Construction and validation of the apperception test God representations : An implicit measure to assess God representations

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Chapter 5.

Validation of an implicit instrument to assess God representations. Part 2: Associations between implicit and explicit measures of God representations and object-relational functioning

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Abstract

Results about associations between God representations and wellbeing/mental health can be questioned because they are predominantly based on studies with self-report instruments. There are no well-validated implicit measures of God representations. Therefore we developed the Apperception Test for God Representations (ATGR). In a clinical (n=75) and a non-clinical (n=71) sample, we found patterns of associations of scales of the ATGR and of an explicit God representation measure with implicit and explicit measures of object-relational functioning that undergirded the validity of most ATGR scales. Differences in patterns of associations between patients and non-patients could theoretically be explained by the concept mentalization.

Introduction

For a long period, the influence of religion on mental health was predominantly considered as negative (Neeleman & Persaud, 1995). This was partly due to Sigmund Freud's idea that religion is a projection of an infantile need for a father figure (Freud, 2004). Its restrictive rules would lead to unnecessarily strong feelings of guilt and fear of punishment. However, other scholars especially emphasize the positive influence of religion by stating that believers also project positive attributes to their gods and derive strength from them (Rizzuto, 1979; Winnicott, 1971). Research results are in favor of the latter, as meta-analytic studies and reviews into the association between religion or religious coping and well-being/mental health have convincingly demonstrated (Ano & Vasconcelles, 2005; Bergin, 1983; Ellison & Levin, 1998; Gartner, Larson, & Allen, 1991; Hackney & Sanders, 2003; Koenig, King, & Carson, 2012; Koenig, McCullough, & Larson, 2001; Larson et al., 1992; Payne, Bergin, Bielema, & Jenkins, 1991; Smith, McCullough, & Poll, 2003; Witter, Stock, Okun, & Haring, 1985). However, the effect sizes of the observed associations are generally small, probably partly because religion is a complex, multi-layered phenomenon that can be operationalized in many ways. The nature of the association between religion and mental health is moreover dependent upon many factors, such as age (Krause, Ingersoll-Dayton, Ellison, & Wulff, 1999), sex (Maselko & Kubzansky, 2006), personality (Unterrainer, Ladenhauf, Moazedi, Wallner-Liebmann, & Fink, 2010), socioeconomic status (Temane & Wissing, 2006), social support (Ellison & George, 1994), and stressful life circumstances (Ellison, Boardman, Williams, & Jackson, 2001).

The Importance of God Representations

Stulp, Koelen, Schep-Akkerman, Glas, and Eurelings-Bontekoe (2019) hypothesized that for adherents of a theistic religion, the personal relationship with the god

they believe in might be a central factor in explaining the association between religiosity and well-being/mental health. Theoretically, this can be explained by applying the principles of object relation theory to the development of God representations, as is done in the groundbreaking work 'Birth of the living God' from Rizzuto (1979). She builds on Winnicott's (1971) concepts of transitional phenomena and of object use. Winnicott assumes that children undergo a transition from an omnipotent stance where the child does not differentiate between itself and the caregiver, to a phase of differentiation and separation. This transition is accompanied by disillusion for the child, who bridges this gap by creating transitional objects between inner and outer worlds to deal with the conflicts between these two worlds. Winnicott and Rizzuto believe that this ability to create and play does not lose its function: it serves as a lifelong source to deal with reality and is related to art, culture, and religion. The God representation develops in this intermediate area and is based on culturally existing images of God and on all (positive and negative) early experiences with the caregivers. For mature object-relational functioning, it is important that positive and negative aspects of the other can be integrated; that the other is viewed and understood as a real other, with an existence on its own; and that important others can be viewed as benevolent instead of malevolent. This also applies to the development of mature God representations.

The assumption that God representations are related to interpersonal object-relational functioning and are a central aspect of the association between religion and wellbeing/mental health is undergirded by Stulp, Koelen, Schep-Akkerman, et al. (2019), who in their meta-analysis found that positive God representations (that were mostly based on object-relation concepts) were significantly and positively associated with measures of self-concept, of view of others and of well-being, and negatively with neuroticism and distress. Negative God representations were significantly and negatively associated with view of others and with well-being, and positively with neuroticism and with distress.

God Representations and Psychopathology

For persons suffering from psychopathology, the general quality of object-relational functioning may be diminished, leading to difficulties in interpersonal functioning that will also affect the relationship with God. This may partly explain some ambiguous results in the reviews of Koenig: although in general mental health problems were negatively associated with religiosity, predominantly positive associations with religiosity were found among patient with C-Cluster Personality Disorders and with Bipolar Disorder. This explanation is also in line with results from Schaap-Jonker, Eurelings-Bontekoe, Verhagen, and Zock (2002), who found that persons with cluster A (eccentric) personality disorders saw God as more passive, and that persons with Cluster C (inhibited) personality disorders saw God as more ruling/punishing, and

that personality pathology mediated the associations between God representations and severity of complaints. This suggests that personality pathology is indeed associated with the nature of the relationship with God.

Conceptual and Methodological Issues

Studies into God representations may suffer from some conceptual and methodological problems. First, many studies have predominantly used self-report measures, and part of the found associations may be attributed to shared-method variance. Second, object relation theory assumes that mental relational representations work on a mostly implicit level, and therefore cannot be fully captured by self-report instruments. Indeed, in a quarter of the studies of the meta-analysis of Stulp, Koelen, Schep-Akkerman, et al. (2019), the self-report method is for this reason mentioned as a serious limitation. There is only one study (Dickie, Ajega, Kobylak, & Nixon, 2006) that examined associations between implicit measures of God representations and implicit measures of representations of self and others. In this study among 132 predominantly Christian young adults, nurturing, powerful, and punishing/judging characteristics of mother, father, self, and God were assessed by analyzing the reactions to 14 illustrations of parent-child interactions. Respondents rated the extent to which each illustration was respectively like their mother, father, self, and God. Nurturing God representations were associated with mother's power and with-self power. Powerful God representations were associated with self-power. Punishment/judgment of God showed an association with punishment of mother. Closeness to God correlated significantly and weakly with nurturance of self, power of self, and closeness to father (Dickie et al., 2006).

We know of also only one study that examined associations between self-report measures of God representations and both implicit and explicit measures of interpersonal functioning: Brokaw and Edwards (1994) examined the relationship between God representations and object-relational functioning. Object relations development was assessed both implicitly, by using two projective measures (Rorschach and Comprehensive Object Relations Profile), as well as with self-report. All correlations of self-reported God representation measures with self-report object relations measures were significant, whereas almost all correlations between self-report data and the projective measures were weak and non-significant.

These scarce results suggest that implicit God representations are more strongly associated with implicit than with explicit measures of object-relational functioning and that for explicit God representation the opposite holds.

The Current Study

The present study is part of a series of studies aimed at constructing and validating the Apperception Test God Representations (ATGR), an instrument to assess implicit God representations. In a former study among both a clinical and a non-clinical group, the construction of the test, the reliability, and the validity of the scales were described, focusing on implicit and explicit measures of distress (Stulp, Koelen, Glas, & Eurelings-Bontekoe, 2019). Validity was confirmed by the finding that for the clinical group the ATGR scales, and especially the cognitive scales Complexity and Agency, were associated more strongly with the Global Assessment of Functioning (GAF)scale, as scored by clinicians, than with self-reported Quality of Life.

The aim of this study is to further examine the validity of the object-relation based scales of this instrument by comparing its measures and explicit measures of God representations with implicit and explicit measures of object-relational functioning. We hypothesize that associations between measurements assessing on the same level (either implicit or explicit) will be stronger than associations between implicit and explicit instruments.

To the best of our knowledge, this is the first study that compares these types of measures.

Method

For reasons of limited space, information about sample characteristics, procedure, and construction of the ATGR is summarized in this article. More detailed descriptions can be found in Stulp, Koelen, Glas, et al. (2019).

Participants

The first sample of this study is a convenience sample of 71 non-clinical participants, recruited at a Dutch Christian University of Applied Science, Viaa Zwolle and a Dutch Christian intermediate vocational education school; the Menso Alting College, Zwolle. These institutions train people for work in the domains social work, pastoral work, nursing, and education.

The second sample consisted of 74 patients who followed one out of four inpatient treatment programs for personality disorders at a Dutch Christian mental health care institution. On the basis of a clinical interview focusing on Axis II of the DSM IV-TR (Gibbon, Spitzer, Williams, Benjamin, & First, 1997) patients received the following classifications: Personality disorder NOS: 25 (33.8%); C-Cluster personality disorders or features: 28 (37.8%); B-Cluster Personality Disorder or features: 13 (17.6%); features of A-Cluster and B-Cluster personality disorders: 2 (2.7%); A-Cluster personality disorders: 1 (1.4%); Deferred diagnosis: 5 (6.8%).

Measures

Implicit aspects of God representations

Materials and assessment procedure. Implicit aspects of God representations were measured by the recently developed ATGR, an apperceptive test consisting of 15 cards with pictures especially developed for measuring implicit God representations. Resulting narratives were analyzed by the SCORS scoring system (Westen, 1985, 1995), that we especially adapted for measuring God representations in narratives.

Coding system. In the following paragraphs the six scales that aim at measuring implicit aspects of representations of God are described.

Complexity of representation of God (Complexity). The various levels of the representations are coded on a scale from 1 – 5, with lower scores representing lower levels of maturity of representations. Low scores indicate representations of God that are not differentiated from feelings and motives from the respondent (or the character in the narrative). God may also be viewed as unidimensional, without much nuance, or as someone who is all good or all bad; maybe fluctuating in time, but never simultaneously. More mature God representations are nuanced and detailed and integrate different aspects of God, with (some) understanding for how negative aspects (e.g., anger and punishment) are related to positive aspects (e.g., love, forgiveness). See also Table 1.

Affect Tone of relationship with God for character and respondent (Affect Tone character and Affect Tone person). This ATGR scale is scored in two ways; the first regards the way the (main) character experiences his or her relationship with God (Affect Tone character), the second regards the way the respondent may elaborate on this experience (Affect Tone person). The different levels of the affect tone are coded on a scale from 1 – 5, with lower scores representing more negative feelings (see also Table 1). Distinction between Affect Tone person and character is made on the basis of the assumption that Affect Tone person might be more susceptible to social desirability- and doctrine effects than Affect Tone character

Emotional investment in the relationship with God (Investment). This ATGR scale is about the character's motivation for having a relationship with God ranging from egocentric to reciprocal. The different levels of emotional investment are coded on a scale from 1 – 5, with lower scores representing a more egocentrically motivated relationship with God (see also Table 1).

Agency of God (Agency). The Agency of God scores are determined by combining scores on three subscales: Gods influence on the situation (Agency-s: yes or no), Gods influence on character's reactions; his thoughts, feelings, intentions, actions (Agency-r: not, shared influence, or decisive influence) and attributed reasons for God's actions (Agency-e: no explanation, general explanation, specific explanation). These scores are then converted to a total score on a scale from 1 – 5. A low score

indicates that God has no influence on events. Higher scores indicate that God has influence, and this influence can be understood and trusted. The highest score (5) acknowledges not only general (good) intentions, but assumes that God has specific intentions for specific persons. See also Table 1 for a more detailed description of the scales.

Assessment procedure. The assessment of the ATGR, according to protocol, starts with the instruction that the subject should make up fantasized stories about the cards to be shown. These cards are introduced as (translated from Dutch): "You will be shown 15 cards with pictures about people relating to God, and/or about God relating to people. Would you make up a story about these pictures? Would you tell what happens in the picture, what has led up to it, and how the story will end? Will you also address the question what the people in the picture think and feel? And what God thinks and feels, what he does and why?" The instruction is repeated at least once. Assessors should prompt only one time per card for an unaddressed aspect, and only by repeating the general question. The recordings of the assessments are transcribed according to protocol.

Coding procedure. Scoring took place in couples that first independently scored their protocols. The independent scores of each couple were used to compute interrater reliability. Final scores were based on consensus.

Coders followed an intensive training program, given by the first author. In this program they first got an introduction in the scoring system and the underlying theory. Then, in a plenary session, they practiced the scoring rules on a protocol, discussing the scoring principles per story. After that, two or three new protocols were scored at home and scores were discussed on subsequent sessions. For each scale at least 15 hours of training were spent: three joint sessions of three hours and six hours of individual scoring at home.

Interrater reliability. The weighted average interrater reliabilities —indicated by the Intraclass Correlation Coefficient (ICC) based on absolute agreement— of the ATGR scales were good for the scales Affect Tone character (.80), Affect Tone person (.83) and Agency (.85), fair for the Complexity scale (.77), and poor for the Investment scale (.68).

Explicit aspects of God Representations. The Dutch Questionnaire God Representations (QGR), in earlier publications also referred to as Questionnaire God Image (QGI) is a 33-item self-report questionnaire, a translation and adaptation of Murken's (1998) scales of God relationships. It consists of two dimensions; the dimension "feelings towards God", with three scales: Positive feelings towards God (Positive/POS), Anxiety (Anxiety/ANX), and Anger towards God (Anger/ANG);

Table 1. *Object-Relation and Social Cognition Theory Informed ATGR Scales*

	Level 1:	Level 2	Level 3:	Level 4:	Level 5:
Complexity of representation of God	Poor differentiation between thoughts / feeling of the character and of God	Poor understanding of God: vague, confused, incoherent, fluctuating or unintegrated representations	Superficial understanding: unidimensional, unelaborated descriptions of God's characteristics, thoughts or feelings	Acknowledgement of God's complexity; detailed descriptions, differentiated, ambiguous. Stability of God's characteristics over time/situations	Understanding of complexity/ ambiguity, relating it to general characteristics of God
Affect tone of relationship with God	Representations of God are malevolent, causing great distress or helplessness	Representations of God as hostile or disengaged, or defensively positive	Affective relationship with God with predominantly negative feelings	Relationship with God is affectively neutral or characterized by mixed feelings	Relationship with God is experienced with predominantly positive feelings
Emotional investment into relationship with God	No relationship with God or selfish relationship, only for own gratification	Superficial relationship, probably enduring, but need gratification prevails	Conventional relationship with God with some emotional investment, driven by wish for acceptance, pleasing God	Dedicated relationship with God, emotional investment based on principles, inner convictions	Deep, dedicated relationship with God for the sake of the relationship itself. Awareness of reciprocity.
Dealing with religious rules and principles	No sense of approval or disapproval from God, or only fear for discovery of bad acts because of negative consequences.	Some sense of approval or disapproval from God, absence of guilt or disproportionally feeling guilty. Problems with acknowledging Gods authority.	Complying because it's Gods will, without inner conviction, emphasizing rules instead of principles or relationship. Emphasis on avoiding punishment or obtaining approval.	Complying/ obeying out of inner conviction, respecting God's authority	Complying/ obeying out of affectively experienced relationship with God; sense of reciprocity, feelings of regret are related to relationship.
Agency of God	God has no influence on situations or on character's reactions	God has influence on situations or joint divine and personal influence on the character's reactions. No explanation for Gods action is given.	God has influence on situations or shared influence on the character's reactions, with general explanations given for it. Or God has absolute influence on reactions, but no explanation is given for it.	God has influence on situations or shared influence on character's reactions, with general explanations given for it. Or God has absolute influence on reactions, but only a general explanation is given for it.	God has total influence on character's reactions, and a specific explanation is given for it.

and the dimension "God's actions", with three scales: Supportive actions (Supportive/SUP), Ruling and/or Punishing Actions (Ruling-Punishing/RULP), and Passivity of God (Passivity/PAS). All items are scored on a five-point scale, with (1) for not at all applicable, and (5) for completely applicable. The scale has good psychometric properties. The internal consistency of the scales is sufficient with Cronbach's alpha's ranging from 0.71 (Passivity scale) to 0.94 (Anxiety scale) and their validity was also confirmed (Jonker, Eurelings-Bontekoe, Zock, & Jonker, 2008; Schaap-Jonker & Eurelings-Bontekoe, 2009). In this study three scales scored excellent on internal consistency, as indicated by Cronbach's alpha: Positive (α = .94), Anxiety (α = .91), and Support (α = .94). Two scales scored good: Anger (α = .83) and Passivity (α = .82), and one scale, Ruling-Punishing, scored fair (α = .70).

Implicit object-relational functioning.

Instrument and scales. Implicit object-relational functioning was assessed by scores on the four Social Cognition and Object Relations Scales (Westen, 1985, 1995) for narratives on six cards of the Thematic Apperception Test. This number is advised by Westen (1985), and we used the same cards (1, 2, 13MF, 4, 3BM, and 7GF, administered in the same order to all respondents) as were used in the study of Eurelings-Bontekoe, Luyten, and Snellen (2009). The SCORS integrates social cognition and object-relations theory and has a code system specifically for narratives on TAT cards. The code system consists of the dimensions Complexity of representations of others (CR), Affect tone of relationships (AT), Capacity for emotional investment in relationships and moral standards (EI), and Understanding of social causality (SC). Each dimension is scored on a 5-point rating scale ranging from 1 to 5, with higher scores on CR, EI, and SC representing higher, more mature levels of social functioning and higher scores on AT reflecting more positive attitudes towards others. CR assesses patients' capacity to differentiate between self and others and to integrate positive and negative characteristics of self and others. AT measures the affective quality of interpersonal relationships, with lower scores indicating malevolent representations of others and higher scores indicating benevolent representations. EI assesses the extent to which inner representations of relationships reflect an egocentric and selfish attitude (lower scores) or a mature reciprocal attitude (higher scores). Finally, SC measures a person's capacity to understand causal relationships in social interactions.

Cronbach's alpha's for these dimensions range from .80 to .90. The validity of this instrument has been confirmed across several studies. Relevant for this study is that adolescent borderline patients (Westen, Ludolph, Lerner, Ruffins, & Wiss, 1990) and adult borderline patients (Nigg, Lohr, Westen, Gold, & Silk, 1992; Westen, Lohr, Silk, Gold, & Kerber, 1990), have significantly less complex representations of others, compared to non-clinical control groups. The SCORS also discriminates between B- and C-Cluster personality disorders, yielding significantly lower scores for persons with

borderline personality disorder on all SCORS scales than all other groups (Ackerman, Clemence, Weatherill, & Hilsenroth, 1999). For a review of the reliability and validity of this instrument, see Huprich and Greenberg (2003).

Administration, training and coding procedures. The TATs of the non-clinical group were administered by fourth-year students of Social Work who also administered the ATGR. The TATs of the clinical group were administered by the first author and by the psychological testing assistant of the mental health institution. Standard procedure was followed, by asking the patient to describe what happens, what led up to the situation, what the outcome is, and what the characters are thinking and feeling. All narratives were recorded on audiotape and transcribed verbatim.

Almost all protocols of the TAT narratives were distributed across and scored independently by seven couples of graduate clinical psychology students, who were trained by the third author. The independent scores of each couple were used to compute interrater reliability. Final scores were based on consensus. Raters were blind to scores on all other variables. For the Intraclass Correlation Coefficients (ICC), the independent ratings on each card per dimension for each respondent were averaged. The weighted average ICCs were good for EI, ICC = .80 and for SC ICC = .85, fair for CR, ICC = .75, and poor for AT, ICC = .62 (Cicchetti, 1994).

Explicit object-relational functioning. Explicit object-relational functioning was assessed by The Bell Object Relations Inventory (BORI, Bell, 1995), a self-report questionnaire with 45 items that must be endorsed as 'true' or 'false'. It consists of four scales, assessing aspects of object-relational functioning: Alienation (ALN), Insecure Attachment (IA), Egocentricity (EGC), and Social Incompetence (SI). Psychometric characteristics of the instrument are good, with Cronbach's alpha's for ALN $\alpha = .90$, for IA $\alpha = .78$, for EGC $\alpha = .78$ and for SI $\alpha = .79$ (Bell, 1995).

High ALN scores indicate a basic lack of trust in relationships, a suspicious attitude and a tendency to social isolation. High scores are virtually never found in high functioning subjects (Bell, 1995). High IA scores indicate a high sensitivity to rejection, a tendency to long desperately for closeness, and poor toleration of separations, losses and loneliness. High functioning subjects may have elevated scores on this scale. High EGC scores indicate a tendency to perceive the existence of others only in relation to oneself, and a sense that others are to be manipulated for own self-centered aims. High SI scores indicate shyness, nervousness, difficulties in making friends and in socializing.

The construct validity of the scales has been established in many studies across various populations. For an overview, see Li and Bell (2008). Relevant for the current study is that the instrument distinguishes between non-clinical subjects and persons suffering from borderline and other personality disorders (Bell, Billington, Cicchetti, & Gibbons, 1988; Tramantano, Javier, & Colon, 2003) and that its scores are related to the extent of religious maturity (Hall, Brokaw, Edwards, & Pike, 1998). For this

study, the questionnaire has been translated forward to Dutch by the first author and for control also back to English by a native English speaker with excellent mastery of the Dutch language.

Calculation of the sum scores of the scales was derived from the scoring forms of the instrument (Bell, 1995). Internal consistency of the scales, as indicated by Cronbach's alpha and computed for both groups together, was good for ALN, α = .88, and fair for IA, α = .80; EGC, α = .74; and SI, α = .80, and closely resembled the values reported from Bell's (1995) original validation sample. Split per group, it was fair for three scales in the non-clinical group: for ALN α = .72; for IA α = .70; and for SI α = .70. For EGC it was poor: α = .49. In the clinical group it was fair for ALN: α = .77, but poor for the other scales: for IA α = .47; for EGC α = .62; and for SI α = .47.

Data Analyses

First the correlations between the explicit and implicit object relations instruments were examined. The validity of the ATGR scales was examined by (a) the multidimensional scaling method (MDS), (b) testing proportions of expected stronger correlations between scales, (c) testing differences in correlations and (d) examination of individual significant correlations between scales.

MDS is a statistical technique that uses proximity data —distances between objects— and transforms these into a visual representation in which the estimated position of each scale is based on the strength of all correlations between the scales. Compared to the often used "eyeball" inspection of the correlation matrix to look for patterns of associations, this visual representation has the advantage that it is relatively easy to see, for example, whether the implicit God representation scales are more strongly associated with implicit than with explicit object-relation measures.

MDS searches for the optimal positioning of points in which the distances between these points match best with all the proximities between the objects, and provides coordinates and a geometrical representation of these positions. This is done by minimalizing the stress; the difference between estimated distances and raw proximity data. We applied this method with the SPSS-procedure PROXSCAL (Busing, Commandeur, Heiser, Bandilla, & Faulbaum, 1997). We let PROXSCAL assign the location of the scales of ATGR and QGR in a two-dimensional space, based on the correlation matrix of the observed correlations between all scales as measures of proximity. Thereto we transformed the values of the correlations into distances (δ) with the following formula:

$$\delta = \sqrt{2 * (1 - |r|)} \qquad (1)$$

There are some rules of thumb to establish the goodness of fit of the found solution, but these, according to Borg, Groenen, and Mair (2012), are not very reliable because there are many aspects that need to be considered when judging stress. In this study we used the Normalized Raw Stress-value (NRS). An NRS value of 0 means absolute fit, but the ideal NRS value is .02, according to McGrady (2011). Because we have a theoretical model to compare the found solution to, we reported the various stress-values but did not reject, based on these subjective criteria for bad fit, solutions. We compared solutions that treated distances as ordinal and were based on a classical Torgerson start configuration with those with multiple random starts and 1000 trials. For stress convergence and minimum stress the default SPSS settings were changed to .000001, and the maximum number of iterations was increased to 1000. To gain more insight into the stress, we examined the results of decomposing the Normalized Raw Stress, by looking at relatively high stress-values of separate scales.

We compared the (absolute) strength of correlations of implicit versus explicit God representation scales with the implicit or explicit object-relation scales, and also the strength of correlations of respectively the implicit and explicit God representation scales with explicit versus implicit object-relation scales. The significances of proportions of stronger associations were tested by a binomial test, performed in EXCEL with the formula BINOM.DIST(number_s,trials,probability_s,cumulative). For the first argument (number of successes) we filled in the number of comparisons with stronger associations for the same method combination, for the second (trials) we filled in the total number of comparisons, for the third argument (the probability of success) we filled in .5, and for the fourth we filled in 'True', which yields the cumulative probability. If the proportion found was higher than 0.5, we used the formula 1-BINOM.DIST; if it was lower than 0.5, we used the formula BINOM.DIST. Because this test assumes that the comparisons are independent, the correlations with the AGC subscales were left out of these analyses.

Expected differences between correlations were tested with the null-hypothesis that these correlations were equal. If a correlation between a scale and a same-method scale (r_{12}) was stronger than the correlation between this scale and an other-method scale (r_{13}), this difference was tested one-sided using Steiger's (1980) formulas (14) and (15) for Z_1^* and Z_2^*, based on improved versions of Fisher's r to z formula. This formulas account for the shared variance between two scales of which the associations with another scale are compared (r_{23}).

To detect possible associations between specific scales, we inspected strength and significance of the various correlations between scales in both groups. When implicit and explicit God representation scales both correlated significantly with the same implicit or explicit object-relations scale, partial correlations were computed to test if there was a unique contribution of the implicit God representation scales in explaining the variances in the object relation scales.

Results were computed separately for the non-clinical and clinical group, to control for the possibility that suffering or not suffering from psychopathology as a third variable would be a potential moderator of the found associations.

Results

Associations Between Implicit and Explicit Object-Relations Scales

In none of the two groups there were any significant correlations between the implicit and the explicit object-relations scales. In the non-clinical group, 8 of the 12 correlations were weaker than r=.10 (absolute value). The two strongest correlations, that of SCORS CR with BORI SI and ALN, respectively r = .20 and r = .19, were unexpectedly positive. In the clinical group, 9 of the 12 correlations were weaker than r = .10 (absolute value). Here the two strongest correlations, that of SCORS EI with BORI IA and EGC, both r = -.11, were in the expected direction (see also Table 2).

Table 2. *Correlations Between Implicit and Explicit Object-Relations Scales*

SCORS scales		BORI scales							
		Non-clinical group				Clinical group			
		ALN	IA	EGC	SI	ALN	IA	EGC	SI
CR	*r*	.19	.11	.03	.20	-.07	.00	.07	-.04
	p	.108	.384	.834	.095	.558	.991	.554	.770
AT	*r*	-.09	-.04	-.09	-.12	.03	-.05	.07	.07
	p	.442	.772	.449	.327	.779	.671	.558	.068
SC	*r*	-.05	.05	-.12	.04	.05	.07	.10	-.00
	p	.709	.711	.320	.76	.688	.564	.417	.983
EI	*r*	-.06	.07	-.07	.00	-.02	-.11	-.11	-.02
	p	.617	.593	.582	.985	.865	.358	.334	.840

NOTE: ALN = Alienation; IA = Insecure attachment; EGC = Egocentricity; SI = Social incompetence CR = Complexity of representations of others; AT = Affect tone of relationships; SC = Understanding of social causality; EI = Capacity for emotional investment in relationships and moral standards

Solutions of the Multidimensional Scaling Method

For the non-clinical group, a Torgerson start configuration using ordinal level yielded a two dimension solution of NRS = .06. A random start with 1000 trials (ordinal) yielded a two dimension solution with an NRS of .05. Therefore we chose the random start solution (see Figure 1, with smaller differences indicating stronger associations).

The scales with the poorest fit were SCORS scale AT, NRS = .11, ATGR scale Complexity, NRS = .09, QGR scale Passivity, NRS = .08, and SCORS scale CR, NRS = .07.

Because we consider the TAT scales to be well-validated implicit measures, we placed them, together with the ATGR scales, at the lower side of the vertical dimension, assuming that this dimension represented an implicit-explicit factor. The horizontal dimension might then be interpreted as a conceptual factor, representing the difference between God representations (left side) and interpersonal representations (right side). Overall, in the non-clinical group the locations of the various scales seemed to undergird the validity of the implicit God representation scales.

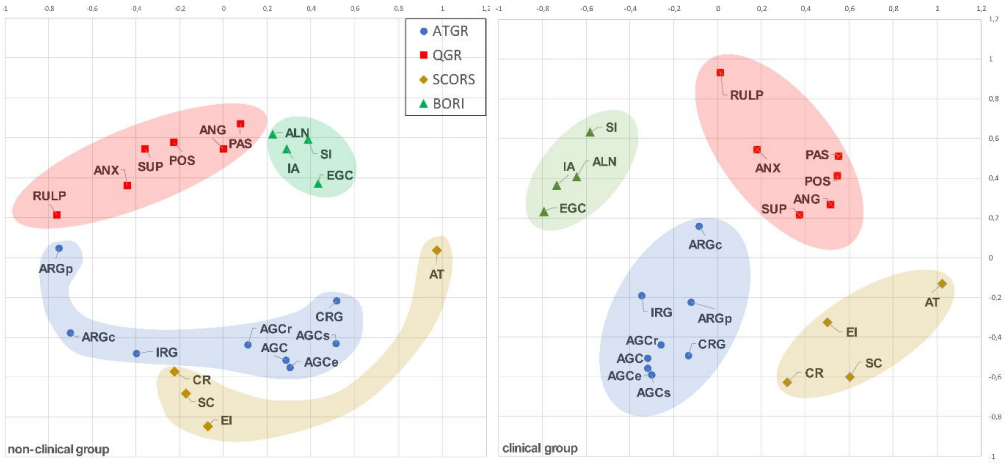

Figure 1. Plot of the estimated locations of the implicit and explicit God re-presentation and object-relations scales for the non-clinical group (left) and the clinical group (right).

CRG= Complexity, ARGp = Affect Tone person, ARGc = Affect Tone character, IRG = Investment, AGC = Agency; POS = Positive; ANX = Anxious, ANG = Anger, SUP = Supportive, RULP = Ruling/punishing, PAS = Passivity; POS = Positive; ANX = Anxious; ANG = Anger; SUP = Supportive; RULP = Ruling/punishing; PAS = Passivity; CR = Complexity of representations; AT = Affect tone of relationships; EI = Emotional Investment; SC = Understanding of social causality; ALN = Alienation; IA = Insecure attachment; ECG = Egocentricity; SI = Social inadequacy

For the clinical group, starting with the classical Torgerson configuration and treating distances as ordinal yielded a two-dimension solution with a stress-value of NRS = .04; Starting with a random figuration and 1000 trials yielded the same NRS stress-value of .04 for a two-dimension solution. We chose the solution from the random start procedure (see Figure 1) because it positioned the AT scale more in accor-

dance with our theoretical expectations. The scales with the poorest fit were SCORS scale AT, NRS = .14, and QGR scale Ruling/punishing, NRS = .13.

This solution was theoretically more difficult to explain than the solution for the non-clinical group. Holding on to the TAT and the ATGR scales as positioned on the low side of a dimension that represents an implicit-explicit factor, the horizontal dimension could not easily be interpreted as conceptual, representing God representations versus interpersonal representations. Therefore the positions of the explicit object relations scales on the vertical dimension (left side) were too different from that of the implicit object relations scales (right side). Table 3 shows the by MDS estimated distances between all scales for both groups.

Associations of Explicit Versus Implicit God Representation Scales With Explicit Object- Relations Scales

Correlations between scales for the non-clinical group. In line with our expectations, explicit God representation scales correlated to a greater extent than implicit God representations with the explicit object-relations scales. Comparing the absolute strength of correlations of explicit God representation scales versus implicit God representations scales (only the main scales) with the explicit object-relations scales, 82% (98/120) of the comparisons had stronger correlations for the explicit God representation scales (see also Table 4). A binomial test indicated that this proportion was significantly higher, $p < .001$, one-sided, than a proportion of 0.50. Of this 98 stronger correlations, 37% (36 compared correlations) had significantly stronger correlations for the explicit versus the implicit God representation scales, tested one-sided. The explicit object relations scales ALN and IA were, more often than the EGC and SI scales, significantly stronger associated with explicit than with implicit God representation scales.

Fifty percent (12/24) of the correlations between the explicit God representation scales and the explicit object-relations scales were significant, whereas only 9% (3/32) of the correlations between the implicit God representation scales and the explicit object-relations scales were significant. Ten of them were highly significant, all in the expected direction. QGR Anxiety had the strongest correlations with all four BORI scales, ranging between $r = .33$ and $r = .47$. Table 5 shows the correlations of the implicit and explicit God representation scales with the implicit and explicit object relations for both groups. The partial correlations of Complexity with IA and SI, controlling for the correlations with the QRG scales, were non-significant; the correlation between Agency-r and EGC increased in strength, $r = -.377$, $p = .002$.

Table 3. *By MDS Estimated Distances Between all Scales for Both Groups*

		Implicit ATGR scales								Explicit QGR scales						Implicit SCORS				Explicit BORI scales			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Implicit ATGR scales																							
1	Complexity		0.7	0.3	0.4	0.2	0.2	0.1	0.2	1.1	1.1	1.0	0.9	1.4	1.2	0.5	1.2	0.7	0.7	1.0	1.0	1.0	1.2
2	Affect Tone character	1.2		0.4	0.4	0.7	0.8	0.6	0.8	0.7	0.5	0.6	0.5	0.8	0.7	0.9	1.1	0.8	1.0	0.6	0.7	0.7	0.7
3	Affect Tone person	1.3	0.4		0.2	0.3	0.4	0.3	0.4	0.9	0.8	0.8	0.7	1.2	1.0	0.6	1.2	0.6	0.8	0.8	0.9	0.8	1.0
4	Investment	1.0	0.3	0.6		0.3	0.4	0.3	0.4	1.1	0.9	1.0	0.8	1.2	1.1	0.8	1.4	0.9	1.0	0.7	0.7	0.6	0.9
5	Agency	0.4	1.0	1.2	0.7		0.1	0.1	0.0	1.3	1.2	1.1	1.0	1.5	1.3	0.6	1.4	0.8	0.9	1.0	1.0	0.9	1.2
6	Agency-s	0.2	1.2	1.4	0.9	0.2		0.2	0.0	1.3	1.2	1.2	1.0	1.6	1.4	0.6	1.4	0.8	0.9	1.1	1.0	1.0	1.3
7	Agency-r	0.5	0.8	1.0	0.5	0.2	0.4		0.1	1.2	1.1	1.0	0.9	1.4	1.2	0.6	1.3	0.8	0.9	0.9	0.9	0.9	1.1
8	Agency-e	0.4	1.0	1.2	0.7	0.0	0.2	0.2	0.0	1.3	1.2	1.2	1.0	1.5	1.4	0.6	1.4	0.9	0.9	1.0	1.0	0.9	1.2
Explicit QGR scales																							
9	Positive	1.1	1.1	0.7	1.1	1.2	1.3	1.1	1.2		0.4	0.1	0.3	0.7	0.1	1.1	0.7	0.7	1.0	1.2	1.3	1.3	1.1
10	Anxious	1.1	0.8	0.4	0.8	1.1	1.2	1.0	1.2	0.3		0.4	0.4	0.4	0.4	1.2	1.1	0.9	1.2	0.8	0.9	1.0	0.8
11	Anger	0.9	1.2	0.9	1.1	1.1	1.1	1.0	1.1	0.2	0.5		0.2	0.8	0.2	0.9	0.6	0.6	0.9	1.2	1.3	1.3	1.2
12	Supportive	1.2	1.0	0.6	1.0	1.2	1.3	1.1	1.3	0.1	0.2	0.4		0.8	0.3	0.8	0.7	0.6	0.8	1.0	1.1	1.2	1.0
13	Ruling/punishing	1.4	0.6	0.2	0.8	1.3	1.4	1.1	1.3	0.6	0.4	0.8	0.5		0.7	1.6	1.5	1.4	1.6	0.8	0.9	1.1	0.7
14	Passivity	1.0	1.3	1.0	1.2	1.2	1.2	1.1	1.2	0.3	0.6	0.2	0.5	1.0		1.2	0.8	0.8	1.1	1.2	1.3	1.4	1.1
Implicit SCORS scales																							
15	CR	0.8	0.5	0.8	0.2	0.5	0.8	0.4	0.5	1.1	1.0	1.1	1.1	1.0	1.3		0.9	0.4	0.3	1.4	1.4	1.4	1.5
16	AT	0.5	1.7	1.7	1.5	0.9	0.7	1.0	0.9	1.3	1.5	1.1	1.4	1.7	1.1	1.3		0.6	0.6	1.8	1.8	1.9	1.8
17	SC	0.9	0.8	1.1	0.5	0.5	0.7	0.4	0.5	1.4	1.3	1.4	1.4	1.3	1.5	0.3	1.4		0.3	1.4	1.4	1.4	1.4
18	EI	0.8	0.6	0.9	0.3	0.5	0.7	0.4	0.5	1.3	1.1	1.2	1.2	1.1	1.4	0.1	1.4	0.2		1.6	1.6	1.6	1.7
Explicit BORI scales																							
19	ALN	0.9	1.4	1.1	1.3	1.1	1.1	1.1	1.2	0.5	0.7	0.2	0.6	1.1	0.2	1.3	0.9	1.5	1.4		0.1	0.2	0.2
20	IA	0.8	1.4	1.2	1.2	1.1	1.0	1.0	1.1	0.5	0.8	0.3	0.7	1.1	0.2	1.2	0.9	1.4	1.3	0.1		0.1	0.3
21	EGC	0.6	1.4	1.2	1.2	0.9	0.8	0.9	0.9	0.7	0.9	0.5	0.8	1.2	0.5	1.1	0.6	1.3	1.2	0.3	0.2		0.5
22	SI	0.8	1.5	1.3	1.3	1.1	1.0	1.1	1.1	0.6	0.9	0.4	0.7	1.2	0.3	1.3	0.8	1.5	1.4	0.2	0.1	0.2	

NOTE: CR = Complexity of representations of others; AT = Affect Tone of relationships; SC = Understanding of social causality; EI = Capacity for emotional investment in relationships and moral standards; ALN = Alienation; IA = Insecure attachment; EGC = Egocentricity; SI = Social incompetence. Smaller distances indicate stronger association

Table 4. *Numbers of Stronger Correlations of Explicit than Implicit God Representation Scales with Explicit Object-Relations Scales*

QGR scales	BORI scales									
	Non-clinical					Clinical				
	ALN	IA	EGC	SI	Total	ALN	IA	EGC	SI	Total
Positive	5	5	$2^{1,3}$	5	17	1^{3}	1^{1}	1^{3}	5	8
Anxious	$4^{2,3,4,5}$	5	$2^{1,3}$	$3^{3,4,5}$	14	$4^{1,2,3,5}$	$3^{1,3,5}$	$2^{1,3}$	5	14
Anger	5	5	5	5	20	0	1^{1}	1^{3}	0	2
Supportive	5	$4^{2,3,4,5}$	$2^{1,3}$	$4^{2,3,4,5}$	15	1^{3}	$2^{1,4}$	$2^{1,3}$	5	10
Ruling/punishing	5	$3^{2,4,5}$	$2^{1,4}$	$3^{3,4,5}$	13	1^{3}	1^{1}	0	0	2
Passivity	5	5	5	$4^{2,3,4,5}$	19	1^{3}	1^{3}	1^{3}	5	8
Total	29	27	18	24	98/120	8	9	7	20	44/120

NOTE: ALN = Alienation; IA = Insecure attachment; EGC = Egocentricity; SI = Social incompetence; CR = Complexity of representations of others; [1] = Complexity of representation of God; [2] = Affect tone of the relationship with God-character; [3] = Affect tone of the relationship with God-person; [4] = Emotional Investment in the relationship with God; [5] = AGC (ATGR Scales with smaller correlations with the BORI scale than the QGR scale)

Correlations between scales for the clinical group. Comparing the absolute strength of correlations of explicit God representations scales versus implicit God representation scales (only the five main scales) with the explicit object-relations scales in the clinical group, against expectations only 37% (44/120) of the comparisons had stronger correlations for the explicit God representation scales (see also Table 4). This proportion was significantly lower, $p = .002$, one-sided, than a proportion of 0.50. Testing one-sided, none of this 44 comparisons yielded significant differences. Testing two-sided for stronger correlations of implicit than explicit God representation scales with explicit object-relations scales, the Investment scale correlated significantly stronger than the Ruling/punishing scale with Egocentricity.

Also against our expectations, the number of significant correlations between implicit God representation scales and explicit object-relations scales, 9% (3/32), was not smaller than the number of significant correlations between explicit God representation scales and explicit object-relations scales, 8% (2/24). After controlling for the correlations with the QGR scales, the correlations of Investment with ALN and EGC remained significant, the correlation between Affect tone character and IA became nonsignificant.

Table 5. *Correlations Between God Representations Scales And Object-Relations Scales*

God representation scales		Object-relations scales															
		Non-clinical group								Clinical group							
		Implicit SCORS scales				Explicit BORI scales				Implicit SCORS scales				Explicit BORI scales			
		CR	AT	SC	EI	ALN	IA	EGC	SI	CR	AT	SC	EI	ALN	IA	EGC	SI
Implicit ATGR scales																	
Complexity	*r*	.10	-.18	.15	-.03	-.11	**-.24***	-.02	**-.27***	**.33****	-.01	.14	**.30****	-.22	.00	-.10	-.11
	p	.415	.137	.22	.784	.363	.042	.887	.021	.004	.948	.223	.009	.066	.98	.405	.336
Affect Tone character	*r*	**.25***	.00	**.27***	.03	-.05	-.03	-.17	-.12	.17	.23	.03	**.23***	-.16	**-.25***	-.22	-.11
	p	.033	.98	.024	.783	.692	.836	.17	.322	.158	.052	.773	.045	.165	.032	.055	.351
Affect Tone person	*r*	.07	-.17	.07	-.12	-.03	.07	.01	-.05	.21	.06	.15	.18	-.07	-.12	-.02	-.11
	p	.58	.146	.585	.332	.776	.557	.954	.654	.074	.607	.197	.127	.541	.328	.88	.339
Investment	*r*	**.28***	-.12	**.36****	.16	-.07	.02	-.19	-.01	**.31****	.08	.19	.21	**-.33****	-.23	**-.33****	-.12
	p	.02	.30	.002	.189	.542	.893	.117	.97	.007	.506	.114	.076	.004	.054	.005	.317
Agency	*r*	**.25***	-.09	**.34****	**.26***	-.06	-.03	-.22	-.04	**.31****	.00	.13	**.30****	-.22	-.21	-.21	-.08
	p	.039	.445	.004	.027	.624	.799	.063	.749	.008	.975	.254	.009	.066	.075	.075	.528
Agency-s	*r*	.10	.11	.14	.09	-.06	-.09	-.22	-.07	**.29***	-.08	.12	**.25***	-.21	-.19	-.18	-.08
	p	.413	.37	.251	.443	.626	.449	.068	.545	.013	.507	.321	.03	.073	.105	.119	.518
Agency-r	*r*	**.26***	-.07	**.32****	.23	-.03	-.02	**-.30***	.10	**.32****	.06	.09	**.28***	-.20	-.17	-.15	-.10
	p	.029	.560	.006	.051	.831	.894	.012	.428	.006	.618	.448	.017	.091	.145	.203	.414
Agency-e	*r*	.21	-.06	**.31****	**.28***	-.06	-.05	-.19	-.06	**.32****	-.00	.09	**.30***	-.18	-.20	-.20	-.07
	p	.077	.60	.008	.019	.632	.68	.106	.596	.006	.981	.426	.01	.125	.089	.096	.569
Explicit QGR scales																	
Positive	*r*	-.05	.03	.02	.07	**-.38****	**-.34****	-.10	**-.31****	.18	.13	.14	**.27***	-.13	-.07	.06	-.17
	p	.671	.828	.852	.565	.001	.004	.433	.01	.134	.256	.239	.021	.254	.568	.643	.138
Anxious	*r*	-.03	.08	.04	.07	.09	**.29***	.09	.12	**-.27***	.00	-.07	-.10	**.28***	.22	.20	**.27***
	p	.825	.501	.73	.56	.437	.014	.446	.323	.022	.991	.558	.389	.017	.061	.083	.021
Anger	*r*	.19	-.05	.13	.04	**.47****	**.44****	**.33****	**.36****	-.21	.02	-.19	**-.28***	-.05	.02	-.07	-.01
	p	.112	.671	.299	.71	<.001	<.001	.004	.002	.079	.846	.115	.016	.703	.872	.575	.91
Supportive	*r*	-.07	-.13	.02	.03	**-.33****	-.21	-.09	-.21	.20	.06	**.26***	**.37****	-.16	-.16	-.11	-.13
	p	.54	.301	.856	.776	.004	.084	.466	.073	.092	.588	.025	.001	.18	.164	.368	.267
Ruling/punishing	*r*	-.10	-.07	-.02	.11	-.19	.04	-.12	-.10	-.19	.14	-.02	.11	-.10	.09	.01	-.07
	p	.408	.579	.865	.374	.108	.774	.324	.398	.111	.239	.854	.337	.381	.428	.956	.53
Passivity	*r*	**.26***	.07	.03	.08	**.36***	**.26***	**.33****	.22	.01	-.11	-.10	**-.24***	.10	.10	.03	.15
	p	.027	.586	.839	.513	.002	.029	.005	.063	.949	.363	.378	.044	.39	.414	.821	.205

NOTE: CR = Complexity of representations of others; SC = Understanding of social causality; EI = Capacity for emotional investment in relationships and moral standards; ALN = Alienation; IA = Insecure attachment; EGC = Egocentricity; SI = Social incompetence

*= significant at the .05 level; ** = significant at the .01 level

Associations of Implicit Versus Explicit God Representation Scales with Implicit Object-relations Scales

Correlations between scales for the non-clinical group. Comparing the absolute strength of correlations of implicit God representation scales (only the five main scales) versus explicit God representations scales with the implicit object-relations scales in the non-clinical group, 75% (90/120) of the comparisons had stronger correlations for the implicit God representation scales (see also Table 6). A binomial test indicated that this proportion was significantly higher, $p < .001$, 1-sided, than a proportion of 0.50. Of these 90 stronger correlations, for 11 (12%) the differences between the correlations were significant. In all of these cases, it was the implicit object-relations scale SC that correlated more strongly with implicit than with explicit God representation scales.

In line with our expectations, the number of significant correlations between implicit God representation scales and implicit object-relations scales, 34% (11/32), was larger than the number of significant correlations between explicit God representation scales and implicit object-relations scales, 4% (1/24).

Five ATGR scales correlated highly significantly or significantly with SC, four ATGR scales correlated significantly with CR, and two ATGR correlated significantly with EI. None of the ATGR scales correlated significantly with AT. All significant correlations were positive, as expected.

Against expectations, the implicit God representation scale Complexity did not correlate most strongly with the implicit object-relations scale CR, but with SC. Investment did not correlate most strongly with EI, but with SC. Agency correlated most strongly with SC, as expected, but SC correlated stronger with Investment than with Agency.

Of the explicit God representation scales, QGR Passivity correlated significantly with CR, but this correlation was, against predictions, positive. Controlling for all QGR scales, all 11 significant correlations between implicit God representations scales and implicit object relations scales remained significant.

Correlations between scales for the clinical group. Comparing the absolute strength of correlations of implicit God representation scales (only the five main scales) versus explicit God representations scales with the implicit object-relations scales in the clinical group, 58% (69/120) of the comparisons had stronger correlations for the implicit God representation scales (see also Table 6). This proportion was significantly higher, $p < .041$, 1-sided, than a proportion of 0.50. Only three of these comparisons had significantly stronger correlations for the implicit God representation scales: Complexity, Investment, and Agency correlated more strongly than Passivity with the implicit object-relations scale CR.

Table 6. *Numbers of Stronger Correlations of Implicit than Explicit God Representation Scales with Implicit Object-Relations Scales*

ATGR-scales	SCORS scales									
	Non-clinical					Clinical				
	CR	AT	EI	SC	Total	CR	AT	EI	SC	Total
Complexity	$3^{1,2,4}$	6	0	6	15	6	1^{2}	$5^{1,2,3,5,6}$	$4^{1,2,5,6}$	16
Affect Tone character	5^{1-5}	0	0	6	11	1^{6}	6	$2^{2,5}$	1^{5}	10
Affect Tone person	$2^{1,2}$	6	6	$5^{1,2,4,5,6}$	19	$5^{1,3,4,5,6}$	$2^{2,3}$	$2^{2,5}$	$4^{1,2,5,6}$	13
Investment	6	$5^{1,2,3,5,6}$	6	6	23	6	$3^{2,3,4}$	$2^{2,5}$	$4^{1,2,5,6}$	15
Agency	5^{1-5}	$5^{1,2,3,5,6}$	6	6	22	6	1^{2}	$5^{1,2,3,5,6}$	$3^{2,5,6}$	15
Total	21	22	18	29	90/120	24	13	16	16	69/120

NOTE: CR = Complexity of representations; AT = Affect tone of relationships; EI = Emotional Investment; SC = Social causality. [1] = Positive; [2] = Anxious; [3] = Anger; [4] = Supportive; [5] = Ruling/punishing; [6] = Passivity (QGR Scales with smaller correlations with the SCORS scale than the ATGR scale)

Also in line with our expectations, there were relatively more significant correlations between implicit God representation scales and implicit object-relations scales, 38% (12/32), than between explicit God representation scales and implicit object-relations scales, 25% (6/24). All correlations except three correlations with the AT scale were in the expected direction.

Of the implicit ATGR scales, six scales correlated significantly (five of them highly significantly) with the implicit object-relations scale CR, and also six scales correlated significantly (two of them highly significantly) with the implicit object-relations scale EI. None of the ATGR scales correlated significantly with the object-relations scales AT and SC.

Complexity correlated most strongly with the implicit object-relations scale CR, as expected, and vice versa, CR also had its strongest correlation with Complexity. Against expectations, Investment did not correlate most strongly with EI, but with CR, and Agency did not correlate most strongly specifically with EI, but also with CR.

Of the explicit QGR scales, four scales correlated significantly with EI, one scale correlated significantly with CR, and also one scale correlated significantly with SC. None of the QGR scales correlated significantly with AT.

From the 12 significant correlations between implicit God representations and implicit object-relations scales, seven remained significant after controlling for the correlations with all QGR scales: Complexity, Agency-r, and Agency-s with CR; and Agency and Agency-e with CR and EI.

Associations of Explicit God representations Scales with Explicit Versus Implicit Object-Relations Scales

Correlations between scales for the non-clinical group. Comparing the absolute strength of correlations of explicit God representation scales with explicit versus implicit object-relations scales in the non-clinical group, 93% (89/96) of the comparisons had stronger correlations for the explicit object-relations scales (see also Table 7). A binomial test indicated that this proportion was significantly higher, $p <$ .001, 1-sided, than a proportion of 0.50. Of these comparisons, 28 (31%) had significantly stronger correlations, tested one-sided. Positive and Anger had the most significantly stronger correlations with explicit than with implicit object-relations scales; Passivity had none. Half of the significantly stronger associations was with the explicit object-relations scale ALN.

Table 7. *Numbers of Stronger Correlations of Explicit God Representation Scales with Explicit than with Implicit Object-Relations Scales*

QGR-scales	BORI-scales									
	Non-clinical					Clinical				
	ALN	IA	EGC	SI	Total	ALN	IA	EGC	SI	Total
Positive	4	4	4	4	16	0	0	0	$2^{2,4}$	2
Anxious	4	4	4	4	16	4	$3^{2,3,4}$	$3^{2,3,4}$	4	14
Anger	4	4	4	4	16	1^{2}	0	1^{2}	0	2
Supportive	4	4	$3^{1,3,4}$	4	15	1^{2}	1^{2}	1^{2}	1^{2}	4
Ruling/punishing	4	1^{4}	4	$3^{1,2,4}$	12	1^{4}	1^{4}	0	1^{4}	3
Passivity	4	$3^{2,3,4}$	4	$3^{2,3,4}$	14	1^{1}	1^{1}	1	$3^{1,2,4}$	6
Total	24	20	23	22	89/96	8	6	6	11	31/96

NOTE: ALN = Alienation; IA = Insecure attachment; EGC = Egocentricity; SI = Social incompetence; [1] = Complexity of representations; [2] = Affect tone of relationships; [3] = Emotional investment; [4] = Social causality (SCORS scales that correlate more weakly than the BORI scale with the QGR scale)

Also in line with our expectations, there were relatively more significant correlations between explicit God representation scales and explicit object-relations scales, 50% (12/24), than between explicit God representation scales and implicit object relations scales, 3% (1/32).

Correlations between scales for the clinical group. Comparing the absolute strength of correlations of explicit God representation scales with explicit versus implicit object-relations scales in the clinical group, only 32% (31/96) of the comparisons had stronger correlations for the explicit God representation scales (see also Table 7). This proportion was significantly lower, $p <$ .001, 1-sided, than a proportion of

0.50. Of these 31 comparisons, only two had significantly stronger correlations for explicit than explicit object-relations scales: Anxiety correlated significantly stronger with ALN and SI than with AT.

Also against our expectations, there were relatively less significant correlations between explicit God representation scales and explicit object-relations scales, 8% (2/24) than between explicit God representation scales and implicit object relations scales, 25% (6/24). All correlations between explicit God representations and implicit SCORS scales were in the expected direction, except the negative correlation between Ruling/punishing and EI.

Associations of Implicit God Representation Scales with Implicit Versus Explicit Object-Relations Scales

Correlations between scales for the non-clinical group. Comparing the absolute strength of correlations of implicit God representation scales (only the five main scales) with implicit versus explicit object-relations scales in the non-clinical group, in line with our expectations 64% (58/90) of the comparisons had stronger correlations for the implicit God representation scales (see also Table 8). A binomial test indicated that this proportion was significantly higher, $p < .002$, one-sided, than a proportion of 0.50. Of these 58 comparisons, seven (12%) had significantly stronger correlations for implicit object-relations scales. Six of these stronger correlations were with SC.

Also in line with our expectations, there were relatively more significant correlations between the implicit God representation scales and implicit object-relations scales, 34% (11/32) than there were between implicit God representation scales and explicit object relations scales, 9% (3/32).

Correlations between scales for the clinical group. Comparing the absolute strength of correlations of implicit God representation scales (only the five main scales) with implicit versus explicit object-relations scales in the non-clinical group, only a nonsignificant proportion of 51% (46/90) of the comparisons had stronger correlations for the implicit object-relations scales. The implicit AT scale correlated only five out of 20 times more strongly with implicit than with explicit God representation scales (see also Table 8). Leaving this scale out of the analysis yielded a significant proportion of stronger correlations in favor of the implicit object-relations scales of 61% (70/90), $p = .021$, one-sided. Two of the stronger correlations for implicit object-relations scales were significant: Complexity correlated significantly stronger with the implicit object-relations scales CR and EI than with the explicit object-relations scale IA.

In line with our expectations, there were relatively more significant correlations between implicit God representation scales and implicit object-relations scales, 38%

(12/32) than between implicit God representation scales and explicit object relations scales, 9% (3/32).

Table 8. *Numbers of Stronger Correlations of Implicit God Representation Scales with Implicit than with Explicit Object-Relations Scales*

ATGR-scales	SCORS-scales									
	Non-clinical					Clinical				
	CR	AT	EI	SC	Total	CR	AT	EI	SC	Total
Complexity	1^{4}	$2^{1,3}$	1^{3}	$2^{1,3}$	6	4	1^{2}	4	$3^{2,3,4}$	12
Affect Tone character	4	0	1^{2}	4	9	$2^{1,4}$	$3^{1,3,4}$	$3^{1,3,4}$	0	8
Affect Tone person	$3^{1,3,4}$	4	4	$3^{1,3,4}$	14	4	1^{3}	4	4	13
Investment	4	$3^{1,2,4}$	$3^{1,2,4}$	4	14	$2^{2,4}$	0	1^{4}	1^{4}	4
Agency	4	$3^{1,2,4}$	4	4	15	4	0	4	1^{4}	9
Total	16	12	13	17	58/90	17	5	17	9	46/90

NOTE: CR = Complexity of representations of others; AT = Affect Tone of relationships; SC = Understanding of social causality; EI = Capacity for emotional investment in relationships and moral standards; [1] = Alienation; [2] = Insecure Attachment; [3] = Egocentricity; [4] = Social Inadequacy (BORI scales that correlate more weakly than the SCORS scale with the ATGR scale)

Discussion

This study examined the validity of the six SCORS-based scales of the ATGR, a recently developed instrument for measuring implicit God representations, by comparing associations of scales of this implicit instrument with the scales of an explicit God representation instrument, and with scales of implicit and explicit measures of object-relational functioning.

Associations Between Implicit and Explicit Measures of God Representations and Object-Relational Functioning

Non-clinical group. For the non-clinical group, results of MDS and inspection of significant correlations confirmed our expectations that: a) explicit God representation scales were more strongly than implicit God representation scales associated with explicit object relation scales; b) implicit God representation scales were more strongly than explicit God representation scales associated with implicit object relation scales; c) explicit God representation measures were more strongly associated with explicit than with implicit object-relations measures; and d) implicit God representations were associated more strongly with implicit than with explicit measures of object-relations.

Clinical group. For the clinical group, results partly confirmed our expectations: implicit God representations were to a greater extent than explicit God representations associated with implicit measures of object-relations, and implicit God representations were associated more strongly with three of the four implicit OR scales than with explicit measures of object-relations. Results partly contradicted our expectations: implicit God representation scales were more strongly than explicit God representations scales associated with explicit measures of object-relations, and explicit God representation measures were less strongly associated with explicit than with implicit object-relations measures.

Overall conclusions about validity. Taken together, results in the non-clinical and in the clinical group were predominantly in line with our expectations, confirming the validity of the scales of the ATGR by demonstrating stronger associations with implicit than with explicit object-relations measures. The ATGR showed in both groups also incremental validity over explicit God representation measures by explaining unique variance in implicitly, but hardly in explicitly measured object-relational functioning.

Validity of the Two ATGR Affect Tone Scales

Results also undergirded our expectation about the distinction between ATGR Affect Tone person and Affect Tone character. In both groups there was virtually no association between the Affect Tone person scale and both the implicit (and explicit) object-relational scales, whereas the Affect Tone character scale showed a significant association with the implicit TAT CR and SC scales in the non-clinical group and with the implicit TAT EI scale and the explicit BORI IA scale in the clinical group. This suggests that the way the respondents describe the characters' affective relationship with God (Affect Tone character) represents their object-relational functioning to a larger extent than the description of their own relationship with God (Affect Tone person).

Difference Between Clinical and Non-Clinical Group in Associations of Implicit God Representations with Implicit Measures of OR

In the non-clinical group at least half of the implicit God representation scales were significantly (weakly or moderately) associated with complexity of representations of persons (CR) and with understanding of social causality (SC). Only two God representation scales were associated with emotional investment (EI). In the clinical group, however, nearly all implicit God representation scales were moderately associated with complexity of representations of persons (CR), and significantly and weakly to

moderately with emotional investment (EI). In the clinical group, none of the ATGR scales was associated with understanding of social causality (SC).

A shift from 'understanding social causality' to 'emotional investment'. How might these differences between the two groups in patterns of correlations be explained? Probably in the non-clinical group understanding people's reasons for their actions (the more cognitive aspect of object-relational functioning), has a greater impact on functioning —including the impact on God representations— than in the clinical group. In the clinical group this cognitive capacity to understand people seems to lose its power to influence God representations, and emotional investment in relationships —a much more emotional aspect of object-relational functioning— takes over this influence. Persons in the clinical group, compared to persons in the non-clinical group, have a more egocentric and selfish attitude, and this might be expressed in lower scores on most implicit God representation scales. The decreasing influence of the capacity to understand social causality may also be viewed as the result of the already discussed inhibition of mentalization.

Complexity of representations as a central aspect. The other cognitive aspect of object-relational functioning, complexity of representations of people, was in both groups related to various aspects of God representations, but only in the clinical group it was significantly correlated with the complexity of representations of God, which was, in fact, the strongest correlation. Apparently, contrary to understanding of social causality, complexity of representations of people did not lose its influence on various aspects of God representations in the clinical group. The cognitive capacity to hold complex representations of people might be a more fundamental and structural aspect of object-relational functioning that is related to various aspects of God representations and which' influence is not moderated by patient status. The complexity of representations dimension, according to Eurelings-Bontekoe, Luyten, and Snellen (2009) most closely resemblances Kernberg's (1996) concept of identity diffusion versus integration. Apparently, both in the non-clinical as well as in the clinical group complexity of representations of others, that reflects level of maturity of object representations, was also related to maturity/healthiness of God representations.

Difference Between Non-clinical and Clinical Group in Associations of Explicit God Representations with Implicit and Explicit Measures of OR

Our results showed that whereas in the non-clinical group the explicit God representations were moderately associated with explicit, and hardly with implicit object-relational functioning, in the clinical group the pattern was inverse: here the explicit God representations were predominantly associated with implicit, and hardly with explicit object-relational functioning. This might partly be explained by the lower validity of the BORI scales in the clinical group. The BORI scales might be less sensitive in

a clinical group than in a non-clinical group. However, the findings may also represent real differences: self-reported God representation in the clinical group may be more strongly influenced by intuitive, implicit object-relational functioning than in the non-clinical group. This is in line with Schaap-Jonker, van der Velde, Eurelings-Bontekoe, and Corveleyn (2017), who also found that in their sample of mental health patients, of which 45% was diagnosed with a personality disorder, scores on explicit God representation scales showed a pattern of associations that was typical of the patient group and that was not found in the non-patient group: the combination of high scores on Ruling/punishing, on Anxious and on Angry. This may be the result of immature/pathological object-relational functioning in the patient group.

Wilson, Lindsey, and Schooler (2000) summarize some evidence that also shows that implicit attitudes are expressed in explicit measures; this, according to them, occurs when people have no capacity or motivation to retrieve their more recent, conscious explicit attitude and to override the implicit attitude. They explain this with the dual-attitude model of Wilson et al. (2000), developed within the framework of social cognition theory. This model assumes that in making evaluations about attitudes (defined as: 'a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor' (Eagly & Chaiken, 1993), and therefore in accordance with interpersonal representations), people sometimes have implicit and explicit evaluations about the same object. Implicit evaluations, also called 'stored evaluations', are often older, stemming from childhood, and come to mind automatically and very quickly, without awareness of where they come from. The accessibility of implicit evaluations varies, according to Fazio (1995); more accessible evaluations will be more easily activated and will more strongly bias the processing of relevant information. Explicit evaluations seem more like on-the-spot constructions, formed on the basis of information that is accessible at that specific moment in that context. The dual-attitude model does not elaborate much on structural factors that may influence this process of overriding explicit attitudes, and although Wilson, Lindsey and Schooler leave open the (in the domain of social cognition much questioned) possibility that more psychoanalytical constructs as suppression may account for this, they seem to prefer more contextual factors that obstruct the construction of explicit attitudes.

We think that psychoanalytically informed theories as object-relations theory and attachment theory might explain what might be going on among patients suffering from personality pathology. For example, Bateman and Fonagy (2010) describe how the process of mentalization, by which we implicitly and explicitly interpret the actions of ourselves and others, based on intentional mental states, may be disrupted for patients with most mental disorders. Based on behavioral, neurobiological, and neuroimaging studies, they suggest that the move from controlled to automatic mentalizing, or even eventually to non-mentalizing modes, is determined by attachment patterns.

Disruptions of early attachment processes, or childhood trauma, might impair the capacity for mentalizing and lower the threshold for switching from controlled to automatic mentalizing. Automatic mentalization might in turn be associated with the emergence of implicit object representations influencing the explicit God representations. Mentalization Based Therapy (MBT) has proved to be a valuable therapeutic application, especially for patients with borderline personality disorder (Bateman & Fonagy, 2010). All in all, our results might imply that, although mental health patients may not be aware of where their implicit representations stem from and what triggered them, they may be more easily expressed in explicit measures than is the case for non-patients.

Clinical Implications

In line with meta-analytic findings, results from this study show that God representations are associated with interpersonal representations. Among patients, suffering from cluster B or cluster C personality disorders, God representations are often more immature or pathological than among non-patients and related to their object-relational functioning.

The validity of self-report measures for assessing God representations is often questioned, but our results suggest that for patients suffering from personality pathology their implicit object-relational functioning is —to a greater extent than often thought— related to and expressed in these explicit God representation measures.

However, the implicit ATGR probably assesses God representations more validly than the QGR, especially with patients, because in the clinical group its scales were associated more strongly to implicitly as well as explicitly measured object-relational functioning than the GQR scales. This might lead therapists to consider using implicit God representation measures.

It may be of therapeutic value to know that for patients the most basic feature of identity diffusion versus integration, namely low complexity of interpersonal representations, is moderately associated with low complexity of God representations, but also with most other measured aspects of God representations, and that this also seems to be related to a more interpersonal egocentric attitude. It might give therapists an extra opportunity for therapeutic interventions, searching which type of representations —interpersonal or God representations— might be most viable for change and to focus on these specific features of the representations.

For patients from some orthodox denominations, their conceptual God representation (which may especially stress a judging/punishing God) may be most difficult to change, whereas patients from other denominations may more easily find strength in a conceptual God representation that emphasizes a loving and supporting God. There is some evidence that a decrease in emotional symptoms after therapy is related to positive change in God representations (Cheston, Piedmont, Eanes, & Lavin, 2003),

and we also assume that changing God representations will affect general underlying internal working models (Granqvist & Kirkpatrick, 2008) that might in turn change interpersonal representations. Perhaps interventions derived from Mentalisation Based treatment can also be applied to the changing of God representations, as Schaap-Jonker and Corveleyn (2014) suggest.

Limitations

In interpreting the results, it is important to bear in mind some specific limitations of this study. A first limitation is the focus of this study on Christian believers, which belong to only one of the possible monotheistic religions for which God representations may be a central factor. The scoring system might be suitable for adherents of other monotheistic religions too, but this would ask for an adjustment of the cards of the instrument because they contain specific Christian religious rituals and symbols. The samples of this study are even more specific, with almost all respondents belonging to Dutch Protestant denominations. Their doctrine and spirituality may differ from members of Protestant denominations in for example non-European or non-Western countries, and from members of Catholic denominations. Therefore the validity of our conclusions may be restricted to a specific Dutch group of Protestant Christians.

A second limitation of this study is its observational design, making it impossible to conclude causal relations. Therefore it is not clear whether interpersonal representations predominantly determine God representations, or if God representations (also) determine interpersonal representations, or even if a more general underlying relational schema, as a third factor, determines both types of representations. However, for the validation of the scales this limitation is not a major point.

A third limitation of this study pertains to the significant differences between the clinical and non-clinical group on various biographical variables that are also significantly associated with most ATGR scales. We reported about this in Stulp, Koelen, Glas, and Eurelings-Bontekoe (2019). Therefore the possibility that the differences in observed patterns of associations between the two groups —as discussed above— might be unrelated to having or not having a personality disorder cannot statistically be ruled out.

A fourth limitation are the low internal consistencies of some of the scales of this study: the ATGR scale Investment, the SCORS scale Affect Tone, one of the four translated BORI scales in the non-clinical group and three BORI scales in the clinical group. Differences in reliability between instruments may produce artefactual evidence of convergent and discriminant validity (Ong & Van Dulmen, 2006), because classical test theory states that the maximum attainable correlation between two measures is the square root of the product of their reliabilities. Especially the lower reliabilities of the three BORI scales in the clinical group might have resulted in lower

correlations with the implicit as well as the explicit God representation scales, compared to the correlations of the implicit object-relations scales with the implicit and explicit God representation scales. Although some researchers correct correlations by dividing them by the above-mentioned square root, this approach bears the risk of overcorrecting the correlations (Carmines & Zeller, 1979; McDonald, 2013). Moreover, for Alienation, the BORI scale that showed good reliability, strength of correlations with the God representation scales was similar to those of the other three BORI scales, suggesting that the lower reliabilities of the three BORI scales may not have led to faulty inferences.

A fifth limitation pertains to the relatively small samples. Conclusions were partly based on tests of the significance of proportions of stronger associations of a scale with same-method scales than with other-method scales, disregarding the magnitude of these differences. Our more rigid testing of the significance of these differences suffered from a lack of power. Differences between those two types of associations can be expected to be relatively small: weak correlations between different method scales versus moderate correlations between same-method scales. To call a difference between a weak correlation of .10 and a moderate correlation of .30 significant, testing one-sided (with also a weak correlation of .10 between the two compared measures), a sample of 117 subjects would be needed. Although combining our two samples would have yielded enough power, it would also have obscured the differences in patterns of associations between the non-clinical and the clinical group.

A sixth limitation of this study is that it remains unclear whether the stronger association between implicit scales are the result of same-method variance. It might be possible that implicit God representation scales correlated more strongly with implicit than with explicit object relation scales because both implicit instruments use comparable analyses of narratives. Although we cannot rule out this possibility, we assume that this effect is not as strong as it is for self-report instruments, with often verbal similarities between items of various scales.

Future Research

Further studies of the validity of the scales of this instrument will focus on the question whether the ATGR scales are more strongly than explicitly measured God representations associated with other related constructs such as core aspects of personality pathology. Also, we will investigate whether changes in therapy outcomes are related to changes in implicit God representations and whether these changes predict (some) therapy outcomes better than changes in explicitly measured God representations.

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