing and rotational forces causing tearing of the axons. Grey matter damage, especially within the frontal and temporal lobes, results from compression and tearing by the hard bony prominences of the interior of the skull (Adams, Graham, Murray, & Scott, 1982; Graham, Adams, & Doyle, 1978; Ommaya, Grubb, & Naumann, 1971: all as cited in McClelland, 1988). Several haemodynamic changes may result in further damage. Intracerebral haemorrhage and oedma (swelling) may cause severe local damage and a secondary rise in intracranial pressure. Ischemic damage from impaired perfusion may arise in the territory of a major intracerebral vessel or in the boundary zone between two vessels. Impaired cerebral perfusion may arise from three interactive processes: reduced blood pressure from associated peripheral bleeding or chest injuries (which may have occurred in addition to the head injury); cerebral oedema and raised intracranial pressure; and impairment of the central automatic control of cerebral perfusion, as a result of brain stem injuries (Crockard, 1982).

Thus, focal (delimited in area) brain injury, in the absence of a penetration wound, occurs as a consequence of the impact of the brain against the interior of the skull. Diffuse injury is suffered as a product of the shearing of axons and / or damage to the cerebral vascular network which can result in the necrosis of brain cells due to anoxia and / or cerebral oedema, and a penetration can further cause other wounds.

Furthermore, vulnerability to the effects even of a mild head injury increase with age (Gronwall & Wrightson, 1975). The diversity of the outcome and the

impairment as a result of a head injury is a balance between the foregoing trauma events and complications on the one hand and reparative processes on the other. Neuronal repair and recovery is generally more successful in young people. The plasticity of the nervous system and the capacity of residual intact brain tissue to subsume the functions of damaged tissue make significant contributions to good functional recovery, particularly in very young children (McClelland, 1988).

Another aspect yet of the physiology of traumatic brain injury is illustrated by the earlier discussion of Phineas Gage and the injured ski racer. As Gage's case demonstrates, even massive lesions of the neocortex may leave the subject functioning remarkably well. In contrast, as in the case of the skier, relatively small lesions of some areas such as the brainstem may produce a vegetative state. Hughlings-Jackson (1898, cited in Kolb & Whishaw, 1980) considered these sorts of observations in terms of his theory of "hierarchical organization". Hughlings-Jackson described the nervous system as being organized in a number of layers and arranged in a functional hierarchy. Each successively higher level controls more complex aspects of behaviour but always as an extension of the lower levels.

The cortex is purported to be responsible for organizing purposeful behaviour, and these functions are distinguished from the role of the subcortical areas in supporting the more fundamental levels of behaviour (such as maintenance of consciousness and respiration). This powerful notion about the localization of function and hierarchical organization of the central nervous system addresses how Phineas Gage, with a higher level injury to the cortex, could continue to function in a more or less normal fashion; whereas in the case of the skier's damage to the lower level brain stem, coma was the result.

Hughlings-Jackson also believed that the higher cerebral functions (which are the areas of interest for skills training programmes such as those of the current study) are less complex in their structural organization than the lower centre "vital" functions; this lesser structural complexity may account for the plasticity (i.e., ability to learn) of the areas responsible for the higher functions (Prigatano, 1987):

> It is necessary here to remark that such an expression as "high organization" is not, when used with regard to the nervous system, synonymous with most complex ... Indeed, the most complex nervous arrangements, centers and levels are the least organized. Thus the centers of the lowest levels are much more strongly organized than those of the highest levels are. It is very important to bear this in mind. A man deeply comatose from sucking raw spirits out of a cask and whose highest level, or presumably most of it, is rendered quite functionless by much alcohol rapidly taken, recovers because the "vital" centers of his lowest level are very strongly organized and go on working although imperfectly, when the comparatively weakly organized centers of the highest level have "given out". If the "vital" centers of the lowest level were not strongly organized at birth life would not be possible; if centers of the highest level "mental centers" were not little organized and therefore very modifiable, we could only with difficulty and imperfectly adjust ourselves to new circumstances and should make few new acquirements [Hughlings-Jackson, 1898, pp. 84-85, cited in Prigatano, 1987].

Although, in their article, no reference is made to the "hierarchical organization" of the nervous system, Goldstein and Oakley (1985) have reported findings that seem consistent with Hughlings-Jackson's thinking and, in an interesting twist, pose a challenge to investigations such as the current one and cognitive retraining programmes. They observed that "association learning" (i.e., instrumental learning and classical conditioning), which they suggested may be mediated by subcortical brain structures (rather than the higher level cortex) often remains intact following even substantial brain damage despite the severe cognitive blunting that often follows traumatic brain injury (especially extensive diffuse injury). Goldstein and Oakley thus argued for the utility of incorporating association learning techniques in training

programmes for the head injured; future research might shed more light on the value of this proposal.

Frontal Lobe Involvement

Traumatic brain injury is not always limited to the frontotemporal regions. Nevertheless, Dwyan (1984) wrote, "... wherever the impact is on the head, contusions are found most frequently on the under surfaces of the frontal lobes and around the pole of the temporal lobe. This predominantly frontal lesion focus is understandable in light of the physical properties of the brain and the skull."

The involvement of the frontal lobes in head injury is supported by both neuropathologic and neuroimaging (such as Magnetic Resonance Imaging) studies that show that this region is the most common site of focal brain lesions (Levin & Kraus, 1994). There is, in addition, substantial evidence (Brooks, Campsie, Symington, Beattie, & McKinley, 1986) for a neurological basis for personality changes (such as disinhibition, euphoria, and emotional blunting) subsequent to head trauma, with damage to the frontal and temporal lobes being major contributory factors.

Disruption of the ability to organize and plan has been observed in patients with frontotemporal injuries. Referred to as a dysfunction in central executive planning, or the "dysexecutive syndrome" (Baddeley & Wilson, 1988), the syndrome is characterized by poor attentional control, diminished speed of information processing, lack of organization, poor planning, and dysfunctions in memory such as confabulation and faulty retrieval. Frontotemporal lesions have been identified as playing a part in yet other neurobehavioural dysfunctions, such as: inhibition and initiation of response; delay of response and temporal disorganization (Levin & Kraus, 1994); a loss of spontaneity of speech; body movement "programming"; deficits in

spatial orientation; mood disorders; and irritability and lability (Kolb & Whishaw, 1980).

No Head Injury Is Too Small To Be Ignored

There is general agreement that the more severe the initial head injury, the more severe are the final cognitive impairments (McClelland, 1984). Although the title of this sub-section may, at first glance, appeal as prudent clinical policy, the word-play's thinly veiled absurdity connotes an important issue. What minimally constitutes the definition of a closed head injury?

"[P]ermanent damage, in the form of microscopic destructive foci [delimited lesions], can be inflicted on the brain by what are regarded as trivial head injuries" (Oppenheimer, 1968). Even apparently mild head injury can produce neurocognitive sequelae which include poor concentration, memory difficulties, and a general reduction in cognitive efficiency (Dwyan, 1984). If unconsciousness occurs as the result of a traumatic brain injury, some cortical damage may be assumed; but if no unconsciousness has occurred subsequent to injury, the absence of cortical damage cannot be assumed "... since it is possible to have fairly large areas of damage in parts of the brain that do not necessarily control consciousness" (Dwyan, 1984). Nevertheless, empirical studies (including the current one) must establish an operational definition of brain injury. The Glasgow Coma Scale (Teasdale & Jennett, 1974) measures the depth and extent of coma; it, and the length of post-traumatic amnesia (Russell & Smith, 1961) are each well established as valid measures of the severity of brain injury. The Glasgow Coma Scale works on the assumption that a longer coma period represents greater neurological damage. Similarly, longer periods of post-traumatic amnesia are also thought to represent greater neurological damage.

Oddy, Humphrey, and Uttley (1978) argued that past studies have suffered from ambiguities in participant selection criterion and in the description of study populations; "Despite the wealth of evidence showing that duration of unconsciousness and post-traumatic amnesia (PTA) are good prognostic indices, other criteria [other measures of participant selection] have been preferred [in past studies]." Oddy, Humphrey, and Uttley (1978) pointed out that subjects have been selected on "multiple factors", as cited by them in these seven studies: Hpay (1971); idiosyncratic factors such as length of hospital stay (London, 1967); and, by criteria that depend upon local service arrangements (Bruckner & Randle, 1972; Gerstenbrand, 1969; Gjone, Kristiansen, & Sponheim, 1972; Wilkinson, 1969; Richardson, 1971).

Several studies have found that the magnitude of correlation between the duration of post-traumatic amnesia and the post-traumatic level of global functioning, in the long term, is quite small. Whereas post-traumatic amnesia and depth of coma may be poor predictors of long term outcome, they are both, however, established as good indicators of the severity of injury. To date, the two most useful clinical measures of severity of traumatic brain injury are depth of coma and duration of post-traumatic amnesia (McClelland, 1988). Examples of studies that employed the Glasgow Coma Scale are: Dikmen, McLean, and Temkin (1986); Godfrey, Knight, Marsh, and Bishara (1989); Ponsford and Kinsella (1992); Stambrook, Moore, Peters, Zubek, McBeath, and Friesen (1991); and, Tate, Lulham, Broe, Strettles, and Pfaff (1989). Examples of studies that used post-traumatic amnesia as a measure are: Dikmen, McLean, and Temkin (1986); Godfrey, Knight, Marsh, and Bishara (1989); Marsh and Knight (1991); Ponsford and Kinsella (1992); Spence, Hamish, Godfrey, and Knight (1993); Van Zomeren and Van Den Burg (1985); and, Weddell, Oddy, and Jenkins (1980).

The Glasgow Coma Scale, measuring depth of coma, is based on a standard cumulative score of eye-opening response, motor responsiveness, and verbal responsiveness (Jennett, 1976). A Glasgow Coma Scale score of 3 to 8 is described as representing a "severe" injury, 9 to 12 is "moderate", and 13 to 15 is "mild" (Jennett & Teasdale, 1981).

In terms of post-traumatic amnesia (PTA): PTA of greater than 7 days represents a "very severe" injury; PTA of greater than 24 hours is a "severe" injury; and, several minutes to 24 hours is a "very mild" to "moderate" injury (Jennett, 1976). Post-traumatic amnesia, ranging from minutes to several months is "... generally considered to be the best available behavioural indicator ... " of the severity of head injury; because post-traumatic amnesia offers an assessment of the period from time of injury to full awareness and the ability to maintain a record of events; and "therefore consists of the duration of coma and anterograde amnesia" (McClelland, 1988).

Notwithstanding the need to establish a minimum definition of brain injury the objective of the current investigation was to test the efficacy of a social skills training programme, independent of the degree of severity of injury, for the traumatic brain injured. That is to say, the current study concerned itself with the difference between the pre-training and post-training behaviour of the participants, regardless of their severity of injury. This strategy might also afford future investigations the added benefit of a comparison of the efficacy of the social skills training programme across levels of injury. Several studies have made post-traumatic amnesia of at least 24 hours a minimum criterion for participation, i.e., a post-traumatic amnesia of at least 24 hours was the operational definition for head injury in these studies. (Oddy, Humphrey, & Uttley, 1978; Prigatano, 1992; and Spence, Hamish,

Godfrey, Knight, & Bishara, 1993). The current study used anterograde post-traumatic amnesia of at least 24 hours as a minimum criterion for participation.

A Broad Spectrum of Brain Injury Sequelae

The list of sequelae for head injury is varied and extensive. Traumatic brain injury can cause a heterogeneous group of neuropsychiatric symptoms such as headache, dizziness, seizures, fatigue, disrupted sleep, restlessness, ataxia (the failure of muscular co-ordination), photophobia, and phonophobia, as well as neurobehavioural symptoms such as mood disturbance, disorganized thinking, apathy, disinhibition, amnesia, and psychosis (Levin & Kraus, 1994). Kline (1991) described head injury survivors, in contrast to their siblings, as more indifferent, more often inappropriate, and more depressive.

Many patients have difficulty returning to work or continuing with their education after a head injury (Levin & Kraus, 1994). Oddy, Humphrey, and Uttley (1978) examined the level of "social recovery" in a study of 50 young adults who were assessed six months subsequent to a severe head injury (post-traumatic amnesia greater than 24 hours). Work, leisure activities, and contact with friends were thought to be most deleteriously affected.

Bond (1975, 1976, cited in Weddell, Oddy, Jenkins, 1980) also found work and leisure activities to be the areas of life that suffered the most disruption for the head injured. Weddell, Oddy, and Jenkins (1980) observed that the "neurophysical status" of the head injured, particularly as manifest in personality changes, affects capacity to continue in their jobs. They further suggested that the increased (post-trauma) irritability of many head injured patients, as reported by close relatives, is likely to be at least partly responsible for the loss of pre-accident friends.

It may also be that patients have even more difficulty coping with head injury than other serious traumas. Stambrook, Moore, Peters, Zubeck, McBeath, and Friesen (1991) compared 31 moderate head injury and 17 severe head injury subjects with 24 subjects who had been left wheel chair bound as a result of spinal cord injury. The head injured patients in that study were comparatively more depressed, angry, hostile, dejected, confused, and bewildered. The wives of those head injured patients reported that, post injury, their husbands were more belligerent, negative, helpless, suspicious, and withdrawn.

Stambrook, Moore, Peters, Zubeck, McBeath, and Friesen (1991) concluded, (notwithstanding the difficulty of discerning to what extent brain damage is the cause of any particular behaviour, pathologic or otherwise) that there is, in contrast to the sequelae of other types of trauma injury, a unique and added burden imposed by virtue of brain damaged tissue. Head injury survivors are often left with permanent physical, emotional, and psychosocial sequelae requiring intensive and long term rehabilitation (Timming, Orrison, & Mikula, 1982).

Newton and Johnson (1985) identified four major areas of residual deficit following head injury: physical (e.g., hemiparesis - partial paralysis); cognitive (e.g., memory impairment); behavioural (e.g., aggressiveness); and social (e.g., disruption of peer group). Impaired higher order intellectual functions such as logic, problem solving, judgment and "mental flexibility" are common to head trauma patients (Berry, 1985); she added that immediate recall, memory for distant events, and memory of events one hour to one week old, can all be deleteriously affected by head injury.

Newton and Johnson (1985) suggested that the primary cognitive deficits of severe head injury include impaired information processing and cognitive

rigidity. With respect to social functioning, these conditions manifest themselves as difficulty in following conversation and difficulty in seeing another's viewpoint.

Adamovich (1990) addressed the question of how it is that communication skills may be detrimentally affected by traumatic brain injury. He suggested the evidence indicates that traumatic brain injury can have an impact on: information processing, which is concerned with recognition, internal feedback, rate of responding, and the amount of information with which one can cope; cognition, which includes the ability to discriminate, the organization of information, and the ability to generate responses; and language, which, he argues, cannot be separated from cognition. Impairments to any of these skills may affect syntactic, semantic, phonologic, and pragmatic aspects of communication and language (Adamovich, 1990).

O'Carroll, Woodrow, and Maroun (1991) studied 36 patients who had been hospitalized following closed head injury and found clinical psychiatric inventories indicated that 50% of male patients in the study were experiencing psychosexual dysfunction. The chief psychosexual complaint reported by the subjects in that study was infrequency of sexual activity (It may be however, with such a finding, difficult to identify the specific cause.).

Weddell, Oddy, and Jenkins (1980) found that the nature of relationships change subsequent to traumatic head injury. In contrast to Thomsen (1974, cited in Weddell, Oddy, & Jenkins, 1980), who thought that the head injured have fewer friends because of self imposed isolation, Weddell, Oddy, and Jenkins (1980) reported that the head injured maintain the same number of acquaintances following (as before) injury, but are left with fewer close friends.

As well, the relatives of traumatic brain injured patients are at risk of emotional dysfunction (Oddy, Humphrey, & Uttley, 1978) perhaps because of the burdensome nature of family interactions with the socially unskilled head injured person (Godfery, Knight, Marsh, Moroney, & Bishara, 1989). Brooks (1978) has suggested that the head injureds' psychological impairments, rather than their physical symptoms, are the most stressful and disruptive for the family

In contrast to uninjured controls, furthermore, couples that included one spouse with a severe head injury were observed (Maitz, 1990) to experience significantly less "family cohesion". Perhaps this outcome is an effect of post-injury emotional and financial pressures, and the difficulty of living with a head injured person, who may have suffered detriments in social skills and changes in personality, and demonstrate increased post-traumatic irritability, lability, etc., and require the assistance of others to perform daily activities.

An Ubiquitous Question

Observations of the emotional and psychosocial difficulties experienced by the head injured underscore an important question, routinely posed in the literature, which bears on all aspects of working with the head injured (and, for that matter, on the understanding of brain function). To what extent are post-traumatic behavioural, psychosocial, and personality changes direct effects of the brain injury rather than secondary products of the difficulties of living with the injury (both for the injured and those close to them)?

The complaint of infrequent sexual activity reported by many of the patients in the study by O'Carroll, Woodrow, and Maroun (1991), and the decreased family cohesion observed by Maitz (1990) are excellent illustrations of this

issue. To what extent might a brain injury as opposed to depression over the misfortune of injury explain reduced libido? It is possible that a brain injury could be responsible for a loss of interest in one's family; another possibility is that reduced family cohesion is a function of the difficulties that may arise as a product of daily interaction with a head injured person.

Even the apparently straightforward case of Phineas Gage (Harlow, 1868, cited in Kolb & Whishaw, 1980) serves as an example. Although it is certainly likely that the brain damage caused by the penetration of the iron bar was responsible for much of Gage's symptomatology, it is also reasonable that secondary developments (emotional and otherwise), might explain various aspects of the personality changes that Gage experienced.

The assumption is that all complex behaviours (i.e., of a higher order than reflexes), patterns of complex behaviour, and changes in those behaviours and patterns are, at some level, meditated and thus affected by the brain and changes in the state of the brain. Implicit (and important) in this assumption is the idea that indirect or secondary effects of a brain injury are still eventually attributable to biology.

Secondary emotional disturbances may, to some extent, be delineated from the immediate effects of structural damage, but are not independent of the anatomy, neurology, and physiology of the individual. That it can be difficult to tie certain symptoms to particular structural damage does not give license to "Descartes' error" and the resort of mind / body dualism.

(Damasio, in his 1994 book, went beyond a critique of mind / body dualism to identify *Descartes' Error* as maintaining a division between emotion and reason. Damasio, a neurologist, described how emotion and reason are inseparable constituents of one physiologic system. Nevertheless, a recent scholarly conjuring

reincarnates the spirit of dualism as perhaps not yet exorcised from the last haunted pineal gland. In 1996 Chalmers, in *The Conscious Mind*, amidst a philosophically ground argument for the impossibility of reducing consciousness to neurology, proposed "naturalistic dualism". Chalmers pointed out that even if the phenomenon of consciousness cannot be reduced to neurology - i.e., in Charmers' terms: if consciousness does not "supervene" on neurology - it remains the case that consciousness is a natural world product of the biological brain that raises these questions from the start.)

Still, the proximate and ultimate causes of behavioural changes as direct or secondary effects of brain injury are not obvious. Studies such as the current one address the problem at the level of the resultant behaviour (e.g., the participant's post-traumatic lack of eye contact in conversation). Thus, the interest of this investigation was to test the efficacy of a social skills training programme for the traumatic brain injured, regardless of whether brain injury is the direct or indirect source of any particular behaviour.

Personality, Psychosocial, and Behavioural Sequelae

Newton and Johnson (1985), referred to Bond (1976) and Levin, Denton, and Grossman (1982) in arguing that the broad spectrum of psychosocial difficulties is consistently identified as being the most influential factor in outcome for the head injured. Klonoff, Snow, and Costa (1986) described post-injury quality of life as an essential component of the rehabilitation of a closed head injured patient. They listed aspects of quality of life as physical, emotional, and material well being; interpersonal relationships; social community and civic activities; personal development and fulfillment; and recreation.

A major complication for the head injured (and those treating them) is the personality or behavioural changes that may be a result of the brain injury itself or the problems associated with the frustration, depression, and anger that can also be sequelae of head injury (Berry, 1985). In 1971, Hpay (cited in Weddell, Oddy, Jenkins, 1980) found that 21% of head injured subjects suffered an obvious change in their social life and, subsequent to head injury, 14% had become social outcasts.

Hpay (1971) wrote that personality change, for the head injured, was the most important determinant of deterioration in social life. Jennett and Teasdale (1981) remarked that personality change "is the most consistent feature of mental change after blunt head injury ..." (p. 294).

Personality change, furthermore, in the form of altered and idiosyncratic reactions to persons and situations is undoubtedly one of the most distressing problems for patients, for their families and for those involved in continuing care and rehabilitation services (McClelland, 1988). Many investigators have cited evidence consistent with this claim (see below).

Personality change and the concomitant interpersonal deficits subsequent to severe head trauma have been reported to occur rather consistently, in 60% to 72% of cases, as indicated by the following studies, as cited by Crosson (1987): Brooks and McKinlay (1983); Jennett, Snoek, Bond, and Brooks (1981); McKinlay, Brooks, Bond, Marinage, and Marshall (1981); Weddell, Oddy, and Jenkins (1980). In the case of severe head injury, these deficits have been reported to persist up to seven years post injury (Oddy, Coughlan, Tyerman, & Jenkins, 1985, cited in Crosson, 1987).

Crosson (1987) identified three causes of post-trauma personality change: neurological condition; the individual's reaction to the injury; and the influence

of premorbid personality characteristics. A neurological basis has been established in past cases for post-trauma changes in behaviours such as: impulse control; changes in emotionality; insensitivity; loss of self reflection; learning dysfunctions; and lack of initiative. Crosson (1987) lists denial, anger, and depression as common post-trauma emotional reactions for the head injured. Crosson (1987) also pointed out the importance of not neglecting the influence (on recovery from trauma) of premorbid personality characteristics, such as: oppositional characteristics that might be expressed as resistance to the therapist; impulsiveness; dependency, that might inhibit the patient's progress; repression, that might become an unhealthy way of coping with the anxiety over the injury; and, obsessive traits that may impede progress and behavioural change.

Prigatano (1992) cited many other investigators in enumerating a list of "Active" and "Passive" emotional and motivational disturbances associated with traumatic brain injury. The disturbances that Prigatano (1992) listed under "Active" are: irritability; agitation; belligerence; anger; abrupt or unexpected acts of violence or episodic dyscontrol syndrome; impatience; restlessness; inappropriate social responses; emotional lability (or rapid mood changes); sensitivity to noise or distress; anxiety; suspiciousness; delusional; paranoia; and mania or manic like states. Disturbances listed under the "Passive" category are: aspontaneity; sluggish; loss of interest in the environment; loss of drive or initiative; tires easily; and depressed. Appendix A is a reproduction of a table from Prigatano (1992) that lists each of these disturbances and the authors that reported the respective observations.

Traumatic Brain Injury and Social Skills Training - the Need for the Current Study

Several studies (as cited in Dodwell, 1988: Adler, 1945; Cartlidge & Shaw, 1981; Denny-Brown, 1945; Oddy, Humphrey, & Uttley, 1978; Rimel,

Giordani, Barth, Boll, & Jane, 1981; and, Steadman, 1970) have employed "return to work" as the measure of recovery from head injury. Recent investigations indicate, however, as Dodwell (1988) pointed out, that return to work as a measure does not tell the whole story; the head injured person may succeed in a return to work despite resilient, pervasive, and deleterious changes in personality, behaviour, and social skills.

Indeed, in the treatment of the head trauma patient, the great burden of care on the health care system is in the cost of treating persistent psychological and behavioural problems (Mclleland, 1988). Furthermore, the highest incidence of head trauma occurs between 16 and 25 years of age (Klasbeek, McLaurin, Harris, & Miller, 1980, cited in Gajar, Schloss, Schloss, & Thompson, 1984) when development of social competence is critical (Jones, 1980, cited in Gajar, Schloss, Schloss, & Thompson, 1984).

Tate, Lulham, Strettles, and Pfaff (1989) studied 100 consecutive (in terms of admitances) closed head injured hospital patients, six years subsequent to injury. They found the long term psychosocial consequences of closed head injury to vary markedly. Good social reintegration was achieved by 24% of these subjects; 43% showed substantially limited reintegration; and 33% had poor social reintegration. Thus, three quarters of the total number of subjects still, six years subsequent to injury, suffered serious difficulties in their attempt to socially reintegrate.

Social anxiety, poor social performance, and low self esteem are likely contributors to the poor social adjustment of many survivors of head injury (Newton & Johnson, 1985). Other investigators (herein described) have observed and described specific aspects of "poor social performance".

Spence, Hamish, Godfery, Knight, and Bishara (1993) wrote that closed head injured patients are less talkative, make less eye contact, speak more slowly, make fewer contributions to conversation, and speak monotonously. As well, Cancelliere (personal communication, April, 1996), in a clinical study, found that closed head injured adolescents often demonstrate a sub-normal use of hand gestures and make comparatively little eye contact in conversation.

With regard to the accumulated research, a search of the "PsychLit" data base, abstracts of journal publications for the last 25 years, yielded 665 references to a search using the key-words "head injuries and rehabilitation"; 121 references are listed in response to "head injuries and psychosocial"; and the medical citation service "Medline" enumerated 80 abstracts in reply to a "traumatic brain injury and rehabilitation" search.

There has been, however, comparatively little empirical work concerned with traumatic brain injury and social skills. The collection of studies described below is a review of the work that has been done in the specific area of the current study. The studies noted indicate that social skills training has been effective and important for other populations; many of them have had the participants engage in role play and simulated social conversations, as did the current study.

In a study by Gajar, Schloss, Schloss, and Thompson (1984) two 22 year old males received feedback from experiment "facilitators" and from self monitoring which was reported to have a positive effect and be an effective treatment approach. In 1985, Newton and Johnson individually videotaped 11 participants, who had all suffered severe closed head injuries, in conversation with a confederate. Independent raters concluded that the head injured participants demonstrated poorer social adjustment than did non-clinical controls.

Gajar et al. (1984), in citing the following four studies, added that social skills research emphasizing the use of instruction, shaping, prompting, modeling, feedback, reinforcement, and behavioural rehearsals has been conducted with the mentally retarded (Bates, 1980; Lasncioni, 1982); chronic schizophrenics (Bellack, Hersen, & Turner, 1976); alcoholics (Eisler, Hersen, & Miller, 1974); and, depressed persons (Schloss, Schloss, & Harris, 1984). These studies have demonstrated that learning principles are effective in modifying interpersonal skills such as eye contact, use of gestures, speech latency, loudness and intonation, and the content of speech including requests for information, compliments, self disclosure, and the initiation of conversation. It is therefore reasonable to expect social skill studies to be useful and important for the head injured as well (Gajar et al., 1984).

Godfrey, Knight, Marsh, Morney, and Bishara (1989) studied 18 adults, who had severe closed head injuries. The head injured were compared with controls in terms of their performance in social role play scenarios and conversation. Godrey et al. (1989) observed that a global reduction in behavioural productivity (or negative symptomatology) characterizes the social interaction style of the head injured. Consequently, the head injured appear to be less socially skilled, less likable, and less reinforcing or rewarding with which to interact.

These investigators concluded that these observations had three implications. First, the inability of the head injured to reinforce others in conversation reflects behavioural deficits in the social skills of the head injured; and that this may account for the social isolation experienced by the head injured (e.g., Elsass & Kinsella, 1987, cited in Godfrey et al., 1989). Second, low behavioral productivity on the part of the head injured probably explains some of the observed increases in marital stress that is reported by this population. Third, social skills training has proved to be

effective with other brain damaged populations (e.g., Brady, 1984; and, Foxx et al., 1984; both studies as cited in Godfrey et al., 1989) and should be worthy of clinical evaluation with the traumatic brain injured injured.

Dennis and Barnes (1990) found that three quarters of the total of 33 head injured children were impaired on at least one of four discourse tests, which were: knowing, with respect to context, alternative meanings of ambiguous words; getting the point of figurative or metaphoric expressions; bridging inferential gaps in social conversation situations; and producing speech acts that express the intentions of others. Dennis and Barnes (1990) added that adults with head injuries also often show persisting problems in pragmatic communication, even after recovery from the medical sequelae of their injury and despite demonstrated restoration of clinical language function. Such individuals would rather talk than communicate (Holland, 1982, cited in Dennis & Barnes, 1990) and appear to be unable to regulate the flow of discourse between speakers and listeners (Milton, Prutting, & Binder, 1984, cited in Dennis & Barnes, 1990).

Marsh and Knight (1991) wrote that there is a dearth of investigations that assess the social skill abilities of the traumatic brain injured. In their study, they found 18 adults with severe closed head injuries to be impaired, in contrast to control subjects, in social interaction communication skills.

McDonald and van Sommers (1993) compared 2 closed head injured participants to 12 control subjects in terms of their abilities to make requests in social situations. They found that the head injured were sensitive to how a request should be put; however, those same participants had difficulty, in another condition of the experiment, putting requests in the form of hints. McDonald and van Sommers

(1993) suggested that the head injured had difficulty appreciating the logically related aspects of the context of a request.

Both of the head injured participants in that experiment had preserved language, spatial, and mnestic skills, but both had difficulty organizing their approach to problems, regulating their behaviour, and controlling stimulus bound behaviour. The investigators concluded that this is consistent with frontal lobe central executive dysfunction syndrome. These sorts of cognitive deficits, that are associated with impaired problem solving ability and poor behavioural control, also disrupt social communication. It is remarkable that the head injured participants appeared to experience these difficulties despite possessing intact primary language processes, i.e., being free of clinical language disorders.

Finally, Spence, Hamish,Godfrey, Knight, Marsh, and Bishara (1993) videotaped and contrasted the social skills of 14 closed head injured patients, four months post-injury, with 19 orthopaedic control subjects. All the participants in the experiment were videotaped while engaging in an informal conversation with a confederate of the experimenters. Social skill deficits were observed to be more common in the head injured, and these deficits were described as consistent with frontal lobe executive dysfunction syndrome (Stuss & Benson, 1982, cited in Spence et al., 1993). Spence et al. (1993) also found that the close others of the head injured had higher levels of mood disturbances and hostility which appeared to be a function of the difficulties of coping with the poor social interaction skills of the head injured.

The head injured patients in that experiment displayed poorer social skills in earlier but not later part of conversation which led the investigators to conclude that the head injured might often make, socially, poor first impressions; which would contribute to the social interaction difficulties experienced by the head injured.

The investigators concluded that their findings were consistent with those of Newton and Johnson (1985) in that social skills deficits are a common problem for the head injured. Likewise, in a dissertation in 1985, Hamilton argued that specific training in conversational skills is useful for the rehabilitation of head injured adults.

Newton and Johnson (1987) wrote that there is sufficient evidence of the importance of psychosocial factors in neurological recovery to warrant the inclusion of social skills retraining as part of a biopsychosocial approach in rehabilitation programmes, but little work has so far been done. Studies of the difficulties experienced by the head injured indicate a need for increased emphasis on psychosocial rehabilitation, family support, education counselling, social and recreational rehabilitation, and social skills training (Stambrook, Moore, Peters, Zubeck, McBeath, & Friesen, 1991).

Method

<u>Participants</u>

Thirteen adults volunteered to participate in the study; all the participants have previously medically diagnosed traumatic brain injuries. The participant selection criteria, as defined in the proposal of the study, excluded candidates from participation where they initially presented as unlikely to be amenable to the treatment, as an effect of insufficient cognitive or intellectual ability. Excluded from participation would have been those with any of the following: I.Q. score below 80; attention deficit disorder; diagnosed psychosis; aphasia; and, previous training or treatment that may have acted as a confound for the current study. As well, all participants had to have "intact primary language processes" (to use the language of a 1993 article by McDonald and van Sommers - see page 23), i.e., all participants had to

be free of clinical language disorders. The study took place in two locations: the experimenter met six of the nine participants at the private practice office of the study's clinical supervisor, and the other three participants were met at the clinical research space belonging to a hospital brain injury service.

Two candidates did not return following the initial interview. One candidate was excluded because his brain injury was the result of a vascular accident, rather than trauma, and another was excluded because of symptoms which would have been confounds for the study (he is blind and was diagnosed with attention deficit syndrome). Nine adult volunteers, eight men and one woman, between the ages of 27 to 63 years of age, were left to participate in the study. All nine of these people had previously diagnosed traumatic brain injuries and diagnosed or self-identified post-traumatic social skills deficits. The time from injury to commencement of participation in the study ranged from 2 to 11 years. For six of the nine participants, 2 to 6 years had passed since the time of injury; for the other three participants, 10 to 14 years had passed. Eight of the nine participants had suffered closed head injury and one (the one for whom 14 years had passed since time of injury) had had an open head wound (i.e., the skull had suffered a penetration wound at the time of the accident).

Seven of the nine participants were between 27 and 36 years of age. The majority of head injured patients are young; a study in 1986, by Klonoff, Snow, and Costa, for example, limited their participant age range to 17 to 40 years at time of injury, while citing Rimel (1981) in pointing out that the majority of patients fall into this age range.

Participants came to the project as respondents to advertisements placed by the author. These advertisements were placed in the news-letters of the "Ontario Brain Injury Association", the "Head Injury Association of Toronto", and the

"Head Injury Association of Barrie". Participants also came to the study as a result of announcements made at two Ontario head injury support group meetings.

Participation in the study was limited to individuals who have suffered a traumatic brain injury (such as those suffered in automobile accidents and falls). However, the site of the brain lesion was not a selection criterion. Based on the literature, a substantial number of the head injured have frontal lobe involvement, but the study was not restricted to this group.

Rather than limit the study to one particular population with respect to the site of the brain lesion (or cause of the trauma), one of the interests of the study was to take the opportunity to work with as broad a participant sample as possible (within the parameters of the study). Future research may show that the effect of the experimental treatment of social skills training might vary partly as a function of the particular lesion site or (probably less likely) the event that caused the traumatic brain injury. The lesion site, furthermore, is often not precisely circumscribed; so it was thought that more clinically useful information might be collected by not excluding those with diffuse head injuries (As opposed to limiting the study to individuals with lesions of a particular and precise location.).

Whereas lesion site was not a selection criterion, an operational definition of what minimally constitutes a head injury sufficiently severe to include a potential participant in the study was necessary. Oddy, Humphrey, and Uttley, for a study in 1978 established a minimum participant selection criterion of a diagnosed post-trauma amnesia, i.e., the loss of continuous day to day memory after the insult, of at least 24 hours. Severe (Weddell, Oddy, & Jenkins, 1980) to very severe (Godfrey et al., 1989; Russell & Smith, 1961) head injury requires a period of post-trauma amnesia of greater than seven days. In being as inclusive as possible with respect to participant

selection, a minimum 24 hour post-trauma amnesia was the selection criterion (As opposed to requiring participants who had suffered a longer post-trauma period, which would be a more stringent selection criterion.).

Materials

A close relative or co-habitant of each respective participant was asked to complete an edited version of the "Social Performance Survey Schedule" (Appendix B). Participants were asked to respond to role plays and engage in a five minute conversation as prescribed by the "Simulated Social Interaction Test" (Appendix C).

Studies have indicated that the Simulated Social Interaction Test is a reliable measure of social skills that has shown external validity (Curran, 1982; Steinberg, Curran, Bell, Paxson, & Munroe, 1982; Wessberg, Curran, Monti, Corriveau, Coyne, & Dziadosz, 1981). Furthermore, several closed head injury investigations have successfully employed role playing and mock social conversations as an experimental strategy. Examples are: Dennis and Barnes (1990); Godfrey, Knight, Marsh, Moroney, and Bishara (1989); Marsh and Knight (1991); McDonald and van Sommers (1993); Newton and Johnson (1985); and, Spence, Hamish, Godfery, Knight, and Bishara (1993).

The sessions were videotaped using a standard compact video camera / recorder. Training sessions were timed using (in as unobtrusive a fashion as possible, so as not to make participants uncomfortable) the stop-watch mode of a common electronic wrist watch. Appendix H is the score sheet used by the raters in their evaluation of participants' performance on the videotapes. Appendix D is the

consent form that all participants were required to sign. Appendix E is an outline of the design of the study.

At the end of each participant's twelfth (and last) session, they were interviewed with regard to their experience of the study and their opinion of the efficacy of the study. Appendix G is a list of questions which were used to structure the interview. Appendix F is a list of Likert scale questions, adapted from the a Clarke Institute of Psychiatry client satisfaction survey, to which the participants gave their responses.

Appendix I is the clinical "Social Skills Retraining Package". The package includes lessons on basic social skills such as "starting a conversation"; "active listening"; "body language"; and voice tonality. The training, as prescribed by the package, in which the participants engaged includes instruction about these social skills, role playing, "homework" practice assignments, and the opportunity to watch one's self (while engaged in role play) on video tape.

Design and Procedure

Subsequent to individual preliminary intake interviews, eight men and one woman with diagnosed traumatic head injuries and diagnosed and / or self identified social skills deficits were selected from amongst thirteen volunteers, as described in Participants, for a clinical quasi-experiment regarding the efficacy of social skills training for that population. As this is a quantitative study with no control group, the study is not an experiment but a quasi-experiment.

Participants signed a consent form, which explained that they would receive no money but would receive social skills training free of charge (Appendix D). These volunteer participants were respondents to advertisements placed

by this author and respondents to announcements made by the clinical supervisor of the study (see Participants).

Participants received social skills training according to an established clinical "Social Skills Retraining Package" (see Materials and Appendix I), and participated in training exercises as developed by this author (One of the interesting and valuable aspects of the study was the opportunity to develop and test such exercises, which are herein described.).

Each of the participants invested 24 hours in training time in the study. The participants met with the investigator, and on some occasions, at the same training sessions, the clinical supervisor of the study (Dr. Andy Cancelliere), twice per week over six weeks, two hours per session (totaling 24 training hours). The participants typically worked in groups of two to four. As well, each of the participants appeared individually, for a one hour debriefing session, which was scheduled one month following each participant's last training session.

The training addressed general social skills and also focused on particular skills and behaviours as identified by the participant and the experimenter (e.g., some participants needed to work on limiting verbosity and others needed to improve the ability to engage in divergent thinking). Participants were asked to have a co-habitant (spouse, etc.) or a close relative with whom they regularly spend time complete an edited version of the Social Performance Survey Schedule (Appendix B). At the preliminary intake interview, each participant was given a copy of the Survey to deliver to the appropriate person for completion and return to the experimenter. Informants were also asked to complete the Social Performance Survey Schedule again, one month following the completion of the six weeks of treatment. It was hoped that

this survey could serve as a descriptive measure of the longer term endurance of the social skills training programme (the experimental treatment).

At the first and last (sixth) treatment sessions participants engaged in the role play scenarios of the Simulated Social Interaction Test as put to them by the experimenter, and following this engaged in (the other part of the Simulated social Interaction Test) a five minute open conversation with the experimenter. Participants returned one month following their sixth training session, to the debriefing session, to repeat the Simulated Social Interaction Test, to facilitate a measure of the longer term efficacy of the training.

The Simulated Social Interaction Test (Appendix C) lists role play scenarios which are grouped under eight categories: Disapproval or Criticism; Social Assertiveness or Visibility; Confrontation and Anger Expression; Heterosexual Contact; Interpersonal Warmth; Interpersonal Loss; and, Receiving Compliments.

In the test, the experimenter (acting as the "Narrator") describes a scene / situation to the participant, then opens the verbal exchange with the participant, and then waits for a reply. For example, under the category of Interpersonal Warmth participants would role play a response to the following scene:

Experimenter (Narrator): You are seated in a very quiet restaurant with your date. She has been looking depressed all evening. You ask her what's wrong, and she says:

"I'm really down. Everything seems to be turning out badly."
At this point the participant will be expected to respond.

The Simulated Social Interaction Test also includes one five minute conversation which the experimenter has with the participant. The instructions are as follows:

Experimenter: "Now, we are going to do something different. I'd like to have a conversation with you for the next five minutes. Our conversation will be

taped. You are allowed to talk about anything you choose. Do you have any questions?"

After all questions are answered the experimenter would ask the participant to begin the conversation. So that the participant's opportunity to speak may be maximized, the experimenter is largely limited to asking reciprocal questions. In keeping with the method established by Curran (1982), it is the efficacy of the participant's global social skills during this five minute conversation and the role plays that three independent raters would later rate while watching videotapes of the test sessions.

Videotapes of the participants' performance in the Social Skills Interaction Test (as administered on the first and last (sixth) day of the treatment, and one month following) were submitted to three independent raters who were hired, paid, and trained by the experimenter, according to a method established by Curran (1982) for the Social Skills Interaction Test (see Results, and Discussion). Raters were trained by the experimenter to measure global (general) social skill efficacy and to distinguish between behaviours that should and should not be taken into account for the purposes of the experiment. Appendix H is the score sheet used by the raters (see Materials).

Raters were blind with respect to the session being scored. In other words, raters did not know which tapes show participants prior to training and which tapes show participants post-training. The experiment is a pre-test, post-test design. The measure of interest is the change in the participants' social skill efficacy from the first day of training to the sixth (last) day of training and one month following the last day of training. In addition, it was hoped that an informant (a relative or co-habitant of the participant) would complete an edited version of the Social Performance Survey Schedule, just prior to and one month following the six week training

programme. This survey may have provided a measure of the longer term efficacy of the social skills training. This survey measure, however, proved inapplicable for the study (see Discussion).

Each participant did respond to a post study interview (at their 12th and last session) regarding their experience of participation in the study and their opinion of the efficacy of the training programme. The participants were asked for their responses to a series of descriptive questions (see Materials, and Appendix G). They also each responded to a collection of Likert scale questions adapted from a client satisfaction survey of the Clarke Psychiatric Institute (see Materials, and Appendix F).

The Training Approach, Strategies, and Exercises

The social skills training in which the subjects participated addressed global social skills and such behaviours as initiating and maintaining conversation, effective eye contact, listening skills, limiting verbosity, employment of divergent thinking (as a tool to maintain conversation) and appropriate expression of concern and emotion. The experimenter attempted to identify and give particular training emphasis to those behaviours in each participant which appeared most in need of retraining.

Each two hour training session began with a period of approximately 15 to 20 minutes which was devoted to providing the participants with the opportunity to talk about anything which was on their mind. Participants usually used this time to talk about their feelings with regard to their ongoing problems.

Although (and perhaps partly because) the experimenter imposed very little structure on this time, it was clearly therapeutic for the participants. It also afforded the experimenter the chance to identify material that was important to each of

the respective participants, and that material was very useful in terms of the cognitive training at hand. These periods also served the group and the training well in being an ongoing opportunity for the participants to be better acquainted and find support (as well as education and challenge) in each other.

Most often, maladaptive behaviours were identified by the participants themselves. This was, in fact, an important strategical aspect of the study. It was thought (and it is the author's opinion that this was borne out) that the client's should, as much as possible, self identify difficulties. This effort was greatly facilitated by the opportunity for the clients to view themselves on videotape (which recorded throughout every session and was regularly replayed in the sessions to the participants).

At various points through a training session, the experimenter would replay a portion of the tape to give the clients this opportunity for self examination and critique. The experimenter (and often the participant) would stop the tape and draw attention to a particular participant behaviour (such as the lack of eye contact during a conversation).

The experimenter would not, however, tell the participant how to behave or that a particular behaviour was wrong (Phrases such as: "This is inappropriate", "This is unacceptable", "The problem with this is..." were not used.). The experimenter would, rather, after stopping the tape and pointing to a particular behaviour, typically ask the participant, "What impression does this behaviour make?", or "Does that action leave the intended impression?". This approach was extremely well received by the participants and appeared to substantially contribute to very constructive training sessions.

Various techniques were employed in the training sessions to provide the participants with the opportunity to work on their social skills. In the early training sessions, mock social situations were most often employed. Participants engaged in, with each other, such mock situations as pretending to meet an old friend and engage in conversation, first date scenarios, conflicts with superiors at work, etc.

Over the six week training period, the opportunity was afforded (in a joint effort of the experimenter and the participants) to develop other techniques and approaches. Exercises which minimized or eliminated the contrivedness of the mock scenarios were very useful. To this end, the developed exercises proved very effective. One of these exercises had the participants engage in live debate (over a given topic in a quasi formal way; a topic example is: "The policies of the current provincial government are good"), and the other was named "The 60 Minutes Game".

In contrast to the mock situations, these exercises much more often afforded genuine expressions of emotion, and the consequent opportunity for the participants to see their behaviour under such conditions on the videotape. Predictably, live debate created the opportunity, in particular, to work on minimizing anger expressions in favour of more constructive responses; as well, those participants for whom self expression in conflict situations is difficult found the debate exercises useful.

The 60 Minutes Game was especially intriguing insofar as how well it suited the training needs of some of the participants. Some brain injured individuals show difficulty with divergent thinking and some show a tendency for verbosity. The participants were reminded of the conditions on the television show - typically the interviewer is attempting to lead the interviewee to uncover as much as

possible, while the goal of the interviewee is to appear congenial, and cooperative, while revealing as little as possible.

Participants with difficulty in divergent thinking (i.e., difficulty seeing connections from one idea, notion, or statement, to another) were cast in the role of the interviewer, and instructed to obtain as much information as possible. Participants interested in learning to limit verbosity played the interviewee - they were instructed by the experimenter to recognize the parameters of the question asked and limit their answers accordingly.

This exercise proved very useful and challenging for the participants. The training efficacy of this exercise was remarkably well illustrated in one memorable case. The goal of the interviewer (a participant working on improving divergent thinking) was to find out as much as possible about the interviewee's (a man working on limiting verbosity) past career as a professional engineer. "Where did you go to school for engineering?", the interviewer asked. To which, the respondent gave the name. At that point, even after almost three minutes of reflection, the interviewer was unable to construct more questions; making this all the more remarkable is the fact that the interviewer had himself worked (up to two years previous) as an electronics engineer, so he would not be at a loss to know how to talk about electrical engineering. (This particular case also underscored a clinical caveat, with regard to the emotional well being of the participants. Despite the apparently lighthearted approach of such exercises as the 60 Minutes Game, the clinician must not lose sight of the great difficulties with which the client is struggling. It was understandably emotionally difficult for the participant in this case when he realized that he had difficulty constructing more than one question and maintaining a conversation. Although these sorts of moments can be clinically invaluable turning points they can also be very

difficult for participants, leaving them with disturbing thoughts, and be counter productive to their progress in the training. Although the sort of training herein described focuses on cognition, and is not psychotherapy, the clients are human beings, and so can be counted on to bring their emotions along.).

It is important, too, that the reader have an accurate picture of these two participants. These are not people with blatantly obvious cognitive deficits. They both had functioned successfully in high technology demanding careers. The interviewer (as well as the interviewee) would not be easily spotted as an individual struggling with difficult deficits. Despite this, difficulties with important specific cognitive skills were evident upon examination (and to the client).

This is, indeed, a paradoxical problem with which the brain injured regularly grapple. There are social advantages to having a non obvious injury, but there are also difficulties. People spending time with the brain injured in daily life (if unaware of the deficits) may be likely to have performance expectations that the brain injured cannot meet. This can lead to frustration and ensuing difficulty for all concerned.

Another approach which developed out of the training sessions was the use of participants' current real life issues. An ideal example of this concerns one of the participants' interests in improving self-assertion. She had been having difficulty convincing a company to take back a product (an apparently grossly over-priced product at that) which an aggressive door to door sales person had sold to her. Following some mock practice during the training sessions, regarding polite and effective self-assertion, she successfully obtained satisfaction from the company. The tool which she learned in the training program and which she used as a tool to solve

this problem is the DESC system (also see the Social Skills Training Package, Appendix I).

DESC is an acronym for the list: Describe; Express (or explain); Specify; and, Consequence (or conclusion). Once again using mock social situations, DESC training is designed to teach participants to express and effectively assert themselves.

With regard to the example mentioned above, for instance, the participant called the company in question and clearly *Described* to the representative the problem, i.e., that she wished to return the product (as the sales person originally told her she could). She *Expressed* to the representative that she felt manipulated by the sales person. She then *Specified* what she wanted, i.e., to have a return processed immediately for a full refund. She closed by explaining the *Consequence*, i.e., the matter would then be satisfactorily closed or she would otherwise reluctantly have to go to small claims court (as she had been rebuffed by the company on several previous attempts). Although personal real life issues are sensitive areas and must of course be dealt with carefully, the experience of the current study suggests that such an approach is very effective for this kind of training.

Results

The Quantitative Measures

At the first meeting with the experimenter, and at the end of the six week training period, and again one month following the end of the training period, subjects participated in the Simulated Social Interaction Test. The test included nine simulated social scenarios (preceded by three practice scenarios) followed by one five minute conversation which the participant had with the experimenter (see Materials and,

Design and Procedure). All these tests were video-taped (all the participants were aware of and consented to being video-taped).

Three independent raters viewed these tapes and gave a score from an 11 point Likert scale (see Appendix H) to each of the simulated social scenarios (excluding the three practice sessions, which occurred at the start of each test session) and to each of the five minute conversations. Table 1 shows the Simulated Social Interaction Test mean scores calculated across all six participants and across all three raters, for each of the three testing sessions (pre training, post training, and one month post training). Table 1 also shows compartmentalized mean scores. That is to say, Table 1 shows mean scores calculated across all nine simulated social interactions and the five minute conversation (denoted as *i/c*, meaning including conversation); reported, as well, are the mean scores for the 9 simulated social interactions excluding the 5 minute conversation (*e/c*); and, also show are mean scores for the 5 minute conversations alone (*c*).

Table 1 - Overall mean scores-

Means for the Simulated Social Interaction Test across all three raters for each of the three test times: Pre-training; Post-training; and, One month post-training. For each test time, three mean scores were calculated; an *i/c* mean (including conversation - the mean of the nine mock social situations in addition to the single five minute conversation); an *e/c* mean (excluding conversation – the mean for the nine mock social situations); and, a *c* mean (conversation – the mean for the five minute conversation).

(Standard deviation calculations are shown in brackets.)

<u>Pre-training</u>

i/c 6.90 (2.45)   e/c 6.57 (2.44)   c 7.94 (2.53)

<u>Post-training</u>

i/c 7.62 (2.88)   e/c 7.15 (3.35)   c 8.78 (2.01)

<u>One month post-training</u>

i/c 7.88 (2.52)   e/c 7.47 (2.97)   c 9.22 (1.78)

To test for significant differences between the means, repeated measures related groups t tests were performed, with the confidence level set at $p = 0.05$. This test is ideally suited to a repeated measures, before-and-after design (and in the case of the two statistic comparison yields the same result as the analysis of variance comparison), such as the current study where each comparison is a before-and-after comparison (see for example, Runyon & Haber, 1984, p. 295; and, Schmidt, 1979, p. 304).

Table 2 shows the t test comparison collapsed across all six participants and collapsed across all three raters (and for each of: *i/c* - including

conversation; *e/c* - excluding conversation; and, *c* - conversation alone). Worthy of note, as Table 1 shows, the means for each of the three breakdowns (*i/c*; *e/c*; and *c*) increased at each subsequent test time. For example, the *i/c* category (which, being the overall measure including the simulated social scenarios and the 5 minute conversation, is arguably the most important measure) was measured at 6.90 at Pre training, 7.62 at Post training, and 7.88 at One month post training. As Table 2 indicates, however, significantly different increases were found only with the comparison of Pre training to One month Post training. One might argue that this difference suggests that there should have also been a significant difference between Pre training and Post training (see Discussion).

Table 2 – t test calculations for the overall means –

t test significance calculations for the means (from Table 1) of the Simulated Social Interaction Test across all three raters for each of the three possible test time comparisons: Pre-training versus Post-training; Pre-training versus One month post-training; and, Post-training versus One month post-training. As per Table 1, *i/c* represents including conversation; *e/c* represents excluding conversation; and, *c* represents conversation. _

Pre-training versus Post-training

i/c -1.48   e/c -1.72   c -1.20

(Table 2, continued)

Pre-training versus One month post-training

i/c -2.39*   e/c -2.16*   c -2.06*

Post-training versus One month post-training

i/c -0.63   e/c -0.80   c -1.25

[* represents significant at the p = 0.05 level]

Table 3 shows mean scores calculated across all six participants for each of the three raters (means are shown including the conversation: i/c; excluding the conversation: e/c; and, for the conversation alone: c).

Table 3 - Mean scores for each of the three raters-

Mean scores for each of the three raters for each of the three test times: Pre-training; Post-training; and, One month post-training. As per Table 1, i/c represents including conversation; e/c represents excluding conversation; and, c represents conversation. (Standard deviation calculations are shown in brackets.)

Pre-training

Rater 1

i/c 6.32 (2.19)   e/c 6.22 (2.17)   c 7.12 (2.27)

Rater 2

i/c 7.18 (1.96)   e/c 7.01 (1.58)   c 9.33 (1.25)

(Table 3, continued)

Rater 3

i/c 7.20 (2.96)   e/c 6.46 (3.22)   c 7.33 (3.09)

Post-training

Rater 1

i/c 6.68 (2.37)   e/c 6.57 (2.37)   c 7.67 (2.43)

Rater 2

i/c 7.38 (2.75)   e/c 6.85 (3.40)   c 9.33 (1.49)

Rater 3

i/c 8.80 (3.07)   e/c 8.04 (3.93)   c 9.33 (1.49)

One month post-training

Rater 1

i/c 6.92 (1.98)   e/c 6.80 (1.94)   c 8.00 (2.00)

Rater 2

i/c 8.83 (2.14)   e/c 8.00 (3.37)   c 10.17 (1.06)

Rater 3

i/c 7.88 (2.96)   e/c 7.70 (3.03)   c 9.50 (1.39)

Table 4 shows t test significance calculations for each of the three raters and each of the three test time comparisons (Pre training versus Post training; Pre training versus One month post training; and, Post training versus One month Post training).

Table 4 - t test calculations for each of the three raters-

t test significance calculations for the means of the Simulated Social Interaction Test for each of the three raters for all three possible test time comparisons (Pre-training versus Post-training; Pre-training versus One month post-training; and, Post-training versus One month post-training). As per Table 1, *i/c* represents including conversation; *e/c* represents excluding conversation; and, *c* represents conversation.

Pre-training versus Post-training

Rater 1

i/c -0.74   e/c -0.35   c -0.65

Rater 2

i/c -0.29   e/c -0.36   c 0.00

Rater 3

i/c -2.25*   e/c -2.39   c -1.37

Pre-training versus One month post-training

Rater 1

i/c -1.15   e/c -0.68   c -2.08*

Rater 2

i/c -2.36*   e/c -2.55*   c -2.08*

Rater 3

i/c -1.06   e/c -1.52   c -0.87

(Table 4, continued)

Post-training versus One month post-training

Rater 1

i/c -0.30   e/c -0.96   c -0.49

Rater 2

i/c -2.42*   e/c -2.67*   c -0.05

Rater 3

i/c 1.89   e/c 2.00   c -0.05

[* represents significant at the $p = 0.05$ level]

Table 5 shows the results of statistical power calculations (see Runyon & Haber, 1984, p. 340) and indicates that, with a sample of six participants, there existed only a 7% chance of finding statistically significant results in this study; had there been 20 participants there would have been a 13.35% chance, and, a study such as the current one, but with 60 participants, would have had a 31.21% chance of finding statistically significant results.

Table 5 - Power calculations-Power calculation for 6 participants (as used for the calculations in this study); for 20 participants; and, 60 participants

6 participants

gave an approximately 7% chance of finding significant results

(Table 5, continued)

20participants

would have afforded an approximately 13.35% chance of finding significant results

60 participants

would have afforded an approximately 31.21% chance of finding significant results

Table 6 shows Pearson r correlation calculations as measures of inter-rater reliability. Correlations are shown for each of the three comparisons of raters (rater 1 versus rater 2; rater 1 versus rater 3; and, rater 2 versus rater 3). Correlations are shown for each of the three breakdowns (i/c; e/c; c). For the category which includes the simulated social interactions and the 5 minute conversation (i/c), the correlations range from 0.31 to 0.91. The range of the correlations, overall, is 0.23 to 0.95.

Table 6 - Pearson r correlation Inter-rater reliability calculations-

Pearson r correlation calculations for Inter-rater reliabilities of the Simulated Social Interaction Test mean scores for each of the three possible comparisons of raters (rater 1 versus rater 2; rater 1 versus rater 3; and, rater 2 versus rater 3), for each of the three test times (Pre-training; Post-training; and, One month post-training). As per Table 1, i/c represents including conversation; e/c represents excluding conversation; and, c represents conversation.

<u>Pre-training</u>

<u>Rater 1 versus rater 2</u>

i/c 0.91   e/c 0.59   c 0.69

(Table 6, continued)

<u>Rater 1 versus rater 3</u>

i/c 0.51   e/c 0.37   c 0.85

<u>Rater 2 versus rater 3</u>

i/c 0.69   e/c 0.54   c 0.27

<u>Post-training</u>

<u>Rater 1 versus rater 2</u>

i/c 0.31   e/c 0.30   c 0.95

<u>Rater 1 verus rater 3</u>

i/c 0.45   e/c 0.38   c 0.63

<u>Rater 2 versus rater 3</u>

i/c 0.57   e/c 0.64   c 0.77

<u>One month post-training</u>

<u>Rater 1 versus rater 2</u>

i/c 0.34   e/c 0.23   c 0.86

<u>Rater 1 versus rater 3</u>

i/c 0.88   e/c 0.84   c 0.84

(Table 6, continued)

Rater 2 versus rater 3

i/c 0.36   e/c 0.27   c 0.45

The Descriptive Measures

During their first meeting with the experimenter, participants were given a modified version of the Social Performance Survey Schedule (Appendix B), and they were each asked to have a relative or close friend complete the survey, and to return it to the experimenter. All (nine) participants were asked to do this subsequently twice more: immediately post-training, and one month post-training. The Social Performance Survey Schedule inquires about the day to day social performance of the participant. The Survey asks respondents to chose a score from 0 to 4 for items such as "listens when spoken to", "makes eye contact when speaking", and "insults others".

The Social Performance Survey Schedule was intended to provide a real world (or, at least, the world outside the training sessions and the simulated social scenarios) measure of participants' social behaviour and the progress of this behaviour through the six weeks of the training period (and shortly thereafter). In a probable and an almost predictable illustration of the sort of difficulties with which the brain injured live, the use of the Social Performance Survey Schedule in this study had to be abandoned. Participants found it either virtually impossible to remember to have the survey completed and returned or, had either no one close enough to them to complete it adequately or had it nonetheless completed by people not sufficiently close

to them (One participant, for example, in a laudable attempt to find a way to comply with the experimenter, had his helpful and trusty car mechanic complete the survey.).

At the end of the last session of the training period, each participant responded (individually and privately) to a survey which was concerned with the quality of the service received (Appendix F). This survey is a modified version of a client satisfaction survey used at Toronto's Clarke Institute of Psychiatry. The survey asks questions such as "How would you rate the quality of service you received?" (1 - Poor; 2 - Fair; 3 - Good; 4 - Excellent), and "To what extent has our program met your needs?" (1 - None of my needs have been met; 2 - Only a few of my needs have been met; 3 - Most of my needs have been met; 4 - Almost all of my needs have been met). The modified form of the survey used for this study had 8 questions (the original has 9 - the remaining question was not relevant for the current study) which all used four point answer choices (one the poorest and four the best).

Responses to this client satisfaction survey indicate a high degree of participant satisfaction with the training programme. Of the 8 questions to which the participants responded (all of which were answered on the four point scale), across all 9 participants, only twice was any answer other than a three or four chosen by a participant. In answer to the question, "To what extent has our programme met your needs?", two participants chose choice two, "Only a few of my needs have been met". Noteworthy, however, is the fact that even these two participants, in answer to the question, "If you were to seek help again would you come back to our programme?", answered with the highest rating, "Yes, definitely".

In answer to the question, "If you were to seek help again, would you come back to our programme?", 6 out of 9 participants responded with the highest rating (4), "Yes definitely", and the other 3 participants responded, "Yes, I think so"

(3). In answer to the question, "If a friend were in need of similar help, would you recommend our programme to him/her?", 7 out of 9 participants responded with the highest rating (4),"Yes, definitely", and the other 2 participants responded, "Yes, generally" (3).

Administered also (as well as the above described Client Satisfaction Survey) at the end of the last training session was an 8 question structured interview (Appendix G) further inquiring about the level of the participant's satisfaction with the training programme (which was carried out one participant a time). The last question of this interview asked of the participants: "Do you have any comments?" This offered the participants an open ended forum to express themselves and an opportunity for the experimenter to gather any unforeseen information.

Responses to this interview also (as well as the Client Satisfaction Survey described above) indicated a very high level of participant satisfaction with the training programme. The interview asked such questions of the participants as, "What did you find particularly useful / not useful about the programme?"; and, "Is there anything about the programme which you particularly enjoyed / particularly did not enjoy?".

Another question asked of the participants was, "On a scale of 1 to 10 (10 is the most useful), how useful has the programme been to you?". None of the 9 participants responded to this question with less than a 7 out of 10; 3 participants responded with 7, 4 participants responded with 8, one participant responded with 9, and one participant responded with a score of ten. This results in a mean score of 8 out of 10 regarding the participants' interviewed rating of the usefulness of the training programme. A review of participants' responses to the interview (which they put in

writing) showed that they all (all 9 participants) found the programme to be useful and enjoyable, and they all enjoyed the group setting of the training sessions.

Very noteworthy is that all 9 participants independently commented (with no prompting from the experimenter) that they found the feedback (regarding their behaviour) received in the programme helpful, and that they would like to have this sort of service regularly available to them. Although the participants paid no money in receipt of this training programme (and therefore one might be inclined to think that it was easy for the participants to rate the programme highly), it did not come at no cost to any of them. Coming to the clinic to meet with the experimenter for two hour sessions twice per week for six weeks, each of the participants invested 24 hours of their time in the programme. They each invested, in addition, much travel time; 7 out of the nine participants had to typically travel over one hour each way on public transit to attend the sessions, and all but 2 of the participants in this project had some ambulatory difficulties.

Discussion

Mean scores were calculated, and significant differences calculations for the current study were made, comparing Pre-training, Post-training (i.e., immediately Post -training, which was administered on the last day of training, at the end of the last session), and One month post-training; these calculations were made for each of the three raters scores independently, and calculated collapsed across all three raters. Mean scores were calculated and significance calculations were made (for all three test times: Pre-training, Post-training, and One month post-training) for three breakdowns of the data: i/c ("including conversation"), all 9 simulated social interactions and the 5 minute open conversation; e/c ("excluding conversation"), all nine

simulated social interactions, but excluding the 5 minute conversation; and, *c* ("conversation"), a mean score for the 5 minute conversations alone. (As the most inclusive category, the *i/c* breakdown, including all 9 simulated social interactions and the 5 minute open conversation, is arguably the most meaningful statistical measure of the study.)

The most important statistical measures of the current study are the Pre-training, Post-training, and One month post-training mean scores and consequent measures of significant differences, collapsed across all three raters, for the six participants which were tested. The mean scores (see Table 1), collapsed across all three raters, increased over time from Pre-training to Post-training to One month post-training; and this is true for all three breakdowns (*i/c*, *e/c*, *c*).

The most remarkable aspect of the results of this study, however, may be that no statistically significant differences were found (see Table 2), using the mean scores collapsed across all three raters (for any of the three breakdowns: *i/c*, *e/c*, *c*), for the Post-training / Pre-training comparison ,whereas the One month post-training / Pre-training comparisons showed significant differences for all three of the breakdowns (*i/c*, *e/c*, *c*). There were also no statistically significant differences, for the means collapsed across all three raters, for the One month post-training / Post-training test times for any of the three breakdowns (*i/c*, *e/c*, *c*).

In other words, there was no statistically significant effect (i.e., a measured improvement in performance) of the training programme found in the Post-training / Pre-training comparison, but there was a statistically significant effect found in the comparison of One month post-training with Pre-training. As stated above, furthermore, a statistically significant effect for this comparison, of One month post-

training versus Pre-training, was found for all three breakdowns of the data (*i/c*, *e/c*, *c*).

One might argue that this is a surprising finding (no effect found for a Post versus Pre comparison, whereas an effect is found for a One month post-training versus Pre-training comparison). Although this finding may be an anomaly of the current study, it may well be that the benefit of the training programme may have increased over the month following the end of the programme (i.e., the month between Post-training testing and One month post-training testing), as perhaps participants took the time to incorporate and assimilate the learned skills into their behavioural repertoire.

This one month of practice time might thereby explain why significant differences were not found for the Post-training / Pre-training comparisons but were found for the One month post-training / Post-training comparisons.

The learning of the DESC system (see <u>Design and Procedure</u>) is likely a particularly good example of the value of the one month of practice time. The use of the DESC system is initially awkward for many people (participants typically found the system, at first, to feel as though a contrived way of behaving), whereas with practice, the system becomes a comfortable background structure, not unlike other techniques one uses to organize thoughts and information for clear self expression in conversation.

This question, of the purported benefits of practice or assimilation time for the sorts of skills herein considered, points down another avenue of further research. We need to know more about social skills training programmes for the brain injured and the optimal length of time for such training, perhaps we also need to know more about the effect of practice and assimilation time following such training programmes.

It is also true, though, that no significant differences were found (as stated above) for the One month post-training versus Post-training comparison. If the one month period between the One month post-training test session and the Post-training test session (which took place at the end of the session on the last day of training) afforded some benefit, one might expect a significant difference to be found in this comparison. It may be the case, however (whereas the non-discovery of a significant difference in this comparison appears to weaken the claim for a benefit to be found in the one month of assimilation / practice time), that it is a combination of the training time and the assimilation / practice time that has benefit sufficient to reach statistical significance (Or, more precisely, to be found statistically significant, within the parameters and limitations constructed in this study. That only 6 participants were tested, moreover, was a particularly powerful statistical limitation - See Table 5 and further discussion below). The current findings, indeed, seem to support the notion that the greatest benefit will be found in the combination of training time and subsequent assimilation / practice time.

As referred to above (and described in Results), power tests (see Runyon & Haber, 1984) were performed to calculate the statistical likelihood of finding a significant effect for the training programme given the size of the participant sample (9 individuals participated and 6 were measured for statistical purposes). With a sample of only six people, the current study had only a 7% chance of finding a statistically significant result.

As a statistically significant difference was found for the One month post / Pre training comparison, with only a 7% chance of this occurring, it appears that there is an effect for the training programme worthy of further investigation (and, it seems, clinical application). Had there been 20 participants in the current study,

for example, there would have been a 13.35% chance of finding a statistically significant result, and a 31.21% chance with 60 participants.

As discussed, also in Results, Pearson r correlation coefficients (see Runyon & Haber, 1984) were calculated as inter-rater reliability measures (Table 6). For the all inclusive *i/c* category (the simulated social interactions combined with the five minute open conversation), for example, the Pearson r correlation coefficients range, between sets of raters across all test times, from 0.31 to 0.91 (see Table 6).

Had the raters been trained to respond within the parameters of very rigid criteria, and thus measure the participants' behaviours (as recorded on the videotapes) similarly, this confidence interval range would likely have been narrower. That approach, however, would have been counter productive to the objective of the current study.

The interest of the study is the efficacy of a social skills training programme; the hypothesis is that the training programme could promote positive behavioural changes (for the participant) sufficient to be noticed by others in the everyday world. It is thus better for the current study that the raters measured the participants' behaviours along the lines of their respective individual judgments rather than being rigidly constrained by measurement rules outlined by the experimenter (the raters were, of course, given some guidelines, as described in Design and Procedure).

As described in Materials, Design and Pocedure, and Results the participants of the current study were asked to have a person who knows them well to complete the Social Performance Survey Schedule (Appendix B). It was hoped that the information gathered from these surveys could provide a real world (i.e., the everyday world of the participant outside of the training setting) measure of the participants' behaviour. This effort, had to be abandoned, however, as the participants were either

unable to remember to return completed surveys (because they either did not give them to a person who could complete the survey, or because the participant could not remember to return the survey) or had the surveys completed by people who did not know the participant well.

At the end of the study, participants also completed a Client Satisfaction survey and engaged in a descriptive assessment interview (see Materials, Design and Procedure, and Results). As described in Results, responses to both these descriptive measures suggest that the participants were very satisfied with their experience in the present study. All the participants reported that they found the training both enjoyable and useful.

It is important to note, however, that the Client Satisfaction Survey was not completed anonymously and the descriptive interview was conducted by the experimenter (who had administered the training sessions and with whom the participants had developed a relationship). Recognizing the obvious undesirability of biased responses to these descriptive measures, the experimenter emphasized to the participants that objective evaluations, and not unfounded positive feedback, were required and much valued for the study. For further research, nonetheless, the author recognizes the need for such strategies as a third party to conduct evaluative descriptive interviews.

Avenues of Research, the Contribution of the Current Study, and Closing Comments

Although a statistically significant treatment effect was found for the training programme of the current study (with the One month post training versus Pre training comparison), there were, admittedly, mixed results with some of the quantitative measures of the study. The value of social skills training for the brain

injured may be even more strongly supported by the descriptive evaluations of the participants of this study. Participants reported, to a resoundingly positive degree, that they found the training programme both enjoyable and useful; and participants' investment in the training programme was substantial.

Participants met with the experimenter twice per week for six weeks, investing a total of 24 hours in the training, as well as extensive travel time. On top of that, the training programme required the participants to face and struggle with (in the presence of peers and strangers), personal issues and difficulties. Still, and to some extent, perhaps because of those challenges and opportunities, participants reported high regard for the training programme.

The current study has also given clear directions to some paths of further research (in what will hopefully be an ongoing enterprise). The brain injured commonly (A. Cancelliere, personal communication, 1998) clinically show difficulty with nosagnosia – the self identification of symptoms (probably, at least on some level, as do we all) and in recognizing the debilitating severity of symptoms. This problem likely contributed to the difficulty experienced by the current study in finding volunteers for the study. One has to first recognize the need to improve social skills to justify joining a social skills training programme.

This author thus hopes to conduct further skills training research for the brain injured using larger sample sizes. There would be additional value, as well, in the evaluation of a longer (i.e., more training time and administered over a longer calendar time), more comprehensive training programme. It might also be worthwhile to carry out training sessions in 'real world' settings.

More information regarding participants' physical brain injuries may be another useful component of further skills retraining research. In cognitive

behavioural studies such as the current one, knowing more about each participant's brain damage may allow us to continue to refine our knowledge of the behavioural deficits that are a function of any particular brain lesion. This information could also further our understanding of which patients may benefit from skills training (and which would not, as a function of a particular lesion making the individual non-amenable to such treatment). With greater knowledge of the connection between lesion (type and particularly location) and behaviour, it perhaps may even be possible to determine particular training techniques as more effective for particular sorts (again, especially with regard to location of the lesion) of injuries. Further research, regarding injury type and the amenability to skills training, could also include a comparison of a traumatic injury population with a vascular insult population.

What is the contribution of this study? Authors of brain injury literature have written about the need for experimental validation of diagnostic procedures, evaluative strategies, and, in particular, interventions, and treatment programs. Results of this study indicate that brain injured individuals (as other patient populations have before them) find social skills training enjoyable and useful.

The literature suggests that survivors of head injury are an under served clinical population. These individuals often appear to suffer, as a result of their head injuries, behavioural difficulties that are not life threatening, but debilitating and sometimes devastating to quality of life for themselves and their families. It may be the case that a simple behavioural training programme, such as the kind herein described, might measurably improve the quality of life for the head injured.

For the head injured as for us all, the adept use in inter-personal interactions of social skill behaviours, such as clear expression of opinion, feelings, and information; voice intonation; body positioning; eye contact; and hand gestures,

likely contribute to one's evaluation by others. Thus, the importance of social skills performance may be counted in the currency of the emotional well being of the client, as well as being measurable in hard, practical terms such as making a good first impression at a job interview rather than being left unemployed on social assistance. Moreover, a well received social presentation would likely serve the head injured client well with respect to developing and maintaining a strong network of others for support, rather than living with the loneliness and isolation which can be a consequence of head injury.

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Appendices

"Emotional and Motivational Disturbances Associated with TBI
[Traumatic Brain Injury]"
- As complied by Prigatano (1992) -

Reported disturbance	Source
	Active
Irritability	Thomsen, 1984
-	van Zomeren & van Den Burg, 1985
	Hinkeldey & Corrigan, 1990
Agitation	Reyes, Bhattacharyya, & Heller, 1981
	Chandler, Barnhill, & Gualtieri, 1988
Belligerence	Fordyce, Roueche, & Prigatano, 1983
	Hinkeldey & Corrigan, 1990
Anger	Lezak, 1987
	Rosenbaum & Hoge, 1989
Abrupt and unexpected acts of violence or Episodic dyscontrol syndrome	Elliot, 1982
	Rosenbaum & Hoge, 1989
Impulsiveness	Goldstien, 1952
	Prigatano, Fordyce, Zeiner, Roueche, Pepping, & Wood, 1986
Impatience	Oddy, Coughlan, Tyerman, & Jenkins, 1985

Restlessness	Meyer, 1904
	Schilder, 1934
	Reyes et al., 1981
	Thomsen, 1984
	Hinkeldey & Corrigan, 1990
Inappropriate social responses	Goldstein, 1952
	Jennett & Teasdale, 1981
	Prigatano et al., 1986
	Bigler, 1989
Emotional lability (or rapid mood changes)	Thomsen, 1984
	Prigatano et al., 1986
	Brooks, McKinlay, Syminaton, Beattie, & Campsie, 1987
Sensitivity to noise or distress	Thomsen, 1984
	van Zomeren & van Den Burg, 1985
Anxiety	Goldstein, 1952
	Levin & Grossman, 1978
	van Zomeren & van Den Burg, 1985
	Lezak, 1987
Suspiciousness (or mistrust of others)	Prigatano et al., 1986
	Hinkeledy & Corrigan, 1990
Delusional	Lishman, 1968
	Lezak, 1987

Paranoia	Schilder, 1934
	Meyer, 1904
	Lezak, 1987
	Prigatano, O'Brien, & Klonoff, 1988
	Hinkeledy & Corrigan, 1990
Mania or manic - like states	Schilder, 1934
	Shukla, Cook, Mukherjee, Godwin, & Miller, 1987
	Backchine et al., 1989

Passive

Aspontaneity

Ota, 1969

Roberts, 1979

Thomsen, 1984

Sluggish

Reyes et al., 1981

Loss of interest in the environment

Thomsen, 1984

Oddy et al., 1985

Loss of drive or initiative

Jennett & Teasdale, 1981

Prigatano et al., 1986

Lezak, 1987

Bigler, 1989

Tires easily

Thomsen, 1984

Oddy et al., 1985

Depressed

Schilder, 1934

van Zomeren & van Den Burg, 1985

Lezak, 1987

Appendix B

The Social Performance Survey Schedule

Name: ---   Date: -------------------

Social Performance Survey Schedule

        This survey is a measure of social behaviour. It can be used to asses your own social beahviours or those of someone else. This assessment involves rating how often that the person you are rating engages in the behaviours described in the survey.

        Rate how often that the person you are rating demonstrates the behaviours in those situations where they might occur. For example, the item "shares what he (or she) has with others" refers only to situations where sharing might occur; the item does not imply that a person should share everything with others.

        Be sure to rate how often each behaviour is actually demonstrated, not what you think a 'good' response would be. Your answers will be kept strictly confidential.

He or She:	"0" Not At All	"1" A Little	"2" A Fair Amount	"3" Much	"4" Very Much
1. makes eye contact when speaking.					
2. reacts with more anger than a situation calls for.					
3. seeks others out too often.					
4. shows enthusiasm for others' good fortune.					
5. keeps secrets or confidential information to himself / herself.					
6. is aggressive when he (she) takes issue with someone.					
7. initiates contact and conversation with others.					
8. shares what he (she) has with others.					
9. puts himself / herself down.					
10. takes advantage of others.					
11. is pessimistic.					
12. makes other people laugh (with jokes, funny stories, etc.).					
13. interrupts others.					
14. tries to work out problems with others by talking to them.					

Response Choices

He or She:	"0" Not At All	"1" A Little	"2" A Fair Amount	"3" Much	"4" Very Much
15. gives the impression that he (she) is an expert on everything.					
16. seems impatient for others to finish their remarks.					
17. shows appreciation when someone does something for him (her).					
18. says little in conversation he (she) has.					
19. demonstrates concern for others rights.					
20. talks negatively about others when they are not present.					
21. reveals personal information and feelings to those with whom he (she) is close.					
22. talks readily to people he (she) has not met before.					
23. insults others.					
24. is able to accept other people despite their faults.					
25. smiles when he (she) first sees someone he (she) knows.					
26. threatens others verbally or physically.					
27. is able to accept other people despite their faults.					
28. makes others feel he (she) is competing with them.					
29. rejects or criticizes other people before knowing much about them.					

He or She:	"0" Not At All	"1" A Little	"2" A Fair Amount	"3" Much	"4" Very Much
30. when facing conflict with others knows what to do or say to avoid offending them.					
31. hurts other people while striving to reach his (her) goals.					
32. talks repeatedly about his (her) problems and worries.					
33. asks others how they've been, what they've been up to, etc.					
34. laughs at other people's jokes and funny stories.					
35. gets into arguments.					
36. listens when spoken to.					
37. is a sore loser.					
38. keeps the significance of his (her) accomplishments in perspective.					
39. remembers and discuses topics previously discussed with others.					
40. shows interest in what another is saying (with appropriate facial movements, comments and questions).					
41. gives unsolicited advice.					
42. knows when to leave people alone.					
43. directs rather than requests people to do something.					
44. makes embarrassing comments.					

He or She:	"0" Not At All	"1" A Little	"2" A Fair Amount	"3" Much	"4" Very Much
45. apologizes when he (she) wrongs someone.					
46. refuses to change his (her) opinions or beliefs.					
47. finds something to be optimistic about in hard times.					
48. criticizes people when he (she) talks to them.					
49. shows a willingness to compromise to resolve conflicts.					
50. compliments others on their clothes, hairstyle, etc.					
51. complains.					
52. perceives insults or criticism when none were intended.					
53. tries to help others find solutions to problems they face.					
54. reacts to injustices with a desire for revenge.					
55. makes facial gestures (e.g., shaking his / her head) or sounds (e.g., sighs) which indicate disapproval of others.					
56. easily becomes angry.					
57. stands up for his (her) rights.					
58. tries to manipulate others to do what he (she) wants.					
59. allows others to do things for him (her) without reciprocating in some way.					

He or She:	"0" Not At All	"1" A Little	"2" A Fair Amount	"3" Much	"4" Very Much
60. has eye contact when listening.					
61. stands up for his (her) friends.					
62. acts like he (she) is superior to other people.					
63. expresses concern to others about their misfortune.					
64. does not reveal his (her) feelings.					
65. focuses conversation on his (her) accomplishments and abilities.					
66. shares responsibility equally with members of groups to which he (she) belongs.					
67. seems bored when interacting with others.					
68. takes care of others property as if it was his (her) own.					
69. gloats when he (she) wins.					
70. asks if he (she) can be of help.					
71. gets to know people in depth.					
72. talks too much about himself (herself).					
73. discusses a variety of topics with others.					
74. explains things in too much detail.					

He or She:	"0" Not At All	"1" A Little	"2" A Fair Amount	"3" Much	"4" Very Much
75. re-evaluates his (her) position when he (she) receives new information.					
76. makes sounds (e.g., burping, sniffling) that disturb others.					
77. considers the effects of his statements and actions on others feelings.					
78. mentions people's names when talking to them.					
79. criticizes behaviours or practices of other people which he (she) engages in himself (herself).					
80. keeps commitments he (she) makes.					
81. talks about interesting topics.					
82. deceives others for personal gain.					

The Simulated Social Interaction Test
(Male version)

Practice Role-plays

1. *Narrator:* You have been standing in line for over one full hour waiting to buy tickets to a popular movie. When you are about to approach the window, a stranger steps up to you and says:

    "I don't want to wait in this line. Do you mind if I cut in front of you?"

2. *Narrator:* Your friend presents you with a shirt that she has bought for you for your birthday. You don't like the colour or style and would like to exchange it for another, but you don't want to hurt her feelings. ·

    "Here's your birthday present. How do you like it?"

3. *Narrator:* Imagine that you bring your car into a repair shop for a muffler. The repairman promises you that the job won't cost more than $40.00. When you return for your car, he hands you a bill for $150.00.

    "Well, besides the muffler, your engine needed a little work."

Role-plays for the Simulated Social Interaction Test

Factor #1 - Disapproval or Criticism

Narrator: "You have had a busy day at work, and you are tired. Your boss comes in and asks you to stay late for the third time this week. You really feel you would like to go home, but your boss says:

"Would you mind staying late again tonight and finishing this work for me? It's important that we have this rush order completed by tomorrow morning."

Narrator: You are at work, and one of your bosses has just finished inspecting one of the jobs that you have completed. He says to you:
"That's a pretty sloppy job. I think you could have done better."

Factor #2 - Social Assertiveness or Visibility

Narrator: Let's suppose you respond to an ad in the newspaper and go for a job interview. As the interview goes on the interviewer says:
"What makes you think that you're a good person for the job?"

Factor #3 - Confrontation and Anger Expression

Narrator: For the past two weeks you have been saving your money to go out to dinner. Now you are at the restaurant with some friends. You order a very rare steak. The waitress brings a steak to the table which is so well done that it is burnt and tastes awful. After you have a few bites, the waitress comes over and says:
"Are you enjoying your steak?"

Factor #4 - Heterosexual Contact

Narrator: You are at a party, and you notice that a woman has been watching you all evening. Later, she walks up to you and says:
"Hi, my name is Jean."

Factor #5 - Interpersonal Warmth

Narrator: You are seated in a very quiet restaurant with your date. She has been looking depressed all evening. You ask her what's wrong, and she says:
" I'm really down. Everything seems to be turning out badly."

Factor #6 - Conflict with or Rejection by Parent or Relative

Narrator: One of your close relatives has come to visit you. Although you enjoy him, tonight he is dominating the conversation and is very critical and rejecting of you. At one point in the conversation, your relative says:
"The way you are running your life is a disgrace."

Factor #7 - Interpersonal Loss

Narrator: You have had an argument with a close friend. She says to you:
"I don't want to talk about it anymore. I'm leaving."

Factor #8 - Receiving Compliments

Narrator: You just helped one of your neighbours move several large pieces of furniture. He is very grateful for your help. He says to you:
"Thanks a million. Not many people would have given me a hand. You're a really good guy."

Instructions for the Simulated Social Interaction Test Five Minute Open Conversation

1. After the role play exercises have been completed, the experimenter tells the participant:

>"Now we are going to do something different. I'd like you to have a conversation with me for the next five minutes. Your conversation (like the role-plays) will be video taped. You are allowed to talk about anything but you want. Do you have any questions?"

After all questions are answered, the experimenter starts the video tape and says to the participant:

>"We're ready to begin. I'd like you to start the conversation."

2. When the participant asks a question, the experimenter:
   a) Provides the requested information
   b) Provides at least one piece of information which, although not directly requested is relevant to the question

3. The confederate will ask reciprocal questions. For example, if the participant asks about hobbies, the confederate should ask about hobbies at a later point in the conversation.

4. During the conversation the experimenter nods and says "Hum-hum" or similar things as is usual in conversation.

5. When there is a lull in the conversation the experimenter waits 30 seconds before speaking. At this point it is preferable, if possible, to continue with the current topic rather than change the topic.

The Simulated Social Interaction Test
(Female version)

Practice Role-plays

1. *Narrator:* You have been standing in line for over one full hour waiting to buy tickets to a popular movie. When you are about to approach the window, a stranger steps up to you and says:

   "I don't want to wait in this line. Do you mind if I cut in front of you?"

2. *Narrator:* Your friend presents you with a shirt that he has bought for you for your birthday. You don't like the colour or style and would like to exchange it for another, but you don't want to hurt his feelings.

   "Here's your birthday present. How do you like it?"

3. *Narrator:* Imagine that you bring your car into a repair shop for a muffler. The repair person promises you that the job won't cost more than $40.00. When you return for your car, she hands you a bill for $150.00.

   "Well, besides the muffler, your engine needed a little work."

Role-plays for the Simulated Social Interaction Test

Factor #1 - Disapproval or Criticism

Narrator: "You have had a busy day at work, and you are tired. Your boss comes in and asks you to stay late for the third time this week. You really feel you would like to go home, but your boss says:

"Would you mind staying late again tonight and finishing this work for me? It's important that we have this rush order completed by tomorrow morning."

Narrator: You are at work, and one of your bosses has just finished inspecting one of the jobs that you have completed. She says to you:
"That's a pretty sloppy job. I think you could have done better."

Factor #2 - Social Assertiveness or Visibility

Narrator: Let's suppose you respond to an ad in the newspaper and go for a job interview. As the interview goes on the interviewer says:
"What makes you think that you're a good person for the job?"

Factor #3 - Confrontation and Anger Expression

Narrator: For the past two weeks you have been saving your money to go out to dinner. Now you are at the restaurant with some friends. You order a very rare steak. The waiter brings a steak to the table which is so well done that it is burnt and tastes awful. After you have a few bites, the waiter comes over and says:
"Are you enjoying your steak?"

Factor #4 - Heterosexual Contact

Narrator: You are at a party, and you notice that man has been watching you all evening. Later, he walks up to you and says:
"Hi, my name is John."

Factor #5 - Interpersonal Warmth

Narrator: You are seated in a very quiet restaurant with your date. He has been looking depressed all evening. You ask him what's wrong, and he says:

" I'm really down. Everything seems to be turning out badly."

Factor #6 - Conflict with or Rejection by Parent or Relative

Narrator: One of your close relatives has come to visit you. Although you enjoy her, tonight she is dominating the conversation and is very critical and rejecting of you. At one point in the conversation, your relative says:

"The way you are running your life is a disgrace."

Factor #7 - Interpersonal Loss

Narrator: You have had an argument with a close friend. He says to you:

"I don't want to talk about it anymore. I'm leaving."

Factor #8 - Receiving Compliments

Narrator: You just helped one of your neighbours move several large pieces of furniture. She is very grateful for your help. She says to you:

"Thanks a million. Not many people would have given me a hand. You're a really good person."

Instructions for the Simulated Social Interaction Test Five Minute Open Conversation

1. After the role play exercises have been completed, the experimenter will tell the participant:

> "Now we are going to do something different. I'd like you to have a conversation with me for the next five minutes. Your conversation (like the role-plays) will be video taped. You are allowed to talk about anything but you want. Do you have any questions?"

After all questions are answered, the experimenter sits next to the participant, the experimenter starts the video tape and says to the participant:

> "We're ready to begin. I'd like you to start the conversation."

2. When the participant asks a question, the experimenter:

   a) Provides the requested information

   b) Provides at least one piece of information which, although not directly requested is relevant to the question

3. The experimenter asks reciprocal questions. For example, if the participant asks about hobbies, the experimenter should ask about hobbies at a later point in the conversation.

4. During the conversation the experimenter nods and says "Hum-hum" or similar things as is usual in conversation.

5. When there is a lull in the conversation the experimenter waits 30 seconds before speaking. At this point it is preferable, if possible, to continue with the current topic rather than change the topic.

Consent Form
Social Skills Training Study

Thank you for volunteering to participate in this study of social skills training. Please read this form carefully and sign below where indicated. Volunteers will neither be charged nor receive money in return for their participation which involves twelve sessions, each of approximately one to one and one half hours, held twice per week over six weeks. As well, prior to and following the six week training programme, a relative or co-habitant will return completed copies of the "Social Performance Survey Schedule" which pertains to the participant; and volunteers will be invited to return one month following the sixth session to engage again in the Simulated Social Interaction Test. The findings of this project will be published but all personal information will remain confidential. This study is administered by Donald Kastuk, M.A., and supervised by Dr. Andy Cancelliere, and Dr. Neil Wiener. Please feel free to ask questions before signing this form.

I understand and agree to the conditions of the study.

Signature:

Outline of the Study

- Nine, volunteer, traumatic brain injured participants (eight men and one woman), 27 to 63 years of age, with post-traumatic social skills deficits; minimum injury criterion: 24 hour post-traumatic anterograde amnesia

- Excluded from participation were candidates with any of the following: I.Q. below 80; attention deficit disorder; psychosis; aphasia; and previous training or treatment that may have acted as a confound for the study. Participants all had "intact primary language processes" (i.e. they were free of clinical language disorders, which could have acted as a confound)

- Participants met with the experimenter for four hours per week: twice per week, two hours per session, for six weeks

- The study is a quasi-experiment (no control group) and is a pre-test / post test design, which investigated the efficacy of a global social skills training programme for the traumatic brain injured. Participants were videotaped engaging in the "Simulated Social Interaction Test" at the start of the first session and at the end of the last (sixth) session, and again one month following the end of the training programme.

- Over the six week training period, participants received social skills training as prescribed by the clinical Social Skills Retaining Package. This package addresses basic social skills (active listening, conversation techniques, etc.) and includes: instruction on social skills; role playing; homework assignments; and provides the participants the opportunity to watch videotapes of themselves in simulated social interactions.

- Three independent raters received videotapes of six of the nine participants engaged in a Pre training (the first week), a Post training (the sixth week), and, a One month

(Appendix E, continued)

post training administration of the Simulated Social Interaction Test. Raters measured the global social skills efficacy of the participants using an 11 point Likert scale. Raters were blind as to whether a tape was made pre, post, or one month post training.

- A mean Pre training, a mean Post training, and a mean One month post training score, for each of the three raters was calculated (means collapsed across various categories, and their counterpart statistical tests were also calculated). Repeated measures, dependent groups t tests were calculated as measures of statistically significant differences between the means. A significant One month post training / Pre training difference was found, consistent with the notion that the social skills training was beneficial. Inter-rater reliability measures were calculated; and power tests were performed to determine the likelihood of finding significant results using 6, 20, and 60 participants.

- Just prior to, at the end of the six week training period, and one month following the end of the six week training period, the participants were given an edited version of the Social Performance Survey Schedule, which was to be completed by a co-habitant, close friend, or relative of the participant. This survey might have given an indication of the long term and 'every day' world efficacy of the social skills training programme. In what was probably an illustration of the sorts of difficulties with which the brain injured live, the use of this survey for the study had to be abandoned. Most participants were unsuccessful at having the survey completed by an appropriate person and returned to the experimenter.

- At the end of the six week training period, participants responded to a Client Satisfaction Questionnaire (adopted from the Clarke Institute of Psychiatry), and each participant was privately interviewed regarding their experience in, and evaluation of, the study. Their evaluations were exclusively, and generally remarkably positive. Without exception, participants reported high satisfaction with the training programme.

Appendix F

Client Satisfaction Questionnaire

1. How would you rate the quality of service you received?

1- Poor   2- Fair   3- good   4- Excellent

2. Did you get the kind of service you wanted?

1- No, definitely not   2- Not really   3- Yes, generally   4- Yes, definitely

3. To what extent has our programme met your needs?

1- None of my needs have been met   2- Only a few of my needs have been met

 3- Most of my needs have been met   4- Almost all of my needs have been met

4. If a friend were in need of similar help, would you recommend our program to him/her?

1- No, definitely not 2- Not really   3- Yes, generally   4- Yes, definitely

5. How satisfied were you with the amount of help you received?

1- Quite satisfied   2- Indifferent or mildly satisfied 3- Mostly satisfied
4- Very satisfied

6. Have the various services you received helped you to deal more effectively with your problem?

1- No, they seem to make things worse   2- No, they didn't really help
3-Yes, they helped somewhat   4- Yes, they helped a great deal

7. In an overall, general sense, how satisfied were you with the services you received?

1- Quite satisfied   2- Indifferent or mildly satisfied 3- Mostly satisfied
4- Very satisfied

(Appendix F, continued)

8. If our program were available, and if you were to seek help again, would you come back to our programme?

1- No, definitely not   2- No, I don't think so   3- Yes, I think so

4- Yes, definitely

Participant Satisfaction Interview

1. a) What was most useful for you about our programme?

   b) What was least useful?

2. a) Was there anything about the programme which you particularly enjoyed?

   b) Was there anything about the programme which you particularly disliked?

3. On a scale of 1 to 10 - How useful to you is the training which you received in our programme (1 represents "not at all useful" and 10 represents "extremely useful")?

4. a) Is there anything which you would add to the programme?

   b) Is there anything which you would delete from the programme?

5. We have come to the end of our time together: Do you have any questions? Is there anything about the programme or your experience with us on which you would like to comment?

Appendix H

The Raters' 11 Point Likert Scale Score Sheet

Participant:

Clearly   inappropriate
AND/OR
very   ineffective

Not   clearly   effective
nor   ineffective
BUT
not   inappropriate
(A   marginal   performance)

Appropriate
AND
Very   effective

	1						6				11

| | | 2 | 3 | 4 | 5 | | 7 | 8 | 9 | 10 | |

3
Mildly   inappropriate
AND/OR
Ineffective

9
Effective
AND
Not   inappropriate

Trial											
1	1	2	3	4	5	6	7	8	9	10	11
2	1	2	3	4	5	6	7	8	9	10	11
3	1	2	3	4	5	6	7	8	9	10	11
4	1	2	3	4	5	6	7	8	9	10	11
5	1	2	3	4	5	6	7	8	9	10	11
6	1	2	3	4	5	6	7	8	9	10	11
7	1	2	3	4	5	6	7	8	9	10	11
8	1	2	3	4	5	6	7	8	9	10	11
9	1	2	3	4	5	6	7	8	9	10	11
10	1	2	3	4	5	6	7	8	9	10	11
11	1	2	3	4	5	6	7	8	9	10	11
12	1	2	3	4	5	6	7	8	9	10	11
5 Min.	1	2	3	4	5	6	7	8	9	10	11

Appendix I

The Social Skills Retraining Package

SOCIAL SKILLS RETRAINING

HEAD INJURY REHABILITATION DAY-PROGRAM

BASIC SOCIAL - SKILLS 2-1

For some people, starting a conversation is uncomfortable and a very difficult task; while for others, it is very easy and does not cause them any concern. Starting a conversation is a social skill and a very basic one.

2)   Rules for starting a conversation.

(A) Choose the right time and place - Don't start a conversation with someone when they are in the middle of an argument with another person or involved in something else (book).

(B)   Don't just stand there, say something - Don't wait to be included in the conversation. Take an active role from the start. But remember to pick the right time and place.

(C)   Opening remarks - Pick a topic that someone can easily respond to (weather, sports, etc.). Picking a topic that the other person knows a lot about works especially well.

(D)   Small talk is okay.

1. You may think that you have to talk about heavy issues (politics, etc.) but it is much easier and more pleasant to talk about something light and simple. Too much "heavy talk" turns other people off.

It is even okay to talk about yourself. In fact, some research states that the more a stranger gets to know about another person the more he begins to like him or her.

(E)   Get other person involved; ask questions, allow answers. For example, "Do you take this bus often?"

(F)   Is the other person interested?

Are they attending, following, responding, asking you questions? Read their nonverbal cues (facial expressions, body posture, tone of voice) for information about how they feel about the conversation.

Check their understanding of what you are saying. For example, you might ask: "Do you follow?"

(G)   If You enjoyed the conversation, say so!

Let the other person know that You enjoyed conversation. "Gee, I really enjoyed talking with you, let's do it again sometime."

2.   This is ending on a positive note.

Starting a conversation often depends upon the opener that you use. People often spend a lot of time thinking about what would be a wonderfully clever or foolproof opener but research has shown that what you say just isn't that important. If the other is interested he will help you out and take on some of the responsibility. To select an opener just decide what topic you want to use (the situation, the, other person or Yourself) and how you want to start (a (question, an opinion or a statement of fact). Usually asking a question about the situation will work best. Before you start examine the other person for anything he is doing, wearing, saying or reading that you might -be interested in asking about. Then listen carefully for free information (information that he/she gives you that you didn't ask about) that you might want to ask about.

Homework Assignment 1 - Basic social Skills

Write down three different opening lines that you might use to start a conversation. You have just met a perfect stranger somewhere (e.g., on a plane, in an elevator, at work), to start things going you say:

1)

OR   2)

Now imagine that someone was using each of those lines with you. Write down what you would say back to that person.

1)

2)

HOMEWORK Assignment

Conversational SKILLS GROUP

Imagine that you are walking down the hallway and you see someone that you knew way back in High School. You always wanted to speak to this person but you never did because you didn't have enough confidence in yourself. Start and maintain a conversation. Write down six lines of an imaginary conversation with each line being 10 words or more.

You say:

He/She says:

You say:

He/She says:

You say:

He/She says:

SOCIAL SKILLS GROUP - HOMEWORK ASSIGNMENT 6

Imagine that you are sitting at home with a relative or friend. You decide to start a conversation so you pick a topic (either the situation, yourself or the other) and how you want to start (either a question, a statement of fact, an opinion or a feeling). Remember to include free information (information that isn't asked for) to keep the conversation going and make each line more than 10 words.

You say:

He/She says:

You say:

He/She says

You say:

He/She says:

HOMEWORK ASSIGNMENT - CONVERSATIONAL SKILLS GROUP

Imagine that you are at a party. You see someone standing by themselves not doing anything particular and realize that it would be a good time to approach them. You walk over and introduce yourself:

Hi, my name is ....

They reply: Hi, my name is ....

Using the situation or a recent event start a conversation and write down 6 lines of more than 10 words. Try to avoid compliments (they are nice and necessary but lets focus on other area) and/or the standard exchange of "what's been happening with you?" Instead talk about one event or situational aspect and discuss your feelings about it and/or experiences with it. Stay with it for 6 lines.

You say:

He/She says:

You say:

He/She says

You say:

He/She says:

NONVERBAL CUES

Nonverbal cues are certain features about you, besides the words that you say, which give other people a certain message (impression) about you. This impression that you give to other people is very important. One of the goals of this group is to learn to manage or create a favourable impression.

Basic Social Skills 3

Nonverbal cues are extremely important in impression management. They can help you communicate by accenting and reinforcing what you are saying and presenting a clear, consistent message (words and body language agree). They can also convey to the other person that you are excited and enthusiastic about what you are saying or that you mean business. Be very careful about trying to give the right impression to the other person.

IMPRESSION MANAGEMENT TOOLS:

A list of nonverbal cues that can be used is given below. Each of these cues can be used, just like a tool, to create a certain impression.

Eye Gaze: This is very important for creating the impression that you are in contact with the other person. If you give good eye contact the other person will feel that you are honest, forthright, interested, warm, confident and attentive. If you stare at the floor or of into space he/she may be left with the impression that you are dishonest, indirect, uninterested, cold (distant) and/or lack self-confidence.

In normal conversation you should maintain eye contact continually when your partner is speaking. when you are speaking you should alternate between looking at him/her and looking away, looking at and looking away, etc. For fine tuning, try to look away while you are thinking or trying to find the right words to say and look at him/her while you are speaking. Also, try not to use a fixed stare; try to put some life into your eyes by blinking or squinting occasionally and try to look, at your partner (keep him/her in focus and keep changing the part of his/her face that you are focusing on) rather than looking through your partner.

Head Movement: You can nod your head or shake your head depending upon what kind of a message you want to get across. Nod your head if you would like the other person to agree with what you are saying or if your partner says something you like or agree with.

- Nod your head while you say

I'd like you to join me for a movie Friday.

Nod you head while he/she says

I'd love to join you for a film on Friday.

Shake your head if you disagree with what the other person is saying or if you are describing something that you didn't like. Shake your head while he/she says:

I think that physical exercise is a waste of time.

- Shake your head while you say:

The way he treated her was absolutely terrible.

Remember that the more movement that you demonstrate with your head, body, face or vocal cords the more likely it is that you will leave the impression that you are active, confident, energetic, fun to be with and open. On the other hand, the more inactive you are with your hands, face, head, body and vocal cords the more likely it is that you will leave the impression that you are inactive, shy, passive, closed and lacking in energy.

Finally, your head position can communicate a message. If you lean slightly forward and tilt your head slightly so that your ear is positioned to the speaker it gives the impression that you are listening very intently.

Facial Expression: To change your facial expression you can change your mouth shape (smile, open, sad shape) , eye shape (squint, wideeyed, wink), eye brows (raised, lowered, knitted together) and forehead (wrinkled, relaxed). To see some examples of really expressive faces watch some rock videos on television.

Try to be sure that your facial expression agrees with what you are saying. Try to smile frequently when you are speaking to someone else; this will give then the impression that you are
enjoying the conversation.

Hand Gestures: Your hands should be used to emphasize your message. They can be used to emphasize certain words or to illustrate what is being said (for example, if you draw what you are describing in the air) or to punctuate what you are saying (for example, you might use your hands to give the message that your are finished just like you might use a period at the end of a sentence).

Be careful not to be doing distracting things with your hands. They can make your messages less clear and can also give the other person the impression that you are anxious or nervous. Examples of such hand movements are clutching your hands together, playing with the bottom of your shirt or jewellery, constantly touching your face or your hair or covering your mouth with your hand, picking lint off your sweater, etc.

Posture: Again, posture will influence the impression that you give another person. If you are slouched you might leave your partner with the impression that you lack energy or you are lazy or apathetic. If you sit in a very rigid way with all of your muscles looking very tight you are likely to give the impression that you are uptight, nervous or uncomfortable. Generally you should take a relaxed but upright (not slouched) posture at a comfortable distance from the other person.

Homework Assignment 2 - Basic Social Skills

Prepare a two-minute speech about yourself. You can talk about any interesting topic related to you. For example, you might talk about a hobby you have and how much fun you find it. YOU might talk about your feelings about your treatment program. YOU might also talk about your relationship with a family member (e.g., father). Write down everything you want to say and make sure it takes you two-minutes to say it. We will   practice   these   selfspeeches   next   group.

Homework Assignment - Conversations Skills

Watch a conversation program on t. v. (e. g. , Jay Leno on Friday night, a series or movie where there is some interview) - From this program list one non-verbal behaviour from each of the following areas. Describe the behaviour and practice it so that you would be ready to do it in the group. What does it mean?

One Facial Movement or Expression:

One Hand Gesture:

One Head Movement

NONVERBAL BEHAVIOUR DICTIONARY

I Don't Know: Shrug shoulders -up so they almost touch ears. Elbows touching sides. Forearm perpendicular to upper arm with hands open palms facing ceiling. Conduct a small circular motion with hands (counter-clockwise with left hand, clockwise with right hand). Raise eyebrows so that forehead wrinkles.

No, I Disagree: Shake your head.

Gee, that's interesting: Nod your head very slowly and very deliberately. It would also help to place one or two fingers at your temple or to join you two hands together in front of you by touching all of your fingertips together.

Let Me Count the Ways: As you list the first way (or whatever you happen to be counting) you extend the index finger of your left hand (palm up) and tap it with the index finger of your right hand (palm down). As you list the second extend your middle finger as well and tap both with your right index finger.

I Am Listening with All My Energy: Lean forward, turn your head slightly but maintain constant eye contact, frequently nod your head and say "yes" or "uh-huh". Ask questions as well.

Let Me Draw It For You: Whatever you are describing with your words make an effort at drawing it in the air with your hands. This is something like charades without the silence.

SOCIAL SKILLS GROUP ACTIVE LISTENING

Frequently, individuals with traumatic brain injuries have difficulties with the abstraction or extrapolation necessary in active listening. They tend to be drawn very strongly to the more concrete response of suggesting something which would help. This option has a strong stimulus pull and is difficult for the frontal lobe patient to resist. It is important that such patients are not told that suggesting an alternative is incorrect. Rather the emphasis should be placed on encouraging reflection as a part of the active listening response which should precede suggestion of an alternative. Thus, suggesting an alternative can be reinforced but at the same time their responses can be augmented. These exercises are an excellent opportunity to discuss the difference between an abstract and a concrete response. Frontal lobe damage can again be raised as a possible factor undermining performance. Various definitions of abstract have been utilized to get this idea across. Referring to a desk, chair, bookcase and stool are all concrete references. Alternatively, one can refer to furniture, which is a more general reference to all of those concrete things. This is an abstraction. other definitions which have been utilized by clients include "more or less the idea of it" and "something that   isn't   tangible".

Good   Listening Skills:

Conversational Skills 4-1

Listening is one of the easiest social skills to develop and yet it is one of the most important. Active listening alone can be enough to encourage your partner to talk continually. Furthermore it gives your partner the impression that you are a considerate, thoughtful and attentive person.

To be a good listener when someone else is speaking you should lean forward, turn your head slightly but maintain constant eye contact, frequently nod your head and say "yes" or "uh-huh". DO NOT yawn, look at your watch or look at and play with something in your hands. These actions would give your partner the impression that you were bored with what he/she is saying and/or that you wanted to do something else.

So far we have discussed some really basic listening skills. Additionally, you could ask questions which-suggest to your partner that you are aware of what he/she is saying and that you are interested. You could also reflect back to your partner the feelings that you think are behind what he is saying. For example:

"So, you must have been really sad when you lost that game."

This is just listening with feedback and questions yet it can result in good conversation and strong relationships. When you share your feelings and opinions you begin interacting rather than just listening.

Why bother with active listening?

1) Helps you make sure that you have a correct understanding of what the other person is saying. If you misinterpret something that was said you immediately find out and correct your understanding.

2)   Lets the other person know that you are following everything he/she is saying. If you talk about the feelings which you think are behind what he/she is saying you may even help him/her understand themselves better.

In Active Listening you don't tell others what to do or express disapproval. Just reflect what is being said so that they feel as though you understand them and that you trust them to solve or resolve the issue at hand. For example, you shouldn't give advice which is obvious or criticizes the other person.

Conversational Skills 4-2

Example situation: A child loses $10.00 that she was supposed to buy something with. She tells her father.

Obvious and Critical Response:

"You should have been more careful with that money."

Child starts to cry.

Active Listening Response:

"You must feel pretty bad about losing that money. Lets walk along the route which you took and see if we can find it."

Active listening gets you to focus all of your attention on the other person. often you stop listening to another person because you have two conversations going, one with the other and one with yourself (self-talk in your own head). This self-talk if often negative; active listening will help you set aside this troublesome self-talk.

Finally, interpreting body language or behaviour can help you develop a greater understanding of the other person. To do this you must:

1) Tell the other what you saw and heard
2) Tell the other what you think it means
3) Ask if your conclusion is correct

For example:

"You keep tapping your fingers on the coffee table."

2)   "This might mean that you are in a hurry to go somewhere and you no longer have the time to talk to me."

3)   "Do you have somewhere else to go?"

HOMEWORK ASSIGNMENT - CONVERSATIONAL SKILLS GROUP

Make an active listening response to the following situations.

Example: A friend confides to you "It looks like I've got no choice, I'm going to have to spend my whole year taking night courses to upgrade my education to keep my job."

Incorrect:

Active Listening:

"That's how it goes, first you suffer then you enjoy.,,

"It sounds like you are a little worried about the amount of
time it will take from your personal life. 11

Situation   1:
            A friend approaches you and says " "My
supervisor at work says that I have to be on time more of
ten or else he will give me an official warning."

Incorrect:

"You should try harder to be on time."

Write an Active Listening Response:

Situation   2:
            Your sister approaches you and says "My
husband has gone to the horse races again tonight. This is
the fourth night this week and he has lost over $500. 00.
11

Incorrect:

"You should leave him."

Write an Active Listening Response:
HOMEWORK ASSIGNMENT 9

NAME: DATE:

Make an active listening response to the following situations. Remember that this
involves reflecting to your partner the feelings that you think are behind what they are
saying.

A)   A friend approaches you and tells you "My mother tells me she is going to kick
        me out of the house unless I start to work somewhere."

What Would Be Your Active Listening Response(s):

B)   A friend approaches you and tells you "I'm sorry, I lost that book that you lent
        me last week."

What Would Be Your Active Listening Response(s):

C)   Your brother approaches you and says "I lost my job this morning because I
        showed up at work drunk."

Social Skills Test

1. List two reasons why socializing is important:

a)

b)

What does IMPRESSION MANAGEMENT mean?,

List two topics you can use to start a conversation:

a)

b)

4.   Listed below are four ways to open (or continue) a conversation. Draw a line which separates superficial talk from giving more meaningful information about yourself.

cliche   question   fact   opinion   feeling

<u>What I have Learned About Assertiveness:</u>

In the spaces provided below, write the words represented by the D,E,S, and C in the DESC assertiveness system and briefly describe what each represents.

<u>D</u>

<u>E</u>

<u>S</u>

<u>C</u>

Describe briefly what each of the following parts of your body should be doing while your are asserting yourself.

1)   Eyes:

2)   Hands and Arms:

3)   Body (Posture):

4)   Face (Expression):

5) Loudness of Voice:
What does Assertion mean?

What is the Goal of Assertion?

What are the reasons why one should be Assertive?

what thoughts or beliefs make some people not assert themselves?

Briefly describe the put-off detour and how You might respond to it.

Briefly describe the "poor me" detour and how you might respond to it.

Why is assertiveness important in making and keeping friends?

CONVERSATIONAL SKILLS QUIZ

Describe how you would communicate the following ideas using nonverbal behaviours or gesture.

I don't know:

No, I disagree:

Let me draw it for you:

2. List three features of active listening:
   a)
   b)
   C)

3. Why is active listening important?

4. List the four stages of conversation:

5. List 3 reasons why socializing is important?
   a)
   b)
   C)

5b.   Free information is

MULTIPLE CHOICE -(Circle one)

7. Start a conversation when the other person is:

a) reading a book
b) not occupied with something else
c) arguing with someone else

8.   When starting off a conversation with someone:

a) small talk is o.k.
b) you should immediately talk about "heavy" things
c) you should not talk about yourself

9.   The more movement (up to a point) that you show with your head, body, face
      and/or vocal chords, the more likely it is that you will be seen as:

a) active, confident, energetic, fun and open b) inactive, shy, passive, closed and
lacking in energy c) having an illness

Social skills Retraining. Head Injury Rehabilitation Day Program Assertiveness

Assertion is a particularly important skill for effective and satisfying interpersonal
relationships. Some head injured individuals demonstrate characteristics which interfere
with effective assertiveness. For example, some individuals with head injury are
apathetic. That is, they demonstrate little caring for outcomes in their relationships with
other people. They are indifferent to the way certain social situations end up.
Alternatively, some individuals who have had head injuries are rather impulsive. That
is, they tend to react too quickly in social situations wherein their interests or desires
are not accommodated. Of the following information on the nature of assertiveness is
taken primarily from a book entitled "Responsible, Assertive Behaviour" by Lang and
Jakubowski. It contains the basics of an assertiveness system which we have found
can be quite useful in teaching those head injured individuals who are not assertive how
to assert themselves. It is important in rehabilitation individuals who have sustained
traumatic brain injuries that complex social skills/ interactions be broken down into a
number of steps comprising a procedure because memory for procedures is relatively
intact. Thus, these individuals should not only memorize the desk system and its
auxiliary components but also perform numerous homework and role-playing exercises
in order to learn this as a motor-based skill which is more likely to generalize and
endure. Another benefit of the desk system is the focus on emotions and describing
emotions. Head injured individuals sometimes experience a reduction in their ability to
monitor their own emotional state and articulate and describe that state to others. We
have found this a particularly difficult exercise and have often had to lay down a
foundation for doing this before undertaking the desk system. Again, this is a most

difficult task for some head injured individuals, but with persistence, modelling, role playing, and education, this essential part of social relationships (identifying one's own emotional status) can be retrained.

SOCIAL SKILL RETRAINING
Assertiveness Module
Definitions

WHAT WE WANT TO ACHIEVE

1) Assertion means standing up for our personal rights and expressing our thoughts, feelings and beliefs directly,, honestly and appropriately rather than acting as though we are inferior and the other person is better or right.

2) We must respect our own needs and rights and also the needs and 'rights of others, i.e., we have the right to assertively request something but the other person has the right to refuse.

3) Goal: The goals of assertion are communication, to ask for fair play, to got and give respect and compromise when the rights of two people conflict.

4) ASSERTION IS NOT SIMPLY A WAY OF GETTING WHAT WE WANT BY TAKING ADVANTAGE OF OTHERS.

REASONS FOR ASSERTIVE BEHAVIOUR:

1) Assertive behaviour increases our self-respect and we gain respect from others; it results in greater self-confidende and reduces insecurity and vulnerability by increasing control over ourselves. When we behave assertively, we show respect for ourselves and what we want, need and feel is important, thereby increasing our good feelings about ourselves. As well, other people usually respect us when we know what we want# when we know what we believe or feel, and when we are willing to be direct about stating our needs and beliefs. Being able to stand up for ourselves in an assertive manner and got our needs met appropriately helps us to feel that we are capable adults and that we can control what happens to us.

2) Assertive behaviour maximizes the likelihood of getting our needs and preferences respected: if we do not say what we want and, therefore# our needs are not met, we and up feeling hurt, angry and disappointed.

3) Assertive behaviour results in closer, more emotionally satisfying relationships; it allows us to be more open, communicative, intimate with people by giving others a chance to know and understand Us better.

DEVELOPING AN ASSERTIVE BELIEF SYSTEM:

In order to act assertively we have to develop a basic belief in our rights as individuals. The following statement is important to remember and believe.

EVERYONE IS ENTITLED TO ACT ASSERTIVELY AND TO EXPRESS HONEST THOUGHTS, FEELINGS AND BELIEFS.

WHAT WE WANT TO AVOID

NON-ASSERTION:

1) Violating our rights by failing to express honest feelings, thoughts and beliefs or expressing ourselves in an apologetic, hesitant, shy manner so that others violate our rights. For example, you have set aside 4:00 to 5:00 for things you want or need to do. Someone asks to see you at that time. You say, "Well, uh, I can see you at that time. It's 4:00 on Monday then. Are you sure that's a good time for you?"

2)

Goal: the goal of non-assertion is to please, pacify or appease others (make people feel better) to avoid conflict at all costs.

AGGRESSION:

1)

2)

Directly standing up for personal rights and expressing thoughts, feelings and beliefs in a way which is dishonest, inappropriate and violates the rights of others.

Passive-aggressive behaviour involves not standing up for ourselves and what we want, agreeing to do what is asked of us, or not saying how we are really feeling. As a result, we end up feeling hurt and angry but do not express these feelings directly. Instead, we act in a way that sabotages or undermines the other person.Forexample,asignificant
other (e.g., spouse) demands that you wash the dishes which you feel is unfair. Instead of telling him/her how you feel, you do what that person asks of you but "accidentally" break their favorite cup.

3) Goal: The goal of aggression is domination and winning.

REASONS FOR NON-ASSERTION:

1) Mistaking assertion for aggression.

2)   The belief that in order to be   polite we must be non-assertive. Often underneath our politeness we have hidden expectations. For example, we think that if I —— then   the other person will most definitely ——.

3)   We fail to accept our personal rights or do not believe we are entitled to our rights.

4) We are anxious about the negative consequences of assertion. For example, others won't like us.

5)   We view non-assertion as being helpful, i.e., we try to rescue or help the other person by sacrificing our own needs.

6)   We lack the necessary assertive skills.

CONSEQUENCES OF ACTING NON-ASSERTIVELY:

Initially, non-assertion may avoid conflict, thereby reducing anxiety. This decrease in anxiety feels good and, therefore, is performed even at the cost of our personal needs. We may also receive praise for doing what others want us to do and be seen as quiet, selfless, agreeable, etc. However, over time, non-assertion can lead to a growing loss of self-esteem, hurt and angry feelings and also physical problems, for example, tension headaches.

NON-VERBAL COMMUNICATION:

Not only is what we say important but also how we say it (i.e., non-verbal communication — eye contact, facial expression, body movement).

1) Assertive behaviour involves firm eye contact but not staring the other person down, body movement vhich is appropriate for the topic being discussed, for example, leaning forward in the chair, standing straight, hand gestures; facial expression may be pleasant or firm but not angry; speech should be lively and appropriately loud and include changing tones.

2)   Non-assertive behaviour involves avoiding eye contact, body gestures such as hand wringing, soft, hesitant speech and stepping back after making assertive remarks.

3)   Aggressive behaviour involves trying to stare down the other person, a loud, sarcastic, condescending tone of voice and pointing a finger (i.e., INTIMIDATION).

THE DESC SYSTEM

THE FOUR STEPS TO ASSERT YOURSELF

Speaking without thinking is like shooting without aiming.

Whenever you feel uncomfortable because of what someone else is doing or you feel your rights are being violated, you should stop and -think what the behaviour is, how it affects you emotionally and what behaviour you would like to see instead. You can then be assertive by carrying out the following actions:

Describe the behaviour that is violating your rights.

Express the emotion you feel in response to this behaviour.

Specify the change in behaviour that you would like to see.

Consequence the desired behaviour with a reward if it is carried out.

This will be called the DESC system. Each of the steps of the DescribeExpress -Spec Specify-Consequence (DESC) system for asserting yourself will now be identified in detail.
I

1) <u>DESCRIBE:</u>   Be as objective and as specific as Possiblewhen you describe the behaviour. Present the behaviour as a simple concrete fact rather than using a label.Thus say, "You ate the last piece of cake after eating two already." Do not say, "You are selfish.,,

2) <u>EXPRESS:</u> Tell the other exactly what your emotionalfeelings are when he/she behaves like that. Just specify the feeling without trying to hurt the other or make him/her feel guilty. Be careful about describing anger as the feeling which you feel because it is often due to other feelings, e.g., frustration or hurt (these often make us feel angry).

3) <u>SPECIFY</u>   Ask for a specific, different behaviour. Tryto request only one behaviour at a time. Be concrete,objective and specific instead of saying, "Stop trying torip off your customers," say, "Please give me a new
                                      t.v. since this one is defective." Be sure the request is
                                      reasonable and within the power of the other.

4) <u>CONSEQUENCE:</u>   Emphasise the positive and rewarding consequences for
                                      the specified behaviour. Don't threaten. Avoid
                                      punishing. Use social (hug, spending time, praise,
                                      conversation) or material (money, food) rewards.

The Describe-Express-Specify-Consequence method of assertion works best if it is short and to the point. Do not attack or insult the other person! Very simply, just Describe the other's behaviour, Express how it makes you feel, Specify the behaviour you would like to see and give appropriate Consequences.

USING ASSERTIVENESS IN THE REAL WORLD

We have studied how to assert oneself using the Describe the behaviour -Express your emotion — Specify the now behaviour — consequence method. If you can get this message across in an assertive way, you will be off to a good start. However, assertion does not stop after delivering this message. It would be nice if the other person listened carefully and then agreed that what you suggested was reasonable, however, this may not happen immediately most people have their own needs and wants which they would like to see met. Some will use different methods to get what they want without considering
what the effects are on you. In these situations it is very important that you continue asserting yourself. Only if you persist will you be able to achieve that to which you are entitled.

Even if you do a good job of asserting yourself, others may try to avoid your reasonable request.We will call this a detour. A detour is an attempt to distract you from your assertive goal. It tries to get you off course and prevent you from arriving at your destination. There are several types of detours which people might use to get you off course. Some of the detours which you might run into are described below.

Put Off Detour: An example of this kind of detour is: "Let's not go into that now". A good way to respond to this is to push to have it dealt with immediately. "It"s important to me that we work it out. It'll only take a few minutes." If the person persists then name a specific time when you will discuss the problem and be sure you use that time.

Distracting Detours: The other person can try to distract you from your goal by making side comments or jokes or asking you an unrelated question. Do not allow yourself to be distracted by these comments. Either ignore the comment or make a very quick response BUT then continue with your assertion.

"Poor He" Detour: The other person may start crying or look very hurt just
when you begin to assert yourself. DO NOT FEEL GUILTY. If you have used the
DESC system then you have been considerate and tactful. Just persist with
your assertion. You may want to say, "I'm sorry that talking about this
upsets you but it is very important that we talk it out." You may wish to
give them a few minutes to compose themselves and then continue again.

Denying Detours: The other person may deny that what you are saying is true. Do not get into a lengthy debate in this situation. Instead, persist in

what you are saying and make sure that you repeat your EXPRESS lines. If you tell the other how you are feeling he/she cannot deny your feelings. If he/she takes your feelings as real, he/she should make an attempt to respond to them. NO ONE CAN DENY THAT YOU FEEL A PARTICULAR WAY.

Blaiming Detour: The other person may blame their behaviour on you to try to make you feel guilty or they may blame it on someone else. If he/she is

blaming it on you, you have to decide whether you are contributing in some way to the behaviour. If you are, then you should admit this and tell the

person you will try to stop your contributing behaviour and expect that they will stop theirs. If you do not think you are contributingtotheir behaviour, say so and repeat your specify line.

If they blame their behaviour on someone else, tell them that you feel that they should take the problem up with those others rather than behaving in a way which makes you feel uncomfortable.

Verbal-Abusing Detours: The other person may severely criticize you or attack you verbally. Passive people really fear this kind of response and would rather have their rights violated than risk this kind of response. Actually, this kind of response is not so terrible if you just ignore the emotional outbursts and name calling and continue to calmly repeat your main point. It may also help if you tell the person that you understand that he/she is angry. This way he/she may not have to work so hard to show his/her anger. Do not get involved in a name-calling match — this will help no one.

WAYS TO ASSERT YOURSELF AFTER A DETOUR:

There are several different ways that you can respond to detours. These different responses are described below:

PERSIST: Repeat your main point, usually this is your SPECIFY line.

DISAGREE: Make a direct statement of disagreement with the detour statement.

EMPHASIZE FEELINGS: Stress your feelings about the behaviour or situation. This is important because no one can deny your felings or emotional reaction to the behaviour or situation.

AGREE ...... BUT: _____Agree with the other's right to hold a Certain opinion or feeling BUT disagree with the idea that you must hold the same opinion or feeling.

DISMISS:Ignore the detouring comment completely OR quickly state that the detouring comment is not Very relevant to the situation and continue with your assertion.

REDEFINE:

ASK A QUESTION:

IDENTIFY CONSEQUENCES:

If the other person labels your assertion in a negative way (e.g., "You are being a nag.") then redefine how they view it.

Never accept vague criticism. Ask what exactly the other person is criticizing about your behaviour. (e.g., "Tell me exactly why you think I'm being inconsiderate.")

When you can no longer put up with the behaviour or situation, consider promising a reasonable negative consequence if the behaviour continues. This should only be used as a last resort because it may have serious consequences.

ASSERTIVENESS FOR MAKING AND KEEPING FRIENDS:

Assertive behaviour is very useful in situations where you feel your rights are being violated. it is also very useful in other situations. For example, some people have difficulty accepting or giving compliments and an assertive philosophy can help in such situations. Assertive behaviours can also help to make you more popular with others and to obtain a greater degree of satisfaction from your friendships.

Passive or non-assertive people are often shy. Their shyness prevents them from developing satisfying friendships with other people and maintaining what friendships they have formed. By being more assertive in social situations, these people can get more satisfaction from their social relationships. Being more assertive means believing that YOU ARE ENTITLED TO SHARE YOUR THOUGHTS, FEELINGS AND OPINIONS WITH OTHER PEOPLE AND THEY ARE LIKEWISE ENTITLED TO SHARE THEIRS. Of course, assertion involves appropriate nonverbal behaviours, self-expression and consideration for others.

To enhance friendships with others you must be active in seeking out social contact. You must make efforts to get in touch with them. This suggests to the other that you like them which will make you more attractive to others. Positive social qualities such as honesty, kindness, loyalty, tolerance and deep respect for others will also increase their liking for you. Be open and

Confident in sharing your feelings and opinions and in accepting those of others. Many people are too insecure and/or passive to openlyand confidently express their opinions. This prevents a relationship from growing.

This assertive information was taken from the book RESPONSIBLE ASSERTIVE BEHAVIOUR by Lange and Jakubowski.

ASSERTIVENESS GROUP HOMEWORK 'ASSIGNMENT 1

You have purchased a radio from a local store. When you bring it
home you find that the plug doesn't work. You bring the radio back
but the cashier will not give you your money back or an exchange
since it works well on batteries and you bought it on sale. you
say:

DESCRIBE:

EXPRESS:

SPECIFY:

CONSEQUENCE:

NAME: DATE:

ASSERTIVENESS GROUP HOMEWORK ASSIGNMENT 2

You have a roommate/spouse who has been leaving his/her dirty dishes in the kitchen for several days so he/she "can do them all at once". Up until now you've always let it happen because you haven't wanted to cause any trouble in the friendship. However, you hate to eat in a dirty kitchen and lately you've found yourself getting angry at your roommate for little things. You decide that you have to act to save the relationship. There are two days of dirty dishes in the kitchen so you approach you roommate and say:

DESCRIBE:

EXPRESS:

SPECIFY:

CONSEQUENCE:

NAME: DATE:

ASSERTIVENESS GROUP HOMEWORK ASSIGNMENT 3

Write out a DESC script for the following situation:

You have a friend who constantly interrupts what you are saying. Up until now you've always let this happen because you were afraid to confront your friend. Now, however, YOU BELIEVE THAT EVERYONE IS ENTITLED TO ACT ASSERTIVELY AND EXPRESS HONEST FEELINGS AND BELIEFS. You are discussing nuclear disarmament and your friend cuts you off. You respond:

DESCRIBE:

EXPRESS:

SPECIFY:

CONSEQUENCE

ASSERTIVENESS GROUP HOMEWORK ASSIGNMENT 4

Write out a DESC script for the following situation:

You have a neighbour who you like, but who constantly visits you without being invited first. In the past you have always allowed this to happen even though you want more time to yourself. Now, however, you are beginning to recognize your own needs as being important. YOU BELIEVE THAT EVERYONE IS ENTITLED TO ACT ASSERTIVELY AND EXPRESS HONEST FEELINGS AND BELIEFS. Once again this neighbour has dropped in without being invited first. You respond:

DESCRIBE:

EXPRESS:

SPECIFY:

CONSEQUENCE

ASSERTIVENESS Group Homework ASSIGNMENT 5

Write out a DESC script for the following situation:

One of your friends owes you $50. 00 which you lent her a month ago. on three occasions she has said that she will pay you back but then claims that she has forgotten. In the past you have always allowed this to happen but now YOU BELIEVE THAT EVERYONE IS ENTITLED TO ACT ASSERTIVELY AND EXPRESS HONEST FEELINGS AND BELIEFS. Today the two of you are having a coffee and again your friend has told you that she has forgotten the money she owes you. You respond:

DESCRIBE:

EXPRESS:

SPECIFY:

CONSEQUENCE:

INVENT A PUT OFF DETOUR from your friend:

PERRSIST:

ASSERTIVENESS GROUP HOMEWORK ASSIGNMENT 6

You have a friend who is pretty selfish sometimes. In the past you have always given this friend what they have wanted at your own expense. Now that you have taken the assertiveness course you believe that you are entitled to equal treatment so that you should get your needs met sometimes as well.

The two of you have just bought tickets for a concert. Unfortunately they have only single tickets left so you will have to sit apart on the night of the concert. One of the tickets is excellent (three rows from the stage) while the other is terrible (right at the back of the concert hall). You're friend buys the tickets with your combined money, he hands you the terrible ticket and says "come on, I'll buy you a coffee.", You say:

DESCRIBE:

EXPRESS:

SPECIFY:

CONSEQUENCE:

INVENT A "POOR ME" DETOUR from your friend:

PERSIST:

ASSERTIVENESS GROUP: HOMEWORK ASSIGNMENT 7

A salesman shows up at your door and tries to sell you a set of encyclopedias. You tell him you have no need for encyclopedias but he steps into your home and continues to pressure you into buying them. You decide to use the DESC system with him:

DESCRIBE:

EXPRESS:

SPECIFY:

CONSEQUENCE:

Now select one of the six detours listed in your notes, write down what kind of detour it is and then what the salesman might say in his DETOUR:

What might you say in return to PERSIST:

What I have Learned About Assertiveness:

In the spaces provided below, write the words represented by the D,E,S, and C in the DESC assertiveness system and briefly describe what each represents.

D

E

S

C

Describe briefly what each of the following parts of your body should be doing while your are asserting yourself.

1)   Eyes:

2)   Hands and Arms:

3)   Body (Posture):

4)   Face (Expression):

5)   Loudness of Voice:

What does Assertion mean?

What is the Goal of Assertion?

What are the reasons why one should be Assertive?

What thoughts or beliefs make some people not assert themselves?

Briefly describe the put-off detour and how you might respond to it.

Briefly describe the "poor me" detour and how you might respond to it.

Why is assertiveness important in making and keeping friends?

JUMPING IN TOO QUICKLY OR LETTING THE OTHER RAMBLE

Though spontaneity is valuable, good communication requires that you give other people an opportunity to say what they want to say without letting them just ramble.

Over-eagerness is awkward and disconcerting to the person speaking.

Giving the other person a chance to speak, gives you a chance to ask yourself.

-What feelings are being expressed?

-What point is this person trying to make?

Make point and stop -- don't fear silence.

SOCIAL SKILLS GROUP

LONG WINDEDNESS. We must avoid long-winded responses. Answers to questions should be short and concise. Comments made spontaneously during conversations should not be overly long. Look for cues in the other individual with regard to whether you are losing their attention. Make responses to the point. Lean. Sometimes rambling is an effort to be perfectionistic in one's responses. That is, one may say something and feel that one aas not gotten it quite right and then spend another couple of minutes trying to get it right, trying to say something two or three times will lose the other person. Sometimes you have to think things through more clearly before speaking to make sure you get it right (or as right as is immediately possible) and concise. Another approach might be to stop after that first attempt to see if the listener may have understood fully anyway. In active listening, this is critical and you should ask yourself "what is the central point of what this person is trying to say". If the other person is actively listening when you stop after your first effort to say "Do you

understand what I'm saying?" "Yes". "Can you give it back to me in your own words, I want to make sure you understand it the same way I do." As a listener you should also be prepared to try to intervene where a person becomes long-winded.

REDUCING DEFENSIVENESS

Try to be nondefensive in your interactions with others.

Know your strengths and weaknesses and know that you cannot have a full and total understanding of all of your strengths and weaknesses. Any information that you receive from others should be welcomed as it may contribute to allowing you to live more effectively — when someone expresses a negative attitude towards you, try to understand what the other person is thinking and feeling — if you are always defensive, you will have great difficulty getting involved with other people - allow negative criticism. one response to such criticism is too ask the person for specifics — after negative criticism, you can respond in several ways:

Try to understand what the other person is thinking and feeling.

2.   Try to get more detailed information regarding their concerns.

3.   Sometimes it is helpful to call upon others in the situation to understand the process. This should not be done in an effort to get other individuals in the situation to side with you, but rather to try to collect information regarding the situation of interest.

4.   Respond to the criticism. How do you feel about it? Should you make changes as a result? Is it true — Defensiveness is almost always nonproductive, so is quickly changing you mind and going along with the critcism.