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Subjective health and ill health-related behaviour

Anna Lazar[1,2]*, Rolf Sandell[2] and Johan Grant[2]

[1]Stockholm County Council Institute of Psychotherapy, Sweden
[2]Department of Behavioural Sciences, Linköping University, Sweden

Objective. The aim of this study was to investigate the relation between self-rated health measures and ill healthrelated behaviour.

Design. The study design was based on a self-report questionnaire taken for three consecutive years.

Method. Path analysis was used to test the relations between (a) The Self-rated Health Scale (SRH) and the General Symptom Index (GSI) from the Symptom Checklist-90 (SCL-90), and (b) self-reports on sick leave, health care utilization and medication, in a group of 155 persons who had terminated psychotherapeutic treatment the year before our three-year panel survey. To investigate the potential moderating function of ongoing psychotherapeutic treatment, we repeated each test in a group of 152 patients in the midst of psychotherapeutic treatment.

Results. Only weak or zero relations were found between the self-rated health measures and ill health-related behaviour. The multi-group analyses indicated between-group differences in model fit. The few significant specific between-group differences all concerned autoregressive relations.

Conclusions. Subjective health did not predict ill health-related behaviour. Ongoing psychotherapeutic treatment did not affect the predictive value of subjective health variables. The weak relations found in the current study illuminate paradoxical outcome differences between subjective well-being and ill health-related behaviour. Our findings are discussed in the light of cultural and personality factors.

Over the past decade, a dramatic increase in sickness absence has caused much alarm and debate in the Swedish community. It has become increasingly clear that comprehensive explanations for this development are hard to find. The causes of sickness absence are quite different from the causes of illness (SBU, 2004), so improving diagnostic tools for a medical definition of ill health will not suffice. Instead, researchers should widen their focus in trying to identify the factors that contribute to ill health-related behaviour. Based on previous findings (Lazar, Sandell, & Grant, 2006), at least

* *Correspondence should be addressed to Anna Lazar, Institute of Psychotherapy, Björngårdsgatan 25, SE 118 52 Stockholm, Sweden (e-mail: Anna.Lazar@sll.se).*

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three dimensions must be differentiated, when studying ill health-related variables: being ill, feeling ill and acting upon any of the two.

Being ill refers primarily to a hypothetically objective medically defined health concept, operationalized as the diagnosis of expertise. This objectivity is relative, however, as an expert's interpretation of presenting symptoms or even laboratory measurements involves a certain amount of subjectivity too. Physical symptoms reflect not only physical illness or disease, but also psychological states, situational stressors as well as prior learning (Mechanic, 1980). *Feeling ill* refers to the individual's identification of sensations or symptoms and his or her interpretation and attribution or labelling of these stimuli. This involves cognitive and emotional processing in which input from sensory organs interacts with pre-existing knowledge and experience to form perceptions of symptoms or of 'not feeling well'. *Ill health-related behaviour* refers to the individual's acting upon being and/or feeling ill, for example in terms of consultations with doctors or absence from work. Data from the Stockholm Outcome of Psychotherapy and Psychoanalysis Project (STOPPP; Blomberg, Lazar, & Sandell, 2001; Sandell, Blomberg, & Lazar, 1997) offered an opportunity to investigate the complex relation between two of these dimensions, namely feeling ill, in terms of the subjective experience of health and ill health, on the one hand, and ill health-related behaviour on the other.

The STOPP project started as an evaluation of psychotherapeutic treatments, for which patients had been granted 3-year subsidies, through an agreement between the National Social Insurance and the Stockholm County Council. Data were collected from a large group of patients in psychodynamic psychotherapy and psychoanalysis, through extensive annual questionnaires from 1994 to 1996. Clear effects of psychotherapeutic treatment on the subjective experience of ill health were found but – to our surprise – no corresponding effects on ill health-related behaviour (Blomberg *et al.*, 2001; Lazar *et al.*, 2006). No significant changes whatsoever were found in sick leave rates, medication levels or health care utilization – either in somatic or in psychiatric health care. Knowing that the primary goal of the treatments had been to improve the patients' psychological state or interpersonal relationship problems, one should not 'automatically' expect to find indirect 'spin-off' effects on sickness absence and health care utilization (Chiles, Lambert, & Hatch, 1999). Nonetheless, one would expect some degree of correspondence between the patients' subjective experience and their subsequent behaviour. Indeed, several studies (Blomberg, Svardsudd, & Tibblin, 1993; Fifer *et al.*, 2003; Fylkesnes, 1993; Miilunpalo, Vuori, Oja, Pasanen, & Urponen, 1997; Rohrer, Vaughn, Knott, & Westermann, 2000) have found that self-rated health is the best predictor of future ill health-related behaviour, that is, of inclination to report sick, see a doctor, etc. Furthermore – underscoring the impact of the subjective experience – self-rated health has been found to be a far better predictor of mortality than diagnosis (Bue Bjorner *et al.*, 1996).

The unexpected STOPPP findings also made us speculate about the effects of psychotherapy on this feeling–behaviour relationship. Both Fylkesnes (1993) and Mechanic (1986) have pointed to the importance of self-focusing and self-awareness as mediators of illness behaviour. Maybe successful psychotherapy contributes to a modified evaluation of one's health, with less emphasis on somatic infirmity and increased attention to one's feelings. Moreover, this may also affect the tendency to take care of oneself by seeking help. Obviously, a variety of alternative consequences are possible. We decided to test a model of the relations between self-rated health and ill-health behaviours and a subsequent test of the hypothesis that these relations would differ depending on treatment status.

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Specifically, we hypothesized that subjective health would predict ill health-related behaviour and designed a prediction model according to our hypothesis (Figure 1). The prediction model included 13 estimates, 7 of which concerned cross-lagged and unlagged paths and 6 autoregressive paths. Using path analysis, we thus tested the influence of subjective health both on concurrent and future ill health-related behaviour. We assumed the concurrent influence to work both ways, that is, that health care utilization Year 2, for example, would also influence the subjective health ratings of Year 2. An additional aim of the study was to test whether psychotherapeutic treatment might act as a moderator variable affecting the predictive value of the self-ratings.

Method

Design and procedure

The design and procedure of the STOPPP study has been presented elsewhere (see Lazar *et al.*, 2006). Therefore, only details relevant for the current study will be presented in this otherwise abbreviated account.

The STOPPP study was based on a 3-year panel survey in which the panel members' treatment status each year was uncontrolled, some patients being in treatment, some waiting to start, and some having already terminated their treatment. Treatment was either psychodynamic psychotherapy once or twice a week or psychoanalysis three to five times a week, in both cases for an average of about 4 years. A response rate of 78, 86 and 88%, respectively, for each year, produced a panel of 445 persons, which was 59% of the initial sample of 756. After exclusion of two small groups, the 'net' panel consisted of 420 persons. A number of preliminary tests of the data were performed (see Lazar *et al.*, 2006).

The panel was split into subgroups depending on treatment status. The current study focuses on two of these groups: (a) 155 persons who had terminated their treatments the year before the first questionnaire and did not commence any new treatment, and (b) 152 patients who were in treatment during all three questionnaire waves.

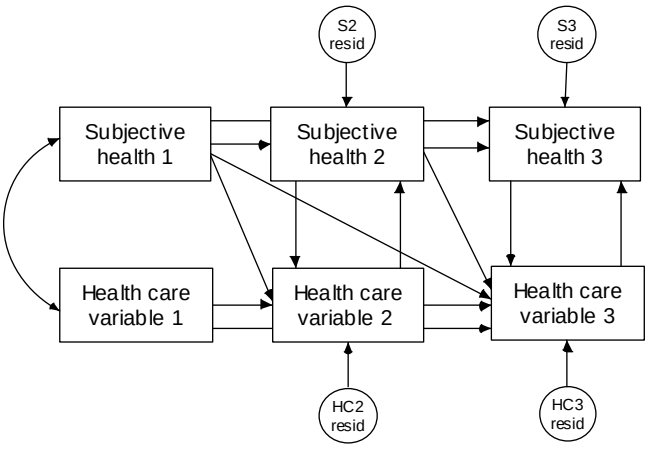

Figure 1. Path diagram of the prediction model where subjective health predicts ill health-related behaviour.

Assessment procedures

Patients' pre-treatment status

Various diagnostic and assessment procedures were applied to the patients' referrals (Blomberg *et al.*, 2001). In the current study, we used the available retrospective assessments of pre-treatment diagnoses and level of functioning, made on the basis of the referrals, to ensure the match between the two groups. These assessments included presence of Axis I syndrome diagnoses and Axis II personality disorders and ratings on the Global Assessment of Functioning Scale (GAF, Axis V), according to the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV; American Psychiatric Association, 1994).

Outcome measures

The extensive Well-being Questionnaire (WbQ) was designed to explore the patients' and former patients' symptoms, social relations and morale. The self-rating scales and measures used in the current study are specified below. For a more detailed presentation of the WbQ, see Lazar *et al.* (2006). Subjective health was measured by two self-rating scales: (1) The Self-rated Health Scale (SRH), a single-item indicator of subjective health, designed as a Faces Scale (Andrews & Withey, 1976; McDowell & Newell, 1996). The seven-point scale, ranging from 1 (very bad) to 7 (very good), is presented as a row of seven stylized faces with different facial expressions, with the end-points also verbally defined. Respondents tick the face that best corresponds with their experience of physical and mental health taken together, during the past 12 months. Because it is a single-item scale, internal consistency is not applicable as a reliability estimation method. As a lower bound retest reliability, the correlations across 1-year intervals, with treatment intervening, was .51 (between Years 1 and 2) and .59 (Years 2 and 3) computed on the whole panel, $N = 420$. (2) The Symptom Check List (SCL-90; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), which contains 90 items representing various psychological and somatic signs of distress. Respondents rate the extent to which they have been troubled with each during the last 7 days on five-point scales ranging from 0 (not at all) to 4 (very much). We used the General Symptom Index (GSI), which is calculated as the mean rating across all 90 items. Internal consistency estimates in the three waves varied between .83 and .96.

Ill health-related behaviour over the past 12 months was measured through a number of items, including medical as well as psychiatric health care. The variables were selected on our assumption that they represent different degrees of sensitivity to ill health. The variables that were used in the current analysis were:

- Number of days, weeks or months of absence from work or other occupation due to ill health during the past 12 months, including disability pension. Medical (somatic) or psychiatric causes were not differentiated. Weeks and months were transformed into workdays.
- Number of consultations with medical doctors, medical paramedics (physiotherapists, district nurses, etc.), psychiatrists and psychiatric paramedics (psychologists, social workers, etc.), respectively.
- Level of medicine consumption, rated on a five-step ordinal scale from 0 (not at all) to 4 (regular consumption of several drugs over the whole year), specified with five types of medication: medication for somatic affliction including pain, soporifics, sedatives, antidepressants and neuroleptics.

Henceforth, we will refer to these 10 outcome variables jointly as 'the health care variables'.

Reliability and validity

To investigate the test–retest reliability of the health care variables, bivariate correlations were computed between the panel years (Year 1–2; Year 2–3; Year 1–3) on the pooled two groups of the current study ($N = 307$). In view of the considerable length of the test–retest intervals, it should be recognized that the correlations offer lower-bound estimates of the reliabilities. Correlations varied across the different variables, however tested two-tailed, all but one were significant at the .01 level. Regarding days of sickness absence coefficients were high ($.94 < r < .96$). This was also true for the level of neuroleptics consumption ($.80 < r < .86$). The number of consultations with psychiatrists yielded moderate coefficients ($.61 < r < .69$), as did consultations with medical health care providers ($.39 < r < .68$). Also, the retest correlation coefficients for consumption levels of somatic medication as well as soporifics, sedatives and antidepressants were moderate ($.39 < r < .72$). Weaker correlations were found regarding consultations with psychiatric paramedics ($.10 < r < .39$, the lowest *r ns*). In comparison, the corresponding coefficients for the self-rated variables were moderate (SRH $.45 < r < .60$) to high (GSI $.78 < r < .86$).

In addition to the WbQ, data were also collected from social insurance files and official health care records for the period 1987–1996. These data are not exactly comparable to the self-report data. The official records on sick leave reimbursed by the national health insurance system only included longer sick leave periods (>2 weeks), because shorter periods were reimbursed by the employer. The official records on number of health care visits in the public sector naturally did not include health care visits with private practitioners. Unexpectedly, however, these data also proved to be impaired by rather severe flaws and would require a lot of work to secure their validity. With these drawbacks, we did not expect perfect agreement between the self-reports and the official records. Nonetheless, we did use the latter to test the validity of the former, again with their intercorrelations as lower-bound estimates. Reimbursed and self-reported days of absence (computed on those in the panel who belonged to the labour force for all 3 years and had no periods of missing data in the official records during the 10-year period, which effectively reduced the *N* to 129) correlated .42 Year 1, .47 Year 2 and .58 Year 3. Computed on the whole panel ($N = 420$), the number of medical doctors' consultations correlated .42 Year 1, .59 Year 2 and .53 Year 3, whereas medical paramedics' consultations correlated .40 Year 1, .38 Year 2 and .46 Year 3. The number of psychiatrists' consultations correlated .14 Year 1, .53 Year 2 and .66 Year 3, whereas psychiatric paramedics' consultations correlated .44 Year 1, .63 Year 2 and .32 Year 3. In sum, considering that the data sources were not directly comparable, the correlation levels were quite acceptable (tested two-tailed all were significant at the .01 level).

Sociodemographic and diagnostic characteristics

The typical individual in the two groups of the current study ($N = 307$) was a woman (77%) in her late thirties ($M = 38.7$ years in the first panel year, $SD = 8.0$). Almost half of them (45%) were cohabiting with a partner (58% were unmarried, 25% married, 16% divorced). Half had children (51%). The majority (80%) had some post-high school

education (65% held a university degree) and typically worked in the health care, education or social sectors. When the post-treatment and in-treatment groups were compared, the only difference that emerged was that the former group more often had children. To ensure the match on background variables between the two groups further, the available pre-treatment diagnostic assessments were used. There were no differences between the two groups with respect to DSM-diagnoses, GAF scores, earlier psychotherapeutic experiences or treatment modality. According to pre-treatment assessments, half of the individuals in the two groups (59%) had at least one DSM-IV (American Psychiatric Association, 1994) Axis I diagnosis (typically mood or anxiety syndromes), 11% had an Axis II personality disorder (5% had *both* a personality disorder plus at least one Axis I diagnosis), and V-codes were assigned to 28% of them. The average GAF score ($M = 59.4$, $SD = 5.6$) indicates a moderate dysfunction level. More than half of the patients (68%) had some kind of previous experience of psychotherapy *before* the most recently terminated or still ongoing treatment which, for the vast majority (83%), was psychodynamic psychotherapy. Further details on the entire patient sample are provided in Blomberg *et al.* (2001).

Data analyses

First, using path analysis (employing the Amos software package, Version 5.0; Arbuckle, 2003; Arbuckle & Wothke, 1999), we tested the prediction model in the post-treatment group on subjective health, as measured by the SRH and the GSI, in relation to each of the 10 health care variables. Second, we added the in-treatment group and performed multi-group analyses with structural weights constant across groups. Thus, we repeated all tests from the first step. Third, between-group differences between unconstrained unstandardized regression weight estimates were tested for significance. When analysing sick leave, we only included those who were identified as belonging to the labour force for all 3 years; these were post-treatment $N = 88$; in-treatment $N = 77$.

Results

As very similar patterns were found regarding all health care variables, the results are summarized and only a sample of representative figures are included to specify and exemplify the results. The figures show the prediction model with standardized parameter estimates and various fit statistics. To facilitate reading of the diagrams, the strength of the relations is indicated by the thickness of the paths, and the sign of a relation parameter is indicated by a broken line if it was negative and by an unbroken one if it was positive. Since the strength of the relations was not essentially altered when we used the GSI as the predictor variable instead of the SRH, only figures for the SRH are presented (with one exception) to keep the results section short and relatively free of repetition.

Sickness absence

As mentioned, when analysing sick leave, we only included those persons who belonged to the labour force for all 3 years. The fit statistics (Figure 2) indicate an acceptable model fit. However, as the low parameter estimates suggest, there was practically no relation between self-rated health and days of absence from work over the 3-year period. Only one of the cross-lagged paths in the model was statistically

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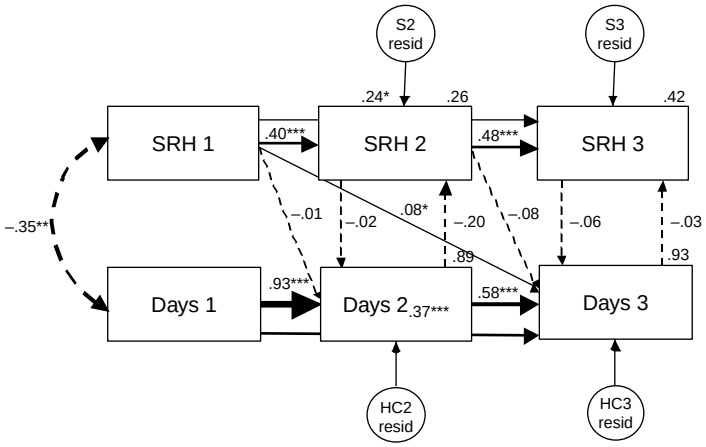

Figure 2. Prediction model path diagram with self-rated health (SRH) and days of sickness absence. Standardized estimates. $\chi^2(1, N = 155) = 1.11$, $p = .29$. RMSEA = .04.

significant, albeit still weak (.08), from the SRH in Year 1 to days of absence in Year 3. However, whereas a negative relation between self-rated health and number of days was expected, this relation was positive. In contrast to the cross-relations, the autoregressive paths were strong and statistically significant. Using the GSI as the predictor variable produced a very similar pattern, with an acceptable model fit, no statistically significant cross-lagged/unlagged paths and strong autoregression. Thus, neither self-rated health nor symptom distress predicted sickness absence. Rather, sickness absence was best predicted by itself.

Health care consultations

For all four consultation variables (medical doctors, psychiatrists, medical and psychiatric paramedics) in combination with both predictor variables, the SRH and the GSI, the model fit was acceptable, judging by the fit statistics. With at most one statistically significant cross-lagged/unlagged path in each diagram, the generally low estimates indicated that there was only a weak relation between the SRH or GSI and any type of consultations over the 3 years. Taking consultations with medical doctors as an example, as Figure 3 shows, only one of the cross-relation paths in the model was statistically significant: from consultations to self-rated health, in Year 2 (−.34). Not surprisingly, when the GSI was used as predictor, the occasional statistically significant cross-relation path found concerned psychiatric, not somatic, health care. Regarding the autoregressive paths, again, most estimates were statistically significant. Thus, similar to sickness absence, consultations with medical doctors, psychiatrists and medical paramedics were best predicted by the same type of consultation the year before. This was not true, however, for consultations with psychiatric paramedics, when using the GSI as predictor.

Use of medication

The study included five medication variables (medication for somatic afflictions, soporifics, sedatives, antidepressants and neuroleptics). For two of these, somatic medication and sedatives, the fit statistics indicated an unacceptable model fit when we

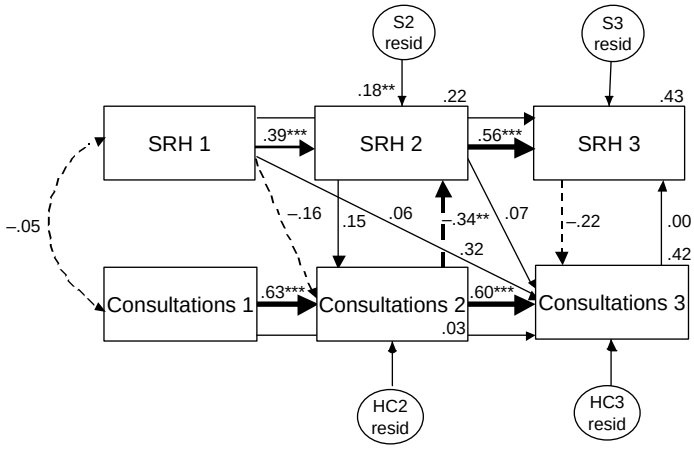

Figure 3. Prediction model path diagram with self-rated health (SRH) and consultations with medical doctors. Standardized estimates. $\chi^2(1, N = 155) = 0.34$, $p = .56$. RMSEA = .00.

used the SRH as predictor variable. Despite this, we chose to keep our original hypothetical model through all analyses. In the two tests regarding medication for somatic afflictions, we found quite similar patterns as before, with generally weak paths between the predictor variable, the SRH or GSI, and medication level, as exemplified by Figure 4 with the SRH as the predictor of medication for somatic afflictions. Here, two cross-relation paths were found to be statistically significant, one of which, however, indicated an unexpected positive relation (.18, from SRH in Year 1 to medication level in Year 3).

For the psychotropic medication types, except for neuroleptics, somewhat stronger cross-relations were found when the GSI was used as predictor. Particularly regarding antidepressants, the GSI produced a somewhat different pattern, with a number of moderately strong cross-lagged/unlagged paths, of which four were significant (Figure 5), whereas no statistically significant cross-relation paths were found when the SRH was

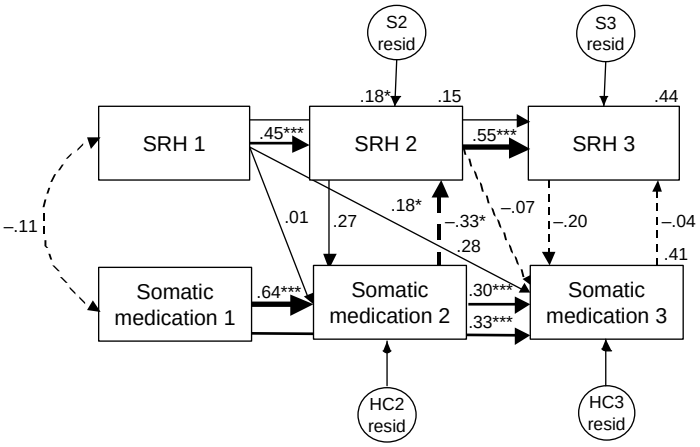

Figure 4. Prediction model path diagram with self-rated health (SRH) and somatic medication level. Standardized estimates. $\chi^2(1, N = 155) = 4.55$, $p = .03$. RMSEA = .15.

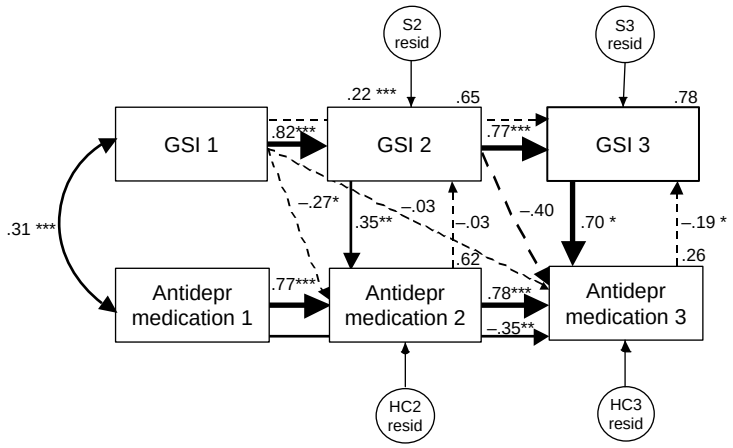

Figure 5. Prediction model path diagram with General Symptom Index (GSI) and medication level of antidepressants. Standardized estimates. $\chi^2(1, N = 155) = 0.55$, $p = .46$. RMSEA = .00.

used as predictor. Again, generally, medication levels were best predicted by the levels of the year before.

Multi-group analyses

To investigate the potential moderating function of ongoing psychotherapeutic treatment, a group of 152 patients in the midst of psychotherapeutic treatment was added in a multi-group analysis with structural weights held constant across groups. All previous tests were thus repeated with both groups. The resulting chi-square statistics were significant ($\chi^2[15, N = 307]$ ranging from 25.93 to 101.31, $p < .05$), suggesting an overall difference in model fit between the groups (with three exceptions: consultations with medical doctors using both predictors, and somatic medication using the GSI as predictor).

In order to locate which paths were critical for the omnibus differences between the groups, between-group differences between unconstrained regression weight estimates were tested for significance. In all, we made 221 tests for significance (13 estimates in the prediction model × 10 health care variables × 2 predictor variables minus the 3 exceptions where no between-group difference in model fit was indicated in the multi-group analysis). A Bonferroni adjustment, dividing $p = .05$ by the number of tests with each predictor (117 and 104 tests, respectively), set the significance criterion at $p < .0004$ for the SRH tests and $p < .0005$ for the GSI tests. Looking first at the models where the SRH was used as predictor, only 4 of the 117 between-group differences between corresponding estimates were statistically significant. All four concerned autoregressive paths and were stronger in the in-treatment models in half of these cases. In the models where the GSI was used as predictor, only 5 of the 104 between-group differences tested were statistically significant. In fact, three of these concerned exactly the same relations that were found to differ significantly in the SRH tests. All five concerned autoregressive paths and were stronger in the in-treatment models in three of the cases. In conclusion, the occasional differences found were difficult to interpret but all concerned autoregression. We conclude that the predictive value of the subjective health variables was not affected by ongoing psychotherapeutic treatment.

Discussion

In the introduction section of this study we noted that, speaking of ill health, at least three dimensions have to be differentiated. Our results illustrate the complexity of the relation between two of these dimensions, feeling ill and ill health-related behaviour. As the relatively strong autoregressions indicate, stability within the variables was considerable over the 3 years, which suggests that the measures were reliable enough to have systematic relations. However, between the self-rated health measures and the self-reported health care measures only weak or zero relations were found. Thus, we found no support for our hypothesis that subjective health would predict ill health-related behaviour. Nor did ongoing psychotherapeutic treatment affect the predictive value of the subjective health variables. Whereas there was not *total* independence, the generally weak relations and the capricious variation of negative and positive values of the estimates caution against attaching much clinical relevance to the occasional statistically significant relations. Thus, a number of essentially independent parallel processes appear to be happening, rather than any consistent general health-sickness process.

We are well aware that the skewed distributions of the health care variables are far from ideal for these kind of statistics. The direct consequences of the skewness are unclear, but we believe, nevertheless, that our results illustrate real complexities in the relation between subjective and behavioural ill health indicators.

What possible contributors are there to this complexity? We suggest some ideas, starting with a methodological issue regarding self-rated health. In contrast to the predictive value of the SRH reported by several studies (Blomberg *et al.*, 1993; Bue Bjorner *et al.*, 1996; Fifer *et al.*, 2003; Fylkesnes, 1993; Miilunpalo *et al.*, 1997; Rohrer *et al.*, 2000), Smith, Shelley, and Dennerstein (1994) argue that self-rated health states are not part of a continuum. Whereas they found self-rated *poor* health to predict future use of health services, self-rated *good* health emerged as a more complex construct that included other confounding factors as well, which made it a less useful predictor of health care utilization. Jyväsjärvi (2001) also found poor self-rated health to be useful for prediction, thus lending support to the idea of the SRH as a discontinuous variable. Although it is possible that such a complication may have helped to produce the weak cross-relations of the SRH in our study, it may not explain the same pattern found with the GSI. Nonetheless, when outcome measures of health are concerned, perhaps being and feeling well and being and feeling ill should be treated as separate dimensions rather than opposites.

Our second idea concerns peoples' attitudes towards sick listing and health care utilization, at least in the Swedish population. Common experience suggests there are interesting differences among people who suffer such ill health as would warrant medical treatment or sick listing. Some report sick or see a doctor, and some do not. Part of this difference in the relation between the feeling and acting dimensions seems to be explained by their attitudes towards sick listing and seeking medical advice, or rather, their attitudes towards *the relation* between feeling ill and acting upon it. Among patients *with identical symptoms*, Englund (2000) found only a weak relation (or none at all) between the severity of illness and work impairment, including sick listing. Patients with severe medical conditions managed to continue working, if that was what they wanted, although they undoubtedly qualified for a disability pension.

For those who do not sick-list despite their subjective experience of illness, a concept has been suggested for this type of phenomenon: *Sickness presenteeism*, that is, going to work despite judging one's current state of health such that sick leave should be taken. In a Swedish study (Aronsson & Gustafsson, 2002; Aronsson, Gustafsson, & Dallner, 2000)

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systematic differences were found. In groups with high rates of sickness presenteeism, women were highly overrepresented. The highest rates of sickness presenteeism were found among personnel in the health care, educational and social sectors. Those categories were, in fact, the ones that dominated our patient sample. The vast majority had a normal – or even lower than normal – health care utilization level to start with, although many undoubtedly suffered from severe psychological distress. Although their subjective health clearly improved, they could hardly reduce their health care utilization level much further. This floor-effect may explain some of the differences between our results and those of some recent German studies (Beutel, Rasting, Stuhr, Rüger, & Leuzinger-Bohleber, 2004; Breyer, Heinzel, & Klein, 1997; Keller, Westhoff, Dilg, Rohner, & Studt, 2001, 1997) that have reported positive effects of psychotherapy in terms of reduced health care costs, decrease in number of sick leave days, etc. All comparisons with the STOPPP data indicate higher pre-treatment levels in the German studies, except for sickness absence.

These patient population differences lead us to another category of factors moderating the relations between subjective health and ill health-related behaviour. It concerns economic aspects and treatment goals. These factors may reflect cultural differences or conditions that are unique for Sweden. In Sweden, cost considerations on the part of the patient can be disregarded, since consultations with medical doctors are virtually free, thanks to a generous limitation in the charge paid by the patient. In countries where health care policies are not equally generous, economic aspects may well reduce the inclination to seek the advice of a doctor or paramedic unless there is a serious cause. Furthermore, in Sweden, psychotherapists in private practice work quite independently from primary care, where the responsibility for rehabilitation and sick listing lies. One may speculate that this would make Swedish psychotherapists less concerned about changing patients' ill health-related behaviour. For instance,it is probable that not many of the treatments in our material were primarily focused on patients' sick leave rate.

To summarize, our results highlight the complexities of ill health-related behaviour and the ambiguity of such variables when they are used as measures of health and, in particular, as outcome measures in psychotherapy effectiveness research. Owing to the fact that people's attitudes towards their health state and towards health care utilization differ, it is not possible to observe clear and simple relations between subjective health and ill health-related behaviour. Cultural differences or not, the crucial moderating factor seems to be the patient's confidence in his or her own capacity, his or her sense of being in control of his or her life (Bandura, 1977; Englund, 2000). Consequently, whereas a brief intervention with the specific aim of reducing a particular parameter of ill health-related behaviour may be quite effective, one should not expect any clear-cut incidental effects of a general-purpose intervention. Depending on cultural differences, personality characteristics and attitudes, the same medically defined condition as well as the same subjective experience can trigger very diverse behaviour patterns. People act sick and seek treatment – or avoid doing so – for a variety of reasons besides being medically sick. We will continue to investigate this phenomenon by looking for subgroups among the patients in our data.

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