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Differences Between Rehabilitation Disciplines in Views of Depression in Spinal Cord Injury Patients

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Summary

Reports based on clinical impressions have suggested that depression after spinal cord injury (SCI) is a near-universal phenomenon; however, studies using objective methods and strict criteria have not confirmed this. The aim of this study was to explore the experiences and opinions of rehabilitation clinicians with the depressed mood in their SCI patients. A questionnaire was completed by 149 staff members of various disciplines working in four specialised SCI rehabilitation centres. We found that the disciplines vary in the symptomatology they observe (nurses most, physicians and mental health professionals least), and that these differences to some degree correspond to variations in the estimate of the frequency and intensity of depression in the average patient. The amount of staff experience was found not to be a factor. The implications of these findings for theories of staff expectations regarding patient mood states and the functioning of the clinical team are discussed.
Key words: *Depressive disorder; Spinal cord injuries; Rehabilitation; Hospital personnel.*

In the literature on the adjustment to spinal cord injury (SCI), the concept of depression plays a prominent role. Almost without exception, clinicians have reported that patients experience depression, and many seem to think that depression is a stage in the adjustment process. Some have even ventured that going through depression is a necessary condition for the eventual successful adjustment of the spinal cord injured person.

These opinions were especially prevalent in the years following World War II (e.g. Wittkower, 1954; Berger and Garrett, 1952), when the outlook for patients indeed may have been bleak, given the state of medical knowledge and rehabilitation expertise. However, such views can also be found in the literature published since 1960 (e.g. Mueller 1962; Gunther, 1969; Kerr and Thompson, 1972; Hohman, 1975; Cull and Hardy, 1977; Orbaan, 1986).

In all instances, these reports were based on the clinical impressions of the authors, without benefit of stringent definitions of depression or objective measures to establish its presence (cf. Frank *et al.*, 1987).

Research on newly injured SCI patients using valid and objective measures of psychological distress has yielded findings that certainly would cast doubt on the universality of depression (Taylor, 1967; Lawson, 1977; Davidoff *et al.*, 1987). Prospective studies using stringent criteria of psychiatric diagnosis (rather than patient self-report) have similarly found that in SCI patients depression is the exception rather than the rule, affecting from 10 to 40% (Fullerton *et al.*, 1981; Frank *et al.*, 1985; Judd *et al.*, 1986).

Trieschman (1980), reviewing the literature on stages of adjustment written by clinicians, questions whether these professionals have perceived 'more distress and psychological difficulty' than present in reality. She suggested a psychological need on the part of the authors as a factor in this: the 'requirement of mourning' (Wright, 1983). 'When a person has a need to safeguard his values, he will either (1) insist that the person he considers unfortunate is suffering (even when he seems not to be suffering) or (2) devaluate the unfortunate person because he ought to suffer and he does not.' Some anecdotal evidence suggests that this indeed reflects what is going on in rehabilitation centres, e.g. Lawson (1977); Ernst (1987). Recent research by Caplan (1983), Bodenhamer *et al.* (1983), Ernst (1987) and Cushman and Dijkers (1986) has provided evidence that rehabilitation staff tend to overestimate the frequency and/or intensity of negative mood states, and to disregard the optimism, hope and even happiness in their SCI patients. These findings would suggest that the hypothesis of the requirement of mourning is correct.

McDaniel (1976) observed that the attitudes of rehabilitation professionals toward patients have not been studied sufficiently, although 'those attitudes are probably more important in determining the individual's response to treatment and rehabilitation planning than any other single force'. In the last 10 years, some things have changed, but there are still more studies of *patients'* adjustment than of *staff* values and attitudes and the effects of these on the rehabilitation process. There seems to be an almost instinctive assumption that the multiple causation of behaviour is suspended once a person becomes disabled, and that the further development and change in such a person's life is due entirely to intrapsychic factors, at best in reaction to the event and the environment. By and large, the rehabilitation literature disregards the effects of professional staff's values, assumptions, attitudes, expectations and behaviours.

The objective of the present study was to explore the experiences and opinions of rehabilitation staff regarding depression in spinal cord injured patients. Specifically, it aimed to determine how they, as lay diagnosticians, 'diagnose' depression or depressed mood, and what staff or patient factors play a role in this.

Method

Questionnaires were distributed to the treatment staff of four specialised US SCI rehabilitation centres. The following items were part of this self-administered questionnaire, in the order indicated:

1. Questions on training and experience.
2. A list of 16 symptoms of depression commonly described in the psychological/psychiatric literature; for each the respondent indicated (on a

four-point scale ranging from 'never' to 'very often') how frequently he/she observes it in the 'average' SCI patient.

3. The same list of symptoms, this time with the instruction to select those the respondent uses in judging the 'average' SCI patient to be more or less depressed, and to rank-order them from most to least important.
4. The Depression Adjective Check List (DACL) form E (Lubin, 1967). The DACL consists of 34 adjectives, 12 positive and 22 negative, and in standard administration a person is required to check those which are descriptive of his/her feelings. A score is calculated as the sum of the number of negative adjectives checked and the number of positive adjectives not checked. In this study, the staff were asked to complete the DACL as they thought the 'average' SCI patient would do.
5. A global rating of mood, on a nine-point scale ranging from 'super depressed' to 'super happy', adapted from Alexy and Bracy (1983). Again, respondents were asked to complete this the way the 'average' SCI patient would.
6. Questions on the percentage of patients the staff observe who were 'not depressed at all' and 'depressed seriously and for a protracted time', respectively.

Results

A total of 149 usable questionnaires were returned. Demographic data on these

Table I Age, sex and experience of respondents, by discipline.

	Discipline							
	Medicine	Nursing	Occupational therapy	Physical therapy	Social work/ psychology	Other	Unknown	Total
Number of respondents								
	10	49	25	26	13	8	18	149
Age								
Mean	32·6	33·2	31·1	30·4	39·7	34·8	—	32·9
Std dev.	7·0	8·1	6·4	5·3	8·7	5·4	—	7·4
Range	28–51	19–49	23–45	23–44	27–59	26–43	—	19–59
Percentage female								
	10	86	96	92	77	75	—	82
Years of experience in discipline								
Mean	6·2	10·6	8·2	8·2	11·4	8·8	—	9·3
Std dev.	6·6	8·5	5·8	5·5	7·3	4·2	—	7·1
Range	2–23	1–31	1–23	1–23	1–25	4–14	—	1–31
Years of experience in general rehabilitation								
Mean	4·8	7·2	7·0	6·4	9·5	11·1	—	7·3
Std dev.	5·7	5·6	4·2	4·3	6·0	4·2	—	5·3
Range	1–19	1–20	1–19	0–17	1–22	5–18	—	0–22
Years of experience in SCI rehabilitation								
Mean	4·4	6·8	6·2	5·0	8·2	10·9	—	6·5
Std dev.	5·7	5·6	4·2	4·0	6·9	4·2	—	5·3
Range	1–19	1–20	1–14	0–15	1–19	5–18	—	0–20

respondents are presented in Table I. All information is summarised by the discipline of the respondent, because this was determined to be the most important

factor in differences between staff. The 'other discipline' category includes respiratory therapists, therapeutic recreation specialists, and patient educators. The 'unknown' group includes staff from all disciplines listed; these persons did not complete questions on age, sex and discipline that might have identified them. In further analyses, they are combined with the 'other' group.

The discipline groups were surprisingly homogeneous in terms of age and experience. The physicians, on average, had somewhat less experience (this group included a number of residents) and the psychologists/social workers somewhat more. The only major difference between the professional groups was in terms of sex: the physicians were almost all males, while the other groups were predominantly female, especially the nurses.

Staff's opinions and experiences with respect to the mood states of SCI patients

Table II Staff estimate of the percentage of patients that is, seriously depressed for a protracted time, and of the percentage that is not depressed at all by discipline.

	Discipline						
Estimated percentage	Medicine	Nursing	Occupational therapy	Physical therapy	Social work/ psychology	Other/ unknown	Total
A. Seriously depressed							
Mean per cent	21	34	27	21	18	25	27
Std dev.	10	27	24	17	10	22	22
Range	10–40	0–90	5–90	1–80	5–40	5–85	0–95
Median	20	25	15	20	15	20	20
Respondents	9	43	25	26	13	23	139
B. Not depressed							
Mean per cent	28	10	14	15	42	17	17
Std dev.	26	17	18	19	28	24	22
Range	0–60	0–90	0–80	0–75	0–85	0–80	0–90
Median	20	5	10	10	40	5	10
Respondents	9	45	25	26	13	24	142

are summarised in Table II. When asked to estimate what percentage of their patients are 'seriously depressed for a protracted time', the average staff member estimated 27% (Table II, upper panel). However, there was quite a variation in these 'guestimates'. While 1% thought no patients go through serious depression, 9% of staff thought that at least 60% of patients are so afflicted. The highest single estimate was 95%. There were considerable differences between the views of the various disciplines: physicians and psychologists/social workers had the most optimistic view and nurses the most pessimistic. An analysis of variance revealed that differences by discipline approached statistical significance: $F = 1{\cdot}90$; $p = 0{\cdot}10$.

Parallel results for the estimate of patients who are not depressed at all are contained in the second panel of Table II. Almost one quarter of respondents thought that all patients experience some degree of depression, and an additional two fifths were of the opinion that only a small minority of patients (1–10%) escape this experience. Again, differences by discipline were considerable: social workers and psychologists were likely to give the highest percentage of patients who are not depressed, followed by physicians; as before, nurses were most pessimistic. The differences were significant: $F = 5{\cdot}29$; $p < 0{\cdot}01$.

When asked to indicate the mood level of the 'average' SCI patient, as the

respondent thought the patient himself/herself would rate it on a nine-point scale ranging from 'super happy' to 'super depressed', the typical respondent selected 'some negative', and almost two thirds selected a descriptor indicating depressed mood. Only for physicians and social workers/psychologists was the median

Table III Global rating of mood* and DACL as staff think an 'average' patient would complete them, by discipline

	Discipline						
Descriptor code	Medicine	Nursing	Occupational therapy	Physical therapy	Social work/ psychology	Other/ unknown	Total
A. Global rating							
Mean score	5·1	4·1	4·1	4·8	4·9	4·2	4·4
Std dev.	1·1	1·6	1·3	1·3	1·2	1·5	1·4
Median	5·0	4·0	4·0	4·0	5·0	4·0	4·0
Respondents	9	42	24	26	13	22	136
B. DACL							
Mean score	13·2	19·2	16·3	15·2	14·8	15·0	16·5
Std dev.	4·5	6·3	4·7	4·3	4·5	4·2	5·4
Range	8–21	8–32	10–27	9–26	9–24	9–22	8–32
Median	12·0	19·0	15·0	14·5	15·0	16·0	16·0
Respondents	9	46	22	26	13	22	138

* Average calculated over codes assigned as follows: Super depressed: 1; sad: 2; bad feelings: 3; some negative: 4; neutral: 5; some positive: 6; good feeling: 7; happy: 8; and super happy: 9.

response in the 'neutral' category (Table III, upper panel). In an analysis of variance using ranks these differences approached statistical significance: $F = 2{\cdot}10$; $p = 0{\cdot}07$.

When asked to complete the DACL as they thought the 'average' SCI patient would, many staff members tended to come up with total scores that indicated, depressed mood or even full fledged (clinical) depression (Table III, lower panel). (The average US adult scores in the range from 8 to 10 on this measure; 17 has been suggested as the cut-off point for diagnosing depression (Levitt and Lubin, 1975). In our own study (Cushman and Dijkers, 1986) a sample of 102 patients who completed the DACL scored an average of 9·0. The differences by discipline shown in Table III were statistically significant: $F = 4{\cdot}41$; $p < 0{\cdot}01$.

On each of the measures presented (estimated percentages, global rating and DACL), respondents were also compared in terms of years of professional experience. No consistent or significant differences were found.

As they all treat the same patients, differences between staff in judgments may be due to several factors. The various disciplines observe patients in different settings within the hospital and at different times, and therefore base their reports on unequal samples of patients' behavioural manifestations. Also, by training and/or experience gained in their specific roles, they may focus on different specific symptoms and/or may attach unequal importance to these same symptoms. We asked respondents to indicate how often they observed each of 16 specified symptoms of depression in their patients, and to which of these they attached importance in judging the 'average' SCI patient as more or less depressed.

Information on the reported frequency of observation is provided in Table IV, columns (b) and (c). Most symptoms were reported to be observed 'sometimes' or

Table IV Frequency of observation and importance of each of 16 symptoms of depression*

Symptom (a)	Per cent observing very often (b)	Mean Frequency** (c)	Per cent selecting as (second) most important (d)	Mean selection rank**** (e)	Mean importance*** (f)	Weighted frequency (g)
Sad facial expression	20	2·1	13	11·6	1·0	2·3
Verbal report of sadness	9	1·8	14	11·9	1·1	2·0
Thoughts of suicide	2	1·4	49	14·3	2·3	3·1
Pessimism about the future	31	2·2	20	12·1	1·4	3·3
Behavioural slowing	11	1·5	8	11·5	0·7	1·2
Excessive fatigue	30	2·1	9	11·4	1·0	2·3
Loss of appetite	25	2·0	7	11·4	0·2	1·8
Sleep disturbances	27	2·1	8	11·4	0·8	1·9
Cognitive difficulties	9	1·5	5	10·6	0·6	1·0
Social withdrawal	15	2·0	42	13·8	2·3	4·6
Guilt	16	1·9	2	11·1	0·5	1·1
Poor motivation	26	2·1	14	12·1	1·4	3·0
Anxiety	35	2·2	8	10·8	0·8	1·9
Agitation	14	1·7	3	10.7	0·4	0·8
Weepy spells	7	1·6	9	11·4	0·8	1·4
Irritability	22	2·0	3	10·8	0·6	1·3

* Minimum number of respondents is 146

** Calculated as the mean for four categories, as follows: never: 0; almost never: 1; sometimes: 2 and very often: 3

*** Mean rank among those selecting the symptom; coded 16 (most important) to 1 (least important). Not selected is disregarded

**** Calculated as the mean for five categories, as follows: not selected: 0; selected as 6th to 11th most important: 1; 3rd to 5th most important: 2; second most important: 3; and selected as most important: 4

even 'very often' by half or more of the sample. The only exceptions were cognitive difficulties and suicidal ideation.

In order to summarise differences of all symptoms, we calculated an index of gross symptomatology by summing frequency of observation over the 16 symptoms. The resulting 'index of gross symptomatology' indicate (Table V) the highest

Table V Indices of gross and net symptomatology,* by discipline

Index of gross symptomatology	Discipline: Medicine	Nursing	Occupational therapy	Physical therapy	Social work/ psychology	Other/ unknown	Total
A. Gross symptomatology							
Mean	30·9	33·2	28·2	27·9	28·2	29·7	30·1
Std dev.	5·1	5·9	6·1	6·0	3·1	7·0	6·3
Respondents	9	42	25	24	12	23	135
B. Net symptomatology							
Mean	34·3	38·1	30·2	29·3	27·8	31·0	32·8
Std dev.	8·1	21·0	8·3	6·9	6·3	7·4	13·3
Respondents	9	41	25	24	10	23	132

* For explanation, see text

average observed frequency of symptoms for nursing, and the lowest for physical therapy. The differences between the disciplines are statistically significant: $F = 3{\cdot}66$; $p < 0{\cdot}01$. This index of gross sympatomatology should be interpreted cautiously, as it is based on an incomplete list of symptoms of depression, and the relative importance of each symptom included is not taken into account.

No systematic variation in reported symptom frequency was found when we compared staff with different years of experience in their profession.

As noted above, 'diagnosing' depression does not only involve the frequency with which one observes certain symptoms, but also how important they are judged to be. We asked respondents to check the symptoms that play a role in their judging the 'average' SCI patient as more or less depressed, and to rank these from most to least important. The average respondent selected 8·3 symptoms (standard deviation of 3·2), with a range from 4 to 16. There was little variation by either years of experience or discipline in mean number of selections.

Table IV also provides information on the importance of these symptoms in the opinion of our sample (columns (d) to (f)). All symptoms listed are selected as most or second most important by at least one respondent, but most popular are thoughts of suicide (49%), social withdrawal (42%), and pessimism (20%).

When the mean rank for those symptoms that were selected was calculated (Table IV, column (e)), there was little difference between the various symptoms. This suggests that, beyond the few symptoms that are a favourite across all respondents, each tended to have his or her own ideosyncratic set of preferred symptoms which are given greatest weight.

Because the number of symptoms selected differed from one staff member to the next, the mean rankings in column (e) are not completely comparable. We solved this problem (to a degree) by converting them to ratings, using the following scheme: code 0: not chosen as important; code 1: importance rank 6 to 16; code 2: rank 3 to 5; code 3: rank 2 (second most important); and code 4: chosen as most important. The mean importance score resulting is provided in column (f) of Table IV; it reflects both popularity and relative importance.

The best measure of the symptomatology the staff members use to base their judgments regarding the average SCI patient on is, presumably, one that takes into account both the frequency of observation of the symptoms and the weight (importance) the staff member attaches to each. We calculated for each symptom a weighted frequency by multiplying frequency (scaled 0–3) by rated importance (scaled 0–4). A symptom that is both frequently observed and considered important has therefore a high value, while one that is unimportant and/or never observed has a low value. The results are given in column (g) of Table IV.

Across all respondents, the symptom making the largest contribution to judging the mood of the average SCI patient as more or less depressed is social withdrawal (weighted frequency of 4·6), while agitation (0·8) has the last impact. The sum of these weighted frequencies (32·8 for the entire sample) constitutes our index of net symptomatology; while it has little meaning by itself, comparison across disciplines shows the basis on which judgments on 'patients in general' were grounded. Mental health professionals had the lowest index score, on average, while nurses had the highest (see Table V). The latter group observed all symptoms more often and/or attached more weight to the ones it did observe.

The amount and seriousness of symptomatic behaviour observed in SCI patients

Table VI Four measures of staff estimate of frequency/intensity of patient depression: correlation with index of net symptomatology, and selected results of analysis of covariance with discipline as independent variable.

Measure	Correlation with index of net symptomatology		Analysis of covariance: Covariate: net symptomatology		Analysis of covariance: Main effect: discipline	
	r	p	F	p	F	p
DACL-E	·39	< 0·01	14·51	< 0·01	2·24	·06
Global mood rating	−·36	< 0·02	13·03	< 0·01	1·66	·15
Estimated percentage of patients that is not depressed	−·18	N.S.	5·11	< 0·05	5·56	< ·01
Estimated percentage of patients that is depressed	·35	< 0·01	15·43	< 0·01	1·50	·20

were significant factors in the staff's view of the average patient's mood. Table VI provides a summary of our findings. The zero-order correlation between the index of net symptomatology and the four measures of staff's view of patient mood was significant in 3 patients; the only exception was the estimated percentage of patients that were not depressed (Table VI). Because discipline was found to be such an important factor, we also performed an analysis of covariance, with discipline as the main effect and age, experience (three measures), sex (dummy coded), and index of net symptomatology covariate as covariates. In all instances, the symptomatology covariate was a significant factor, while none of the other covariates were (Table VI). Discipline was a significant variable only with respect to the estimated percentage of patients not depressed. This suggests that a large part of the difference between professional groups in their view of the average SCI patient is explained by the frequency with with they observe symptoms and by the importance they attach to these symptoms.

Discussion

The present study aimed to explore one aspect of the social and interpersonal environment of the rehabilitation of spinal cord injured patients, namely, the experiences and expectations that staff have of the mood state of SCI patients. When we use the term 'experience', we do not necessarily imply that the staff reports we assembled are an unbiased representation of an objective reality. On the contrary, we expect that certain prior assumptions have influenced and biased observation and still colour reporting.

The four questions which invited estimates of the frequency and intensity of negative mood in SCI patients produced results which, if contrasted with the results of objective studies of the incidence of depression in SCI, suggest that rehabilitation staff indeed tend to see more problems and suffering than exist in reality. There are a number of competing explanations for this.

The first relies on the traditional psychological concept of projection. For instance, Howell *et al.* (1981) observed that the incidence of depression in SCI patients may have been over-estimated because of observer bias, which results from the assumption that SCI patients 'having suffered a major loss with profound consequences, must or should be depressed'. It is only a small step from such

thoughts to the judgment that someone who is not depressed is denying or repressing his or her true feelings.

A similar explanation is offered by two concepts put forward by Wright (1983). The 'requirement of mourning' specifies that the non-disabled observer needs to see or assume suffering to safeguard his values. However, Wright also postulated a 'requirement of cheerfulness': people with a diability are expected to 'keep a stiff upper lip' and to 'keep on smiling' because society frowns upon displaying one's hurt and frustration in public. Similar observations have been made by a number of authors. For example, Zola (1982) noted that one of the major problems of being disabled is that one is not allowed to express negative feelings. Tucker (1980) also notes that 'staff expect [SCI] patients not to languish in self-pity; they should maintain a positive perspective demonstrated by cheerfulness, lack of complaints, and interest in others'. Somehow this 'therapeutic mask' must be superimposed upon the 'required mourning'.

There are other explanations for the reactions of staff. Goldiamond (1976) suggests that staff who invoke the concepts of denial, apathy and depression as inevitable developmental stages in the process of adjustment to SCI do so to escape responsibility for questioning whether and how their own behaviour might be contributing to the patients' emotional state (cf. Gunther, 1971). In the present study, 40% of staff endorsed 'staff words and activities' as a cause of differences in depression between patients and 56% endorsed these as a factor in variation in the mood of patients over the course of time. In our earlier study (Cushman *et al.*, 1985) less than 5% of staff suggested this cause spontaneously. This strongly suggests that rehabilitation professionals have difficulty seeing the causal effect of their own actions; they certainly see them as less influential than those of the patient's family and friends, who in both studies were named more frequently as contributing to variations in patient mood.

While there now is sufficient evidence to support the claim that, at least at some level, rehabilitation staff expect SCI patients to be depressed (Bodenhamer *et al.*, 1983; Caplan, 1983; Cushman and Dijkers, 1986), further research is needed to determine what concrete effect these expectations have on staff–patient contacts. We may speculate that a loose model of phases of adjustment has some utility in helping professionals to organise their impressions of what occurs in a majority of patients. Yet it is still very likely that the use of such a model may yield significant negative consequences for the patient. Reification of the stages, in that they are considered discrete, necessary phases which occur one after another in fixed sequence, prevents the staff member from seeing the patients and their problems as they really are and also get in the way of effective helping (cf. Caplan and Shechter, 1987). More importantly, it is likely that if the patients are 'forced' to go through the stages in their proper sequence according to a fixed time schedule, this will only increase their burden.

Caplan (1983) pointed out the importance of similarity of perception regarding specific patients among staff members in the clinical situation; if various staff members give conflicting reports concerning a patient's mood, proper assessment of psychological state and of its role in the rehabilitation process is hampered. The present study dealt with the hypothetical 'average' patient, and thus a lack of consensus does not have dire consequences. However, differences between staff, especially if large and patterned according to age, sex, disciplinary or other lines,

point up the potential, for divergent opinion in patient management. For that reason, we did not limit our presentation of the data to an undifferentiated group of clinicians, but investigated differences within the clinical rehabilitation treatment team.

In exploring factors associated with differences between staff, we found that years of experience, both general and specific to SCI care, seemed not to affect opinions and attitudes. This contrasts with the findings of Bodenhamer *et al.* (1983) who found that rating of SCI patient depression (but not of anxiety, discomfort or optimism) was related to experience in one's discipline; those who had more experience tended to have the most negative view.

Staff members' professional discipline was a major explanatory variable throughout our analysis. Mental health professionals, on average, judged the smallest percentage of patients to be seriously depressed, and the highest percentage of patients as not depressed at all, a rather optimistic view of how the average patient would rate his own overall mood, and a correspondingly low score for the 'average' DACL. Physicians were similar on all these items, while nurses were at the opposite pole, the latter group having the most pessimistic view of frequency and intensity of depressed mood in SCI patients. The difference is in part explained by the observed 'net symptomatology'; psychologists and social workers reported the lowest, while nurses reported the highest. In each instance, physical and occupational therapists tended to occupy an intermediary position between social workers/psychologists and nurses. Caplan (1983) also reported differences between the disciplines' vicarious ratings of the mood of specific patients (using the DACL), and in the number of symptoms they reported as present. He found that the two social workers reported the highest depression rating, followed by the one psychologist; this is very much the opposite of the current study. However, this may have been an artifact of using a very small sample. Caplan did suggest that the amount of contact and professional training in interpersonal sensitivity might be factors in the accuracy of perception of the affect of SCI and other patients.

In our study, the professional groups' ranking in terms of what we termed 'optimistic views' corresponds roughly to the frequency and duration of interactions between patient and staff. Social workers and psychologists generally have scheduled sessions with the patient once or twice a week. Physical and occupational therapists see the patients five days a week for one, sometimes two, sessions. (Resident) physicians tend to see the patient every day, for varying lengths of time. Finally, nursing staff interacts with the patient almost the entire time the patient is not occupied in therapy, over three shifts, seven days a week. (We excluded nursing staff that worked the night shift only.) Of course, informal contacts and 'indirect' observation through reading of notes in the medical record and listening at chart rounds tend to expand the scope of each staff member's window of observation.

However, even if it is a factor, intensity of contact explains only part of the difference between the disciplines; the analysis of covariance results suggested that even after controlling for reported symptomatology there are still (significant) differences between disciplines. This may be due to additional differences in the symptomatology (nature, quality, intensity) observed by each discipline that our simple measures of the importance and frequency of symptoms were not able to catch. For instance, the hours from 07:00 to 17:00, Monday to Friday, tend to

be devoted to the 'business of rehabilitation': testing, assessment, treatment, conferencing; in all of these activities, businesslike, non-emotional goal-directed behaviour is expected. Outside those hours, patients tend to spend most of their time in their temporary 'home': their room and adjoining hallways or lounges. If they feel a need to withdraw, or open up and display sadness, this is probably where it happens, at a place and time where nurses are most likely the only staff who are present. Other symptoms also likely to be observed only in this setting include loss of appetite and sleep disturbances.

The above discussion does not mean that factors more intrinsically associated with the disciplines do not play a role. Physical therapists and occupational therapists' primary concern is teaching the patient new skills and techniques; therefore, they are likely to pay primary attention to such symptoms as psychomotor retardation, fatigue, impaired attention, concentration, and memory. Social workers and psychologists, on the other hand, are by both training and experience specialists in the affective and cognitive changes that indicate depression. Presumably, such differences in general staff orientation and in responsibility for particular aspects of treatment of the patient play a role in one's view of the SCI patient and in differentiating between patients.

Ultimately, the results of the present study can only suggest factors that might explain differences between staff disciplines in experiences and opinions. For a more complete and definitive exploration, future studies must address the ideological and value differences between disciplines and how these affect the interactions between staff and patients.

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