RESEARCH ARTICLE

Predicting improvement of work ability in modalities of short- and long-term psychotherapy: The differential impact of reflective ability and other aspects of patient suitability

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Abstract
Objectives: We investigated how patients' psychological capacities to engage in psychotherapy predict changes in work ability in short- and long-term psychotherapy.

Methods: A cohort study of 326 patients, aged 20–46 years and suffering from mood and anxiety disorders, treated by short-term solution-focused, short-term psychodynamic, or long-term psychodynamic psychotherapy, followed-up for 5 years. The Suitability for Psychotherapy Scale, assessed at baseline, was the predictor. Outcomes were assessed at baseline and at six follow-up occasions using the Work Ability Index as the primary indicator.

Results: Patients with good pretreatment psychological suitability for psychotherapy, good reflective ability in particular, improved more than patients with poor suitability in short-term psychodynamic psychotherapy. Comparisons between therapy groups showed poorer suitability to predict more improvement in solution-focused and in long-term psychodynamic psychotherapy than in short-term psychodynamic psychotherapy.
1 | INTRODUCTION

Mood and anxiety disorders are among the most frequent mental health problems and have manifold harmful effects on a patient’s overall life quality and psychosocial functioning (Chisholm et al., 2016). This causes great societal economic burdens (Trautmann et al., 2016) and impairs work ability, defined as a balance between the patient’s resources and the demands of the work (Ilmarinen, 2019). Effects on work ability can be complex and vary from reduced work performance to long-term absences and disabilities (Follmer & Jones, 2018). Thus, improvement of overall functioning and work ability can be seen as an essential aspect of outcome from the perspective of both the patient and society.

Myriad factors may impact the recovery of work ability during psychotherapy, from those related to environmental characteristics (e.g., job opportunities, suitably adjusted tasks, and adequate support) to those related to the patient’s disorder, to his or her other psychological characteristics, and the interplay between these (Ervasti et al., 2017). Regarding personality characteristics of the patient, certain traits, like neuroticism and passive coping style have been shown to hinder recovery of work ability (de Vries et al., 2015), possibly reflecting their negative influence on resuming self-trust and facing the challenges of work life, despite decrease of psychiatric symptoms following treatment.

Patient-related characteristics that have in prior studies been shown to predict treatment outcomes (mainly as measured by psychiatric symptoms), and hence, that may also be important for advancing work ability for patients with affective disorders, include: motivation, acceptance of personal responsibility for change (Krebs et al., 2018), emotional awareness and processing (Pascual-Leone & Yeryomenko, 2017), quality of object relationships (Lindfors et al., 2014), and intelligence (Knekt et al., 2014).

A further variable around which several of these factors may often coalesce is what different authors have referred to as psychological mindedness, insight, or reflective ability: that is, a capacity to reflect on thoughts and feelings in oneself (Katznelson, 2014). Such a capacity might, for obvious reasons, be expected to facilitate engagement in psychotherapy especially in short-term therapy. Indeed, in line with this expectation, it has been shown to predict better outcomes in brief treatment for depression (Bressi et al., 2017; Ekeblad et al., 2016). However, the results are not wholly consistent (Taubner et al., 2011), nor have they been found for anxiety-related problems.

Many of the above-mentioned patient characteristics are captured by the recently developed Suitability for Psychotherapy Scale (SPS) (Laaksonen et al., 2012). The SPS is an exceptionally broad, interview-based, clinician-rated measure consisting of seven subdomains: reflective ability, motivation for psychotherapeutic treatment, reaction to trial interpretation, capacity for flexible interaction, capacity to modulate affects, stability of self-concept, and the degree to which the patient’s problems have a clearly identifiable focus. However, although the SPS has been found to predict a decrease in psychiatric symptoms in two different forms of short-term therapy and long-term (psychodynamic) therapy (Laaksonen, Knekt, & Lindfors, 2013), how it may impact the recovery of work ability has not yet been explored.

Accordingly, this study aimed to determine the prediction of SPS and its different domains on the work ability of patients in short- and long-term psychotherapy during a 5-year follow-up. We hypothesized that patients with good overall suitability and reflective ability in particular would improve faster and to a greater degree in terms of their work ability within both short- and long-term psychotherapy. Given the findings presented in prior literature, patients with poor overall suitability were expected to benefit more in long-term therapy than in short-term therapy in the long run.
2 | MATERIALS AND METHODS

This cohort study is based on the Helsinki Psychotherapy Study data, initially a randomized clinical trial of altogether 459 patients recruited between June 1994 and June 2000 (Knekt et al., 2016). After 133 persons refused to participate, the study comprised 326 eligible patients with mood and anxiety disorders treated by solution-focused psychotherapy ($N = 97$), short-term psychodynamic psychotherapy ($N = 101$), and long-term psychodynamic psychotherapy ($N = 128$).

2.1 | Patients

The 326 patients were 20–45 years of age and had a long-standing (>1 year) disorder causing dysfunction in work ability. Patients who had a psychotic disorder or severe personality disorder, bipolar I disorder, adjustment disorder, severe organic disease, or substance-related disorders, were excluded. A total of 56% of the patients suffered from mood disorder only, 15% from anxiety disorder only, and 29% from comorbid mood and anxiety disorder. Their diagnosis had to meet the Diagnostic and statistical manual of mental disorders (DSM-IV) criteria (American Psychiatric Association, 1994). Patients gave written informed consent and the project follows the Helsinki Declaration.

2.2 | Therapies

Solution-focused psychotherapy is a brief, resource-oriented, and goal-focused therapeutic approach that helps clients change by constructing solutions and is based on an approach developed by de Shazer et al. (Hoyt, 2011). The frequency of sessions was flexible, with up to 12 sessions over no more than 8 months (mean length 7.5 months, $SD = 3.0$). Short-term psychodynamic psychotherapy is a brief, focal, transference-based therapeutic approach that helps patients by exploring and working through specific intrapsychic and interpersonal conflicts. The orientation is based on approaches described by Malan and Sifneos (Hoyt, 2011). It was scheduled for 20 weekly sessions over 5–6 months (mean length 5.7 months, $SD = 1.3$). Long-term psychodynamic psychotherapy is an open-ended, intensive, transference-based therapeutic approach that helps patients by exploring and working through a broad range of intrapsychic and interpersonal problems and follows the clinical principles of long-term psychodynamic psychotherapy (Gabbard, 2010). It was scheduled for two to three weekly sessions for up to 3 years (mean length 31.3 months, $SD = 11.9$).

2.3 | Therapists

The therapies in this study were carried out by 55 qualified therapists (Knekt et al., 2017), mostly psychologists (65% in short-term and 77% in long-term psychotherapy). Six of them provided solution-focused psychotherapy, 12 provided short-term psychodynamic psychotherapy, and 41 provided long-term psychodynamic psychotherapy. The average work experience for those in solution-focused psychotherapy was 9 years (range 3–15), in short-term psychodynamic psychotherapy 9 years (range 2–20), and in long-term psychodynamic psychotherapy 18 years (range 6–30). All therapists had standard training in the therapy form that they practiced. In solution-focused psychotherapy, the treatment was given according to a manual and clinical adherence monitoring was used. The short- and long-term psychodynamic psychotherapies were conducted as in standard clinical practice, where interventions could be modified according to patient needs within the psychodynamic framework. Accordingly,
no manuals were used and no adherence monitoring was organized. None of the therapists offering psychodynamic psychotherapy had any experience of solution-focused psychotherapy, and vice versa.

2.4 | Measures

The assessments for this study were carried out at baseline and six time points (i.e., at 7, 12, 24, 36, 48, and 60 months) during the 5-year follow-up (Knekt et al., 2016).

2.4.1 | Assessment of SPS

The predictor of this study was an interview-based, observer-rated scale for assessing seven domains of patients’ psychotherapy suitability: therapy focus, modulation of affects, flexibility of interaction, self-concept in relation to ego ideal, response to trial interpretation, reflective ability, and motivation (Laaksonen et al., 2012). The SPS evaluates those psychological capacities that are suggested to predict the sufficiency of short-term psychotherapy versus the need for long-term therapy for recovery. The assessment interviews were carried out by seven clinical interviewers (five psychologists and two psychiatrists) experienced in clinical practice and psychotherapy assessment (range of work experience 9–20 years). The seven domains of SPS were each rated independently on a seven-point scale from 1 to 7, and then dichotomized (0 = good, 1 = poor), low and intermediate values indicating good suitability and higher values indicating poor suitability, except for focus and motivation, for which both intermediate and high values were considered poor. The repeatability of these dichotomous SPS assessments by the seven raters made 3 years apart showed nearly fair to good agreement (Fleiss, 1981) beyond chance (median kappa over interviewers 0.41–0.84 for all measures except for focus, median kappa = .23) (Laaksonen et al., 2012).

The overall global indicator of suitability was the SPS total score, also a dichotomized predictor. This was formed by summing up the dichotomized values (0 = good, 1 = poor) of the seven suitability variables, and then dichotomizing this sum also to “good” and “poor” categories, in accordance with our hypotheses and prior studies. Prior studies have supported the predictive validity of these SPS categories by showing that “good” suitability has predicted sufficiency of brief psychotherapy whereas “poor” suitability has indicated the need for long-term therapy (Laaksonen, Knekt, & Lindfors, 2013; Laaksonen, Knekt, Sares-Jäske, & Lindfors, 2013).

2.4.2 | Other baseline measures

Psychiatric diagnoses on Axes I and II were assessed according to the DSM-IV diagnostic criteria (American Psychiatric Association, 1994) using a semi-structured interview. Psychiatric symptoms were assessed using the 14-item Symptom Check List, anxiety scale (Derogatis et al., 1973), and social functioning was assessed using the 12-item Life Orientation Test (Scheier & Carver, 1985) and the 20-item Life Situation Survey (Chubon, 1987). Sociodemographic factors (sex, age, marital status, and education), psychiatric history (age at the onset of primary psychiatric disorder, separation experiences at childhood), and previous psychiatric treatment (psychotropic medication and psychotherapy) were assessed using questionnaires.

2.4.3 | Auxiliary treatment

Information on the use of psychotropic medication, additional psychotherapy, and hospitalization for psychiatric reasons was assessed at all measurement points during the 5-year follow-up (Knekt et al., 2011). The medication
and hospitalization data were identified from nationwide public health registers, and these were linked to the study population by the unique social security numbers assigned to Finnish citizens. The psychotherapy data was collected using questionnaires.

2.4.4 | Outcome measures

The primary indicator of work ability in this study was the Work Ability Index (Ilmarinen, 2019). It is a self-report 10-item measure, combined to produce seven subscales on relevant aspects of work ability: current subjective work ability compared with lifetime best, current subjective resources in relation to physical or mental demands of work, number of physical or mental disorders diagnosed by a clinician, estimated work impairment due to health problems, number of sick leaves during the past year, self-estimated work ability 2 years from now, and psychological resources. The items are summed to produce a total score (range 7–49), with higher scores indicating better work ability. The internal consistency (Cronbach alpha) of the scale in this study was found to be 0.76, and predictive validity (area under the curve) likewise has been shown to be acceptable, ranging from 0.77 to 0.81, in various cohorts (Lundin et al., 2017).

Secondary indicators of work ability were three self-rated questionnaires: 18-item work subscale (SAS-work) of the Social Adjustment Scale (Weissman & Bothwell, 1976) focusing on work performance, 10-item Perceived Psychological Functioning scale (Lehtinen et al., 1991) assessing cognitive functioning and stress tolerance, and eight-item Perceived Competence Scale (Smith et al., 1991) which evaluated coping style.

2.5 | Statistical methods

A cohort study design with repeated measurements was used. The primary analyses were based on the "intention-to-treat" (ITT) design, which included all the patients who had been randomized. The primary analyses were based on the assumption of ignorable dropouts from the outcome measures (Härkänen et al., 2005). Linear mixed models (Verbeke & Molenberghs, 1997) were used in the statistical analysis. The dependent variables were the primary outcome measure (work ability index) and the secondary outcome measures (perceived psychological functioning scale, perceived competence scale, and work subscale of the SAS). The basic independent variables of the model included the SPS or its different domains at baseline, the therapy group, and the time of measurement during follow-up, their first- and second-order interactions, and a correction term including the difference between the theoretical and realized date of measurement, baseline variables satisfying criteria for confounding (socio-demographic factors and psychiatric symptoms, Symptom Check List anxiety scale, Life Orientation Test, Life Situation Survey), and the respective outcome measure at baseline. The differences in outcome between the "good" and "poor" categories for the suitability variables at the different measurement points were calculated (Lee, 1981). The delta method was used for calculating the confidence intervals of the differences (Migon & Gamerman, 1999). Global statistical significance tests were performed separately for each variable using the Wald test. Secondary "as treated" (AT) analyses were performed taking into account any violation of the treatment standards. Additional information regarding waiting time from randomization to the initiation of treatment, the completeness of the treatment (i.e., withdrawal after randomization, discontinuation of treatment, and the quality of the treatment), and the use of auxiliary treatment (i.e., additional psychotherapy, psychotropic medication use, and hospitalization) at baseline and the six measurement points during the 5-year follow-up was included (Knekt et al., 2016). As no notable differences were found between the ITT and AT models, the findings presented are based on the ITT model. All statistical analyses were performed with SAS software, version 9.3 (SAS Institute inc., 2011).
3 | RESULTS

The majority of the patients were young adults (mean age 32.4 years) and female (75.8%) (Table 1). A total of 85% of patients suffered from mood disorder and 44% from anxiety disorder, while 43% of the patients had psychiatric comorbidity. Approximately every fourth had completed a university degree and half of the patients were living alone. Almost 80% had good psychological suitability for psychotherapy, as measured by the SPS score.

3.1 | Within-therapy outcome differences predicted by the suitability for psychotherapy scale domain

In short-term psychodynamic psychotherapy, the primary work ability outcome measure, Work Ability Index, was statistically significantly less improved in patients who had a poor as opposed to a good SPS total score (Table 2). This was seen systematically from the start until the end of the follow-up. The baseline-adjusted difference between the good and the poor group was 6.4 (95% confidence interval [CI] = 2.8–10.0; p = 0.0005). A similar systematic and statistically significant association, also after the Bonferroni-correction, was likewise seen during the entire follow-up for "reflective ability," seen at most time points for "self-concept in relation to ego ideal", and non-significantly (after correction) for "modulation of affects." The SPS domains "motivation" and "focus" did not notably predict work ability.

In solution-focused psychotherapy, the primary outcome indicator, Work Ability Index, was not statistically significantly associated with the total SPS score or any of its domains after the Bonferroni correction (Table 2).

In long-term psychodynamic psychotherapy, patients who had good values in the SPS total score, "self-concept in relation to ego ideal," "reflective ability," "motivation," or "focus," occasionally had statistically significantly more improved work ability index than patients with poor values (Table 2).

The secondary outcome measures Perceived Competence Scale and Perceived Psychological Functioning showed essentially identical patterns as the work ability index did in short-term psychotherapies, and similarly though somewhat less consistently in long-term psychodynamic psychotherapy (data not shown).

3.2 | Between-therapy outcome differences predicted by the SPS domain

3.2.1 | Short-term psychodynamic therapy versus solution-focused therapy

Among patients with good values of the SPS total score and its domains, no Bonferroni-corrected statistically significant differences were found in Work Ability Index between the short-term psychodynamic psychotherapy and solution-focused psychotherapy groups (Figure 1).

Patients with poor values of the SPS domain "self-concept in relation to ego ideal" had better Work Ability Index values in solution-focused psychotherapy than short-term psychodynamic psychotherapy during the first year of the follow-up. Work Ability Index values were also less improved in short-term psychodynamic psychotherapy for patients with poor SPS total score and poor "reflective ability," from the third or fourth follow-up year onwards (Figure 2). Similar differences between solution-focused psychotherapy and short-term psychodynamic psychotherapy were found in all the secondary outcome measures, appearing solely for patients with poor SPS values (data not shown).

3.2.2 | Short-term psychodynamic therapy versus long-term psychodynamic therapy

Patients with good SPS total score or individual SPS subdomain values (except for "focus") experienced statistically significantly better (Bonferroni-corrected) Work Ability Index in short-term psychodynamic psychotherapy than
### TABLE 1  Baseline characteristics of the patients

| Characteristic                              | Short-term psychodynamic psychotherapy (N = 101) | Solution-focused psychotherapy (N = 97) | Long-term psychodynamic psychotherapy (N = 128) | All (N = 326) |
|--------------------------------------------|-----------------------------------------------|----------------------------------------|-----------------------------------------------|---------------|
| Demographic variables                      |                                               |                                        |                                               |               |
| Age (years) (mean, SD)                     | 32.1 (7.02)                                   | 33.6 (7.2)                             | 31.6 (6.6)                                   | 32.3 (6.9)    |
| Men (%)                                    | 25.7                                          | 25.8                                   | 21.1                                         | 23.9          |
| Living alone (%)                           | 48.5                                          | 56.7                                   | 49.2                                         | 51.2          |
| Academic education                         | 19.8                                          | 28.9                                   | 28.1                                         | 25.8          |
| Psychiatric diagnosis                      |                                               |                                        |                                               |               |
| Mood disorder (%)                          | 78.2                                          | 86.6                                   | 88.3                                         | 84.6          |
| Anxiety disorder (%)                       | 49.5                                          | 46.4                                   | 36.7                                         | 43.6          |
| Psychiatric comorbidity (%)                | 48.5                                          | 45.4                                   | 36.7                                         | 42.9          |
| Suitability for psychotherapy              |                                               |                                        |                                               |               |
| Suitability for psychotherapy scale (SPS)  | 77.2                                          | 78.3                                   | 79.7                                         | 78.5          |
| score (%)                                  |                                               |                                        |                                               |               |
| Ego strength                               |                                               |                                        |                                               |               |
| Modulation of affects (%)                  | 65.3                                          | 66.0                                   | 71.9                                         | 68.1          |
| Flexibility of interaction (%)             | 87.1                                          | 88.7                                   | 90.6                                         | 89.0          |
| Self-concept in relation to ego ideal (%)  | 80.2                                          | 81.4                                   | 85.2                                         | 82.5          |
| Self-observing capacity                    |                                               |                                        |                                               |               |
| Reflective ability (%)                     | 80.2                                          | 81.4                                   | 82.8                                         | 81.6          |
| Trial interpretation (%)                   | 64.4                                          | 74.2                                   | 64.8                                         | 67.5          |
| Motivation (%)                             | 38.6                                          | 39.2                                   | 39.1                                         | 39.0          |
| Nature of problems                         |                                               |                                        |                                               |               |
| Focus (%)†                                 | 34.0                                          | 39.2                                   | 36.7                                         | 36.6          |
| Work ability                               |                                               |                                        |                                               |               |
| Work ability index                         | 34.1 (6.9)                                    | 33.6 (6.6)                             | 33.4 (7.1)                                   | 33.7 (6.9)    |
| Work subscale of the social adjustment scale | 2.12 (0.54)                                 | 2.20 (0.56)                           | 2.23 (0.57)                                   | 2.19 (0.56)   |
| Perceived psychological functioning scale  | 24.7 (5.1)                                    | 25.5 (5.2)                             | 25.5 (5.6)                                   | 25.2 (5.3)    |
| Perceived competence scale                 | 30.5 (6.8)                                    | 30.4 (7.0)                             | 30.0 (6.8)                                   | 30.3 (6.9)    |

Note: Based on linear model. Reference: Laaksonen, M. A., 2014. Patient suitability for short-term and long-term psychotherapy. National Institute for Health and Welfare, Research 144, Helsinki.

*Statistically significant (p < 0.05) difference between the short-term psychotherapies and long-term psychotherapy.

Proportion of patients with good values of the suitability measure.
TABLE 2  Mean value differences (95% confidence intervals [CI]) of the work ability index$^a$ between patients with good and poor suitability for psychotherapy values in short-term psychodynamic psychotherapy, solution-focused psychotherapy and long-term psychodynamic psychotherapy at 7-, 12-, 24-, 36-, 48-, and 60-month follow-up

| Suitability measure | Follow-up months | Short-term psychodynamic psychotherapy difference (95% CI)$^b$ | Solution-focused psychotherapy difference (95% CI)$^b$ | Long-term psychodynamic psychotherapy difference (95% CI)$^b$ |
|---------------------|------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| SPS score           |                  |                                                              |                                                              |                                                              |
| 0                   |                  |                                                              |                                                              |                                                              |
| 7                   | **5.62 (2.80, 8.43)** | 1.35 (−1.86, 4.55)                                          | 3.17 (−0.10, 6.44)                                          |
| 12                  | **4.77 (1.70, 7.84)** | 1.05 (−2.53, 4.63)                                          | **4.60 (0.79, 8.41)**                                      |
| 24                  | **4.60 (1.42, 7.78)** | 2.87 (−1.14, 6.88)                                          | 2.57 (−0.99, 6.12)                                         |
| 36                  | **6.30 (2.94, 9.65)** | 2.85 (−1.38, 7.09)                                          | 2.55 (−1.33, 6.43)                                         |
| 48                  | **5.13 (1.85, 8.40)** | −1.15 (−5.24, 2.95)                                         | **4.77 (0.90, 8.64)**                                      |
| 60                  | **6.43 (2.84, 10.0)** | 1.51 (−2.75, 5.77)                                          | 3.37 (−0.32, 7.05)                                         |
| Modulation of affects |                  |                                                              |                                                              |                                                              |
| 0                   |                  |                                                              |                                                              |                                                              |
| 7                   | **2.89 (0.34, 5.43)** | 0.22 (−2.45, 2.90)                                          | 1.65 (−1.03, 4.33)                                         |
| 12                  | 2.02 (−0.78, 4.80) | −0.75 (−3.78, 2.30)                                         | 0.99 (−1.98, 3.95)                                         |
| 24                  | 2.28 (−0.67, 5.23) | 0.00 (−3.38, 3.38)                                          | −0.26 (−3.16, 2.64)                                        |
| 36                  | **3.70 (0.58, 6.74)** | 1.30 (−2.18, 4.78)                                         | −0.53 (−3.74, 2.69)                                        |
| 48                  | **3.90 (0.88, 6.92)** | −1.06 (−4.55, 2.43)                                         | 0.75 (−2.32, 3.82)                                         |
| 60                  | **4.38 (1.01, 7.74)** | −0.09 (−3.63, 3.46)                                         | 0.70 (−2.47, 3.86)                                         |
| Flexibility of interaction |                  |                                                              |                                                              |                                                              |
| 0                   |                  |                                                              |                                                              |                                                              |
| 7                   | **5.48 (1.97, 8.99)** | 1.43 (−2.78, 5.63)                                          | 1.17 (−3.74, 6.09)                                         |
| 12                  | **4.74 (0.76, 8.71)** | 0.79 (−3.96, 5.54)                                          | −0.62 (−7.19, 5.96)                                        |
| 24                  | 3.88 (−0.11, 7.86) | 3.29 (−2.30, 8.88)                                          | −0.34 (−6.83, 6.15)                                        |
| 36                  | **5.10 (0.79, 9.42)** | −1.17 (−7.49, 5.16)                                         | −6.34 (−14.3, 1.61)                                        |
| 48                  | 2.95 (−1.33, 7.22) | −3.88 (−9.92, 2.16)                                         | 5.85 (−4.92, 16.6)                                         |
| 60                  | 4.24 (−0.47, 8.95) | −1.99 (−9.47, 5.49)                                         | 1.93 (−4.29, 8.15)                                         |
| Self-concept        |                  |                                                              |                                                              |                                                              |
| 0                   |                  |                                                              |                                                              |                                                              |
| 7                   | **5.00 (2.10, 7.93)** | −3.24 (−6.51, 0.03)                                         | 2.48 (−1.10, 6.07)                                         |
| 12                  | **4.53 (1.30, 7.78)** | −3.12 (−6.82, 0.57)                                         | **6.16 (2.30, 10.0)**                                      |
| 24                  | 2.95 (−0.44, 6.35) | −1.94 (−6.45, 2.57)                                         | 3.35 (−0.43, 7.13)                                         |
| 36                  | **6.07 (2.51, 9.63)** | 2.81 (−1.22, 6.84)                                          | 3.79 (−0.20, 7.80)                                         |
| 48                  | **4.64 (0.94, 8.34)** | 2.09 (−2.14, 6.33)                                          | 2.50 (−1.45, 6.45)                                         |
| 60                  | 3.30 (−0.57, 7.20) | 0.32 (−4.21, 4.85)                                          | 1.23 (−2.84, 5.30)                                         |
| Reflective ability  |                  |                                                              |                                                              |                                                              |
| 0                   |                  |                                                              |                                                              |                                                              |
| 7                   | **5.26 (2.36, 8.15)** | 1.59 (−1.80, 4.97)                                          | 2.26 (−1.07, 5.59)                                         |
| 12                  | **4.46 (1.22, 7.71)** | −0.10 (−3.86, 3.67)                                         | 3.16 (−0.81, 7.13)                                         |
| 24                  | **4.55 (1.25, 7.85)** | 0.47 (−3.81, 4.76)                                          | 2.56 (−1.31, 6.44)                                         |

$^a$Work ability index includes self-assessed ability, work ability, and work ability limitations.

$^b$95% confidence intervals for the mean differences were calculated using a linear mixed-effects model.
TABLE 2 (Continued)

| Suitability measure | Follow-up months | Short-term psychodynamic psychotherapy difference (95% CI)b | Solution-focused psychotherapy difference (95% CI)b | Long-term psychodynamic psychotherapy difference (95% CI)b |
|---------------------|------------------|----------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------|
|                     |                  |                                                          |                                                      |                                                          |
| Trial interpretation | 0                |                                                          |                                                      |                                                          |
|                     | 7                | 2.40 (−0.08, 4.89)                                        | 0.67 (−2.32, 3.65)                                   | 0.37 (−2.07, 2.82)                                        |
|                     | 12               | 2.60 (−0.20, 5.40)                                        | 0.38 (−2.86, 3.63)                                   | 0.81 (−1.93, 3.55)                                        |
|                     | 24               | 3.29 (0.42, 6.16)                                         | 1.88 (−1.79, 5.55)                                   | 0.21 (−2.51, 2.94)                                        |
|                     | 36               | 4.43 (1.42, 7.44)                                         | 2.98 (−0.87, 6.82)                                   | 1.69 (−1.30, 4.68)                                        |
|                     | 48               | 3.02 (0.03, 6.00)                                         | −1.86 (−5.69, 1.98)                                  | 1.54 (−1.35, 4.43)                                        |
|                     | 60               | 4.84 (1.63, 8.05)                                         | 1.45 (−2.52, 5.41)                                   | 0.59 (−2.39, 3.56)                                        |
| Motivation          | 0                |                                                          |                                                      |                                                          |
|                     | 7                | 3.11 (0.66, 5.57)                                         | −1.29 (−3.86, 1.27)                                  | 1.94 (−0.34, 4.21)                                        |
|                     | 12               | 2.50 (−0.23, 5.23)                                        | −1.24 (−4.12, 1.63)                                  | 2.50 (−0.03, 5.03)                                        |
|                     | 24               | 1.62 (−1.24, 4.48)                                        | 0.17 (−3.00, 3.35)                                   | 2.01 (−0.53, 4.55)                                        |
|                     | 36               | 1.11 (−1.96, 4.18)                                        | 2.19 (−1.12, 5.50)                                   | 3.28 (0.49, 6.06)                                        |
|                     | 48               | 1.19 (−1.86, 4.23)                                        | 1.71 (−1.59, 5.01)                                   | 1.41 (−1.31, 4.13)                                        |
|                     | 60               | 2.17 (−1.13, 5.47)                                        | 1.47 (−1.92, 4.86)                                   | 1.73 (−1.27, 4.73)                                        |
| Focus               | 0                |                                                          |                                                      |                                                          |
|                     | 7                | 1.11 (−1.47, 3.68)                                        | 2.55 (0.02, 5.07)                                    | 1.16 (−1.18, 3.49)                                        |
|                     | 12               | 2.00 (−0.84, 4.82)                                        | 1.93 (−0.93, 4.79)                                   | 0.87 (−1.73, 3.45)                                        |
|                     | 24               | 1.87 (−1.14, 4.88)                                        | 1.97 (−1.16, 5.11)                                   | −0.04 (−2.63, 2.56)                                       |
|                     | 36               | 2.07 (−1.09, 5.23)                                        | 1.05 (−2.20, 4.30)                                   | 1.86 (−0.97, 4.69)                                        |
|                     | 48               | 2.23 (−0.86, 5.32)                                        | −0.72 (−3.91, 2.46)                                  | 3.12 (0.40, 5.83)                                        |
|                     | 60               | 3.43 (0.16, 6.70)                                         | 1.78 (−1.52, 5.08)                                   | 3.57 (0.77, 6.37)                                        |

Note: The model includes the confounding factors age, sex, marital status, education, psychiatric symptoms, Symptom Check List, anxiety scale, Life Orientation Scale, and Life Situation Survey. Values in bold denote statistically significant differences (p < 0.05) and underlined values differences (p < 0.008) after Bonferroni correction, based on the number of tests for the respective hypothesis, between the "good" and "poor" categories of the suitability measure domain.

Abbreviations: CI, confidence interval; SPS, suitability for psychotherapy scale.

*Work ability is classified as poor (7–27 points), moderate (28–36 points), adequate (37–43 points) or excellent (44–49 points) (Tuomi et al., 1998).

*The model is further adjusted for respective outcome variable at baseline.

long-term psychodynamic psychotherapy group at the 7-month point (Figure 1). A similar finding appeared in the secondary indicator Perceived Psychological Functioning (data not shown). Patients with poor SPS total score or individual SPS subdomains (except for “self-concept,” “reflective ability,” and “focus”) values showed better Work Ability Index values in long-term psychodynamic psychotherapy than short-term psychodynamic psychotherapy.
FIGURE 1  Mean value of work ability index by therapy group for patients with good suitability for psychotherapy scale total score

FIGURE 2  Mean value of work ability index by therapy group for patients with poor suitability for psychotherapy scale total score
group from the third follow-up year onwards (Figure 2). The findings were mostly similar in the secondary outcome measures Perceived Psychological Functioning and work subscale of the SAS-SR (data not shown).

3.2.3 | Long-term psychodynamic therapy versus solution-focused therapy

At the 7-month point, Work Ability Index showed no differences between long-term psychodynamic psychotherapy and solution-focused psychotherapy for any good values of the SPS measure (Figure 1). In longer follow-up, however, a good SPS score and most of its domains predicted better work ability index in long-term psychodynamic psychotherapy than in solution-focused psychotherapy. For all three secondary measures, however, good SPS values predicted significantly greater early outcomes in solution-focused psychotherapy as compared to long-term psychodynamic psychotherapy, with the exception of “self-concept in relation to ego ideal” and “motivation” (data not shown).

Generally, Work Ability Index did not differ between long-term psychodynamic psychotherapy and solution-focused psychotherapy for those patients who had poor SPS values (Figure 2). The only consistent exception was “self-concept in relation to ego ideal,” for which long-term psychodynamic psychotherapy was less effective than solution-focused psychotherapy during the first year of follow-up, the difference in Work Ability Index values being −8.59 (95% CI = −13.5, −3.65; \( p = 0.0007 \)). Similar differences were found in two of the secondary indicators, Perceived Psychological Functioning and Perceived Competence scale (data not shown).

4 | DISCUSSION

The present study showed that patients’ capacities to benefit from psychotherapy, particularly good reflective ability, predicted improvement of their work ability especially in short-term psychodynamic therapy. Effects differed according to therapy modalities and durations, as these capacities—which have traditionally been seen as important suitability criteria especially for brief psychodynamic therapy (Hoyt, 2011)—appearing to be less relevant in long-term psychodynamic therapy and solution-focused psychotherapy.

4.1 | Comparison of the effectiveness within the therapy groups

Patients’ suitability for psychotherapy appeared most relevant in short-term psychodynamic psychotherapy, less in long-term psychodynamic psychotherapy, and the least in solution-focused psychotherapy. In line with our hypothesis, global suitability (i.e., good values for the SPS score) was essential for short-term psychodynamic psychotherapy, as poor suitability predicted lesser improvement in work ability, as measured by most indicators. The most robust predictors were the overall SPS score and the subscale “reflective ability,” in line with prior research (Bressi et al., 2017) showing the importance of reflective capacity for ameliorating depressive symptoms in short-term psychodynamic treatments. Two other most important suitability characteristics were self-concept in relation to ego ideal and modulation of affects. Hence, while previous research has shown that these characteristics predict a reduction in psychiatric symptoms in short-term psychodynamic psychotherapy (Laaksonen, Knekt, et al., 2013), they also appear to predict recovering perceived work ability. This is in line with theoretical principles and clinical experience within short-term psychodynamic psychotherapy (Hoyt, 2011), which suggest that patients’ reflective capacity, together with a sufficiently healthy self-concept and capacity to tolerate anxiety, are presumably needed to effectively regulate the difficult emotions aroused by short-term interpretive work.

Contrary to expectations, neither patients’ overall psychotherapy suitability nor any of the SPS subdomains predicted improvement in work ability in solution-focused psychotherapy. This contrasts with earlier findings on
solution-focused psychotherapy, which have shown better suitability to predict more decreased psychiatric symptomatology (Laaksonen, Knekt, et al., 2013). Any attempt at interpreting this contrast, as well as accounting for the lack of differences in work ability, is largely theoretical given the lack of knowledge about patient moderators affecting solution-focused psychotherapy outcome. Perhaps solution-focused psychotherapy’s emphasis on constructing concrete solutions supports patients’ self-perceived work ability, even if patients’ psychological suitability (e.g., reflective ability) and outcomes in other domains (e.g., psychiatric symptoms) are more modest. Viewed another way, solution-focused psychotherapy does not appear to produce added benefits for those patients who have greater psychological suitability for therapy.

Good overall suitability for psychotherapy occasionally predicted better work ability in long-term psychodynamic psychotherapy and the biggest improvements were seen at the 12-month follow-up for patients who had a positive self-concept and at the 4–5 year follow-up points for patients who had better reflective ability, motivation, and more focal problems. It thus seems that even in long-term psychodynamic treatment, the patients who benefit the most are the ones who start out with better psychological resources, mirroring earlier similar findings regarding dispositional optimism (Heinonen et al., 2017). However, it may be noted that while these findings were in the same expected direction as in short-term psychodynamic psychotherapy, they were notably fewer and appeared more slowly.

4.2 | Comparison between the therapy groups

The comparisons between the therapy groups largely reflected effects seen within the individual therapies. Better suitability predicted faster improvement in short-term psychodynamic psychotherapy and the biggest improvements were seen at the 12-month follow-up for patients who had a positive self-concept and at the 4–5 year follow-up points for patients who had better reflective ability, motivation, and more focal problems. It thus seems that even in long-term psychodynamic treatment, the patients who benefit the most are the ones who start out with better psychological resources, mirroring earlier similar findings regarding dispositional optimism (Heinonen et al., 2017). However, it may be noted that while these findings were in the same expected direction as in short-term psychodynamic psychotherapy, they were notably fewer and appeared more slowly.

Accordingly, when considering psychodynamic treatments, short-term psychodynamic psychotherapy may be an appropriate first-line choice for patients with good suitability. Long-term psychodynamic psychotherapy, on the other hand, may be indicated for those patients who lack the propensities needed to benefit from short-term
treatment and who are willing to commit to longer treatment. In the comparison between solution-focused psychotherapy and long-term psychodynamic psychotherapy, clinical implications were less clear. For patients with good suitability on most domains (except for "motivation" and "modulation of affects"), Work Ability Index improved to a greater extent in long-term psychodynamic psychotherapy in the long run. With the exception of more negative self-concept, which predicted faster improvement in solution-focused psychotherapy, no differences were found in association with poor suitability. This contrasts our initial hypothesis based on earlier findings which showed somewhat greater effectiveness of long-term psychodynamic psychotherapy than solution-focused psychotherapy in work ability and functional capacity (Knekt et al., 2013), and that patients with poor suitability fared notably better in long-term psychodynamic psychotherapy than in solution-focused psychotherapy when the outcome differences were measured by reduction in psychiatric symptoms (Laaksonen, Knekt, & Lindfors, 2013).

4.2.1 | Summary of the results and implications

This study revealed that patient-related characteristics are relevant predictors of recovery of work ability in the course of psychotherapeutic treatment. What may account for the results? A generally better suitability for psychotherapy and reflective ability, first of all, might be expected to be beneficial in various ways in work environment (e.g., dealing with cognitive and interpersonal complexity as well as tackling obstacles related to diminished work ability, etc.). However, as neither resulted in different solution-focused psychotherapy outcomes regarding work ability, but only in short-term psychodynamic psychotherapy and long-term psychodynamic psychotherapy outcomes, this suggests that these qualities are conducive to the actual treatment process in psychodynamic therapies. That reflective ability would be important for them seems quite reasonable, since a central task of psychodynamic therapy is to explore, identify, and integrate the patterns of one’s psychic experience, which is presumed to ease internal and external conflicts (Gabbard, 2010; McCarthy et al., 2017). This, plausibly, would also lead to better adjustment and functioning in life (Johansson et al., 2010), including occupational functioning. This reasoning is further supported, second, by the fact that these outcomes were observed also—and, in some cases, only—after the end of treatment. It suggests that the experienced benefits in work ability were not just an artifact or reflection of ongoing, preferred treatment type, but rather reflected actual consolidated gains (Falkenström et al., 2007). Third, further characteristics predicting work ability in short-term psychodynamic psychotherapy or long-term psychodynamic psychotherapy (self-concept, modulation of affects, circumscribed nature of problems, motivation) might be likewise interpreted as indicating general aptitudes to engage in specifically psychodynamic therapy. Patients who had poor overall psychological suitability benefited more from solution-focused or long-term psychodynamic than short-term psychodynamic psychotherapy in the long run. Our findings thus highlight the importance of selecting suitable patients especially for short-term psychodynamic psychotherapy (Fonagy, 2010) when expecting improvement in work ability. Solution-focused psychotherapy appeared a viable short-term treatment option for which such selection did not seem to be as important and which, seemingly effectively, supported most patients’ self-perceived work ability. However, psychotherapies often aim for a range of other outcomes, too, which may differ across therapies (Knekt et al., 2015). These outcomes may also be impacted by patient preferences for one type of treatment or another (Nilsson et al., 2007). Likewise, other patient characteristics, such as personality disorder (Lorentzen et al., 2015) or personality functioning (Knekt et al., 2017) may also be important as predictors of outcome in different short- and long-term therapies and possibly interact with the variables studied here.

4.2.2 | Methodological considerations

The strengths of this study are the frequently repeated measurements of the outcomes during a long follow-up period and the relatively large sample, which made it possible to categorize the patients into those with good and
poor SPS values. Furthermore, the use of several validated instruments, both for the predictors and outcomes, made it possible to comprehensively evaluate changes in work ability during the follow-up. The patients met similar treatment indication criteria as outpatients routinely treated by psychotherapy in the Finnish healthcare system of the Helsinki metropolitan area, thus providing good generalizability and ecological validity.

One limitation of this study is the naturalistic design. Hence, despite adjusting for potential confounding factors, residual confounding cannot be fully excluded. Patient withdrawal from some measurement points may likewise have caused bias. Also, some patients’ auxiliary treatment outside of the protocol may have caused bias, although adjustments for protocol violations were made to diminish this impact. Further research focused on the determinants of withdrawal, dropout, and non-protocol treatments are needed to evaluate their impact on generalizability. Further, despite a relatively large sample, the power may nevertheless have been too low to reveal smaller associations. Finally, there were no manuals or adherence monitoring for the psychodynamic psychotherapies. However, this was in line with the aim of investigating psychodynamic treatments as provided in typical clinical practice, that is to say, responsive to the individual needs and presentation of the patient.

5 | CONCLUSION

To the best of our knowledge, this is the first study to show that various aspects of psychological suitability for psychotherapy, and reflective ability in particular, impact improvement of work ability differentially in different therapies, depending on the duration and modality of treatment. Good psychological suitability predicted improvement especially in short-term psychodynamic psychotherapy; whereas in solution-focused psychotherapy suitability mattered less, given that patients with poor suitability improved comparably to those who were randomized to the considerably longer-lasting long-term psychodynamic psychotherapy. When comparing therapy modalities, the role of patient-related predictors appears to depend on the outcome that is considered (e.g., symptoms vs. work ability), and further research needs to clarify the reasons for these discrepancies.

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DATA AVAILABILITY STATEMENT
The data of the study are owned by the Finnish Institute for Health and Welfare. The data is made available for researchers by request and with consent of the Helsinki Psychotherapy Study management board at the Finnish Institute for Health and Welfare regarding specific research questions. The dataset cannot be publicly shared due to data protection issues (regarding sensitive personal data).

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