Jos Dirkx & Jolien Zevalkink

Measuring Changes in the Quality of Object Representations during Psychoanalytic Treatment
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A Pilot Study in The Netherlands

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Abstract: In this pilot study, we followed 22 patients during their psychoanalytic psychotherapy to monitor changes in the quality of their object representations (father, mother, partner/best friend, self) and level of psychopathology (OQ-45). The Differentiation-Relatedness Scale (DR-S) was used in two semi-structured interviews: Object Relation Inventory (ORI) and two questions of the Adult Attachment Interview (AAI). Results showed that the DR-S ratings are comparable in both interviews for father and mother, with significant changes during therapy for father using the ORI and mother using the AAI. The level of psychopathology also changed significantly during treatment. Despite some shortcomings, the DR-S in combination with the ORI and AAI-questions seems a useful instrument for clinicians to monitor structural change in personality functioning during psychoanalytic psychotherapy.

Keywords: Object representations, psychoanalytic psychotherapy, structural change

The quality of object representations is an indication how well you relate to others and yourself and changing it for the better is a relevant target in psychoanalytic treatment. From early age children internalize aspects of interactions with important others, mostly their parents. These internalized interpersonal experiences are the basis for complex representational structures, also called object representations (e.g., Beebe & Lachmann, 2014; Blatt & Auerbach, 2001; Caligor et al., 2018). There is basic agreement among clinicians that a successful psychotherapy will improve the quality of object representations of patients by internalizing the interactions within therapy sessions and the in-therapy communicative exchanges with the real-life therapist (Blatt & Auerbach, 2001; Blatt et al., 2008, 2010; Gruen & Blatt, 1990; Lindfors et al., 2014; Lowyck, 2019; Mullin et al., 2017; Vermote et al., 2010; Werbart, 2011; Werbart et al., 2016). Patients who develop better, more refined, more integrated object representations, improve in their psychosocial functioning and show a positive change in their personality organization (Aafjes-van Doorn et al., 2019; Blatt et al., 2010). Clinicians aim to enhance this kind of structural improvement in their patients. Structural change can be defined as: «ongoing psychological transformations of the object- and self-representations, the ‹inner world› of the patients, which are closely linked to the ability to mentalize» (Leuzinger-Bohleber et al., 2020, p. 149). Therefore, the quality of object representations can be a parameter for structural change in psychoanalytic psychotherapy (Blatt & Auerbach, 2003). In this pilot study, we examined whether the quality of object representations – as measured with two instruments – improved for adult patients in psychoanalytic psychotherapy in the Netherlands in line with findings from other countries.

Coming from a psychoanalytic background, Blatt and colleagues have operationalized the concept of object representations to measure change in personality functioning during treatment (Blatt et al., 1979, 1992, 1996; Blatt & Auerbach, 2001, 2003; Gruen & Blatt, 1990). Answers on the Object Relations Inventory (ORI) – a semi-structured interview asking to describe oneself and important others – were rated with the Differentiation-Relatedness Scale (DR-S). The DR-S measures the level of differentiation and quality of object representations on a 10-point rating scale (Diamond et al., 2012; Gruen & Blatt, 1990). The DR-S in conjunction with the ORI-interview – has been widely used to investigate the outcome of psychoanalytic treatments in residential settings (Blatt et al., 1996; Harpaz-Rotem & Blatt, 2005, 2009; Lowyck, 2019; Vermote et al., 2010, 2011). Findings in outpatient groups are relevant in relation to the present study. Werbart and colleagues (2011, 2016) found significant improvements in the quality of parental description after long-term psychodynamic treatment in young adults. In a study by Lindgren et al. (2010) the DR-S rating of mother changed significantly from intake to follow-up, but not from intake to end of treatment, whereas the DR-S ratings of self and father did not change significantly. The DR-S scale might also be used to rate other case material in relation to the quality of object representations, such as answers to the Adult Attachment Interview (AAI) developed by Main et al. (2003). The AAI contains two questions which invite the interviewee to provide five adjectives and elaborate
on them in order to describe their relationship with father and mother. In this study, we rated the answers to these AAI-questions with the DR-S in order to compare them with the ratings on the ORI.

**Outline of this research.** In this pilot study, we examined changes in the quality of object representations during treatment based on DR-S ratings for two different interviews with adult patients in ambulatory psychoanalytic psychotherapy in the Netherlands. Besides a focus on structural change, we additionally checked whether the level of psychopathology diminished during the same period of treatment. First, we examined whether the DR-S rating scale can be interchangeable used on the ORI- and the AAI-interviews and expected significant correlations. Secondly, we examined relations between object representations and level of psychopathology at intake and at other measurement points during treatment. We expected a higher level of psychopathology to be related to a lower level of the quality of object relations (e.g., Aafjes-van Doorn et al., 2019). Thirdly, we examined changes in object representations and level of psychopathology from intake to later measurement points. In line with previous research, we expected structural improvements in the quality of relationships with others and symptomatic recovery with less psychopathology, as found in several studies in both residential and outpatient settings (e.g., Blatt et al. 1996; Calamares, 2016; Harpaz-Rotem & Blatt, 2005, 2009; Lindgren et al., 2010; Lowyck, 2019; Vermote et al., 2010, 2011; Werbart, 2011; Werbart et al., 2016). It might be clinically relevant to add the DR-S rating scale to routine outcome monitoring in the Netherlands for open-ended treatments in case this measure is sensitive enough to reveal structural changes in personality organization of patients (e.g., Leuzinger-Bohleber et al., 2020).

**Method**

**Participants and procedure.** In total, 25 patients (6 men, 19 women) were included in the study after they gave their informed consent and had entered treatment with psychoanalytic psychotherapists from the mental health outpatient clinic. For three persons, we did not have an ORI-interview at more than one point in time due to drop out (2) and technical reasons (1). We excluded them from further analysis. The mean age for the remaining 22 patients was 34.6 years (SD = 10.95; range 24–63) at the start of the study. No significant age differences were found between men and women (F (1,20) = 0.01, p = .94; t = 0.737, p = .47). Diagnostic DSM categories included affective disorders, anxiety disorders and cluster B and C personality disorders in line with previous findings in the same setting (Berghout et al., 2011). Patients entering psychoanalytic treatment were found to be characterized by lower levels of symptom distress, but similar levels of personality pathology compared to psychiatric norm groups (Berghout & Zevalkink, 2008).

The procedure of recruiting participants was that all patients referred to the mental health clinic were asked to participate in the research project. Patients who signed the informed consent form were scheduled for an appointment with one of the two authors immediately after their first clinical interview. After it became clear that they were eligible for treatment and had signed the informed consent, one of the two authors scheduled for an appointment to conduct the first measurements. Recruitment stopped after 25 patients had agreed to participate and had also entered treatment. Data collection took place at three measurement points from the start of their treatment: T1 at the start of treatment; T2 after about six months; and T3 after about one year in treatment. Several instruments were used to measure outcomes at the three measurement points, which are further explained under instruments. At T1 and T3 similar semi-structured interviews were used: AAI and ORI. The ORI was also used at T2. At T1, three questionnaires were used: OQ-45, SCL-90 and IIP-64. At T2 and T3, a fourth questionnaire was added about the quality of the therapeutic relationship (HAQ). In this study, we do not report the results of the SCL-90, IIP-64 and HAQ. At T1, limited results of the SCL-90 and IIP-64 were available due to organizational issues. For this study each interview was anonymized by the second author (JZ) following a similar procedure as in study 1 and the interviews were rated by the first author (JD) on the Differentiation-Relatedness Scale (DR-S). Particular care was taken to blind the coder for context and time-sensitive information.

**Treatment and therapists.** The patients were assigned to open-ended psychoanalytic psychotherapy with weekly sessions. Psychoanalytic treatment was conducted «as usual» by five licensed psychoanalysts and psychoanalytic psychotherapists, with an average of four patients per therapist (range 1–6).

**Measures**

**Quality of object representations.** The Object Relation Inventory (ORI) is a short semi-structured interview that intends to draw up the internal subjective impressions of an object-relationship at a given moment (Blatt & Auerbach, 2003; Diamond et al., 2012). During this interview, the patient is asked to give a description of important others (father, mother, intimate partner or best friend) and of oneself. Every adjective used can be followed through, asking a further explanation by repeating the adjective with a question mark. This leaves the interviewee with a question as open as possible. For example: If a patient describes his father as «impatient» the interviewer first repeats the word as a question: «Impatient?» When the patient does not elaborate on this question the interviewer can ask: «Could you tell a bit more about your father being impatient?»

The Differentiation-Relatedness Scale (DR-S) is a ten-point rating scale which assesses the strength of differentiation from, and relatedness with oneself and important others (father, mother, spouse, or best friend),
also called the quality of object representations (Diamond et al., 2012). In a non-clinical healthy control-group the average rating on DR-S as measured with the ORI is between 6 and 7 for self, father and mother whereas in a comparable clinical group of non-psychotic psychiatric patients the average rating is about 1 point lower (Bers et al., 2013; Lowyck, 2019). DR-S ratings have been found to discriminate between normal controls and psychiatric patients (Bers et al., 2013; Twomey et al., 2000). In a Belgium study, the interrater reliability appeared sufficient (Lowyck et al., 2013; Vermote et al., 2010). In a review by Huprich et al. (2016), no results were reported on the test-retest reliability of the DR-S. In the present study the first author proved to be a reliable rater after a training in London: an interrater reliability analysis using the intraclass correlation (ICC) was performed with a score of 0.91. Values of ICC between 0.75 and 1.0 can be considered as excellent. In a previous study (Dirkx & Zevalkink, 2016), we examined the test-retest reliability and found this to be sufficient (79.2%) between two measurement points with a four-week interval in an untreated patient sample (N = 20).

The Adult Attachment Interview (AAI) aims to measure attachment representations in adults (Main et al., 2003). In the AAI protocol, two questions ask the interviewee to give five adjectives to describe their relationship with mother (question 3) and father (question 4) and to elaborate on each of these adjectives by talking about memories or experiences that led to these adjectives. For the present study, we rated answers to these two questions of the AAI using the DR-S rating scale to obtain ratings for father and mother. The AAI was conducted at two points in time: T1 and T3.

Psychopathology. The level of psychopathological symptoms was assessed using the Outcome Questionnaire (OQ-45; Lambert et al., 1996) and the Symptom Check List 90 (SCL-90-R; Derogatis, 1983). Internal consistency using Cronbach’s alpha for each instrument ranged between .88 and .96. Correlations between the OQ-45 total score and the SCL-90 Global Severity Index (GSI) at each measurement point were respectively: $r_{T1} = .99, p < .001$, $r_{T2} = .86, p = .00$, and, $r_{T3} = .90, p = .00$. For further analyses we only used the OQ-45 findings.

Statistical analysis. Preliminary, we investigated the correlations between the four different object representations (father, mother, partner/best friend, self) at each measurement point. Then, we examined the relation between the DR-S ratings of father and mother as measured by the ORI and AAI at respectively T1 and T3 using Pearson product-moment correlation coefficients. Next, the results of the DR-S ratings at three moments in time were related to the level of psychopathology (OQ-45) using Pearson product-moment correlation coefficients. Finally, we used paired-samples $t$-tests to analyze overall change in the quality of object representation over the course of the treatment by comparing pretreatment DR-S-T1 ratings with DR-S-T3 ratings of both ORI and AAI-interviews for father and mother separately (Tab. 2). All changes were in the expected direction, but only two were significant: the ORI-DR-S ratings for father significantly improved over time as well as the AAI-DR-S ratings for mother, both with a medium effect size of respectively 0.79 and 0.58 (Cohen’s $d > 0.5$ and $< 0.8$; Cohen, 1988).

Changes in the quality of object representations between T1 and T3. Using paired-samples $t$-tests, overall change in the quality of object representation was examined over the course of the treatment by comparing pretreatment DR-S-T1 ratings with DR-S-T3 ratings of both ORI and AAI-interviews for father and mother separately (Tab. 2). All changes were in the expected direction, but only two were significant: the ORI-DR-S ratings for father significantly improved over time as well as the AAI-DR-S ratings for mother, both with a medium effect size of respectively 0.79 and 0.58 (Cohen’s $d > 0.5$ and $< 0.8$; Cohen, 1988).

Changes in psychopathology and ORI-DR-S between T1, T2 and T3. Finally, we examined changes between the three measurement points for the level of psychopathology, as
Tab. 1: Correlations between ORI-DR-S scores of four object representations at T1 and T3

<table>
<thead>
<tr>
<th>Object representations</th>
<th>Father</th>
<th>Mother</th>
<th>Partner/best friend</th>
<th>Self</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td><strong>.59</strong></td>
<td>.53 *</td>
<td>.65 **</td>
<td>.59 **</td>
</tr>
<tr>
<td>Mother</td>
<td><strong>.70</strong></td>
<td><strong>.68</strong></td>
<td><strong>.62</strong></td>
<td>.37</td>
</tr>
<tr>
<td>Partner/best friend</td>
<td>.41</td>
<td>.51 *</td>
<td><strong>.45</strong></td>
<td>.38</td>
</tr>
<tr>
<td>Self</td>
<td><strong>.44</strong></td>
<td>*</td>
<td><strong>.42</strong></td>
<td><strong>.59</strong></td>
</tr>
</tbody>
</table>

Note. The underlined values on the diagonal are the correlations between similar object representations at T1 and T3. Below the diagonal are correlations between different object representations at T1; above the diagonal are correlations between different object representations at T3. * p < .05; ** p < .01, two-tailed.

Tab. 2: Average DR-S ratings between T1 and T3 for ORI and AAI of father and mother

<table>
<thead>
<tr>
<th>Object representations</th>
<th>DR-S-T1 M (SD)</th>
<th>DR-S-T3 M (SD)</th>
<th>t-value (df = 20–21)</th>
<th>d [CI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORI Father</td>
<td>5.32 (1.52)</td>
<td>6.32 (1.25)</td>
<td>3.69**</td>
<td>0.79 [-1.26, -0.30]</td>
</tr>
<tr>
<td>ORI Mother</td>
<td>6.00 (1.16)</td>
<td>6.32 (1.21)</td>
<td>1.58</td>
<td>0.34 [-0.76, 0.09]</td>
</tr>
<tr>
<td>AAI Father</td>
<td>5.95 (0.97)</td>
<td>6.19 (0.81)</td>
<td>1.31</td>
<td>0.29 [-0.72, 0.15]</td>
</tr>
<tr>
<td>AAI Mother</td>
<td>5.86 (1.20)</td>
<td>6.43 (0.87)</td>
<td>2.68*</td>
<td>0.58 [-1.04, -0.11]</td>
</tr>
</tbody>
</table>

Note. M = mean; SD = standard deviation; d = Cohen’s effect size parameter; CI = 95 % confidence interval; * p < .05; ** p < .01 (two-tailed).

Tab. 3: Unterschiede in den durchschnittlichen ORI-DR-S-Bewertungen und OQ-45-Werten zwischen T1, T2 und T3

<table>
<thead>
<tr>
<th>Object representations</th>
<th>Difference ΔM (SD)</th>
<th>t-value (df = 16–21)</th>
<th>d [CI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>OQ-45 T1-T2</td>
<td>-8.18 (15.15)</td>
<td>2.23*</td>
<td>0.54 [0.22, 1.04]</td>
</tr>
<tr>
<td>T2-T3</td>
<td>0.03 (13.14)</td>
<td>-0.10</td>
<td>-0.023 [-0.46, 0.46]</td>
</tr>
<tr>
<td>T1-T3</td>
<td>-8.79 (13.45)</td>
<td>2.85*</td>
<td>0.65 [0.15, 1.14]</td>
</tr>
<tr>
<td>ORI-DR-S father T1-T2</td>
<td>0.78 (0.81)</td>
<td>4.08**</td>
<td>0.96 [0.39, 1.52]</td>
</tr>
<tr>
<td>T2-T3</td>
<td>0.44 (1.20)</td>
<td>1.57</td>
<td>0.37 [-0.11, 0.84]</td>
</tr>
<tr>
<td>T1-T3</td>
<td>1.00 (1.27)</td>
<td>3.69**</td>
<td>0.79 [0.30, 1.26]</td>
</tr>
<tr>
<td>ORI-DR-S mother T1-T2</td>
<td>0.17 (0.92)</td>
<td>0.77</td>
<td>0.18 [-0.28, 0.64]</td>
</tr>
<tr>
<td>T2-T3</td>
<td>0.32 (0.95)</td>
<td>1.43</td>
<td>0.34 [-0.14, 0.81]</td>
</tr>
<tr>
<td>T1-T3</td>
<td>0.28 (0.83)</td>
<td>1.58</td>
<td>0.34 [-0.10, 0.75]</td>
</tr>
<tr>
<td>ORI-DR-S partner/best friend T1-T2</td>
<td>0.59 (1.23)</td>
<td>1.98*</td>
<td>0.48 [-0.31, 0.98]</td>
</tr>
<tr>
<td>T2-T3</td>
<td>0.19 (0.75)</td>
<td>1.00</td>
<td>0.25 [-0.25, 0.75]</td>
</tr>
<tr>
<td>T1-T3</td>
<td>0.55 (1.19)</td>
<td>2.07*</td>
<td>0.45 [-0.01, 0.90]</td>
</tr>
<tr>
<td>ORI-DR-S self T1-T2</td>
<td>0.33 (0.77)</td>
<td>1.84*</td>
<td>0.44 [-0.06, 0.91]</td>
</tr>
<tr>
<td>T2-T3</td>
<td>-0.06 (1.06)</td>
<td>0.22</td>
<td>-0.05 [-0.31, 0.41]</td>
</tr>
<tr>
<td>T1-T3</td>
<td>0.18 (0.96)</td>
<td>0.89</td>
<td>0.19 [-0.23, 0.61]</td>
</tr>
</tbody>
</table>

Note. M = mean; SD = standard deviation; d = Cohen's effect size parameter; CI = 95 % confidence interval; * p < .10; * p < .05; ** p < .01 (two-tailed).
measured with the OQ-45, and the ORI-DR-S for father and mother using paired-samples t-tests (Tab. 3). Significant differences and a medium effect size were found between T1 and T2, as well as between T1 and T3, but not between T2 and T3. In line with previous findings on the differences between T1 and T3, the results of the OQ-45 underlined the improvement with less psychopathology at T3 besides a higher quality of object representation describing father. In addition, the results show a significant change between T1 and T2 for both level of psychopathology and quality of object representation of father. After investigating differences between ORI-DR-S scores for partner/best friend and self, it appears that the results for partner/best friend are in the same direction as those for father at a significance level just below 0.10 between T1-T2 and T1-T3. For self, ORI-DR-S ratings at T2 tended to be higher for self, but not for other comparisons.

Discussion

Our pilot study showed the DR-S rating scale to measure changes in the quality of object representations during psychoanalytic psychotherapy in the Netherlands, albeit on different interviews. The quality of father representations changed using the ORI-interview and that of mother using the AAI-questions. Although the quality of object representations was not related to the level of psychopathology, both changed over the three measurement points in the expected direction. We will further address this in more detail.

First, we have found support for the expectation that the DR-S rating scale can be used in two different interviews. However, there were unexpected results regarding the different ratings of the quality of object representations (QOR) for fathers and mothers on the AAI and DR-S. What might explain that the QOR of fathers changed more on the ORI interview and not on the AAI, whereas the ratings of mothers only changed significantly using the AAI questions? Two differences between the ORI and AAI might explain this finding. First, at intake, the average DR-S rating on the ORI for the father representations is relatively low compared to the QOR of mothers on the ORI (Tab. 2: 5.32 vs. 6.00), while the DR-S ratings on the AAI are relatively similar for fathers and mothers. Therefore, a significant change in QOR for fathers on the ORI is easier to obtain. Second, the ORI questions and the AAI questions differ in style and follow-up probing. The AAI-question explicitly asks to describe the relationship with the parent via five adjectives and to provide elaborate examples of early childhood experiences for each of them (Main et al., 2003). The ORI asks to describe significant others and only uses a follow-up question if the answer is very short (Blatt & Auerbach, 2003). In the ORI it is possible that the answers remain at the surface, are short (sometimes two-three sentences), and that the interviewer is more easily satisfied compared to the AAI. Perhaps, the results of the ORI-DR-S suggest that the description of fathers are less elaborate and more shallow at intake and gain more depth during therapy whereas QOR of mothers are already more thorough and outspoken because they represent a more internalized object representation (e.g., Umemura et al., 2015). More research is needed to investigate, and possibly reduce, differences in style of follow-up questions between the ORI and AAI, in particular if answers are very short.

Second, we expected a higher level of psychopathology to relate to a lower level of QOR, but did not find this. In a study by Lindgren et al. (2010) with young adults, it also appeared that psychopathology and QOR were not related and followed different pathways during treatment. They found that the level of psychopathology changed most during treatment with a slight recurrence of problems during follow-up, whereas object relational variables changed least during treatment but continued to develop slightly during the follow-up period. In addition, the lack of findings might also be explained by qualitative differences between self-report outcome measures, such as the OQ-45, and the DR-S ratings by a trained informant on semi-structured interviews.

Third, results confirmed the expected changes in QOR and psychopathology during treatment. At the start of treatment, the DR-S ratings were in the same range as found in other research in residential settings (e.g., Lowyck, 2019). The population referred to the Dutch outpatient clinic were comparable to psychiatric norm groups for personality pathology but they reported lower levels of symptom distress (Berghout & Zevalkink, 2008). Higher DR-S ratings had been found in a small study (N = 4) by Calamares et al. (2016), in which patients started with a predominant ambivalent object-constancy at the start of psychoanalysis (M = 6.2) and consolidated constant representations of self and others at the end of psychoanalysis (M = 7.5). Interestingly and in line with other research, our results showed a flattening effect during treatment. In other words, we found a quick improvement between T1 and T2 for both QOR and psychopathology and not between T2 and T3 (Lindgren et al., 2010; Lowyck, 2019; Vermote et al., 2010).

Several limitations of the study have to be mentioned. First of all, the sample size of our pilot study was relatively low (N = 22). Most of the results were in the expected direction, but not all of them proved to be significant. Secondly, the consecutive measurements were limited to one year after the start of therapy, often before ending therapy, which reduces comparability to other studies (e.g., Lowyck, 2019). Although our results correspond with findings in residential treatments, they also differ because other studies often used a longer follow up period, and some of their participants differed in age, severity of psychopathology and setting of treatment compared to ours. Thirdly, we included ratings of the descriptions of partner/best friend and self, but the results were not very promising and even somewhat puzzling. Perhaps, similar to the AAI, it is indeed more relevant for the DR-S rating scale to mainly focus on the representations of both parents. Fourthly, our research can be characterized as practice-based, because it took place in a regular treat-
ment setting with minimal research facilities and funding, which led to some organizational issues and setbacks, for example in retrieving data. Nevertheless, thanks to our participating colleagues we succeeded in collecting the data. Finally, by studying the DR-S in psychoanalytic psychotherapy, this limits the generalizability of findings to other treatments. Nevertheless, this pilot study provides evidence that psychotherapy changes the quality of object representation in the expected direction.

**Implications for practice.** In order to monitor changes in personality functioning during treatment, clinicians might use the DR-S rating scale to assess the quality of the object representations for father and mother with a relatively short semi-structured interview, such as the ORI or the two AAI-questions.

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**References**


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