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ORIGINAL REPORT

COPING WITH SPINAL CORD INJURY: TENACIOUS GOAL PURSUIT AND FLEXIBLE GOAL ADJUSTMENT

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Objective: **To investigate the correlation of higher-order coping strategies of tenacious goal pursuit and flexible goal adjustment with adjustment after rehabilitation in spinal cord injury.**

Design: **Cross-sectional correlational study.**

Subjects/patients: **All 397 eligible patients entered for spinal cord rehabilitation between 1999 and 2009 were contacted and 130 (33%) agreed to complete a self-report questionnaire.**

Methods: **Partial correlations were computed between tenacious goal pursuit and flexible goal adjustment and affective and cognitive psychological adjustment. Demographics, spinal cord injury related variables, social support and coping were used as control variables.**

Results: **After controlling for relevant demographic, medical and social support indices, partial correlations between tenacious goal pursuit and indices of adaptation were not significant. Significant partial correlations were observed between flexible goal adjustment and each of the indices of adjustment (r = –0.33, –0.42, 0.51, –0.38, respectively, for depression, anxiety, acceptance, and helplessness) after controlling for all relevant variables in the model. Flexible goal adjustment explained significant additional proportions of variance for each of the adjustment indices (7%, 11%, 18%, and 7%, respectively).**

Conclusion: **Flexible goal adjustment, but not tenacious goal pursuit, is associated with psychological adjustment in spinal cord injury. Further research is needed to understand the mechanisms of flexible goal adjustment. Interventions targeting flexible goal adjustment might be of benefit for the patient.**

Key words: spinal cord injury; adaptation; psychological functioning; coping.

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INTRODUCTION

Spinal cord injury (SCI) is perceived as extremely stressful (1). A substantial proportion of patients continues to experience difficulties in affective and cognitive adjustment after the rehabilitation phase, with depressed mood observed in 25–30% and anxiety disorder observed in 20–25% (2, 3). Although SCI is likely to disrupt previously-held life goals, many patients are able to maintain or regain normal levels of psychological functioning in their rehabilitation phase (4–6). Psychological adjustment in patients with SCI is only partly explained by social demographic factors or characteristics of the SCI (7). A better understanding of the mechanisms underlying psychological adjustment in SCI might improve psychological treatment.

Lazarus & Folkman (8) defined a stress-and-coping model that has been used to study the correlation between stressful events and adjustment in SCI (9). Coping strategies are important mediators of depression in SCI (3, 9). In general, task- or problem-oriented coping is positively related to adaptation and good health; and emotion-focused coping styles are negatively related to adaptations and good health (3). However, correlations between task-oriented coping and measures of adjustment in SCI are weak to moderate. Perceived social support might explain some of the differences in adjustment in SCI (10). Another explanation for the weak association between task-oriented coping strategies and adjustment is that the efficacy of a coping strategy is dependent on the match between stressful situation and choice of coping strategy (6).

The dual-process coping theory was developed to describe the way in which persons match goal-related coping with situations in which goals are blocked (11). The theory distinguishes two modes of higher order coping: assimilative and accommodative coping. Assimilative coping implies actively adjusting development and life circumstances to personal preferences. Accommodative coping entails adjusting personal preferences and goal orientations to given situational forces and constraints. The dual-process model was first used to study high levels of life satisfaction in elderly people in spite of a decline in physical activity and increase in number of goals blocked by the ageing process. Indeed, accommodative coping offsets the negative effect of ageing (12, 13). In general, assimilative coping is problematic in those situations in which there is little control, or the achievement probability is low, as assimilative coping will consume scarce resources and will lead to experience of failure (14). In such situations accommodative coping is likely to be more positively related to adjustment. It has been suggested that these mechanisms might be of similar importance in adjusting to sudden and non-normative life

events in which goals are blocked (15). Therefore, studying the correlation between coping and adjustment in SCI within the dual-process model might help to improve our understanding of the mechanisms of adjustment to SCI.

The aim of this correlational study is to explore the relationship between assimilative and accommodative coping with adjustment in patients with SCI after the rehabilitation phase. As this is the first study using the dual-process coping theory in SCI, the relationship between assimilative and accommodative coping and demographics, SCI-related variables, social support, and task-oriented coping is described first. Next, the correlation of assimilative and accommodative coping with indices of the affective (depression and anxiety) and cognitive (acceptance and helplessness) dimensions of adjustment are calculated after controlling for relevant demographic, disease-related, social support indices, and task-oriented coping. It is expected that higher levels of assimilative coping will be correlated with lower adjustment, while high levels of accommodative coping will be correlated with higher adjustment.

METHODS

Participants

All 487 patients submitted to the spinal cord rehabilitation department of the Sint Maartenskliniek in the Netherlands between 1999 and 2009 with SCI were considered for inclusion. Patients younger than 18 years at hospital admission, patients with cancer-related SCI, and those without known addresses were excluded. The remaining 397 patients received a letter explaining the nature of the study with the request to participate in the study. If patients agreed to participate they were asked to sign and return an enclosed study participation card to the researcher. After receiving the card, the researcher sent out a set of questionnaires and an informed consent form. A total of 130 persons (33%) agreed to participate, and were sent a self-report questionnaire. All subjects provided written informed consent. Approval of the research protocol was obtained by the local medical ethics committee.

Measures

Demographics. Age, gender, marital status, and educational level were assessed.

SCI characteristics. The description of the lesion includes cause of the lesion, height and completeness of the lesion and time since injury. Cause of injury was divided into traumatic (traffic accident, industrial accident, sports accident, fall from height and shot or knifed) and non-traumatic (disease-related or resulting from a medical procedure). Participants indicated their motor level of lesion by selecting 1 of the following options: C1–C4 high tetraplegic; C5–C8 low tetraplegic; T1–T5 high paraplegic; T6–T12 paraplegic; L1–L5 or S1–S5 low paraplegic. Furthermore, patients indicated whether their SCI was motor complete or incomplete.

Independent functioning. Independence in functioning was measured with the Barthel Index (BI), which is a 10-item assessment tool evaluating physical dependence in activities of daily living (7 items) and mobility (3 items). Total scores were computed by summing the item scores with a higher score reflecting higher levels of independence (16, 17).

Pain. This was measured with a visual analogue scale (VAS 100 mm).

Tiredness. Tiredness was assessed using a visual analogue scale (VAS 100 mm).

Social support. This was assessed with the Social Support List (SSL-12). This short version of the Social Support List-interactions, assesses the extent of perceived social support. The SSL-12 contains 12 Likert items, with possible item scores 1 (seldom or never), 2 (every now and then), 3 (regular) or 4 (very often). Based on the 12 items 3 scales can be computed for "everyday social support" (referring to social companionship and daily emotional support), "support in problem situations" (referring to instrumental, informational support, and emotional support in times of trouble) and "esteem support" (referring to support resulting in self-esteem and approval) (18).

Task-oriented coping. The Coping Inventory for Stressful Situations (CISS) was used to measure coping. The inventory is divided into 3 subscales: task-oriented coping reflecting the use of behavioural or cognitive problem-solving techniques; avoidance coping as a way of rely on social supports or distraction with other activities; and emotion-oriented coping reflecting to the tendency to respond to stressful situations with emotional outbursts, self-preoccupation, or fantasy (19). In this study only task-oriented and avoidance coping are used.

Assimilative-accommodative coping. The assimilative-accommodative Coping Scale (TAACS) consists of 30 statements equally divided into two scales: tenacious goal pursuit (TGP) as a way of actively adjusting circumstances to personal preference is used to measure assimilative coping; and flexible goal adjustment (FGA) as a way of attempting to accept the consequences of the problem by adjusting personal preference and goals is used as a measure of accommodative coping (11). The TGP scale consists of 6 directly phrased and 9 inversely phrased items. An example of a TGP item is "When faced with obstacles, I usually double my efforts". The FGA scale consists of 11 directly phrased items and 4 inversely phrased. An example of an item is "I adapt quite easily to changes in plans or circumstances". On each statement the participant is asked to what degree they agree with the statement on a 5-point Likert scale; 1 (strongly disagree), 2 (disagree), 3 (nor agree nor disagree), 4 (agree) or 5 (strongly agree). After recoding the reversely phrased items scale scores were computed by summing the item scores. The Dutch version of the questionnaire was developed by the University of Groningen (20).

Affective adjustment: psychological distress. The Hospital Anxiety and Depression Scale (HADS) contains 14 statements with 7 items each measuring depression and anxiety. Respondents are asked to what degree they agree with each statement on a 4-point scale, ranging from 0 to 3. Items are summed to calculate scores for depression and anxiety, with a higher score reflecting higher levels of depression and anxiety (21, 22). The HADS is a reliable and valid instrument in SCI research (23, 24).

Cognitive adjustment. Cognitions of appraisal of the SCI were assessed using an adapted version of the Illness Cognitions Questionnaire (ICQ) (25, 26). In a previous study, the wording of the original questionnaire was modified slightly to be able to use the ICQ in SCI (27). This instrument contains 18 statements measuring negative, neutralizing and positive cognitions attributed to the condition. The scale accepting measures neutralizing connotations of the condition; the scale helplessness measures the aversive cognitive attributions attached to the SCI; and disease benefits measures the positive meaning to the SCI. Participants were asked to what degree they agree with each statement, ranging from 1 (not at all) to 4 (completely). In this study the neutralizing (acceptance) and negative cognitions (helplessness) were used. Examples of items are "I can handle the problems related to my condition", "I have learned to accept the limitations of my condition" (Acceptance), and "Because of my condition, I miss the things I like to do most" (Helplessness).

Statistical analysis

Categorical data were described as numbers and percentages. Continuous variables were described as means and standard deviations (SD). Internal consistency of the TGP and FGA scales were calculated using Cronbach's alpha. Normality of distribution for both scales was tested using Shapiro-Wilks test for normality. Associations between variables are expressed as Pearson correlations (r). Differences between groups were calculated using χ^2 for categorical variables, and t-test or the Kolmogorov-Smirnov test for differences between groups for continuous variables depending on distribution. Demographic, medical or social support variables with significant correlations with any of the adjustment indices were selected for further analyses. Next, a

series of separate blockwise regression analyses with the 4 indices of psychological adjustment as dependent variables were conducted. Selected demographic, medical, and social support and coping indices were used as independent variables. For each of the blockwise regression analyses R^2 is given, indicating the percentage of variance explained by the variables in that block. For each regression analysis Pearson correlations (*r*), as well as standardized B weights for each variable were computed, when all variables in that block were entered simultaneously. The Beta weights indicate the relative importance of each variable entered in that block.

Analyses are based on actual observations, resulting in differences in degrees of freedom for different analysis. The number of missing values was less than 5% for each variable. *p*-values less than 0.05 were considered statistically significant in the analyses. All analyses were conducted using STATA (Release 10, Stata Corp LP, College Station, TX, USA).

RESULTS

A total of 130 patients agreed to participate and completed the self-report questionnaire. The mean age of the sample was 56.2 years (standard deviation (SD) = 15.8), ranging from 18 to 93. Mean duration since the SCI was 104 months (SD = 11.8), ranging from 12 to 558 months. Summary statistics for the sample are given in Table I.

Table I. *Characteristics of the sample*

Characteristics	
Demographics	
Marital status, *n* (%)	
Living with a spouse	86 (67)
Education, *n* (%)	
Higher education	43 (33)
Medium education	73 (57)
Lower education	13 (10)
SCI characteristics	
Cause of injury, *n* (%)	
Traumatic	74 (59)
Type of injury, *n* (%)	
High tetraplegia	21 (16)
Low tetraplegia	26 (20)
High paraplegia	22 (17)
Paraplegia	31 (24)
Low paraplegia	28 (22)
Complete, *n* (%)	
Yes	44 (35)
Self report VAS, mean (SD) [observed range]	
Pain	35.3 (29.3) [0–100]
Tiredness	36.4 (26.9) [0–100]
Functional Independence	
Barthel Index	13.7 (5.7) [3–20]
Psychological characteristics	
Social support, mean (SD) [observed range]	
Everyday social support	11.6 (1.9) [6–16]
Support in problematic situations	10.3 (2.4) [4–16]
Esteem support	10.7 (2.4) [4–16]
Task-oriented coping, mean (SD) [observed range]	
Task-oriented coping	52.3 (10.9) [24–76]
Avoidance coping	41.5 (11.1) [18–75]
Affective adjustment	
Depression	5.8 (3.7) [1–16]
Anxiety	5.0 (3.9) [0–21]
Cognitive adjustment	
Acceptance	17.8 (4.3) [6–24]
Helplessness	14.0 (4.6) [6–24]

SCI: spinal cord injury; VAS: visual analogue scale; SD: standard deviation.

Most patients were living with a spouse. Of those patients living alone, 6 were divorced and 5 were bereaved of their partner. In 41% of patients the cause of the SCI was non-traumatic, most frequently reported were disease-related causes (23% of total SCIs), and in a minority the SCI became apparent after a medical procedure (17%). Most trauma injuries were the result of traffic accidents (29%), with smaller percentages caused by falls (14%), industrial accidents (5%), sports accidents (10%) and violence (1%). Two patients did not report the cause of the SCI. The percentages of motor completeness differed between types of injury, with motor completeness observed with 19%, 17%, 68%, 51% and 14%, respectively, in high tetraplegia (C1/C4), low tetraplegia (C5/C8), high paraplegia (T1/T5), paraplegia (T6/T12) and low paraplegia (L1/L5, S1/S5).

Using cut-off scores of 8 points on the depression and anxiety subscale of the HADS (28), in this sample 24% of the patients are considered depressed and 20% scored above 8 points on the anxiety scale. In 32% of the participants elevated levels were observed on either depressed or anxiety scores.

Tenacious goal pursuit and flexible goal adjustment

The TGP and FGA both showed high internal consistency, with Cronbach's alphas of 0.76 and 0.84, respectively. The mean score on the TGP was 34.7 (SD = 7.4), ranging from 19 to 54. The mean score on the FGA was 37.6 (SD = 7.9), ranging from 15 to 55. The scales were independent in this sample ($r = 0.14$, ns). Both scales had normal distributions.

Differences in gender, marital status, duration, cause of the SCI, as well as type of injury were unrelated to scale scores on TGP and FGA. In Table II correlations are given between age and education level, pain, tiredness, and independence in daily living, social support and task-oriented coping with TGP and FGA.

Table II. *Correlations between demographics, health status, indices, social support, and task-oriented coping, with tenacious goal pursuit (TGP) and flexible goal adjustment (FGA)*

	Correlation with	
	TGP	FGA
Demographics		
Age	–0.20*	0.05
Education	0.39**	0.14
SCI-related		
Pain (VAS)	0.17	–0.08
Tiredness (VAS)	–0.05	–0.24*
Independence (Barthel)	0.13	–0.13
Social support		
Everyday social support	0.19*	0.14
Support in problematic situations	0.02	0.04
Esteem support	0.31**	0.29*
Task-oriented coping		
Task-oriented coping	0.28**	0.33**
Avoidance coping	0.06	0.08

*$p < 0.05$, **$p < 0.01$.
SCI: spinal cord injury; VAS: visual analogue scale.

TGP is only weakly associated with age, education, everyday social support, esteem support, and task-oriented coping. FGA is weakly associated with tiredness, esteem support, and task-oriented coping. Patients with higher levels of education are likely to report higher levels of TGP. Esteem support and task-oriented coping each have significant and positive correlations with both TGP and FGA.

Correlates with psychological adjustment

Intercorrelations between the 4 indices of psychological adjustment ranged from 0.45 to 0.65, indicating that depression, anxiety, acceptance, and helplessness measure different aspects of adjustment. Therefore, the 4 indices of adjustment were used as separate dependent variables in further analysis. Correlations were computed of the demographic, SCI-related, social support indices, coping measures with the 4 adjustment variables. In Table III results are depicted showing Pearson correlations (r) and standardized B weights for each variable, when all variables in that block were entered simultaneously. Variables unrelated to any of the adjustment variables were not included in this analysis. Gender, marital status, duration of the SCI, motor completeness, motor level of lesion, and cause of injury were unrelated to any of the adjustment variables and therefore not included in Table III.

The first set of blockwise regression analysis entering selected demographic variables as independent variables explains a small, but statistical, significant proportion of variation in acceptance (6%) and helplessness (12%), but not in depression and anxiety. Higher education is positively associated with acceptance and negatively associated with helplessness. The second set of regression analysis shows that SCI-related symptoms and function together explain a significant proportion of variation in each of the adjustment indices, with tiredness consistently associated with lower levels of adjustment. Barthel's index as a measure of independence is related to cognitive measures of adjustment, with higher levels of independence related to higher levels of acceptance and lower levels of helplessness. The third set of regression analyses, entering social support indices as independent variables, explains a small but significant proportion of variance on each of the adjustment indices, varying from 6% to 9%. Finally, the last set of regression analysis, entering the coping variables as independent variables in the equation, explains a large proportion of variation in each of the adjustment indices. Higher levels of task-oriented coping are related to lower levels of depression and helplessness, and higher levels of acceptance. Avoidance coping is unrelated to any of the adjustment indices. Higher levels of TGP are weakly related to lower levels of depression and helplessness. Significant correlations were observed between FGA and all 4 indices of psychological adjustment. Higher levels of FGA were related to lower levels of depression, anxiety, and helplessness, and higher levels of acceptance. For each of the blockwise regression analyses FGA has the strongest standardized Beta weight with the indices of adjustment.

Finally, partial correlations were calculated for each of the coping variables, with indices of adjustment when controlling for relevant demographic, SCI-related and social support variables. Task-oriented coping showed weak partial correlations with depression (–0.20, $p < 0.05$), acceptance (0.27, $p < 0.01$) and helplessness (–0.28, $p < 0.01$). When demographic, SCI-related and social support variables were entered first in a regression analysis, task-oriented coping explained an additional 3%, 6% and 4% on depression, acceptance and

Table III. *Regression analyses of selected demographic, medical, social support and coping variables on affective and cognitive indicators of adjustment*

	Depression		Anxiety		Acceptance		Helplessness	
	r	B	*r*	B	*r*	B	*r*	B
Demographics								
Age	0.16	–0.15	–0.03	–0.04	–0.10	–0.09	0.26**	0.24**
Education level	–0.10	–0.10	–0.15	–0.16	0.23**	0.23**	–0.26**	–0.24**
R^2 explained		0.04		0.03		0.06*		0.12**
SCI status								
Pain	0.05	–0.14	0.22*	0.07	–0.20*	–0.07	0.15	0.09
Tiredness	0.42**	0.50**	0.46**	0.45**	–0.33**	–0.32**	0.41**	0.45**
Barthel	–0.07	–0.09	–0.13	–0.16*	0.19*	0.18*	–0.37**	–0.38**
R^2 explained		0.22**		0.26**		0.15**		0.31**
Social support								
Every day	–0.26**	–0.15	–0.17	–0.18	–0.11	0.11	0.08	0.05
Problematic	–0.19*	0.01	0.01	0.23	–0.05	–0.27*	0.01	0.21
Esteem	–0.26**	–0.18	–0.16*	–0.19	0.17	0.25*	–0.24*	–0.41**
R^2 explained		0.08*		0.06*		0.06*		0.09*
Coping								
Task-oriented	–0.20*	0.05	–0.08	0.10	0.27**	0.09	–0.26*	–0.07
Avoidance coping	–0.14	–0.14	0.05	0.05	0.07	0.00	–0.09	–0.04
TGP	–0.19*	–0.15	–0.07	0.01	0.17	0.06	–0.31**	–0.23**
FGA	–0.43**	–0.39**	–0.55**	–0.58**	0.59**	0.54**	–0.43**	–0.36**
R^2 explained		0.20**		0.31**		0.35**		0.25**

p*< 0.05, **p<0.01.
SCI: spinal cord injury; TGP: tenacious goal pursuit; FGA: flexible goal adjustment.

helplessness, respectively. Partial correlations of avoidance coping and TGP with each of the adjustment variables did not reach significance. Stronger partial correlations were found for FGA, with indices of adjustment (partial correlations are –0.33, –0.42, 0.51, and –0.38, respectively, for depression, anxiety, acceptance and helplessness: all partial correlations $p < 0.001$). FGA explained an additional 7% of the variation in depression, 11% on anxiety, 18% on acceptance, and 7% on helplessness. For each of these analyses, the increase in variation explained in the dependent psychological adjustment variable was highly significant ($p < 0.001$).

DISCUSSION

In line with previous research, problem- or task-oriented coping was weakly related to some indicators of psychological adjustment (3). However, higher order accommodative coping assessed with the FGA scale was more strongly and consistently associated with adjustment to SCI. This positive association was observed for each of the 4 indices of adjustment, and remained significant after controlling for relevant other variables in the study. Being able to adjust personal preferences and goal orientations to given situational forces and constraints is related to both affective and cognitive adjustment, suggesting that accommodative coping is an important variable in psychological adjustment in patients with SCI after the rehabilitation period. Contrary to expectations, assimilative coping measured with the TGP was also positively related to adjustment. Although TGP was inversely related to depression and helplessness, these correlations are weak, and not significant after controlling for demographics, SCI-related and social support indices.

The concept of flexibility in goal adjustment is not a new topic in rehabilitation medicine. The concept is related to Wright's re-evaluation of values described in her work in the early 1960s (29). Since then, developing new values and perspectives is one of the concepts that have been identified to contribute to quality of life (30). One area of research in SCI has focused on the active process of re-appraisal of the condition, defining such re-evaluation as a coping style (7). Other studies have included appraisals of the SCI (31), or re-evaluation of values and goals in SCI (32). However, the FGA scale used in this study differs from these concepts, in that it measures the person's readiness or capability to revise and re-adjust personal preferences, or general willingness to disengage from unfeasible goals (11). Therefore, FGA is relevant in any situation in which goals are blocked. Indeed, FGA mitigates the negative effects of unattained developmental goals (11) and various health problems (33, 34).

Further research is needed into the subtle distinguishing features of disease-related cognitive appraisals in SCI. In this study cognitive appraisals of the condition are used as indicators of adjustment. Patients differ to the extent in which they have negative, neutral, or even positive cognitive appraisals about their condition (26). Cognitive appraisals of helplessness have been reported as an important outcome measure in SCI (7). The use of cognitive appraisals of acceptance in this study differs from the way acceptance is defined in some research, in which cognitions of acceptance refer to coping styles, or the active process of re-appraisal of the condition (7). However, the instrument used in this study asks the patient to appraise the present condition (27). An example of an item used to measure acceptance is "I have learned to accept the limitations of my condition". Through experience and learning, patients with chronic stable conditions, such as SCI, develop a stable appraisal of their situation, and this appraisal can be considered a psychological outcome. In patients with SCI after the rehabilitation phase it seems important to assess not only the affective dimension of psychological adjustment (6), but also to include measures of the cognitive dimension. As was shown in this study, adjustment is complex, and multidimensional assessment of adjustment will help to understand this complexity. For instance, the Barthel's score was considerably stronger related to helplessness as an outcome measure than to any of the other indices of adjustment. Furthermore, the use of neutralizing cognitions of acceptance to describe the condition is sometimes considered the goal of the psychological adjustment process (32). Thirdly, acceptance is firmly rooted in the layman's understanding of adjustment in SCI. These cognitive attributions attached to the conditions itself are very similar to the way Wright (29) defined adjustment to a physical impairment. However, further research is needed to determine the subtle distinction between different modes of appraisals within the adjustment process in SCI.

This study is not without its limitations. The return rate of 33% is low and a response bias cannot be excluded. However, we have no clear indication of any bias in patient response. Furthermore, many of the descriptive statistics and correlations reported in this study are in line with results reported elsewhere. For instance, as was observed in earlier studies, social demographic factors or characteristics of the SCI are unrelated to level of distress (9, 7). Levels of depression and anxiety are within the range reported previously in a sample of community-dwelling patients with SCI (3), and mean scores in acceptance and helplessness are also similar to those reported in earlier studies using the same instrument (27). Another limitation of this study is its cross-sectional correlational nature, and therefore no conclusions can be drawn about causality. The use of one-item VAS-scales to assess both pain and fatigue is not without its limitations. VAS-scales are crude one-item global assessment scales. Although global assessment of symptoms was sufficient to answer the main research questions in this study, other studies might benefit from more sophisticated measures of pain and fatigue. For example, measures of pain are available that allow us to distinguish between neuropathic and nociceptive pain. Finally, another point of interest is the recent criticism of the instrument used to measure TGP and FGA. In particular, remarks have been made about the conceptualization of the TGP scale, and suggestions have been made about altering the scale (20). However, as these criticisms are based on a study in women with breast cancer, it is unclear whether they also apply to the present study.

These findings underline the potential importance of accommodative or flexible coping in adjusting to SCI. In line with previous research, problem-oriented coping was found to be

correlated with adjustment. However, FGA is more consistently and more strongly related to adjustment. This might indicate that the efficacy of a coping strategy is dependent on the match between stressor and choice of coping strategy. Further longitudinal research is needed to determine whether FGA is causal to adjustment in SCI. More research is needed to determine whether patients are stable in FGA, and whether flexibility is related to resilience. For instance, many patients are resilient during their revalidation setting, and it would be interesting to know whether these patients also report levels of high FGA (35). More research is also needed on assimilative coping. Although TGP was less consistently related to adjustment, it cannot be ruled out that, in some situations, TGP has a positive effect. Finally, the relationship between pre-injury higher-order coping and adjustment needs further study. Many people acquiring SCI might be characterized as "doers" in their pre-injury life, with predominant use of TGP as a higher-order coping style. Although not easy to investigate, it would be interesting to know whether these patients experience more problems adjusting to SCI than patients who are already flexible in goal adjustment.

To conclude, both constructs of FGA and TGP might be helpful to guide psychological interventions. Cognitive behavioural therapy is an effective technique for managing psychological outcome in SCI (36), but its working mechanism is not fully understood. Research into the mechanism of accommodative and assimilative coping might help to improve our understanding of the mechanisms at work in psychological interventions.

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