Brief psychological treatment in mental care
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Stages of change profiles and transitions
during brief psychological treatment in mental health care

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Submitted
Abstract

This study will describe stages of change profiles (SoC-profiles) assessed before, four and eight months after, the start of brief psychological treatment within a heterogeneous psychiatric outpatient sample (N=129). It also assesses whether pre-treatment patient-characteristics can predict SoC-transitions and how these transitions relate to outcome measures. The majority of patients can easily be allocated to interpretable SoC-profiles. 63% of patients had made a SoC-transition over eight months, most (87%) progressive. Within the sample, most patients changed from being a 'Contemplator, taking some action' to an 'Action stagers, still contemplating'. Patients who feel, at baseline, more emotional supported and more in control over their own life-chances, have more chance of making such a SoC-transition. The relation between transitions and outcome measures will be discussed.
Introduction

According to their transtheoretical 'stages of change' model, Prochaska and DiClemente (1982; 1983) state that modification of behaviour involves a progression through five consecutive stages: Pre-contemplation, Contemplation, Preparation, Action and Maintenance. In their view matching a mental health intervention to the particular stage of change of the patient might substantially increase the effect of treatment and diminish drop-out (Prochaska & DiClemente, 1992; Prochaska, DiClemente & Norcross, 1992).

'Stages of change' might also be of value as potential evaluation parameter for mental health interventions by looking at transitions in stages of change made by a patient over time. This may be especially true in patient populations with a wide variety of symptoms and/or problems and for interventions that do not primarily aim at symptom reduction, but try to help patients stuck in a changing process by offering them the right tools to continue and finish this process on their own.

Although some have suggested that using readiness to change as a continuous variable is a simpler and perhaps more appropriate formulation (Sutton, 1996, Budd & Rollnick, 1996), rather than a model with a series of consecutive stages of change, also a continuous variable has its limitations. For instance a continuous variable often lacks cut-off scores corresponding to significantly different motivational levels that are needed to aid clinicians in decision making (Blanchard, Morgenstern, Morgan, Labouvie, & Bux, 2003). Probably this is one of the reasons that the stage model has such an attractive appeal to clinicians working in practice (Dryden & Feltham, 1992; Steenbarger, 1994; Koss & Shiang, 1994).

So far only a few studies focused on patterns of change based on this transtheoretical 'stages of change' model. Most of these pertained to addiction (e.g. smoking, drugs, and alcohol abuse), other health behaviour (e.g. exercise and weight loss), and patients with chronic pain or eating disorders (Stotts, Schmitz, Rhoades, & Grabowski, 2001; Dijkstra, Tromp & Conijn, 2003; Steptoe, Kerry, Rink, & Hilton, 2001; Carbonari & DiClemente, 2000; Kerns & Rosenberg, 2000; Treasure, Katzman, Schmidt, Troop, Todd, de Silva, 1999; Prochaska, Norcross, Fowler, Follick, & Abrams, 1992). To the best of our knowledge studies of stage of change transitions with more heterogeneous outpatient samples do not exist.

This longitudinal study on a heterogeneous population of community mental health care patients referred to a brief psychological treatment programme in a community mental health care centre tries to fill this gap. It aims are:

1. To describe stages of change profiles (SoC-profiles) for patients starting brief psychological treatment. The SoC-profiles will be assessed by a simple method that can easily be used by clinicians.
2. To determine whether SoC-profiles can be used to monitor progress. Transitions in SoC-profiles are assessed by collecting patient related data at four and eight months after the start of their brief treatment.
3. To assess whether pre-treatment patient-characteristics (e.g. complaint- and symptom-severity, coping, support and age) can predict stages-specific transitions.
4. To assess how these stage-specific transitions are related to other outcome measures (e.g. complaint and symptom reduction, mastery and individual ratings of treatment results).
Stages of change profiles and transitions

Method

Patients

This study was executed in six Community Mental Health Centres (CMHC’s) spread over the Netherlands. In these CMHC’s patients are nowadays allocated either to Brief Treatment (BT) or to Unlimited or Long-term Treatment. Allocation to BT is done when intake clinicians consider patients to need no more than six treatment sessions to restore their autonomy and capacity to deal with their problems on their own again. A more detailed description of the treatment allocation procedure, content of the brief treatment programmes, and the clinicians providing brief treatment is presented elsewhere (Schaefer, Koeter, Wouters, Emmelkamp, & Schene, 2003).

During the study period 459 consecutive BT-patients were asked to participate in the study, 379 (83%) agreed to participate and gave written informed consent. Of these 379 patients, 261 (69%) returned the baseline-questionnaire of which 186 patients (71%) completed the four months follow-up and 191 (73%) the eight months follow-up questionnaire. Analysis are based on the 129 of the 261 participants that fulfilled the following criteria; (1) completed baseline questionnaire before the start of brief treatment (if not, this was mostly due to logistic reasons), (2) completed both follow-up questionnaires, and (3) answered all items necessary for this study. Patients mean age was 40 years (SD = 11; range 18 – 76) and 65% was female. More demographic characteristics of the study population are presented in Table 6.1.

Table 6.1 Sociodemographic characteristics (n=129)

| Age [M (SD)] | 40 (11) |
| Gender [%] | | |
| Men | 35 |
| Women | 65 |
| Education [%] | | |
| Primary education or less | 13 |
| Secondary education low | 31 |
| Secondary education high | 32 |
| Tertiary education and more | 24 |
| Living situation [%] | | |
| Alone | 22 |
| With partner (with or without child) | 64 |
| With child without partner | 5 |
| With parent(s) | 5 |
| Other | 4 |
| Marital status [%] | | |
| Never married | 34 |
| Married | 51 |
| Divorced | 12 |
| Widowed | 3 |

M = mean, SD = standard deviation
According to clinicians the most prevalent target problems were mood, anxiety, and relational problems (see Table 6.2). With regard to DSM-IV axis I, the first and foremost diagnoses were adjustment-, mood-, anxiety- and somatofom disorder. The mean SCL-90 (Derogatis, 1977) total score (179.0; SD = 56.6) was comparable to that reported for patients seen by clinical psychologists (177.8; SD = 52.6) and below that of patients seen in psychiatric outpatient departments of general or academic hospitals (203.5; SD = 61.6) (Arrindell & Ettema, 2003).

Measures

Measures assessed at baseline

Utrecht Coping List (UCL; Schreurs, van de Willige, Tellegen, & Brosschot, 1988). In this study we used the 7-item Problem-focused coping scale of the 47-item UCL, a questionnaire assessing
various kinds of coping strategies. Subjects were asked to rate their use of a coping strategy when confronted with a problem or unpleasant situation. Items were rated from 1 ('hardly ever') to 4 ('very often').

Social Support List Discrepancies (SSL-D; van Sonderen, 1991). The SSL-D assesses the amount of (dis)satisfaction with various kinds of social support. For this study only the eight items pertaining to emotional support (when encountering problems) were used. Items were scored as: 1 ('I miss this'), 2 ('I do not miss it really, but more would be better'), 3 ('exactly good in this way') and 4 ('happens too much'). Items were recoded (1=3; 3=1; 4=1), making high scores indicating a lack of support.

Measures assessed at baseline, four and eight months follow-up

University of Rhode Island Change Assessment (URICA; McConnaughy et al., 1983; McConnaughy et al., 1989). The URICA is a 32-item questionnaire comprising four eight-item scales representing the following stages of change:

- Pre-contemplation: Patient has no intention to change his/her behaviour in the foreseeable future and is unaware or under aware of his/her problems. S/he usually feels coerced into treatment by (significant) others.
- Contemplation: Patient is aware that s/he has a problem and seriously thinks about overcoming it, but has not yet made a commitment to take action.
- Action: Patient has started to implement action strategies to modify his/her behaviour, experiences or environment in order to overcome the problems.
- Maintenance: Patient works to prevent relapse and consolidates the gains of the action stage. This stage may go on for a long time.

Items are statements that have to be rated on a 5-point Likert scale (from 1 indicating strong disagreement to 5 indicating strong agreement). The questionnaire is designed for use with any problem behaviour and simply refers to “the problem” rather than specific problem behaviour. Participants in our study were asked to rate the statements in relation to the problem for which they came to treatment and which they were asked to write down in the baseline questionnaire. They were reminded of this specific problem by the researcher at the four and eight months follow-up. Given the relatively short time of follow-up we abstained from using the maintenance scale. So stages of changes profiles (SoC profiles) are based on the Pre-contemplation (P), Contemplation (C) and Action (A) scale.

Measures assessed at baseline and eight months follow-up

Symptom Checklist-90 (SCL-90; Derogatis, 1977; Arrindell & Ettema, 2003). The SCL-90 is a 90-item self-report symptom inventory based on respondents rating of symptom distress during the previous seven days. Items are rated from 1 ('not at all') to 5 ('very much'). For the analyses we used the total score.
Target complaint inventory (TC; Battle, Imber, Hoehn-Saric, Stone, Nash, & Frank, 1966). The TC calls for patients to identify one, two or three main problems/complaints for which they are seeking treatment and list these in order of decreasing importance. Each individual complaint was rated on a 7-point scale; higher ratings indicate more distressing complaints. For this study we used the severity index of the most important complaint.

Mastery scale. Mastery (Pearlin, & Schooler, 1978; Kempen, Steverink, Ormel, & Deeg, 1996), as measured with this seven item self report scale, reflects the extent to which one feels to be in control over one’s own life-chances. Respondents were asked to rate their agreement with each item on a 5-point scale. Higher ratings indicate more mastery.

Measures assessed at eight months follow-up

Achievement of goals. At eight months follow-up patients were asked to rate on a 4-point scale (1='not at all', 2='slightly', 3='pretty much', and 4='entirely') to what extend their most important goal, assessed at the start of BT, was achieved at follow-up.

Treatment result. At follow-up the patient was asked to rate the treatment result on a 10-point scale, ranging from 1 ('bad') to 10 ('good').

Statistical analysis

Assessing stages of change profiles

To allocate patients to a SoC-profile we used a two-step procedure. The first step, described by Rollnick, Heather, Gold, & Hall (1992), incorporates four sub-steps:
1. Recode the original 5-point Likert scale (1-5) into a 5-point scale ranging from -2 (strong disagreement) to +2 (strong agreement) by subtracting 3 points from each item score.
2. Calculate subscale scores (mean score of the eight recoded items).
3. Dichotomise the recoded subscale scores. If a patient had a subscale score >0 (positive) s/he was considered to have characteristics of that particular scale (P+, C+ or A+), while a score ≤ 0 was considered as a negative subscale score (P-, C- or A-).
4. Use for each subject the dichotomised subscale scores of all three scales to make a SoC-profile, which allows for eight different profiles. In accordance with Dijkstra, Vlaeyen, Rijnen & Nielson (2001) we excluded two profiles (P+/C+/A+; P-/C-/A-) because they are theoretically not interpretable. We also excluded the profile (P+/C-/A+) because we believed that this profile is not unambiguous interpretable.

In the second step profiles that had two positive subscale scores (theoretically this are the following profiles: P+/C+/A-, P+/C-/A+, P-/C+/A+) were refined, by determining which of the two positive subscale scores was the highest and therefore described the patient best (theoretically
Stages of change profiles and transitions

this may result in the following profiles: P++/C+/A-, P+/C+/A-, P++/C-/A+, P+/C-/A++, P-/C+/A++, P-/C+/A++).

Prediction of profile transitions

Logistic regression was used to assess which baseline patient-characteristics could predict stages of change transitions between baseline and eight months follow-up.

Profile transition in relation to other outcome measures

The relation between stages of change transitions and other outcome measures were assessed in two ways. For outcome scores that were only assessed at eight months follow-up, the mean outcome in the group that made a stage of change transition was compared to the mean outcome in the group that made no stage transition (i.e. had the same SoC-profile at baseline and follow-up), differences were tested with a t-test. For outcome scores assessed both at baseline and at follow-up we first assessed separately for each group whether patients changed over time on this measures (using t-tests). If this was the case an ANCOVA analysis with outcome at eight months as dependent, group as independent and initial score (i.e. baseline value of outcome variable) as covariate was used to assess whether both groups differed in the changes over time on the particular outcome variable.

Results

URICA subscale characteristics

Table 6.3 Means, Standard Deviations, and inter scale correlations of the University of Rhode Island Change Assessment subscales at baseline (n=129)

<table>
<thead>
<tr>
<th>Scale</th>
<th>M (SD)</th>
<th>Pre-contemplation</th>
<th>Contemplation</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-contemplation</td>
<td>15.9 (4.3)</td>
<td>1</td>
<td>-.35</td>
<td>-.23</td>
</tr>
<tr>
<td>Contemplation</td>
<td>33.0 (3.5)</td>
<td>-</td>
<td>1</td>
<td>.34</td>
</tr>
<tr>
<td>Action</td>
<td>30.2 (4.2)</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>

1 mean (M) and standard deviation (SD) at baseline
minimum score is 8 (strong disagreement with the items of the scale) and maximum score is 40 (strong agreement with the items of the scale)

Correlations involving the Pre-contemplation scale are negative because decreasing scores on this scale represent an increasing readiness to change, while increasing scores on the Contemplation and Action scale represents an increasing readiness to change.

All correlations significant at 0.01

110
Table 6.3 shows the pre-treatment stages of change mean scale scores and inter-scale correlations. As expected for a population applying for treatment, mean scores on both the Contemplation and Action-scale are considerable higher than those on the Pre-contemplation-scale, suggesting that most of these patients are aware of their problems, think about changes or are already taking action to overcome their problems. Inter-scale correlations at baseline between adjacent scales (i.e. between Pre-contemplation and Contemplation, and between Contemplation and Action) were somewhat higher than between non-adjacent scales (i.e. between Pre-contemplation and Action), suggesting that the stages are consecutive.

Feasibility of the allocation procedure

The overall majority of patients could be allocated to a valid SoC-profile at baseline, and four months and eight months follow-up (see Table 6.4). At baseline only two of the 129 subjects (1%) could not be allocated to a valid SoC-profile (2 patients: 2 x P+/C+/A+). At four months this was the case for 12% of the patients (16 patients: 10 x P+/C+/A+, 4 x P-/C-/A-, and 2 x P+/C-/A+) and at eight months for 10% (13 patients: 5 x P+/C+/A+, 5 x P-/C-/A-, and 3 x P+/C-/A+).

Table 6.4 Percentage of patients allocated to valid ‘stages of change’ profile at baseline, four and eight months follow-up (n=129)

<table>
<thead>
<tr>
<th>Profile</th>
<th>Description</th>
<th>Baseline</th>
<th>Four months follow-up</th>
<th>Eight months Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>P+/C-/A</td>
<td>True pre-contemplator</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>P+/C++/A-</td>
<td>Contemplator on the verge of relapse</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>P-/C+/A-</td>
<td>True contemplator</td>
<td>8</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>P-/C++/A+</td>
<td>Contemplator, taking some action</td>
<td>63</td>
<td>33</td>
<td>24</td>
</tr>
<tr>
<td>P-/C+/A++</td>
<td>Action stager, still contemplating</td>
<td>26</td>
<td>44</td>
<td>52</td>
</tr>
<tr>
<td>P-/C-/A+</td>
<td>True action stager</td>
<td>1</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Total allocated(^1)</td>
<td></td>
<td>99</td>
<td>88</td>
<td>90</td>
</tr>
</tbody>
</table>

\(^1\) Percentage of patients allocated to a valid profile, the other patients had invalid profiles

Profile transition

To assess whether a particular patient is making progress, in terms of a transition from one stage to another, the profiles must be ordered in the right sequence. A patient with a ‘True Pre-contemplator’ profile (P+/C-/A-) at follow-up is difficult to interpret. This can either be a patient who is not motivated to change or a patient that has already changed and does not have to work on the particular problem anymore (i.e. is at the end of a changing process rather than at the start). So besides the patients who were already excluded because they had an invalid profile (i.e. P+/C+/A+; P-/C-/A-; P+/C-/A+) we also excluded patients with a ‘True pre-contemplator’ profile and finally also with a P+/C++/A- profile, because only one patient was allocated to this profile at baseline and follow-up. In total 30 patients were excluded and 99 patients were used in the analysis pertaining to profile transitions between baseline and follow-up assessments (see Table 6.5).
### Table 6.5 Stages of change profile transitions between baseline, four and eight months follow-up (n=99)

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Four months follow-up</th>
<th>Eight months follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P1</td>
<td>P2</td>
</tr>
<tr>
<td>P1</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>P2</td>
<td>69</td>
<td>1</td>
</tr>
<tr>
<td>P3</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>P4</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>99</td>
<td>5</td>
</tr>
</tbody>
</table>

P1 = True contemplator (P-/C+/A-)
P2 = Contemplator, taking some action (P-/C++/A+)
P3 = Action-stager, still contemplating (P-/C+/A++)
P4 = True action stager (P-/C-/A+)

1 These 22 patients were assessed at baseline, four and eight months follow-up with respectively the following stages of change profiles:
   13: P2 => P2 => P2
   8: P2 => P3 => P2
   1: P2 => P1 => P2

2 These 43 patients were assessed at baseline, four and eight months follow-up with respectively the following stages of change profiles:
   26: P2 => P3 => P3
   17: P2 => P2 => P3

3 These 14 patients were assessed at baseline, four and eight months follow-up with respectively the following stages of change profiles:
   12: P3 => P3 => P3
   2: P3 => P2 => P3

At four months 49% of these 99 patients were allocated to the same profile, while 51% were allocated to a different profile compared to baseline. Of this last category 86% progressed to a next profile in the consecutive series of profiles, which in terms of the stage of change theory might be described as improvement, while 14% ‘regressed’ to a profile that is located (in the consecutive series of profiles) before the profile they were allocated to at baseline. At eight months follow-up 63% of the 99 patients were allocated to a different profile compared to the profile at baseline, of whom 87% were ‘progressive’ and 13% were ‘regressive’ (see Table 6.5).

In terms of possible profile transitions 25 of the 99 patients were assessed with the same profile at baseline and both four and eight months follow-up. Thirteen of those twenty-five patients were assessed as ‘Contemplator, taking some action’ at all three assessments and twelve patients as ‘Action stager, still contemplating’. For the remaining 74 patients we assessed one or more profile transitions between baseline and eight months follow-up.

Most (43 of the 74) patients with a profile transition made a shift from being a ‘Contemplator, taking some action’ at baseline to being an ‘Action stager, still contemplating’ at eight months follow-up. For 26 of these 43 patients (60%) this shift was made in the first four months. The other 17 patients were still ‘Contemplator, taking some action’ at four months follow-up and progressed to ‘Action stager, still contemplating’ somewhere between four and eight months follow-up (see Table 6.5). A group of 8 (of the 74) patients was assessed as ‘Contemplator, taking some action’
at baseline, as 'Action stager, still contemplating' at the four months follow-up and 'regressed' to being 'Contemplator, taking some action' at the eight months follow-up. The remaining 23 patients made profile transitions in 18 different ways (with 48% progressive patterns, 26% regressive patterns and 26% recycling patterns).

Prediction of profile transitions

Since the patients we assessed made all kinds of different profile transitions the number of patients in most transition groups were small (see Table 6.5). For this reason we had to restrict further analysis on predictors of stages-specific transitions to a comparison between the group of patients who were allocated at both baseline and eight months follow-up as 'Contemplator, taking some action' (the 'no transition group'; n=22) and the group of patients who were assessed at baseline as 'Contemplator, taking some action' and made the progressive profile transition to becoming an 'Action stagers, still contemplating' (the 'transition group'; n=43). Logistic regression analyses was used to assess which variables can predict whether a 'Contemplator, taking some action' at baseline will also be assessed in this profile at eight months follow-up or will make a progressive profile transition to 'Action stagers, still contemplating'. The results of these analyses are presented in Table 6.6.

<table>
<thead>
<tr>
<th>Potential predictors</th>
<th>OR</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional support</td>
<td>0.88</td>
<td>0.80/0.98</td>
<td>0.02</td>
</tr>
<tr>
<td>Mastery</td>
<td>1.19</td>
<td>1.03/1.38</td>
<td>0.02</td>
</tr>
<tr>
<td>Symptom Checklist-90</td>
<td>0.99</td>
<td>0.98/1.00</td>
<td>0.07</td>
</tr>
<tr>
<td>Severity of target problem</td>
<td>1.16</td>
<td>0.77/1.74</td>
<td>0.49</td>
</tr>
<tr>
<td>Age</td>
<td>0.99</td>
<td>0.94/1.05</td>
<td>0.79</td>
</tr>
<tr>
<td>Problem-focused coping</td>
<td>1.02</td>
<td>0.87/1.19</td>
<td>0.84</td>
</tr>
</tbody>
</table>

Univariate logistic regression with stage of change transition yes/no as dependent and baseline patient characteristic as independent variable

1 'Contemplators, taking some action' at baseline and eight months follow-up (No transition, N=22) compared to those who changed from 'Contemplators, taking some action' (baseline) to 'Action-stager, still contemplating' (eight months) (Transition, N=43).
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Two variables significantly ($P$-value $\leq 0.05$) predict the progressive transition eight months after the start of brief treatment. The more satisfied the patients are at baseline with the emotional support they get and the more they are feeling in control over their own life-chances (mastery), the greater the probability of the mentioned progressive profile transition.

Profile transition in relation to other outcome measures

To assess the relation between stage of change transition and outcome measures, the 43 patients of the ‘transition group’ were compared on different outcome variables to the 22 patients of the ‘no transition group’. The ‘transition’ and ‘no transition’ group both showed a significant reduction on their SCL-90 total scores ($t = 5.1, df = 41, P < 0.01$ and $t = 4.4, df = 21, P < 0.01$ respectively) and on their target complaint scores ($t = 7.4, df = 39, P < 0.01$ and $t = 4.9, df = 21, P < 0.01$ respectively), indicating less symptoms and suffering from their target complaints eight months after the start of treatment. Mastery scores significantly increased for both groups ($t = -4.6, df = 42, P < 0.01$ and $t = -2.9, df = 21, P < 0.01$ respectively), indicating an increased feeling of control over their own life-chances.

Table 6.7  Relation between some outcome measures and ‘Stages of Change’ transition between baseline and eight months follow-up ($n=65$)$^1$

<table>
<thead>
<tr>
<th></th>
<th>No transition mean (SD)</th>
<th>Transition mean (SD)</th>
<th>$F / t$</th>
<th>$P$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptom Checklist-90</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline score</td>
<td>200.4 (51.0)</td>
<td>175.7 (51.0)</td>
<td>F(1;61)=0.02</td>
<td>0.90</td>
</tr>
<tr>
<td>Follow-up score</td>
<td>161.9 (62.6)</td>
<td>141.9 (51.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mastery</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline score</td>
<td>19.9 (3.9)</td>
<td>22.5 (3.7)</td>
<td>F(1;62)=1.22</td>
<td>0.27</td>
</tr>
<tr>
<td>Follow-up score</td>
<td>23.0 (5.9)</td>
<td>25.6 (4.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Target complaint</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline score</td>
<td>5.8 (1.3)</td>
<td>6.0 (1.3)</td>
<td>F(1;59)=1.45</td>
<td>0.23</td>
</tr>
<tr>
<td>Follow-up score</td>
<td>4.3 (1.9)</td>
<td>3.9 (1.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Achievement of goals</strong></td>
<td>(n=21)</td>
<td>(n=40)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline score</td>
<td>2.4 (1.0)</td>
<td>2.8 (0.9)</td>
<td>t (59)-1.74</td>
<td>0.09</td>
</tr>
<tr>
<td>Follow-up score</td>
<td>(n=22)</td>
<td>(n=43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Treatment result</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline score</td>
<td>5.8 (2.1)</td>
<td>6.9 (1.5)</td>
<td>t (31)-2.11</td>
<td>0.04</td>
</tr>
</tbody>
</table>

$^1$ ‘Contemplators, taking some action’ at baseline and eight months follow-up (No transition, $n=22$) compared to those who changed from ‘Contemplators, taking some action’ (baseline) to ‘Action-stager, still contemplating’ (eight months) (Transition, $n=43$).

$^2$ Differences between ‘No transition’ and ‘Transition’ group was tested with ANCOVA with eight months follow-up score as dependent, group (transition yes or no) as independent, and baseline score as covariate.

$^3$ Differences between ‘No transition’ and ‘Transition’ group was tested with a T-test.

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Although both groups did not differ significantly with regard to the progress they made on these three scales (see Table 6.7), they did differ on their individual ratings on treatment results ($t = -2.1$, $df = 31$, $P < 0.05$). Patients from the ‘transition’ group were more positive about their treatment results (mean = 6.9) than patients from the ‘no transition’ group (mean = 5.8).

**Discussion**

Although stages of change are often assessed within samples with addiction or physical health related behavioural problems, little research has been executed on this subject with regard to samples with (heterogeneous) mental health problems. This study is the first to assess stage of change transitions within a heterogeneous community mental health care sample allocated to brief psychological treatment (BT). Using the University of Rhode Island Change Assessment (URICA) and our two-stage allocation procedure, the overall majority of this heterogeneous patient-group could be allocated to a stage of change profile (SoC-profile). Our allocation procedure is relatively easy to use in research and practice especially compared to cluster solutions for which real world applicability is limited because of the complexity involved assigning individuals to subtypes (Blanchard, Morgenstern, Morgan, Labouvie, and Bux, 2003). In comparison with more easy ways to assess which stage of change an individual is in, our SoC-profiles give more information than only mentioning the subscale with the highest mean score or using the method described by Rollnick et al. (1992).

Not unexpectedly, there was no ‘True pre-contemplator’ at the start of BT. As many authors suggest, therapy is most likely to be brief when a patient is already highly aware of the problem, is committed to change, and has already tried to alter some behaviour (Steenbarger, 1994; Koss & Shiang, 1994). Consequently patients who have no intention to change or are unaware of their problems are unlikely to be allocated to BT. We also found relatively few ‘True contemplators’ at the start of BT. The majority of patients entered BT with high scores on both the contemplation- and action-scale. In line with McConnaughy et al. (1989), who questioned whether patients could enter treatment primarily endorsing the action stage, we could only assess one percent of our sample as ‘True action stagers’ at the start of BT.

Although we found at baseline different SoC-profiles within our sample, most patients were either ‘Contemplators, taking some action’ or ‘Action stagers, still contemplating’. Because our sample contains only the patients who are allocated to BT, our sample is very likely to be more homogeneous with regard to ‘readiness to change’ than the total population of patients referred to CMHC’s. It would be interesting to use our allocation procedure in an even more heterogeneous patient-population and compare the percentages with regard to the different SoC-profiles.

Compared to baseline more than half of the patients had a different SoC-profile at eight months follow-up. According to the stage of change theory this change was for the majority of these patients to a next profile in the consecutive series of SoC-profiles. A shift from ‘Contemplator, taking some action’ at the start of treatment to ‘Action stager, still contemplating’ at eight months, was most frequently found. So, a couple of months after the start of BT many patients move from
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a baseline attitude ‘I have a problem and I am making small steps toward behaviour change, but soon I will really take action to overcome my problems’ towards an attitude ‘I experiment with action strategies to be able to cope with my problems’.

For the specific stage of change transition described above, baseline scores on satisfaction with emotional support when encountering problems and mastery were found to be significant predictors ($P$-value $= 0.02$) and the level of symptom severity (as measured with the SCL-90) was almost significant ($P$-value $= 0.07$). This suggests that patients must feel a certain level of satisfaction about the emotional support they receive to be able to really start working on their target problems and/or to maintain such an active attitude and prevent a possible relapse. The results also suggest that ‘Contemplators, taking some action’ who are feeling more in control over their own life-chances have more chance of making a transition to becoming an ‘Action stage, still contemplating’ at eight months follow-up, than patients who are feeling less in control. The suggestion that patients have less chance of becoming more actively involved in working on their target problem when they are more vulnerable, is also supported by the almost significant relation between this positive SoC-transition and symptom level.

Although our ‘SoC-profile approach’ seems sensitive to change and the predictors for change that were found within this study are of clinical value, using this instrument for (treatment) evaluation is not without problems. For example, one should be aware that patients who are assessed as ‘Contemplator, taking some action’ at both baseline and follow-up, do change significantly on other measures. Eight months after the start of BT they suffered less from their target complaint, had less symptoms and felt more in control over their own life-chances compared to their baseline situation. The progress they made on these measures was not less than the progress made by patients who changed from ‘Contemplator, taking some action’ at baseline to ‘Action stage, still contemplating’ at eight months follow-up. On the other hand, the group that made this positive transition rated their treatment results as significantly more positive than the group that was assessed as ‘Contemplators, taking some action’ at both baseline and eight months follow-up. It is, nevertheless, difficult to determine how the scores on the URICA and the rating of treatment result influence each other.

To get more insight in what is actually measured when patients are assessed with the same or different SoC-profiles over time and how this relates to other outcome measures, one should focus on clear hypotheses and test these in future research. The findings of Howard, Lueger, Maling and Martinovich (1993) suggest that one probably needs different outcome operationalizations for the different phases in therapy. They argue that change in the patient occurs in a qualitative stepwise way: first there is “remoralization” (i.e. mobilization of hope, increment in personal efficacy, mobilization of coping resources and improvement of well-being), next symptomatic distress reduction and finally life-functioning improvement. When one is interested to assess progress more carefully one should probably assess with different outcome measures that are sensitive at different times during the change process. However if it is found that certain specific SoC-transitions are accompanied by progress on different outcome measures, stages of change can be an interesting assessment method that can be used in many situations.
With this study we made a start with assessing transitions in stages of change in a heterogeneous population of psychiatric outpatients. Further research should give more information about the stability of the SoC-profiles and about the time frame within which single profile transitions can be expected to occur (see also Dijkstra et. al. 2003). For clinical practice it is also critical to determine for which patients which changes in SoC-profiles are clinically relevant to evaluate progress in treatment and to consider treatment termination. Future research must focus on establishing empirically based guidelines for assessing different stages of change with the URICA (or related measurements), developing clinical norms, and validating stage of change transition against other outcome measurements. Such research should not only pertain to addicted populations and other populations central to the field of health psychology, but also to a wider population of patients referred to CMHC's for professional help because of psychological or psychiatric problems (see also Petrocelli, 2002). It is interesting to know whether measuring stages of change transitions is a good supplement to measures purely based on symptom reduction in these kinds of settings.
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