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**Levels of Relatedness and Self-Definition in Young Adults:
Associations with Psychopathology Features and Interpersonal Functioning**

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1 **Levels of Relatedness and Self-Definition in Young Adults:**
2 **Associations with Psychopathology Features and Interpersonal Functioning**

3
4 **Abstract**

5 The Differentiation-Relatedness Scale (DRS) is a reliable and valid 10-level scale designed to
6 rate levels of personality functioning on narrative descriptions of self and significant others.
7 However, to date, most studies of the DRS have been done in clinical samples. Little is
8 known about its psychometric properties in nonclinical samples. This study examined linear
9 and potential categorical relationships of DRS with demographic features and with indices of
10 intrapersonal and interpersonal functioning (i.e., depressive and dissociative symptoms,
11 dependent and self-critical personality features, and warmth, conflict and depth of intimate
12 relationships), in a nonclinical sample of young adults ($N = 333$). It also investigated the
13 unidimensionality of the DRS in the relationships between the level of self-representation
14 (DR-S) and representation of the mother (DR-M) and father (DR-F), and the relationship of
15 DR-S with disruptions in the balance between differentiation and relatedness assumed to
16 underlie low levels of DR-S. Results showed little evidence for dimensional relationships
17 between levels of DRS and indices of intrapersonal and interpersonal functioning. By
18 contrast, a cut-off of DRS level 6 clearly differentiated young adults at risk for
19 psychopathology from those with more adaptive levels of functioning. Moreover, the DRS
20 seems not to be a unidimensional scale. The implications of these findings for future search
21 and the clinical use of the DRS are discussed.

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1 The publication of DSM-5 (American Psychiatric Association, 2013) has fueled
2 existing criticism of the nomothetical classification approach of personality disorders (PDs)
3 that leads to arbitrary distinction from normal functioning and excessive comorbidity. In
4 response, the proposal of an Alternative Model of Personality Disorders in Section III of
5 DSM-5 has revived interest in the level of personality functioning (LPF; Morey, 2017), the
6 common core that determines severity. Impairments in LPF have inevitable implications for
7 the course of personality disorders and their treatment, as they relate closely to treatment
8 utilization and the level of care required (e.g., Hutsebaut, Kamphuis, Feenstra, Weekers, &
9 De Saeger, 2017). Since severity is both the best predictor of functional impairment of
10 patients with PD after 10 years (Hopwood et al., 2011) and a better predictor of therapy
11 outcome than PD classification (Bernstein, 1998), early detection of the level of impaired
12 personality functioning appears valuable. The current assumption is that impairments in LPF
13 consist of impairments in self and interpersonal functioning as core features of personality
14 pathology (Morey, 2017). This assumption is consistent with a wide range of personality
15 theories (i.e., psychodynamic, cognitive-behavioral, interpersonal, and trait approaches) and
16 congruent with fundamental assumptions of psychoanalytic object-relations theories arguing
17 that different forms of psychopathology involve impairments in representations of self and
18 others (Luyten, 2017; Huprich, Auerbach, Porcerelli, & Bupp, 2016). These representations
19 involve cognitive-affective schemas of self in relation to others that develop in interpersonal
20 interactions throughout the lifespan, beginning with interactions with primary caregivers.
21 Age-appropriate frustrations of needs, beginning in infancy, would lead to the development
22 of increasingly differentiated and integrated representations of self and others necessary to
23 deal with new challenges and life tasks. However, when these disruptions are age-
24 inappropriate, persistent, or severe, they are likely to disturb the capacity to accommodate

1 such experiences; this then leads to impairments in the sense of both self and others (Luyten
2 & Blatt, 2011).

3 Blatt, in his two-polarities model of personality development, described how standard
4 personality development moves toward the emergence of a consolidated, integrated, and
5 individual sense of self-definition and an empathically attuned, mutual relatedness with
6 significant others (Blatt, 2008; Luyten, 2017). Psychopathology then is “an attempt to find
7 balance, however, distorted [...] in the dialectical, synergistic interaction between [the] self-
8 definition and relatedness [lines]” (Luyten, 2017, p. 473). Differences in the development of
9 the two lines give rise to specific types of psychopathology: *anaclitic* types with a
10 preoccupation with issues of relatedness, and *introjective* types with a focus on themes of
11 self-worth, self-definition, and self-control (Blatt, 2008).

12 Adolescence and young adulthood form the pivotal stages in the integration of the two
13 lines. In this second phase of individuation and separation from the parents, youngsters turn
14 to peers for intimate relationships, bringing about a new balance that eventually leads to
15 emerging consolidation of disparate aspects of self and relatedness in young adulthood.
16 Hence, young adulthood is associated with the emergence of psychopathology. Most patients
17 date the onset of their symptoms to the period following puberty (Hopwood et al., 2011), with
18 three-quarters displaying symptoms by their mid-20s (Evans, 2009). However, associations
19 of LPF with symptoms are not straightforward. Blatt did not differentiate between “symptom
20 disorders” and personality disorders, but he mentioned despair (reflecting a sense of
21 meaninglessness), fragmentation, and lack of purpose as the significant effects of deficient
22 identity integration at adolescence and beyond (Blatt, 2008, p. 128). In addition, lower self-
23 concept clarity and polarized evaluation of segmented aspects of the self can be associated
24 with dissociation proneness in subclinical subjects, independent of childhood trauma,
25 depression, or anxiety states (Chiu, Chang, & Hui, 2017). Even in a nonclinical population,

1 changes in the interaction of neediness (maladaptive dependency) with self-criticism
2 (maladaptive differentiation) predicted suicidal ideation (Campos, Holden, Baleizão,
3 Caçador, & Fragata, 2018). Self-criticism and neediness were found to mediate the
4 relationship between depressive symptoms and perceptions (representations) of maternal
5 caring (Campos, Besser, & Blatt, 2010). Given the reported prevalence of PDs of 18% in
6 college students (Hunt & Eisenberg, 2010) and the period of emerging adulthood laying the
7 foundations for potential future parental roles and thus for the next generation (Werbart et al.,
8 2011), there is an urgent need for studies focused on the emergence of personality pathology
9 in young adulthood.

10 **The Differentiation–Relatedness Scale**

11 Blatt and colleagues developed the Differentiation-Relatedness Scale (DRS; Diamond
12 et al., 2014; Huprich et al., 2016) to measure LPF. The DRS (Table S1) assesses the degree of
13 differentiation of self and others and the maturity of relatedness in different representations of
14 self (DR-S) and significant others such as the mother (DR-M) and father (DR-F). The
15 representations are derived from interviews such as the Object Relations Inventory (ORI;
16 Blatt, Wein, Chevron, & Quinlan, 1979), or open-ended one-page written descriptions
17 (Diamond et al., 2014). These are unstructured methods, typical for the assessment of
18 representations. Descriptions of significant others are used to assess the ability to understand
19 both oneself and one's intersubjective matrix.

20 A considerable body of research has provided evidence for sufficient interrater
21 reliability and both concurrent and discriminant validity of the DRS (Calamaras, Reviere,
22 Gallagher, & Kaslow, 2016; Huprich et al., 2016). An overview of studies conducted with the
23 DRS and conceptually related measures reveals essential features of the DRS (Huprich et al.,
24 2016). First, in clinical populations, lower levels of DR-S were associated with the use of
25 primitive defense, identity diffusion, disturbed reality testing, more clinical dysfunction

1 (Lowyck, Luyten, Verhaest, Vandeneede, & Vermote, 2013; Harpaz-Rotem & Blatt, 2009),
2 and suicide attempts (Kaslow et al., 1998). Increases in DR-S were associated with better
3 clinical functioning (Harpaz-Rotem & Blatt, 2009). In long-term psychoanalytical treatment,
4 patients showed a reduction of low-level responses of DR-S, DR-M, and DR-F, and an
5 increase in responses reflecting object constancy, identity, and intersubjectivity (Diamond,
6 Kaslow, Coonerty, & Blatt, 1990). Reductions in psychological symptoms were associated
7 with increases in DR-S, DR-M, and DR-F (Harpaz-Rotem & Blatt, 2005). Treatment led to a
8 decrease in psychiatric symptoms and a linear increase of developmental levels in DR-S, DR-
9 M, and DR-F; changes in differentiation-relatedness also predicted global symptom severity
10 and personality functioning (Vermote et al., 2010). Overall, these studies suggest that, in a
11 severely disturbed clinical population, positive linear relationships exist between the different
12 subscales (DR-S, DR-M, and DR-F), and also between those scales and clinical, psychiatric,
13 or psychological symptoms and personality functioning.

14 To date, no study has investigated the DRS in non-clinical populations. In a less
15 severely disturbed population of outpatients, the DRS has shown slightly different features. In
16 a study of young adults seeking help for mental health problems, between intake and follow-
17 up, DR-M increased, but DR-S and DR-F did not change significantly (Lindgren, Werbart, &
18 Philips, 2010). Following treatment, increases in representations of others assessed with the
19 DRS were only small (Philips, Wennberg, Werbart, & Schubert, 2007). Moreover, the DRS
20 levels did not relate to the termination of therapy or therapy outcomes (Philips, Wennberg, &
21 Werbart, 2006).

22 Crucial questions arise from these findings. First, to what extent are the relationships
23 of DRS with clinical features in clinical populations different from such relationships in
24 nonclinical populations? Community samples may not be representative of the full range of
25 severity of psychopathology in the population and could lead to attenuation of linear

1 associations that might exist in the population. Secondly, the theoretical assumption of the
2 DRS is that a rating of 7 distinguishes healthy controls from patients (Blatt, 2008; Diamond
3 et al., 2014), and that ratings of 6 and, more notably, 7 would reflect adaptive levels of
4 personality functioning. Empirical research has shown that levels of DR-S in patient samples
5 typically range from 4.84 ($SD = 1.29$) (Dirkx & Zevalkink, 2016; Vermote, 2005) to 6.45 (SD
6 $= 1.19$) (Werbart et al., 2011) depending on the nature of the sample, and that they may
7 increase to levels between 5 ($SD = 1.97$) (Dirkx & Zevalkink, 2016) and 7.56 ($SD = 0.51$)
8 (Werbart et al., 2011) as a result of (intensive) psychotherapy. These findings raise the
9 questions of whether there is a threshold level of DRS for the detection of psychopathology
10 in the otherwise dimensionally distributed personality features, and whether there is a point of
11 “good enough” personality functioning as a goal for psychotherapy.

12 Further, distinct (Werbart et al., 2011) but correlated (Werbart et al., 2011; Dirkx &
13 Zevalkink, 2016) differences in the level of DRS between representations of mother and
14 father have been found in patients seeking psychoanalytic treatment. Changes in DR-S (but
15 not DR-M or DR-F) have been shown to predict therapeutic outcomes (Harpaz-Rotem &
16 Blatt, 2005). Werbart et al. (2011) also found that in a sample of young adults seeking
17 treatment, women’s level of DR-F was lower than their level of DR-M and, in contrast, men’s
18 level of DR-M was lower than their level of DR-F. These findings question the
19 unidimensionality of DRS as a measure of LPF, which should yield equal levels of DRS for
20 the different representations, whereas DR-S seems to be the prime indicator of LPF.

21 **The Present Study**

22 As the psychometric features of the DRS in nonclinical samples are poorly
23 understood, the present study aimed to explore the validity of the DRS as a measure of LPF
24 in a nonclinical sample. To that general aim, we focused on three specific objects of research:
25 possible sex differences; the relationship of the DRS with symptoms, psychopathology, and

1 interpersonal functioning; and the unidimensionality of the DRS. After ensuring interrater
2 reliability, we first investigated gender differences in DRS. In a standard sample of young
3 adult first-year psychology students, we did not expect to observe gender differences in DR-
4 S, DR-M or DR-F.

5 Second, we aimed to determine whether a linear association exists, as has been found
6 in clinical samples, between levels of DRS and indices of interpersonal and intrapersonal
7 functioning, or whether relationships of DRS with psychopathology could be categorical,
8 with features differing below and above a specific cut-off point. Our first hypothesis was that
9 in a non-clinical population, the DRS shows no linear associations with symptoms. The
10 second hypothesis was that lower DRS levels are associated with more depressive,
11 dissociative features, more dependency and self-criticism, but also with less support and
12 depth in relationships, and more conflict. Our third hypothesis was that a cut-off of DR-S 7
13 differentiates between normal and impaired LPF.

14 Third, we investigated the unidimensionality of the DRS in a non-clinical population.
15 To this end, we studied the relationships between the levels of DR-S, DR-M, and DR-F.

16 **Method**

17 **Participants and Procedures**

18 In this study, 371 young adults, taking a course in psychology at a large university in
19 Belgium, were asked to participate in a study on personality and emotions in exchange for
20 course credits. After giving informed consent, participants were first asked to complete a
21 demographic questionnaire and a series of self-report questionnaires. They were then asked to
22 complete the written version of the Object Relations Inventory (ORI; Levy, Blatt, & Shaver,
23 1998; see below). Initial screening of the ORIs resulted in the exclusion of 38 participants
24 (10.24%) who did not complete the ORI. We analyzed the scores of the remaining 333
25 participants (275 females and 56 males; 12 participants did not report their gender). Age

1 ranged from 17 to 24 years ($M = 18.62$; $SD = 1.24$). Most participants had attained higher
2 secondary education (97.2%).

3 **Questionnaires**

4 The written form of the *Object Relations Inventory* (ORI; Levy et al., 1998) assesses
5 “the ability to understand both oneself and one’s intersubjective interpersonal matrix”
6 (Huprich et al., 2016, p. 30). Participants were presented with three blank pages and
7 instructed to describe their father, their mother, and themselves in as much detail as possible,
8 with one description per page, and to use as much of the available space as possible. For
9 assessment of the reliability of the ORI, two samples of 15 randomly selected descriptions of
10 mother, father, and self were scored by final-year master’s students of psychology with the
11 English version of the DRS after a two-phase training. First, after training in
12 comprehensively distinguishing the levels by reading and discussing them, 15 random
13 protocols were scored. A two-way random effects model (Shrout & Fleiss, 1979) was used to
14 calculate the Intra Class Correlation Coefficient (ICC) (range 0–1), assuming that the same
15 raters, as a sample of all possible raters, scored all ORI protocols. The F -test was then applied
16 to the ICC and detected no significant differences between the raters, $F(1, 15) = 15.14$, but
17 the ICC was not sufficient ($ICC = .697$). Discrepancies between coders were discussed and
18 solved based on consensus. Both raters then scored another set of 15 randomly selected cases,
19 resulting in sufficient inter-rater reliability for clinical significance (Cicchetti et al., 2011),
20 with an ICC of .73 and no significant difference between raters, $F(1, 15) = .88$.

21 The *Diagnostic Inventory for Depression* (DID; Zimmerman, Sheeran, & Young,
22 2004) assesses the severity of depression, the frequency of symptoms, the psychosocial
23 impact of depression, and quality of life, as well as a diagnosis of depression according to the
24 DSM-IV algorithm. Estimates of internal consistency (Cronbach’s α) were .887, .755, and
25 .850 for severity of depression, psychosocial impairment, and quality of life, respectively.

1 The *Dissociative Experiences Scale* (*DES*; Bernstein & Putnam, 1986) assesses the
2 frequency of different dissociative symptoms. The scale consists of three subscales evaluating
3 the degree of amnesia, depersonalization or derealization, absorption, and imaginative
4 involvement. Cronbach's α s were .796, .812, and .855, respectively.

5 The *Depressive Experiences Questionnaire* (*DEQ*; Blatt, D'Afflitti, & Quinlan, 1976)
6 assesses two personality dimensions (dependency and self-criticism) that have been shown to
7 confer vulnerability to a wide range of types of psychopathology. High scores for dependency
8 are suggestive of maladaptive relatedness, and high scores for self-criticism reflect
9 maladaptive levels of differentiation. The Dutch version of the DEQ used in this study
10 (Luyten, Corveleyn, & Blatt, 1997) has similar psychometric characteristics to the original
11 version. Scores were calculated using the factor scores and loadings of the original DEQ
12 (Blatt et al., 1976). The reliability of the DEQ, as measured with Cronbach's α , was .769.

13 The *Quality of Relationships Inventory* (*QRI*; Pierce, Sarason, Sarason, Solky-Butzel,
14 & Nagle, 1997; Verhofstadt, Buysse, Rosseel, & Peene, 2006) measures support, conflict,
15 and depth with a specific self-designated relationship in mind. Cronbach's α s were .891, .901,
16 and .836, respectively. Relational dysfunction is a core feature of personality disorders.

17 **Statistical Analysis**

18 Because the DRS is an ordinal scale in which each level is only an indication of
19 ranking in the ordered levels, a normal distribution cannot be assumed; therefore, we used
20 nonparametric calculations, which we performed using SPSS 25.00. First, we calculated
21 descriptive statistics and distributions of DR-S, DR-M, and DR-F in both genders, as well as
22 the difference between these distributions. Kendall's τ provided correlations of the DRS
23 scales with gender, educational level, and age.

24 Next, we formally tested with contrast linearity tests in ANOVA the linearity of
25 associations between the DRS and indices of intrapersonal and interpersonal functioning. We

1 also tested whether a quadratic U-shaped relationship outperformed linear relationships.
2 Curve fitting was used to estimate and visualize both types of relationships for the total
3 population, because trends inferred from a selected range of a full population can be
4 misleading (e.g., Mendoza & Mumford, 1987).

5 Relationships of the DRS with target variables were calculated by using Kendall's τ
6 correlations. Differences in the distributions of psychopathology and interpersonal features
7 between the different levels of DRS were computed with the Kruskal–Wallis test to test the
8 predictive value of the DRS levels for these features. Next, to empirically investigate the
9 theoretical cut-off of DR-S level 6 or 7, the DRS was categorized into levels, and contrasts
10 between categorical regressions with dummy variables of DRS level on symptoms at each
11 ordinal level were used to explore the possibility of a cut-off. We also calculated the
12 sensitivity and specificity (Area Under the Curve, AUC) of DR-S for the discriminative
13 threshold at level 5 versus level 6. Two groups could be delineated based on a cut-off score,
14 with a significant contrast between $DRS \geq 6$ (high group) and $DRS < 6$ (low group). Then,
15 differences in symptoms and psychopathology dimensions between the high- and low-level
16 DRS groups were tested using the Mann–Whitney U test with Bonferroni correction for
17 multiple comparisons. Eta squared η^2 or ε^2 (Lenhard & Lenhard, 2016) were used as effect
18 sizes to compare differences.

19 To test the unidimensionality of the DRS and the relationships between DR-S and the
20 subscales DR-M and DR-F, we calculated the inter-scale correlations with Kendall's τ and
21 tested whether DR-M and DR-F were associated with DR-S by testing the concordance in the
22 ranks between DR-S, DR-M, and DR-F in the related samples. Subsequently, associations of
23 DR-S and categorical high and low DR-S with dependency, self-criticism, and the interaction
24 of dependency and self-criticism were calculated.

1 **Results**

2 **Descriptive Statistics**

3 The distribution of DRS in the sample ranged from DR-S 4 to DR-S 8, with only one
4 count each for level 2 and level 9 (Table S2 [Supplement]). Distributions of DRS in males
5 and females were not significantly different ($U_{DR-S} = 7641$, $SE = 491.43$, $p = .438$; U_{DR-}
6 $M = 7249$, $SE = 531.11$, $p = .666$; $U_{DR-F} = 6778$, $SE = 474.62$, $p = .113$). There were no
7 significant relationships between DR-S, DR-M, or DR-F and the demographic variables age
8 and gender (Table S3 [Supplement]), and only a small negative correlation between level of
9 education and DR-S ($r = .121$, $p = .022$).

10 **Relationships of DRS with Symptoms, Psychopathology, and Interpersonal Functioning**

11 Investigation of linearity with ANOVA linearity contrast tests (Table S4
12 [Supplement]) revealed that only nonlinear or combined linear and nonlinear associations of
13 DR-S were significant after Bonferroni correction. Specifically, nonlinear associations of
14 DR-S with indices of dissociation and conflict in relationships, and combined linear and
15 nonlinear associations with indices of dissociation and depression, were significant, with
16 moderate effect sizes (Lenhard & Lenhard, 2016) of $\eta^2 > .06$. However, curve fittings on the
17 scatter plots (Figure S1 [Supplement]) showed that the relationships were neither linear nor
18 quadratic, and hence not continuous. Therefore, the DRS appeared to be an ordinal scale
19 requiring nonparametric analyses in this sample.

20 Nonparametric Kendall's τ correlations between DRS and symptoms,
21 psychopathology dimensions, and interpersonal functioning (Table S3 [Supplement]) showed
22 that there was only one, and small, significant correlation, namely between DR-F and
23 dissociative features. With the Kruskal–Wallis test (Table S5 [Supplement]), we investigated
24 whether distributions of the features differed over the different levels of DRS. Only the level

1 of DR-M was significantly associated with the depth in relationships after Bonferroni
2 correction.

3 Categorical regression of DRS subscales on the selected features (Table 1) revealed
4 that only categorical regression models of DR-S were significant after Bonferroni correction,
5 with significantly different effects between the levels of DR-S on severity of depression,
6 dissociative features, and conflict in relationships. Contrasts (Table S6 [Supplement])
7 between the dummy regressions of the different levels of these three features showed similar
8 patterns. The same similarity of level in patterns of contrasts applied for DR-S and DR-M,
9 but the regression models of DR-M were not significant. Importantly, there were no contrasts
10 in levels of DR-F. DR-S and DR-M effects on severity of depression or dissociative features,
11 and DR-S effects on conflict in relationships, differed significantly between levels 5 and 6 or
12 7 (or 8). From level 6 on, the association between DR-S and severity of depression,
13 dissociative features, and conflict in relationships decreased significantly (Table S6
14 [Supplement]). Unexpectedly, the association of DR-S with conflict in relationships increased
15 again slightly between levels 7 and 8. All other contrasts suggested a cutoff between levels
16 <6 and ≥ 6 . Indeed, the Research Operating Curve (ROC) at levels 5 and 6 (Figure S2
17 [Supplement]) confirmed that only the models for depression, dissociation, and conflict in
18 relationships were significant after Bonferroni correction at level 5, with AUCs (sensitivity
19 and specificity) of, respectively, 69% ($p = .002$), 71% ($p = .001$), and 68% ($p = .003$)
20 probability of correct positive prediction, while the predictive power at level 6 decreased to
21 41% ($p = .012$), 43% ($p = .054$), and 46%, ($p = .22$), respectively. Hence, from level 6
22 onwards, the predictive power of DR-S for symptoms and problematic relational functioning
23 disappeared. Differences between the effects of DR-S on groups with DR-S <6 and DR-S ≥ 6
24 were calculated with the Mann–Whitney U test (Table 2). High- and low-level DR-S and DR-
25 M groups differed significantly in their severity of depression. These two groups also differed

1 significantly in their dissociation symptoms and conflict in relationships after Bonferroni
2 correction. The effect sizes were small ($<.14$) however; the grouping explained 2.9–3.6% of
3 the variance in ranks, but the power was diminished by the difference in sample size because
4 of the restriction of range at the impaired end.

5 **Unidimensionality of DRS**

6 The inter-scale Kendall's correlations between DR-S, DR-M, and DR-F (Table S3
7 [Supplement]) were all large but not perfect, indicating that they were related, but also
8 measuring differing features. The concordance of the ranks of DR-S with DR-M and DR-F
9 was low (Kendall's W DR-M = .063, $p < .001$ and DR-F = .084, $p < .001$) but comparable for
10 DR-M and DR-F, and not significantly different for DR-M and DR-F ($z = -.263$, $p = .396$).
11 Hence, DR-S varied in the same direction as DR-M and DR-F, but the distribution of the
12 ranks was not the same. Associations of dependency and self-criticism with DR-S were not
13 significant, and the effect size indicated no effect. However, self-criticism was related
14 significantly to high versus low DR-S ($\tau = .146$, $p = .008$), but dependency ($\tau = .001$, $p =$
15 $.988$) was not, and nor was the interaction of dependency with self-criticism ($\tau = .033$, $p =$
16 $.461$).

17 **Discussion**

18 This study aimed to further validate the DRS in a sample of nonclinical young adults.
19 We first investigated relationships of DRS with demographic features and differences in
20 distributions between the two genders in particular. Secondly, we studied linear and potential
21 categorical relationships of the associations of DRS with self-report measures of depressive
22 and dissociative features of personality psychopathology and of interpersonal functioning.
23 Finally, we investigated the unidimensionality of the DRS by studying the possible
24 redundancy of the parallel DRS subscales of DR-S and DR-M and DR-F. We also
25 investigated whether a DRS score reflected general LPF as the outcome of the dialectics

1 between differentiation and relatedness, or whether impairments in the constituting latent
2 dimensions, dependency, and self-criticism had unique direct contributions to lower DRS.

3 First, the distributions of DRS did not differ between the genders. There were no
4 relationships with the demographic features age and gender, and only a small correlation of
5 DR-S with educational level. This positive correlation may be consistent with findings that
6 level of education is related to mentalizing abilities (Pino & Mazza, 2016), and thus to the
7 capacity to represent mental states.

8 Secondly, results showed only nonlinear relationships between the DRS and indices
9 of interpersonal and intrapersonal functioning. There were only few and small associations
10 between levels of DRS and indices of interpersonal and intrapersonal functioning in the
11 current sample. However, young adults scoring below 6 on the DR-S seemed to be more
12 vulnerable to psychopathology than those scoring above this cut-off. Hence, the investigation
13 of linear and categorical relationships in this study suggested that the assumed theoretical
14 level of 6 might be an adequate cut-off to differentiate adaptive from maladaptive
15 functioning. Furthermore, although DR scores have been shown to be linearly associated with
16 clinical features in patients with personality disorders (e.g., Lowyck et al., 2013), in this
17 sample of nonclinical young adults, this was not the case as, from level 6 upward, higher
18 levels on the DR-S seem to be relatively independent of indices of psychopathology.

19 The finding that, at least in community samples, relationships between DRS and
20 indices of psychopathology and interpersonal functioning may not be merely linear reveals an
21 essential limitation of the DRS. Most theories of personality hypothesize that vulnerability to
22 psychopathology is dimensionally distributed (e.g., Berghuis, Kamphuis, & Verheul, 2014).
23 It also follows that in samples with a low proportion of individuals with lower levels of
24 personality organization, studies using the DRS and dimensional analyses may fail to detect
25 underlying vulnerability in subsamples of individuals within that larger sample.

1 Finally, the study suggested that DRS is not unidimensional because the DR-S, DR-
2 M, and DR-F subscales correlated only moderately and showed marked differences in
3 associations with psychopathology. Neither DR-M nor DR-F was predictive for DR-S, but
4 associations of DR-M and DR-F with DR-S did not differ. They varied in the same direction
5 as DR-S, but the distribution of the ranks of DR-S was significantly different from both
6 subscales. There were substantial differences in the associations between the different types
7 of representations and indices of intrapersonal and interpersonal functioning investigated.
8 Only DR-S and DR-M differentiated those with high versus low levels of dissociative
9 features, self-criticism, and supportive relationships. Hence, the representation of the father
10 appeared to be less related to indices of functioning in this sample. At least in Western
11 societies, over the last decades, there has been a shift in the role of mothers and fathers in
12 child development (Luyten & Blatt, 2013), with more balance between the parents in terms of
13 the extent to which they are involved in parenting and child development. Therefore, it is
14 surprising that in the current study, the representation of fathers was not associated with
15 personality functioning. Hence, particularly in young adulthood, representational structures
16 related to mothers as primary caregivers may be more important than those related to fathers.
17 Further research in this context is needed.

18 Furthermore, the LPF construct assessed by the DRS seems not to be unidimensional.
19 Latent LPF dimensions of (maladaptive) relatedness and differentiation had different and
20 independent contributions to impaired DR-S. DR-S was not associated with the integration of
21 both, but reflected only maladaptive levels of differentiation, that is, self-criticism. This
22 finding may be due to achievement issues playing a central role in this sample of university
23 students (Tosevski, Milovancevic, & Gajic, 2010). Students whose developmental history is
24 marked by an absence of warmth and understanding in the relationship with their mother may
25 be particularly vulnerable to achievement-related distress in the transition to young adulthood

1 (Pagura, Cox, Sareen, & Murray, 2006). Studies have suggested that adults who have been
2 neglected may develop excessive self-criticism and achievement strivings to compensate for
3 feelings of inferiority and conflict related to attachment problems (Shahar, 2015), putting
4 them at increased risk of depression during a life stage when there is an intense focus on
5 achievement. One study showed that the impact of the interaction between self-criticism and
6 achievement stress was more than 20 times as strong at age 25 as in late adulthood, while, in
7 contrast, vulnerability associated with dependency peaked later in life (Mazure &
8 Maciejewski, 2003). An alternative explanation is that the lack of relationship between DR-S
9 and dependency is due to the outweighing protective and maladaptive effects of dependency,
10 as dependency has been shown to have both elements of risk but also protection (Abuin & de
11 Rivera, 2015).

12 From a clinical perspective, this study further emphasizes the value of a focus on
13 impaired representation of the self and others. Severe impairments in the representation of the
14 self in particular appear to be associated with feelings of depression, despair and dissociative
15 features, even in a community sample of young adults. Furthermore, open descriptions of self
16 and parents may be easily integrated in routine screening and diagnostic procedures as a
17 reliable and valid assessment of the LPF.

18 One limitation of the current study is its cross-sectional nature. Longitudinal studies
19 are needed in this context to disentangle possible reciprocal relationships between levels of
20 DRS and psychopathology. Second, the study focused on university students. Although
21 university students may on average show higher functioning than their peers, studies have
22 revealed high levels of psychopathology among university students (e.g., Ibrahim, Kelly,
23 Adams, & Glazebrook, 2013). Hence, the absence of linear relationships between the DRS
24 and intrapersonal and interpersonal functioning can most likely not be attributed to the nature
25 of the sample, given the considerable range in scores on the DR-S and the other measures.

1 About 10% of participants in this sample showed impaired LPF (DR-S scores <6), and only
2 20% showed higher levels of LPF (DR-S scores >6). Nonparametric analyses showed a
3 pattern with no continuous effects of DR-S, but significant categorical differences.

4 Despite these limitations, this study suggests that although the DRS may be used to
5 detect emerging personality pathology in young adults, relationships between the DR-S and
6 LPF are most probably nonlinear in non-clinical samples. Longitudinal research is needed to
7 substantiate these conclusions. Further, the variance of DR-S is mostly independent of the
8 differences in representations of the parents. This finding could be surprising from an object-
9 relations perspective but is consistent with the limited enduring effects of early attachment
10 experiences across the lifespan in normative samples (Fraley, 2002; Fearon, Shmueli-Goetz,
11 Viding, Fonagy, & Plomin, 2014).

12

13

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Table S4

Testing for linearity versus deviance of linearity in relationships between DRS and symptoms, psychopathology dimensions, or relational functioning measures: linearity contrast tests with *F*-tests in ANOVA and effect sizes.

Interaction		<i>df</i>	<i>F</i>	<i>p</i>	<i>R</i> ² (linear)	η^2
DR-S*DID_sev	linear	1	5.225	.023	.015	.015
	dev linear	5	3.488	.004		
	combined	6	3.777	.001*		.066
DR-S*DES	linear	1	7.861	.005	.022	.022
	dev linear	5	4.769	.000**		
	combined	6	5.285	.000**		.090
DR-S*DEQ_dep	linear	1	.140	.708	.000	.044
	dev linear	5	.805	.547		
	combined	6	.694	.654		.013
DR-S*DEQ_sc	linear	1	1.052	.306	.003	.003
	dev linear	5	1.904	.093		
	combined	6	1.762	.106		.032
DR-S*QRI_s	linear	1	.298	.586	.000	.000
	dev linear	5	2.930	.013		
	combined	6	2.491	.023		.044
DR-S*QRI_c	linear	1	.911	.341	.003	.002
	dev linear	5	4.215	.001*		
	combined	6	3.665	.002		.064
DR-S*QRI_d	linear	1	.622	.431	.002	.002
	dev linear	5	1.657	.144		
	combined	6	1.485	.183		.027
DR-M*DID_sev	linear	1	7.572	.006	.023	.023
	dev linear	3	2.562	.055		
	combined	6	3.815	.005		.046
DR-M*DES	linear	1	3.428	.065	.010	.010
	dev linear	3	2.124	.097		
	combined	6	2.450	.046		.029
DR-M*DEQ_dep	linear	1	.004	.949	.000	.000
	dev linear	3	.710	.546		
	combined	6	.534	.711		.007
DR-M*DEQ_sc	linear	1	.586	.445	.002	.002
	dev linear	3	2.911	.035		
	combined	6	2.330	.056		.028
DR-M*QRI_s	linear	1	.180	.672	.001	.001
	dev linear	3	4.041	.008		
	combined	6	3.076	.017		.037
DR-M*QRI_c	linear	1	.043	.836	.000	.000
	dev linear	3	2.907	.035		
	combined	6	2.191	.070		.027
DR-M*QRI_d	linear	1	2.121	.146	.006	.006
	dev linear	3	3.196	.024		
	combined	6	2.927	.021		.035
DR-F*DID_sev	linear	1	3.464	.064	.011	.011
	dev linear	3	.465	.707		
	combined	6	1.214	.305		.016

Interaction		<i>df</i>	<i>F</i>	<i>p</i>	<i>R</i> ² (<i>linear</i>)	<i>η</i> ²
DR-F*DES	linear	1	6.970	.009	.023	.023
	dev linear	3	.184	.907		
	combined	6	1.881	.114		
DR-F*DEQ_dep	linear	1	.428	.513	.001	.001
	dev linear	3	1.239	.296		
	combined	6	1.036	.389		
DR-F*DEQ_sc	linear	1	.000	.994	.000	.000
	dev linear	3	1.287	.279		
	combined	6	.965	.427		
DR-F*QRI_s	linear	1	.437	.509	.001	.001
	dev linear	3	1.012	.388		
	combined	6	.868	.483		
DR-F*QRI_c	linear	1	.432	.512	.001	.001
	dev linear	3	1.159	.326		
	combined	6	.977	.420		
DR-F*QRI_d	linear	1	.934	.335	.003	.003
	dev linear	3	1.434	.233		
	combined	6	1.309	.267		

Note. DR-S = DR-self; DR-M = DR-mother; DR-F = DR-father; dev. linear = deviance from linearity; DID = Diagnostic Inventory for Depression; DID_sev = DID severity of depression; DES = Dissociative Experiences Scale, frequency; DEQ = Depressive Experiences Questionnaire; DEQ_dep = DEQ dependency; DEQ_sc = DEQ self-criticism; QRI = Quality of Relationships Inventory; QRI_s = QRI support in relationships; QRI_c = QRI conflict in relationships; QRI_d = QRI depth in relationships.

Effect sizes: $\eta^2 < .01$ = no effect, $.01 \geq \eta^2 < .06$ = small effect, $.06 \geq \eta^2 < .14$ = intermediate effect, $\eta^2 \geq .14$ = large effect (Lenhard & Lenhard, 2016)

* $p < .05$; ** $p < .01$ after Bonferroni correction.

Table S6

Dummy-coded regressions of DRS (level contrasts) on severity of depression as measured with DID, dissociation as measured with DES, and conflict in relationships as measured with QRI-C, with different levels as a reference level

Reference Level DRS	Contrast Level DRS	DR-S			DR-M			DR-F		
DID		β	t	p	β	t	p	β	t	p
DRS 4	5	.094	.701	.484	.102	1.689	.092	-.062	-1.07	.287
	6	-.271	-1.225	.222	-.155	-2.109	.036*	-.188	-2.87	.004
	7	-.203	-1.057	.291	-.092	-1.310	.191	-.116	-1.81	.071
	8	-.104	-1.236	.217	-.074	-1.329	.185	-.030	-.550	.583
DRS 5	4	.015	.266	.790	-.032	-.351	.726	-.015	-.195	.846
	6	-.241	-3.335	.001**	-.239	-2.144	.033*	-.179	-2.07	.039
	7	-.153	-2.181	.030*	-.157	-1.639	.102	-.109	-1.45	.149
DRS 6	8	-.086	-1.516	.130	-.093	-1.571	.117	-.029	-.516	.606
	4	.065	1.204	.230	.144	2.592	.010*	2.057	1.672	.096
	5	.247	4.555	.000**	.170	3.108	.002**	-.150	-.061	.952
DRS 7	7	.022	.411	.681	.027	.481	.631	-.260	-.200	.841
	8	-.025	-.465	.642	-.040	-.736	.462	-.677	-.114	.909
	4	.055	1.009	.314	.132	1.974	.049*	.039	.601	.548
	5	.224	3.865	.000**	.164	2.764	.006**	-.030	-.524	.601
DRS 8	6	-.056	-.938	.349	-.014	-.196	.844	-.106	-1.57	.117
	8	-.037	-.674	.501	-.043	-.769	.443	-.018	-.315	.753
DES										
DRS 4	5	4.675	.666	.506	.102	1.685	.093	-.049	-.854	.394
	6	-8.842	-1.334	.183	-.089	-1.201	.231	-.148	-2.262	.024
	7	-8.239	-1.22	.223	-.040	-.569	.570	-.161	-2.517	.012
	8	-11.143	-.117	.182	-.097	-1.723	.086	-.081	-1.468	.143
DRS 5	4	-.038	-.666	.506	-.076	-.816	.415	.011	.148	.882
	6	-.511	-5.309	.000**	-.215	-1.914	.056	-.123	-1.426	.155
	7	-.422	-4.522	.000**	-.137	-1.426	.155	-.143	-1.885	.060
DRS 6	8	-.167	-2.799	.005*	-.125	-2.101	.036	-.077	-1.377	.169
	4	.072	1.334	.183	.084	1.487	.138	.087	1.534	.126
	5	.290	5.309	.000**	.143	2.576	.010	-.002	-.028	.977
DRS 7	7	.020	.360	.719	.031	.549	.583	-.070	-.242	.215
	8	-.024	-.446	.656	-.076	-1.393	.164	-.061	-1.114	.266
	4	.067	1.220	.223	.064	.947	.344	.094	1.430	.154
	5	.277	4.522	.000**	.131	2.190	.029	.002	.037	.971
DRS 8	6	-.023	-.360	.719	-.023	-.331	.741	-.012	-.186	.853
	8	-.031	-.546	.585	-.082	-1.409	.143	-.060	-1.075	.283
	4	.093	1.400	.163	.246	1.910	.057	.005	.055	.956
DRS 8	5	.358	3.372	.001**	.240	2.702	.007*	-.043	-.674	.501
	6	.127	.762	.447	.225	1.360	.175	-.132	-1.354	.177
	7	.127	.864	.388	.202	1.503	.134	-.149	-1.807	.072

Reference Level DRS	Contrast Level DRS	DR-S			DR-M			DR-F		
QRI-C		β	t	p	β	t	p	β	t	p
DRS 4	5	.256	1.733	.084	.097	1.607	.109	-.038	-.650	.516
	6	.121	.474	.636	-.063	-.843	.400	-.029	-.445	.657
	7	.052	.231	.817	.015	.204	.838	-.019	-.292	.770
	8	.151	1.693	.092	.086	1.533	.126	.098	1.767	.078
DRS 5	4	-.101	-1.733	.084	-.088	-.949	.343	-.057	-.737	.462
	6	-.347	-3.545	.000**	-.198	-1.763	.079	-.061	-.542	.588
	7	-.352	-3.712	.000**	-.090	-.932	.352	-.041	1.659	.098
	8	.021	.342	.732	.056	.945	.346	.093	-.737	.462
DRS 6	4	-.026	-.474	.636	.058	1.029	.304	-.023	-.413	.680
	5	.197	3.545	.000**	.126	2.270	.024	-.032	-.582	.561
	7	-.052	-.940	.348	.064	1.144	.254	-.009	-.155	.877
	8	.117	2.126	.034	.101	1.836	.067	.101	1.820	.070
DRS 7	4	-.013	-.231	.817	.006	.096	.924	-.045	-.681	.497
	5	.213	3.712	.000**	.095	1.586	.114	-.043	-.743	.458
	6	.061	.940	.348	-.068	-.963	.336	-.044	-.655	.513
	8	.134	2.358	.019	.085	1.516	.130	.096	1.726	.085
DRS 8	4	-.081	-1.204	.230	-.056	-.435	.664	-.126	-1.487	.138
	5	-.038	-.355	.723	.057	.643	.521	-.084	-1.312	.190
	6	-.411	-2.437	.015	-.154	-.925	.356	-.153	-1.558	.120
	7	-.398	-2.674	.008*	-.056	-.414	.679	-.108	-1.300	.195

Note. DRS = Differentiation and Relatedness Scale; DR-S = DR-Self; DR-M = DR-Mother; DR-F = DR-Father; DID = Diagnostic Inventory for Depression; DES = Dissociative Experiences Scale; didsev = severity of depression; des = dissociative experiences; dep = dependency; SC = self-criticism; qris = support of relationships; qric = conflict in relationships; qrid = depth in relationships.

** $p < .01$; * $p < .05$.

Table S5

Kruskal–Wallis tests (adjusted for ties) of associations of levels of DR-S with symptoms, dependency, self-criticism, and relational functioning.

	$\varepsilon^2=\eta^2$	<i>H</i>	<i>df</i>	<i>Assymptotic p</i>
DR-S				
DR-S*didsev	.043	14.13	6	.028
DR-S*des	.049	16.17	6	.013
DR-S*dep	.015	4.846	6	.564
DR-S*SC	.032	10.65	6	.100
DR-S*qris	.036	11.97	6	.063
DR-S*qric	.050	16.57	6	.011
DR-S*qrid	.023	7.48	6	.278
DR-M				
DR-M*didsev	.040	13.04	4	.011
DR-M*des	.030	9.72	4	.045
DR-M*dep	.012	3.90	4	.420
DR-M*SC	.023	7.47	4	.113
DR-M*qris	.029	9.42	4	.052
DR-M*qric	.031	10.30	4	.036
DR-M*qrid	.046	15.05	4	.005*
DR-F				
DR-F*didsev	.003	5.19	4	.268
DR-F*des	.024	7.73	4	.102
DR-F*dep	.014	4.55	4	.337
DR-F*SC	.017	5.47	4	.242
DR-F*qris	.005	1.95	4	.744
DR-F*qric	.012	4.07	4	.397
DR-F*qrid	.019	6.10	4	.192

Note. DR-S = DR-self; DR-M = DR-mother; DR-F = DR-father; DID = Diagnostic Inventory for Depression; DES = Dissociative Experiences Scale; didsev = severity of depression; des = dissociative experiences; dep = dependency; SC = self-criticism; qris = support of relationships; qric = conflict in relationships; qrid = depth in relationships.

Effect sizes: $\eta^2 < .01$ = no effect, $.01 \geq \eta^2 < .06$ = small effect, $.06 \geq \eta^2 < .14$ = intermediate effect, $\eta^2 \geq .14$ = large effect (Lenhard & Lenhard, 2016)

* $p < .05$; ** $p < .01$ after Bonferroni correction.

Table S3

Kendall's tau correlations of DRS subscales with demographic features, with symptoms, with psychopathology dimensions, and with interpersonal functioning, and between the subscales of DRS

	DR-S (<i>N</i> = 330) <i>r</i> _τ	DR-M (<i>N</i> = 325) <i>r</i> _τ	DR-F (<i>N</i> = 302) <i>r</i> _τ
<i>Demographic features</i>			
Gender	.042	.023	.088
Age	-.028	-.088	-.074
Educational level	-.121*	-.062	-.019
Profession of mother	.007	-.046	.074
Profession of father	-.010	.046	.013
<i>Symptoms</i>			
DID_sev	-.062	-.080	-.034
DES	-.078	-.065	-.098*
<i>Psychopathology dimensions</i>			
DEQ_sc	-.039	-.006	.038
DEQ_dep	-.005	-.000	.034
<i>Interpersonal functioning</i>			
QRI_s	.044	.014	.029
QRI_c	-.062	.016	.045
QRI_d	-.029	-.083	-.058
<i>Subscales</i>			
DR-M	.501***		
DR-F	.440***	.549***	

Note. DRS = Differentiation-Relatedness Scale; DR-S = DRS in descriptions of the self; DR-M = DRS in descriptions of mother; DR-F = DRS in descriptions of father; DID = Diagnostic Inventory for Depression; DID_sev = DID severity of depression; DES = Dissociative Experiences Scale, frequency; DEQ = Depressive Experiences Questionnaire; DEQ_sc = DEQ self-criticism; DEQ_dep = DEQ dependency; QRI = Quality of Relationships Inventory; QRI_s = QRI support; QRI_c = QRI conflict; QRI_d = QRI depth.

* $p < .05$; ** $p < .01$; *** $p < .001$

Effect sizes: $r < .10$, no effect; $.10 \geq r < .24$, small effect; $.24 \geq r < .37$, intermediate effect; $r \geq .37$, large effect (Lenhard & Lenhard, 2016).

Table S2

Distributions in males and females, and descriptive statistics of DRS

DRS Level (N = 319)	Frequency Male	Percent	Frequency Female	Percent	Cumulative Percent Total	Mean (SD)	Median
DR-S						6.12 (0.66)	6
2	0	0	1	.379	.30		
4	0	0	3	1.14	1.52		
5	5	9.09	17	6.44	8.49		
6	41	74.55	188	71.21	80.30		
7	9	16.36	49	18.56	97.88		
8	0	0	5	1.89	99.70		
9	0	0	1	0.38	100		
Total	55	100	264	100			
DR-M						5.84 (0.93)	6
4	10	18.18	39	14.77	15.39		
5	2	3.64	12	4.55	20.31		
6	32	58.18	159	60.23	81.23		
7	10	18.18	46	17.42	98.77		
8	0	0	4	1.52	100		
Missing	1	1.82	4	1.52			
Total	55	100	264	100			
DR-F						5.78 (0.95)	6
4	10	18.18	41	15.53	17.88		
5	6	10.91	6	2.27	21.85		
6	27	49.09	149	56.44	82.78		
7	7	12.73	43	16.29	99.39		
8	0	0	2	0.76	100		
Missing	5	9.09	23	8.71			
Total	55	100	264	100			

Table S1

The 10 levels of the Differentiation-Relatedness Scale (see also Huprich, Auerbach, Porcerelli, & Bupp, 2016)

Level	Comments
1. Self/other boundary compromise (physically)	Basic physical cohesion/integrity of representations is compromised
2. Self/other boundary confusion (intellectual, affective)	Affective/intellectual boundaries are confused, fused, or compromised
3. Self/other mirroring	Consolidation and stabilization of representations based on mirroring
4. Self/other idealization or denigration	Consolidation and stabilization of representations based on unitary, unmodulated idealization or denigration
5. Semi-differentiation	Tenuous, semi-differentiated consolidation of representations achieved through primitive splitting and/or rigid adherence to concrete properties to achieve a tenuous cohesion
6. Emergent, ambivalent constancy (cohesion) and an emergent sense of relatedness	Emergent differentiated, constant, integrated representation of self and other
7. Consolidated, constant (stable) self and others in unilateral relationship	Increasing tolerance for ambiguity
8. Cohesive, individuated, empathically related self and other	Representations of self and others as empathically interrelated
9. Reciprocally related, integrative unfolding self and other	Representations of self and other in reciprocal and mutually facilitating interactions
10. Integrative, creative constructions of self and other in empathically and reciprocally attuned relationships	Reflectively constructed, integrated representations of self and others in reciprocal and mutual relationships

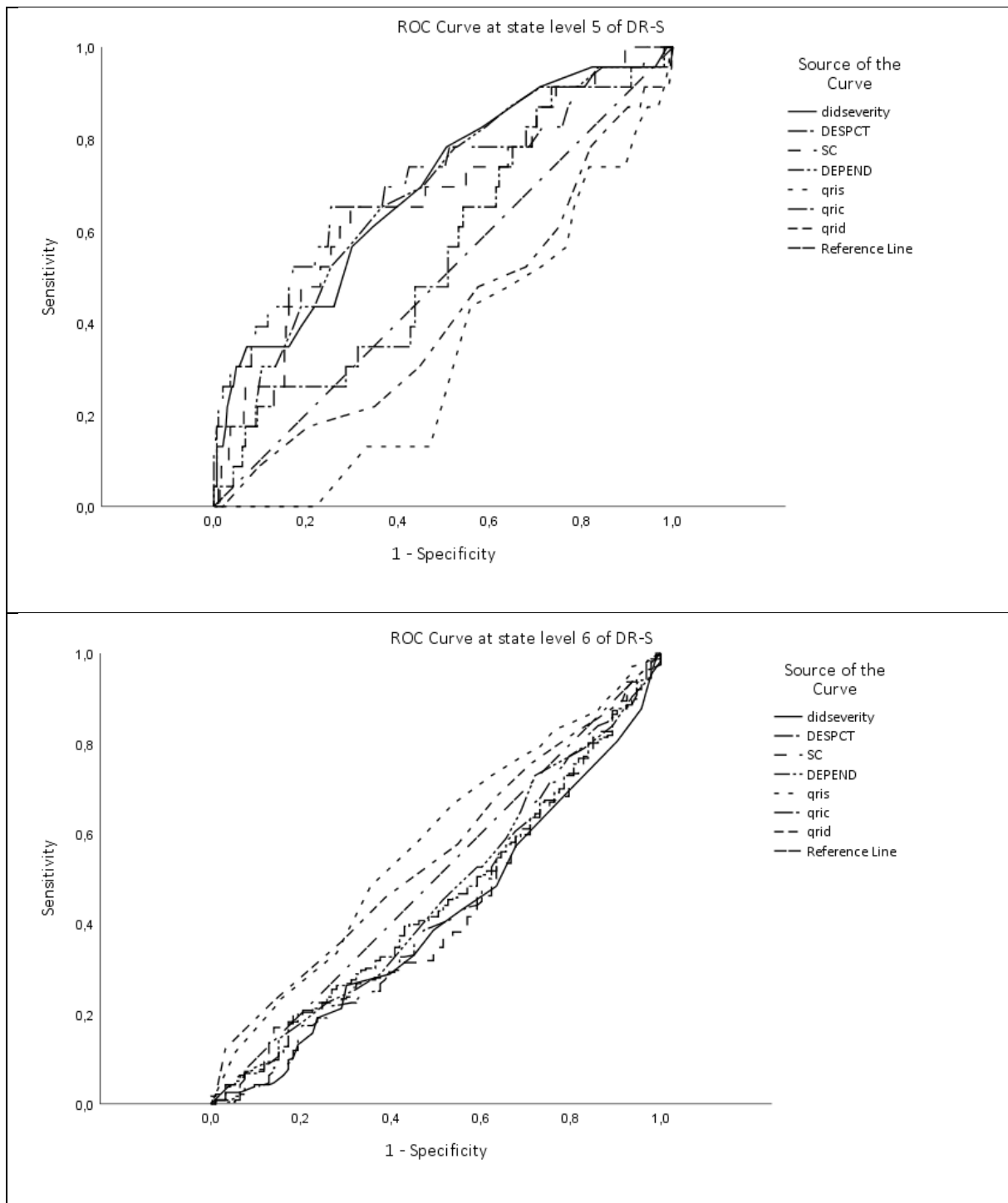


Figure S2

ROC curves at state levels 5 and 6 of DR-S.

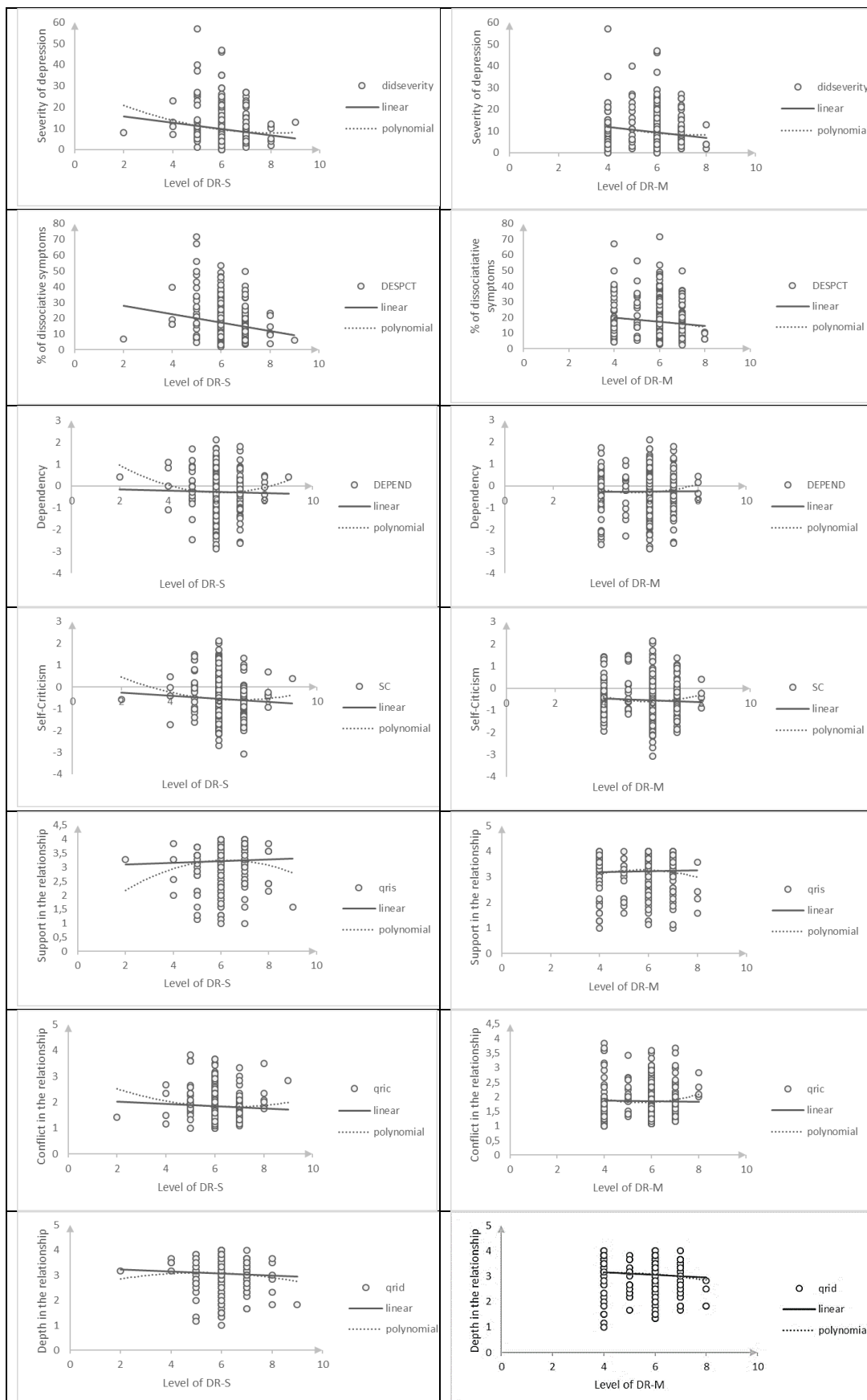


Figure S1

Curve estimation of linear and quadratic regressions of DR-S and DR-M

Note. DR-S = DR-self; DR-M = DR-mother; DID = Diagnostic Inventory for Depression; DES = Dissociative Experiences Scale; DESPCT = % of dissociative symptoms; didsev = severity of depression; des = dissociative experiences; depend = dependency; sc = self-criticism; qris = support of relationships; qric = conflict in relationships; qrid = depth in relationships.

Levels of DRS: see Table S1.

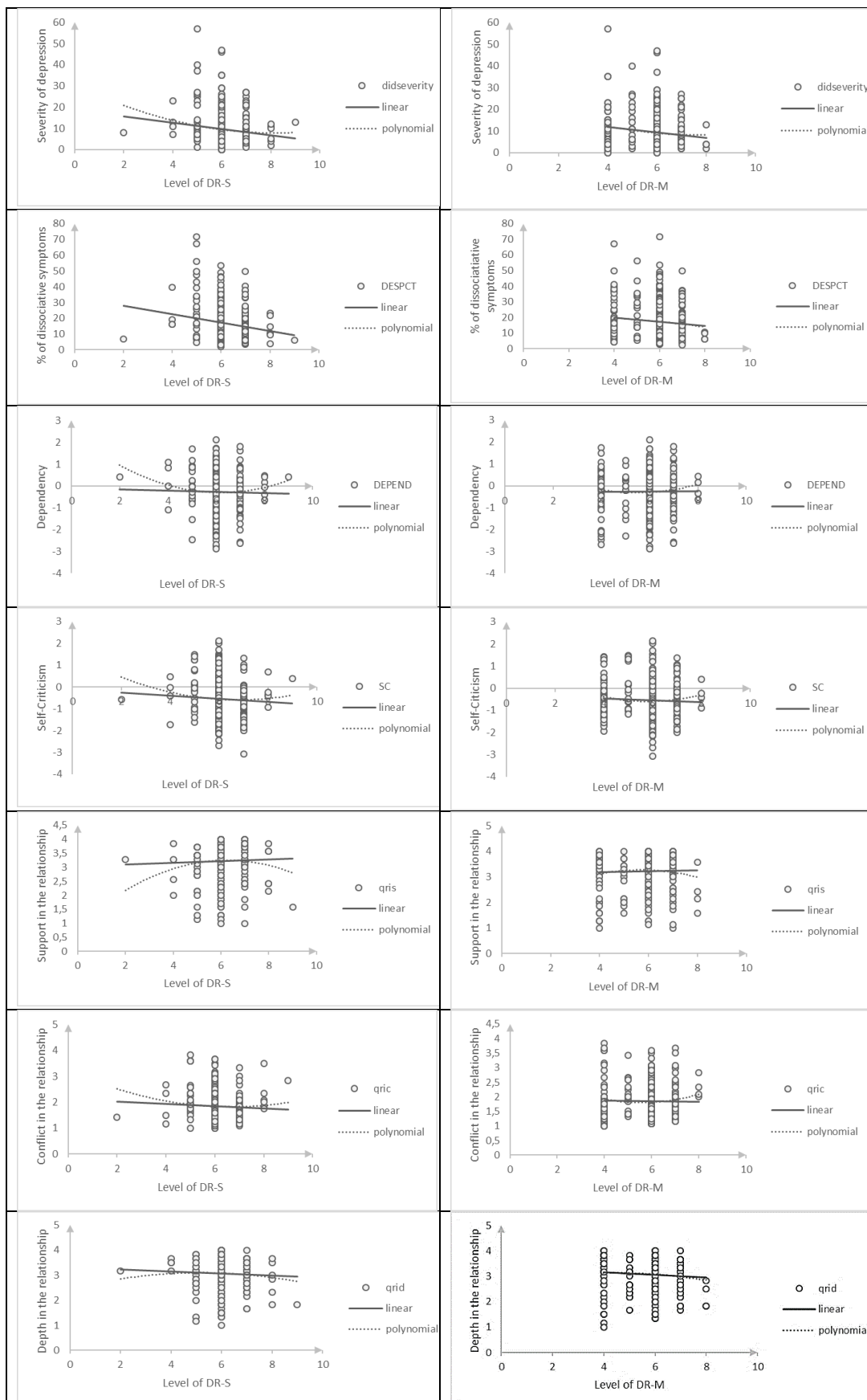


Figure S1

Curve estimation of linear and quadratic regressions of DR-S and DR-M

Note. DR-S = DR-self; DR-M = DR-mother; DID = Diagnostic Inventory for Depression; DES = Dissociative Experiences Scale; DESPCT = % of dissociative symptoms; didsev = severity of depression; des = dissociative experiences; depend = dependency; sc = self-criticism; qris = support of relationships; qric = conflict in relationships; qrid = depth in relationships.

Levels of DRS: see Table S1.

Table 2

Mann-Whitney U tests of categorical differences between DRS above and below the cut-off level of 6.

	Mann-Whitney U	Z	p	$\eta^2 = Z^2/N$
DR-S				
DID severity	2562.0	-3.458	.001**	.036
DES total	2993.0	-3.199	.001**	.031
DEQ				
DEP	3577.0	-1.348	.178	.006
S-C	2943.0	-2.661	.008	.022
QRI				
support	2859.5	-2.845	.004*	.025
conflict	2974.0	-2.601	.009	.021
depth	3902.5	-.677	.498	.001
DR-M				
DID severity	6539.5	-3.104	.002**	.029
DES total	8521.0	-2.010	.044	.012
DEQ				
DEP	7831.0	-1.227	.220	.007
S-C	7585.0	-1.583	.113	.007
QRI				
support	8057.0	-.904	.366	.002
conflict	8115.5	-.817	.414	.002
depth	7655.5	-1.488	.137	.007
DR-F				
DID severity	7278.5	-1.430	.153	.006
DES total	8371.0	-1.798	.072	.010
DEQ				
DEP	8018.0	-.303	.762	.000
S-C	7960.0	-.391	.696	.000
QRI				
support	7580.0	-.972	.331	.003
conflict	7806.0	-.626	.531	.001
depth	7604.5	-.935	.350	.003

Note. DRS = Differentiation-Relatedness Scale; DR-S = DRS in descriptions of self; DR-M = DRS in descriptions of mother; DR-F = DRS in descriptions of father; DID = Diagnostic Inventory for Depression; DES = Dissociative Experiences Scale; DEQ = Depressive Experiences Questionnaire; QRI = Quality of Relationships Inventory; DEP = dependency; S-C = Self-Criticism.

* $p < .05$; ** $p < .01$; *** $p < .001$ after Bonferroni correction.

Effect sizes: $\eta^2 < .01$ = no effect, $.01 \geq \eta^2 < .06$ = small effect, $.06 \geq \eta^2 < .14$ = intermediate effect, $\eta^2 \geq .14$ = large effect (Lenhard & Lenhard, 2016)

Table 1

Categorical prediction models of regressions with dummies

Model summary	Adj. R^2	SE Estimate	F_{Change}	(df1,df2)	p	Durbin-Watson
DR-S						
DID-SEV	.048	7.731	3.777	(6, 323)	.001*	1.732
DES	.077	11.406	7.533	(4, 311)	.000**	1.734
DEQ-DEP	-.004	0.915	0.709	(4, 312)	.587	0.803
SC	.018	0.844	2.436	(4, 312)	.047	0.852
QRI-S	.012	0.683	1.979	(4, 312)	.098	1.868
QRI-C	.046	0.553	4.790	(4,312)	.001*	1.767
QRI-D	.002	0.607	1.166	(4,312)	.326	1.836
DR-M						
DID-SEV	.028	7.813	3.362	(4, 325)	.010	1.702
DES	.017	11.641	2.425	(4, 324)	.048	1.658
DEQ-DEP	-.007	0.914	0.445	(4, 325)	.776	0.805
SC	.015	0.851	2.275	(4, 325)	.061	0.861
QRI-S	.037	0.678	3.087	(4, 325)	.016	1.924
QRI-C	.014	0.561	2.179	(4, 325)	.071	1.733
QRI-D	.023	0.023	2.897	(4, 325)	.022	1.786
DR-F						
DID-SEV	.014	7.870	2.141	(4, 325)	.076	1.741
DES	.015	11.654	2.228	(4, 324)	.066	1.663
DEQ-DEP	.000	0.910	1.034	(4, 325)	.390	0.810
SC	.004	0.856	1.312	(4, 325)	.265	0.894
QRI-S	-.003	0.687	0.777	(4, 325)	.541	1.824
QRI-C	.000	0.565	0.980	(4, 325)	.481	1.728
QRI-D	.005	0.605	1.422	(4, 325)	.226	1.767

Note. DRS = Differentiation-Relatedness Scale; DR-S = DRS in descriptions of the self; DR-M = DRS in descriptions of mother; DR-F = DRS in descriptions of father; DID = Diagnostic Inventory for Depression; DID_sev = severity of depression; DES = Dissociative Experiences Scale, frequency; DEQ = Depressive Experiences Questionnaire; DEQ_sc = DEQ self-criticism; DEQ_dep = DEQ dependency; QRI = Quality of Relationships Inventory; QRI_s = QRI support; QRI_c = QRI (conflict; QRI_d = QRI depth.

* $p < .05$; ** $p < .01$; *** $p < .001$ after Bonferroni correction

Effect sizes : $R^2 < .01$, no effect; $.01 \geq R^2 < .06$, small effect; $.06 \geq R^2 < .14$, intermediate effect; $R^2 \geq .14$, large effect (Lenhard & Lenhard, 2016).