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ORIGINAL REPORT

PSYCHOLOGICAL FACTORS ARE RELATED TO RETURN TO WORK AMONG LONG-TERM SICKNESS ABSENTEES WHO HAVE UNDERGONE A MULTIDISCIPLINARY MEDICAL ASSESSMENT

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Objective: **To assess the associations between psychological factors and return to work among long-term sickness absentees.**
Design: **Longitudinal study with a 3-year follow-up.**
Subjects: **Long-term sickness absentees (n = 905) who had undergone a multidisciplinary medical assessment.**
Methods: **Three years after multidisciplinary medical assessment, return to work status (full, partial, or none) was determined according to whether the individuals received full, partial, or no sickness benefits. Multinomial logistic regression analyses were performed to assess the odds ratios with 95% confidence intervals for return to work related to indecision, lassitude, fatigability, reduced sleep, social functioning, emotional role limitations, and vitality.**
Results: **After adjusting for socio-demographic factors and medical diagnoses most of the studied psychological factors were significantly associated with full (odds ratios 2.13–1.50) and partial (odds ratios 2.25–1.63) return to work in the follow-up period. Low level of lassitude was associated with full return to work (odds ratio 1.72) even when the other psychological factors were controlled for. Similarly, low fatigability was associated with partial return to work (odds ratio 1.81).**
Conclusion: **This study indicates that psychological factors are important for both full and partial return to work among long-term sickness absentees who have undergone a multidisciplinary medical assessment.**

Key words: return to work; multidisciplinary medical assessment; sick-leave; disability pension; diagnosis; mental disorders; somatic disorders; psychological factors.

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INTRODUCTION

Long-term sickness absence is an increasing problem in many Western European countries, and more knowledge is needed about factors that affect return to work (RTW) (1). The present study examined several psychological factors not previously investigated in relation to RTW among long-term sickness absentees.

RTW is defined as having occurred when a given employee or self-employed person is no longer absent due to sickness and has returned to work. The concept has been operationalized in many different ways (2). In several studies, not receiving welfare payments has been used as an approximation of RTW after long-term sickness absence (3–6), while other studies have used self-reported employment status (7–10). A few studies have discriminated between part-time RTW and full-time RTW (11, 12). One study tested if the explanatory factors differed when different follow-up times for RTW were used (3). Another study focused on how long individuals had been on sick-leave before RTW (6).

Although studies are not easily comparable due to the above-mentioned differences in how RTW is defined, research indicates that many factors affect RTW. Different individual symptoms, diagnoses, and disease severities, as well as work-related factors have been associated with RTW (12, 13). A few studies on RTW have included information about sick-leave diagnoses, including sick-leave due to myocardial infarction (14), head injury (7), musculoskeletal-related pain, lower back disorders (4, 8, 14–16), cancer (9, 17), and mental disorders (10, 14). A general finding from these studies is that the large differences in the frequency of, and time until, RTW depends on the medical diagnosis.

Studies have also found that the individual's personality and motivation affect RTW (18, 19). According to one study, the levels of both optimism and pessimism were associated with RTW (20). Results from a Dutch study showed that work attitude and self-efficacy were related to RTW (21), while a Danish study found no such effects (22). Furthermore, two studies have investigated initiative, self-esteem, indecision, and vitality, and found that they affected RTW (23, 24).

In Sweden, if the Social Insurance Agency staff has difficulties determining a sickness absentee's right to further benefit and need for rehabilitation measures, they can refer the individual to a multidisciplinary medical assessment (MMA) in order to ascertain his or her diagnoses, work capacity, prognoses, and possible need for rehabilitation measures (25). In the present study, longitudinal data from such cases has been used for analyses of the potential psychological factors affecting RTW.

The rationale behind focusing on the psychological factors were that these factors were assumed to have an impact on partial or full-time RTW for individuals on sick-leave due to both mental and somatic diagnoses (26–28). It is reasonable to believe that psychological factors affect how vocational rehabilitation can be planned and what kind of future work an individual may be suitable for. To avoid including psychological factors that are part of the criteria of being given a mental diagnosis, specific psychological aspects, in the form of single items, have been used rather than full scales of psychological syndromes. Thus, the measurement of depression is included in the medical diagnosis, but, for example, lassitude, indecision, and fatigability are seen as psychological factors.

The aim of this study was to assess the associations between psychological factors and partial or full RTW 3 years later among long-term sickness absentees who had a MMA.

METHODS

A longitudinal cohort study of long-term sickness absentees who had undergone a MMA was conducted. Each individual was followed for 3 years after the time of the MMA. The study was approved by the Regional Ethical Review Board in Stockholm, Sweden (1995-149, 2006/1281-31, 2008/71-31/5, 2008/1051-31/12 and 2010/448-32).

Procedure and participants

The study group comprised 905 individuals who had been on sick-leave for at least one year and who had undergone a MMA between 1998 and 2006.

All of the participants had undergone a MMA, performed by the Social Insurance Office, to establish their diagnoses, subsequent degree of work capacity, and need for rehabilitation. Information about the specific reasons for the participants' MMA referrals was not provided.

The MMA involved medical investigations by board certified specialists in orthopaedic surgery, psychiatry, and rehabilitation medicine at the Diagnostic Centre (DC) of Karolinska Hospital in Stockholm, Sweden, and occurred over the course of 3 patient visits within a 3-week period. In addition to the medical examinations, interviews and self-administered standardized questionnaires regarding medical, psychological, and social conditions were used (29). The medical specialists met regularly and had access to all of the patients' previous medical documentation as well as the data from the questionnaires. After discussing the results of each individual's health status, the specialists determined the appropriate diagnosis or diagnoses, estimated the individual's current and future work capacities in terms of both degree and duration, and supplied a joint recommendation regarding further rehabilitation measures (30). During 1998–2006, between 69 and 181 individuals were assessed in this way each year.

Inclusion and exclusion criteria

The included individuals were all on long-term sickness absence, which means that they fulfilled the requirements for such benefits. Thus, they had a medical condition that reduced their work capacity, were aged 16 years and above, and had initially had an income that satisfied the minimum accepted level (approximately 1,000 Euro per year). Unemployed persons were also included, as they can claim sickness insurance benefits if they previously qualified for sickness insurance through earlier work and their work capacity is considered reduced due to health reasons. Partial benefits can be granted if the work capacity is reduced to 25%, 50%, or 75% of regular working hours. People with long-term permanent work incapacity may be granted temporary or permanent disability pension (DP) for full- or part-time. The definition of sickness benefits in this study is those benefits provided for both long-term sickness absence and DP. In the study population, 91% received full sickness benefits at the time of the MMA. Half of the individuals reported that they had no employment. Among those employed, 8% were self-employed. Individuals who had reached the age of 65 years ($n = 3$), emigrated ($n = 10$), or died ($n = 11$) during the follow-up period were excluded, resulting in a total of 905 subjects being included in the study.

Measurements

All baseline information about the individuals was collected at the MMA and included socio-demographic, psychological, social, and medical factors.

Data on the type and degree of sickness benefits (sickness absence or DP) received 3 years after the MMA were obtained from the Swedish Social Insurance Agency's database, Micro Data for Analysis of Social Insurance (MiDAS). For employed persons the first 14 days of a period of sick-leave is, in most cases, paid by the employer. Information about shorter periods of sick-leave is not included in MiDAS.

Dependent variable

Information about sickness absence and/or DP 3 years after the MMA was used to operationalize RTW. Data were available up until the end of 2009. For those 119 individuals who underwent a MMA in 2006, December 2009 was used as the follow-up month. RTW was classified into the following categories:

- Full RTW = no sickness absence or DP in the month 3 years after MMA
- Partial RTW = part-time sickness absence or DP in the month 3 years after MMA
- No RTW = full-time sickness absence or DP in the month 3 years after MMA.

Independent variables

Sociodemographic factors. The categories were: sex (man, woman), age (21–39, 40–49, 50–63 years), educational level (elementary, high school, university/college), and country of birth (Sweden, other).

Psychological factors were measured via two often-used and validated instruments assessing different aspects of psychological status. One was the Comprehensive Psychopathological Rating Scale Self Administered (CPRS-S-A) (31, 32), including the 9 items of the Montgomery-Åsberg Depression Rating Scale (MADRS) (33). The inter-rater reliability of this scale ranged between 0.87 and 0.99 (34). Further evidence of the reliability and validity of the scale has been documented (35).

The second instrument was the Swedish version of Short-Form-36 Health Survey III (36, 37) (SF-36). The internal consistency reliabilities of the Swedish SF-36, measured through Cronbach's alpha, has been reported to be > 0.70. Further evidence of construct validity has been documented (36).

From the CPRS-S-A, 5 items were chosen. The item "indecision" represents vacillation and difficulty in choosing between simple alternatives. "Lassitude" represents having difficulty getting started or slowness in initiating and performing everyday activities, while "fatigability" represents the experience of getting tired more easily than usual. While the terms fatigability and fatigue have been used synonymously in the scientific literature, the present study uses fatigability according to the concept used in the original CPRS-S-A scale (32). "Reduced sleep" represents a subjective experience of reduced duration or depth of sleep compared with the subject's normal pattern when well. "Self-esteem" or negative self-evaluation represents experiences of self-depreciation and feelings of worthlessness, which may incapacitate social functioning. This last item (35) has been added to the original CPRS-S-A. The response scales of 0 = none, 1 = mild, 2 = moderate and 3 = severe were reclassified into 2 groups; high and low, with the median as the cut-off point. The classifications used were low or no indecision, indicated by scores under the median of 0.50; low lassitude, indicated by scores under the median of 1.50; low or

lack of fatigability, indicated by scores under the median of 2.00; no reduced sleep, indicated by scores under the median of 2.00; and high self-esteem, indicated by scores under the median of 0.50.

Of the 8 items in the Swedish version of the SF-36, 3 were chosen. "Social functioning" was used to assess the social activities that the individuals had engaged in over the preceding 4 weeks. "Emotional role limitations" captured the severity of the individuals' problems related to work or other daily activities and resulting from emotional problems, as experienced during the preceding 4 weeks. The third of these factors, "vitality," measured the energy level of individuals.

The raw scores for each factor were compared with the Swedish population, and adjusted for age and gender, at 5-year intervals, resulting in T-scores with a norm of T = 50. The T-scores were then dichotomized into two groups based on the median, where high indicates the positive value and low the negative value. The classifications used were: high social functioning, indicated by scores above the median of 30.25; high emotional role limitations, indicated by scores above the median of 26.46; and high vitality, indicated by scores above the median of 28.45. It should be noted that the study group generally scored very low on all psychological factors (28).

The *social factors* reported at the MMA included marital status (single and married/cohabiting), housing condition (owns a house/apartment and rents an apartment/a room/homeless), social relations (lone vs having colleagues and/or friends), work status (employed and self-employed/ unemployed), impaired economic situation (worse or not worse), and restricted functions in daily life (moderate/severe and none/mild).

The *medical diagnoses* of the individuals, as assessed through the MMA, were classified according to the International Classification of Diseases (ICD-10) (38). In this study, they were grouped into the following 3 categories: only somatic, only mental, and having both somatic and mental diagnoses. In the category mental diagnoses all F-diagnoses (ICD-10, F00-F99) were included. Somatic diagnoses included chapters A–E and G–Z in the ICD-10. Individuals with diagnoses in both of these groups were classified as having comorbidity of somatic and mental diagnoses.

Statistical analyses

First, descriptive analyses comparing proportions of full, partial, and no RTW in relation to socio-demographic, psychological, social, and medical factors were done, testing differences between the groups with a χ^2 test. Significance for the group differences was adjusted according to the Bonferroni method for all variables, and a 5% level of significance was chosen.

In a second step, univariate (model A) and multiple multinomial logistic regression analyses were performed to examine the predictive value of socio-demographic, psychological, social, and medical factors for full or partial RTW. The reason for using multinomial regression was that the outcome variable had 3 values. The multiple regression analyses were conducted by testing two models. In model B, which adjusted for socio-demographic factors and diagnoses, the independent variables were introduced stepwise. In model C, which adjusted for socio-demographic factors and diagnoses, all independent variables were introduced simultaneously using the entry method. The results of the multinomial logistic regressions are presented in the form of odds ratios (OR) with 95% confidence intervals (CI).

All statistical analyses were conducted with SPSS (SPSS, version 20.0, Inc., Chicago, IL, USA).

RESULTS

Table I shows the distribution of full, partial, and no RTW in the study group 3 years after MMA in relation to socio-demographic, social, psychological, and medical factors. One-third of the individuals in the total study group had full (17.1%) or

Table I. *Percentage distribution of return-to-work (RTW) status 3 years after the multidisciplinary medical assessment (MMA) according to socio-demographic, social, psychological, and medical factors at the time of the MMA among 905 long-term sickness absentees*

Variable	*n*	Full RTW *n* = 155 %	Partial RTW *n* = 151 %	No RTW *n* = 599 %	*p*-value[a]
Socio-demographic factors					
Sex					0.155
Women	568	16.4	18.5	65.1	
Men	337	18.4	13.6	68.0	
Age[b]					<0.001
21–39 years	242	24.8	12.0	63.2	
40–49 years	341	18.2	16.4	65.4	
50–63 years	321	10.3	20.6	69.2	
Education					0.031
Elementary	366	13.4	17.2	69.4	
High school	322	18.6	14.0	67.4	
University/college	217	21.2	19.8	59.0	
Country of birth					<0.001
Sweden	520	19.6	19.8	60.6	
Other	385	13.8	12.5	73.8	
Social factors					
Marital status					0.206
Married/cohabiting	456	16.9	18.9	64.3	
Single	449	17.4	14.5	68.2	
Housing condition					0.001
Rental apartment/room/ homeless	557	18.2	13.3	68.5	
Own apartment or house	325	15.4	22.8	61.8	
Social relations					0.005
Lone	544	15.8	14.0	70.2	
Colleagues and/or friends	361	19.1	20.8	60.1	
Work status					<0.001
Unemployed	451	15.5	10.4	74.1	
Employed/self-employed	454	18.7	22.9	58.4	
Impaired economic situation					0.559
Worse	756	16.9	16.3	66.8	
Not worse	146	18.5	19.2	62.3	
Restricted functions in daily life					<0.001
None/mild	349	22.1	20.9	57.0	
Moderate/severe	554	14.1	14.1	71.8	
Psychological factors					
Low or no indecision	462	21.4	18.4	60.2	<0.001
Low lassitude	485	21.6	19.0	59.4	<0.001
Low or lack of fatigability	570	18.9	20.4	60.7	<0.001
High self-esteem	495	18.8	14.4	62.8	0.062
No reduced sleep	620	18.4	18.7	62.9	0.007
High social functioning	440	18.9	20.7	60.5	0.001
High emotional role limitations	444	19.8	19.1	61.0	0.008
High vitality	458	20.5	18.1	61.4	0.008
Medical factors					
Diagnoses					0.008
Mental	227	12.8	13.2	74.0	
Somatic	243	22.6	19.8	57.6	
Somatic + mental	410	16.3	16.1	67.6	
None[c]	25	16.0	28.0	56.0	
Total		17.1	16.7	66.2	

[a]*p*-value by Pearson χ^2 test.
[b]Mean age at MMA 45,36 (standard deviation 8.74) .
[c]No *p*-value was computed.

partial (16.7%) RTW. Mean age of the study group was 45.4 years (standard deviation 8.7). Significant differences in RTW were observed among the following socio-demographic and social variables at the time of MMA: age, education, country of birth, housing condition, social relations, work status, and restricted function in daily life. There were no significant associations between RTW and sex, marital status, or impaired economic situation.

The highest proportion of individuals with no RTW was found in the group with mental diagnoses (Table I). Of all mental diagnoses, mood disorders accounted for 71% (F30–F39, ICD-10), whereas musculoskeletal disorders accounted for 80% of the somatic diagnoses (M00–M99) (not shown in table). For patients with both a somatic and mental diagnoses, mood disorders accounted for 70% (F30–F39, ICD-10), whereas 85% (M00–M99, ICD-10) had musculoskeletal disorders (not shown in table). A more detailed description of the medical diagnoses of the patients has been presented elsewhere (29, 30). Almost all of the studied psychological factors showed significant associations with RTW, namely indecision, lassitude, fatigability, reduced sleep, social functioning, emotional role limitations, and vitality. The only exception was self-esteem. The diagnostic groups were also significantly related to RTW.

Univariate regression models

The associations between psychological and social factors and RTW are presented in terms of crude ORs in Table II (model A). The crude ORs for full RTW were significantly increased and in the expected direction for all of the psychological factors except for social functioning. Increased ORs for full RTW were noted also for lower age, higher education, Swedish born, employed or self-employed, and no or few restricted functions in daily life The ORs were also higher among persons with somatic diagnoses (OR 1.80, 95% CI 1.23–2.64), but significantly lower among those with mental diagnoses (OR 0.59, 95% CI 0.38–0.92) (results not shown in table). For partial RTW, the pattern was somewhat different. Low age and high education were not significantly associated with partial RTW. Poor housing condition was related to lower ORs for partial RTW and good social relations were related to higher ORs for partial RTW. Among the psychological factors, vitality was not significant, but a high level of social functioning was related to partial RTW. For partial RTW, the ORs were also significantly higher among persons with somatic diagnoses and lower among those with mental diagnoses.

Multiple-regression models

The results of the multiple multinomial logistic regression analyses are also shown in Table II. When adjusting for age, education, country of birth, and diagnoses in the same model (model B), most of the psychological factors were still significantly associated with full RTW: individuals with low or no degree of indecision, low degree of lassitude, lack of fatigability, high degree of social functioning, or high degree of vitality had higher OR for full RTW. Sleep and emotional role limitations were not associated with full RTW after controlling for background factors and diagnoses.

The pattern was slightly different with regard to partial RTW, as some of the ORs for psychological factors changed. Fatigability and social functioning were found to be significantly associated with partial RTW, but indecision, lassitude, and vitality were not. However, no reduced sleep was associated with partial RTW.

Table II. *Odds ratios (OR) and 95% confidence intervals (CI) for full return to work (RTW) and partial RTW compared with no RTW, in relation to social and psychological factors reported in the multidisciplinary medical assessment among 905 long-term sickness absentees. Calculated by multinomial logistic regression analyses. Significant figures are shown in bold (*$p < 0.05$*)*

	Model A[a]		Model B[b]		Model C[c]	
Independent variable (exposure)	Full RTW OR (CI)	Partial RTW OR (CI)	Full RTW OR (CI)	Partial RTW OR (CI)	Full RTW OR (CI)	Partial RTW OR (CI)
Social factors						
Employed/self-employed[d]	**1.53** (1.07–2.18)	**2.79** (1.91–4.08)	**1.57** (1.08–2.26)	**2.66** (1.80–3.91)	**1.63** (1.10–2.41)	**2.39** (1.58–3.60)
Social relations with colleagues and/or friends[d]	1.41 (0.99–2.02)	**1.74** (1.21–2.49)	1.14 (0.77–1.69)	**1.50** (1.02–2.21)	0.90 (0.59–1.38)	1.10 (0.72–1.68)
No or mildly restricted functions[d]	**1.97** (1.38–2.82)	**1.87** (1.30–2.69)	**1.74** (1.17–2.58)	**1.59** (1.08–2.34)	1.32 (0.85–2.05)	1.27 (0.82–1.97)
Rental apartment/room/ homeless[d]	1.07 (0.73–1.56)	0**.53** (0.37–0.76)	1.23 (0.82–1.82)	**0.61** (0.42–0.89)	1.36 (0.90–2.07)	0.74 (0.50–1.11)
Psychological factors						
Low or no indecision[d]	**2.14** (1.47–3.12)	**1.50** (1.04–2.17)	**1.81** (1.19–2.76)	1.27 (0.85–1.90)	1.52 (0.96–2.39)	1.06 (0.68–1.67)
Low lassitude[d]	**2.40** (1.63–3.53)	**1.68** (1.16–2.43)	**2.13** (1.39–3.25)	1.43 (0.96–2.14)	**1.72** (1.06–2.81)	1.13 (0.70–1.84)
Low or lack of fatigability[d]	**1.77** (1.19–2.63)	**2.51** (1.63–3.86)	**1.63** (1.07–2.48)	**2.25** (1.44–3.51)	1.12 (0.69–1.81)	**1.81** (1.09–3.02)
No reduced sleep[d]	**1.56** (1.03–2.37)	**1.79** (1.16–2.77)	1.25 (0.81–1.93)	1**.63** (1.04–2.54)	1.01 (0.63–1.61)	1.34 (0.82–2.18)
High social functioning[d]	1.40 (0.98–2.01)	**1.92** (1.33–2.79)	**1.57** (1.07–2.30)	**1.72** (1.17–2.54)	1.27 (0.83–1.95)	1.43 (0.93–2.21)
High emotional role limitations[d]	**1.55** (1.08–2.23)	**1.57** (1.09–2.27)	1.19 (0.80–1.79)	1.28 (0.86–1.92)	0.89 (0.56–1.39)	1.03 (0.65–1.61)
High vitality[d]	**1.70** (1.18–2.45)	1.39 (0.96–1.99)	**1.50** (1.02–2.21)	1.16 (0.79–1.70)	1.06 (0.67–1.66)	0.76 (0.48–1.22)

[a]Calculated by univariate multinomial logistic regression analyses (crude).
[b]Adjusted for socio-demographic factors (age, education, country of birth) and medical factors (mental, somatic, somatic+mental diagnoses).
[c]Adjusted for socio-demographic factors (age, education, country of birth) and medical factors (mental, somatic, somatic+mental diagnoses), and all. variables presented in the table.
[d]Exposed compared with unexposed.

In model C, where all variables were included, only a few of them were still significantly associated with full or partial RTW. Among the psychological factors, reporting a low level of lassitude was associated with higher ORs for full RTW, and reporting a low level of fatigability was associated with higher ORs for partial RTW. In both cases, being employed or self-employed at the time of the MMA was also associated with higher ORs for RTW.

DISCUSSION

The present study showed that among the long-term sickness absentees who had been referred to an MMA, 17.1% had full RTW and 16.7% had partial RTW 3 years later. The study demonstrated that psychological variables are associated with both full and partial RTW. Positive values for the psychological variables, such as the low scores on lassitude and fatigability, remained significantly associated with both full and partial RTW, even after adjusting for a range of potential confounders including diagnostic category. The highest ORs for full RTW occurred among those with low or no scores for indecision, lassitude, fatigability, social functioning, and vitality. For partial RTW, a similar pattern occurred. Individuals who reported lesser problems with fatigability had a significantly higher probability of partial RTW. The results also indicate that the influence of psychological factors was independent of the type of diagnosis. These findings are in line with a Dutch longitudinal study on factors affecting RTW (13).

The finding that many of the psychological variables are related to RTW, despite controlling for diagnosis and well-known individual factors, such as age and country of birth, is in line with a few previous studies (2, 12). This indicates that psychological factors not only play a role in the diagnosing of long-term sickness absentees, but that they also should be regarded as autonomous features. From a clinical point of view, psychological factors should be taken into account along with diagnostic information in order to enhance medical treatment and vocational rehabilitation. The results may also indicate that the low rate of RTW among the individuals in this study could be related to a lack of psychological support during the rehabilitation process.

To the degree that the results can be applied to other groups of long-term sickness absentees, the study also points to the importance of taking psychological factors into consideration when determining suitable future employment. Since individuals with poor levels of lassitude and fatigability typically have difficulties getting started, experience mental exhaustion, and need breaks (32), some jobs may be particularly unsuitable for these individuals. Improving the individual's psychological status is important for the general RTW process and occupational rehabilitation efforts related to employment motivation should be improved. This may involve helping individuals to return to their previous jobs, or it may be directed towards helping them find new jobs or occupations. These psychological factors may also be important to take into consideration when setting up a work training programme for individuals who have previously been on long-term sick leave.

One strength of this study is its longitudinal design, which made it possible to follow up on the subjects 3 years later. Furthermore, the multinomial logistic regression analyses made it possible to compare and examine the predictive values of the psychological factors for both full and partial RTW among individuals initially on long-term sickness absence. Moreover, extensive and well-documented baseline information from the MMA on medical and psychological status made it possible to analyse the associations of such factors with RTW. Another strength is the high quality of follow-up register data. A limitation is that it was not possible to take into account potential changes in health, psychological status, and work capacity in the time between the MMA and the follow-up, thus making causal inferences impossible. Another limitation concerns the inaccuracy of the measurement of RTW in certain cases, as the working patterns of individuals who did not receive benefits could not be determined definitively. For example, it was impossible to account for cases where a person goes on sick-leave again after a short time of work (11, 12). Furthermore, it should be noted that the dichotomization of psychological variables by median score may be somewhat misleading, as the study group generally scored very low on these variables in comparison with the general Swedish population. If the population median had been used as a cut-off point, the effects of the psychological variables had probably been different. However, few of the individuals on long-term sickness absence in this study would have met positive values of these criteria and the degree of precision would thus have been reduced. Furthermore, the results cannot be generalized to all long-term sickness absentees, since the study group was specific and all had been subjected to a MMA. Nevertheless, the results provide important information about factors that can affect RTW.

In conclusion, this study demonstrated that psychological factors are related to both full and partial RTW among long-term sickness absentees who have undergone a MMA. Low scores on lassitude and on fatigability remained significantly associated with both full and partial RTW, despite extensively adjusting for a range of other factors. The results also indicated that psychological factors had an influence that was independent of the type of diagnosis. Overall, the results suggest that more attention should be given to understanding how specific psychological factors affect and can be used to enhance RTW among long-term sickness absentees. While measures that aim to reduce the effects of fatigability and lassitude may have a positive impact, it is also important that any particular psychological problems that these individuals may have are accounted and adjusted for when seeking out viable future work options.

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