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

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Chapter 1.

Introduction

The Importance of Religion and Spirituality for Psychological Functioning

Although for a long time the influence of religiosity on mental health has been viewed as predominantly negative (Neeleman & Persaud, 1995), contemporary psychologists (Jones, 2008; Kirkpatrick & Shaver, 1990; Rizzuto, 1979) acknowledge its potential positive influence on various aspects of mental health. Koenig, McCullough, and Larson (2001) and Koenig, King, and Carson (2012) reviewed all available evidence about the associations between religion/spirituality and mental and physical health, and clearly demonstrated a predominantly positive influence of religiosity/spirituality on almost every aspect of mental (and physical) health. However, they also summarize studies that found no influence or even a negative influence, for example for patients suffering from cluster C Personality Disorders.

The importance and relevance of religion/spirituality for mental health for most of the world population is undergirded by the position statement of the World Psychiatry Association (WPA). Because of the existing evidence of its importance, the WPA has included R/S as a dimension of quality of life and states that all psychiatrists should take R/S into account, irrespective of their own spiritual, religious or philosophical orientation. This includes an understanding of religion and spirituality and their relationship to the diagnosis, etiology, and treatment of psychiatric disorders. The WPA also emphasizes the need for more research on R/S in psychiatry (Moreira - Almeida, Sharma, van Rensburg, Verhagen, & Cook, 2016).

There is no consensus about the definitions of religion and spirituality. Often spirituality refers to more individual and experiential states of mind —related to the transcendental, the sacred—, whereas religiosity is more often associated with membership of religious institutions and communities, with shared doctrinal beliefs and communal practices (Hill et al., 2000; Zinnbauer & Pargament, 2005).

Religiosity and spirituality are multi-layered phenomena and there is not much consensus about the mechanisms underlying the associations between R/S and well-being or distress (Ellison & Levin, 1998; Ellison, 1983; Hackney & Sanders, 2003; Pargament, 2001; Park, 2005). More insight is needed into which aspects of religiosity/spirituality are especially related to problematic psychological functioning, by obstructing the potential positive influence of R/S on mental health, or even by causing or enhancing distress. Hopefully, this will also lead to more insight into effective therapeutic interventions to influence these associations.

An important focus in studies into the associations between religion and mental health is on God representations. God representations can be described as mental

representations of a deity. There is a lack of conceptual clarity in defining God representations, and some other terms (God concept, God image) are also used frequently, referring to various aspects of God representations. An important distinction is that between head (doctrinal, conceptual, rational) or heart (experiential, affect-laden) knowledge of God (Sharp et al., 2019). We assume that for many adherents of theistic religions, and especially in Christianity, the personally experienced relationship with the god they believe in, is a very important aspect of R/S.

The two main theoretical frameworks about God representations and their development are object-relations theory and attachment theory. They both assume that personal representations of God are formed under the influence of early experiences with important caregivers, and that these mental representations are predominantly implicit, unconscious. The mental representations can be viewed as relational schemas or internal working models. These schemas and working models form the basis for interpersonal behavior.

Object-Relations Theory

Object-relations theories describe the development of internal, mental representations of self and important others and of the relationships between them. According to object relations theory (Fairbairn, 1954; Klein, 1946; Mahler, 1971; Winnicott, 1971), healthy internal working models involve integrated, symbolized, and predominantly positive representations of self and others, facilitating affect tolerance, affect regulation, tolerance of ambivalence, other forms of self-regulation, and the ability to understand the perspective of others. More pathological functioning is associated with difficulties in differentiating between the self and others, or in integrating positive and negative feelings about self and/or others. These difficulties often lead to emotional instability, the use of primitive defense mechanisms like splitting and projective identification, and to a tendency to view others as less benevolent and more judgmental or punitive (Huprich, Auerbach, Porcerelli, & Bupp, 2015; Kernberg & Caligor, 1996).

The principles of object relation theory have also been applied to the development of God representations. In her groundbreaking “Birth of the Living God”, Rizzuto (1979) builds on Winnicott’s (1971) concepts of transitional phenomena and of object use. Winnicott assumed that for a child the transition from an omnipotent stance to a phase of differentiation and separation is accompanied by disillusion. The child bridges this gap by creating transitional objects between inner and outer worlds to deal with the conflicts between these two worlds. According to Winnicott and Rizzuto, this ability to create and play does not lose its function: it serves as a life-long source to deal with reality and is related to art, culture, and religion. God representations emerge in this intermediate area and are based on all (positive and negative) early experiences with the caregivers, and on culturally existing images of God. For mature (religious) object-relational functioning, it is important that positive and negative aspects of representations of someone’s God can be integrated and that this God can be

viewed as benevolent instead of malevolent. In four case studies, Rizzuto (1979) demonstrated how troubled relationships with caregivers influenced patients' God representations and how the dynamic process of creating God representations functioned in a continuing effort to maintain a psychological equilibrium. There is also some quantitative evidence of the usefulness of object-relations theory in the domain of religion (Brokaw & Edwards, 1994; Hall & Brokaw, 1995; Stalsett, Engedal, & Austad, 2010; Tisdale, Key, Edwards, & Brokaw, 1997).

Attachment theory

Attachment theory is the second theoretical framework that may shed light on the associations between R/S and well-being or distress. The experienced relationship with God may be viewed as an attachment relationship. Attachment relationships serve two important functions. The first function is referred to as the *safe haven function* of the attachment relationship (Ainsworth, 1985b; Collins & Read, 1994). Theoretically, the attachment system is only activated in case of threat/danger that is severe enough to lead to feelings of insecurity. The system aims at restoring the normal sense of security. Persons differ in the strategies they use in trying to restore their sense of security (Bowlby, 1972). These strategies give rise to different attachment patterns, each of which is related to a specific internal working model of the attachment relationship. These internal working models (IWM's) consist of representations of self and (the availability of) important others (Bretherton & Munholland, 2008). Persons who are confident of the availability, responsiveness and helpfulness of attachment figures in stressful situations, who feel secure in exploring the world in the absence of threat, have a *secure attachment style*. Persons who are uncertain about this availability of the caregivers, become anxious and try, without much success, to reduce their anxiety by clinging to the attachment figure, have an *anxious attachment style*. People who also don't have much confidence in the availability of the attachment figure, but —when feeling threatened— abstain from seeking support from their caregivers, have an *avoidant attachment style*, and may give the impression of being self-reliant (Ainsworth, 1972, 1985a, 1985b; Bartholomew & Horowitz, 1991; Hesse, 1999; Main, Goldwyn, & Hesse, 2008; Stayton, Ainsworth, & Main, 1973). Initially, Hazan and Shaver (1987) described only these three (adult) attachment styles, based on the major infant attachment styles, but Bartholomew & Horowitz (1991) called the avoidant attachment style *dismissing-avoidant* and added a new style: *fearful-avoidant*, that involved people that desire intimacy but distrust others and also avoid close relationships. Main & Solomon (1990) added for infant attachment the disorganized attachment style, characterized by the inability to maintain one coherent attachment strategy (Main & Solomon, 1990).

Mikulincer and Shaver (2012) demonstrated that insecure attachment patterns are related to psychopathology. Important supposed mechanisms at work are disturbed affect regulation and mentalization (Fonagy, Gergely, & Jurist, 2004).

The second function of the attachment relationship, referred to as the *secure base function* (Ainsworth, 1985b; Waters & Sroufe, 1977), is at work in the absence of threat/danger. It allows activation of the exploratory system, and consists of the notion of being guided and supported by the attachment figure.

In the last decade of the last century, attachment theory gave a great boost to research into God representations (Hall & Fujikawa, 2013). In this approach, attachment to God representations are viewed as a special form of relational representations. God can be viewed as the ultimate attachment (father) figure who is always present, knows and understands his children, and comforts, helps and guides them (Kirkpatrick and Shaver, 1990). The conceptualization of God as an attachment figure led to the hopeful idea that a secure attachment to God can compensate for insecure interpersonal attachments, as well as to the more pessimistic idea that interpersonal attachment styles correspond with one's attachment to God (Granqvist, 1998).

Most evidence seems to indicate that internal working models of interpersonal representations and of attachment to God representations correspond (Granqvist, Mikulincer, Gewirtz, & Shaver, 2012; Hall & Fujikawa, 2013). This correspondence explains why secure attachment to God is often positively associated with well-being (Belavich & Pargament, 2002; Feenstra & Brouwer, 2008; Kirkpatrick & Shaver, 1990; Kirkpatrick & Shaver, 1992), and why insecure attachment to God is often associated with distress and symptoms of mental problems (Ano & Pargament, 2013; Bickerton, Miner, Dowson, & Griffin, 2015; Bradshaw, Ellison, & Marcum, 2010; Exline, Pargament, Grubbs, & Yali, 2014; Hancock & Tiliopoulos, 2010; Homan, 2010, 2014; Homan, McHugh, Wells, Watson, & King, 2012; Kézdy, Martos, & Robu, 2013; Knabb, 2014; Knabb & Pelletier, 2014; Miner, Dowson, & Malone, 2013, 2014; Reiner, Anderson, Elizabeth Lewis Hall, & Hall, 2010; Sandage & Jankowski, 2010).

The Necessity for Developing an Implicit God Representation Measure

Problems with self-report measures

Self-report measures are known to be susceptible to social desirability effects (Van de Mortel, 2008). For religious measures, a doctrine effect may also exist: persons who, often literally 'in good faith' report what they, according to their faith system, should feel or think, instead of reporting their actual feelings or thoughts (Brenner, 2017; De Lely, van den Broek, Mulder, & Birkenhäger, 2009; Eurelings - Bontekoe & Luyten, 2009). Object-relations and attachment theory both emphasize the implicitness of internal working models. It is unknown and questionable whether self-report measures of God representations are able to assess implicit aspects of God representations. For this reason, researchers have plead for the development of implicit measures for assessing God representations (Birgegard & Granqvist, 2004; Gibson, 2008; Hall,

Fujikawa, Halcrow, Hill, & Delaney, 2009; Jong, Zahl, & Sharp, 2017; Sharp et al., 2019; Zahl & Gibson, 2012).

Other measurement issues

Besides the implicit aspects, there are other characteristics of God representations that are not captured well with existing measures. Both theoretical frameworks, namely object relations theory and attachment theory, consist of specific constructs that are not assessed with the existing range of self-report instruments of God representations.

Object relations theory is not only interested in the positive or negative content of (God) representations, but also in the structural aspects of these representations, with concepts as complexity, integration and differentiation (Kernberg, 1988, 1995). This implies that activated God representations may consist of various, often conflicting, thoughts, feelings and accompanying behavioral tendencies, and that persons may differ in the extent to which they are able to integrate these elements into a coherent response. Lack of tolerance of ambiguity may lead to the use of rigid defense mechanisms like splitting. Positive or good images and experiences of God are firmly separated from the negative or bad characteristics of God. Although for interpersonal object-relations a well-validated implicit measure exists, namely the Social Cognition and Object Relations system (SCORS, Westen, 1985) for coding responses on the Thematic Apperception test (TAT, Murray, 1943), for assessing and coding implicit aspects of God representations no such measure exists.

Most research on attachment to God is done with the social cognition approach, with assessment of attachment styles which heavily relies on self-report measures. Such measures exist for secure, anxious and avoidant attachment (to God) scales. The validity of especially avoidant attachment scales is questionable because of the tendency for people with this style to downplay their emotions and to 'faking good'. This may lead to results with self-report measures that are similar to the results of measures of secure attachment (Beck & McDonald, 2004; Bretherton & Munholland, 2008; Dozier & Kobak, 1992; Eurelings-Bontekoe, Verschuur, & Schreuder, 2003).

In the developmental attachment perspective, adult attachment models are based on representations of the adult's childhood relationship with primary caregivers. These models are mostly assessed with the well-validated Adult Attachment Interview (Bakermans-Kranenburg & Van IJzendoorn, 1993; Hesse, 1999, 2008). This measure assesses attachment representations, including an avoidant (or: in terms of adult attachment: *dismissing*) attachment style by analyzing formal aspects of the narrative instead of the content of responses. In that sense, the AAI may be considered as an implicit measure of attachment representations.

For interpersonal attachments, Roisman et al. (2007) demonstrated that the association between attachment as measured by the implicit AAI and explicit attachment style dimensions as measured by self-report, is trivial to small. We expect that for

attachment to God this will also be the case, indicating that explicit measures do not seem to assess implicit processes very well.

Gibson (2008) describes several measurement issues related to specific characteristics of God representations. People hold multiple schemas for God (for example doctrinal and experiential representations). Representations can differ strongly in complexity, seeing different roles and aspects of God. God representations are relational, implying that views of self influence how God is perceived, and vice versa. God schemas are dynamic 'working models', implying that various situations may activate various representations of God and of the self in relationship with God. A new measure should address (some of) the problems of identifying the implicit aspects of God representations.

Appropriateness of existing measures for patients suffering from personality pathology

Most God representation measures are only validated in non-clinical samples. An exception is the well-validated Questionnaire God Representations (QGR, Schaap-Jonker, 2008) that has also been validated for patient groups: results with this measure demonstrated some specific associations between negative aspects of God representations and indications of A- and C-cluster personality disorders (PD), based on self-report measures of pathology (Schaap-Jonker, Eurelings-Bontekoe, Verhagen, & Zock, 2002). Based on object-relations and attachment theory and also undergirded by the findings of Koenig et al. (2012), it seems that the relational problems of persons suffering from personality disorders may also negatively affect their God representations. Their problems not only seem to obstruct the buffer function of the relationship with God in coping with distress, but probably also directly add distress to the patient. Because these types of patients are known for their lack of self-insight (Eurelings-Bontekoe, Luyten, Remijnsen, & Koelen, 2010; Shedler, Mayman, & Manis, 1993), assessment of God representations with self-report may pose additional problems besides the already mentioned social desirability- and doctrine effects. In general, the existing self-report God representation measures don't seem to be developed or appropriate to assess negative aspects of God representations in patients with PD. Examples of characteristics of these inner representations are rigid defense mechanisms like splitting or projective identification, and a lack of differentiation between the self and God. We therefore think that implicit measures of God representations are needed, especially for patients suffering from personality disorders, and should be validated in appropriate samples.

The lack of well-validated measures for assessing implicit God representations

At the start of this thesis-project in 2012, to the best of our knowledge, there were no well-validated implicit measures of God representations. In two studies, an adaptation

of the AAI was used to assess implicit God representations. Marchal (2010), in a qualitative study with six subjects, found clear correspondence between implicit AAI state of mind classifications of adult attachment and of implicit attachment to God. Fujikawa (2010), in a study among 19 college students, found that the implicit state of mind classifications of adult attachment, measured with the AAI, and implicit attachment to God, measured with the Spiritual Experiences Interview (SEIn) were significantly associated. In one study (Proctor, Miner, McLean, Devenish, & Bonab, 2009), self-report assessment of attachment to God representations is questioned and the God Attachment Interview schedule (GAIS) has been developed because of the strength of interviews to tap both conscious and unconscious material. However, the analysis of the results of this interview is based only on the content of the narratives and only aims at assessing explicit God representations.

A recent overview of existing God representation measures (Sharp et al., 2019) confirms that at present, there still are no well-validated implicit God representation measures. Although another adaptation of the AAI (Granqvist & Main, 2017) has recently also been used to assess implicit God representations, the measure is not well-validated yet and definite results have not been published at the moment. A similar approach as Proctor et al. (2009) was conducted by Kimball, Boyatzis, Cook, Leonard, and Flanagan (2013), who developed a coding system for attachment to God language in interviews about religious experiences, but they did not qualify their measure as explicit or implicit. They also did not find statistically significant associations between their attachment to God measures and self-report measures of interpersonal attachment. Moradshahi, Hall, Wang, and Canada (2017) developed the Spiritual Narrative Questionnaire (QSN), a paper-and-pencil questionnaire with open end questions, to assess psychospiritual health from a relational spirituality perspective. One of its five aspects is secure attachment to God, assessing, in accordance with the AAI, the extent to which narratives are coherent, thorough, complete, and open. External validation took place with the explicit Spiritual Transformation Inventory (STI, Hall & Edwards, 1996, 2002), but the secure attachment to God scale was the only scale that did not correlate significantly with any of the STI subscales. One study (Olson et al., 2016) used a mixed method design by using both the explicit Attachment to God Inventory (AGI, Beck & McDonald, 2004; McDonald, Beck, Allison, & Norsworthy, 2005), and drawings of God and oneself that were analysed using a specially developed scoring system, with an attachment to God subscale. Although interrater reliabilities were excellent, also in case of untrained graduate students, the study regrettably did not examine the validity of this scale.

Another group of implicit God representation measures should not be left unmentioned here. This group refers to experimental procedures based on the reaction speed of respondents for categorizing presented stimuli. Results of this approach explain processes on an aggregate (group) level, and may therefore be useful for researchers,

but seem less suitable for assessment at an individual level (Sharp et al., 2019). Because individual differences in God representations cannot be related to differences in related variables, specific aspects of God representations may remain very unclear, which makes this approach less suitable for clinical use.

For clinical use Sharp et al. (2019) recommend performance based tests, and conclude that until now these measures (of which they found only seven) in general do not demonstrate much evidence of reliability or validity. However, anticipating the conclusions of this thesis, they consider the ATGR, the new measure developed in the current thesis project, to be the most thoroughly validated performance-based measure at the moment.

The Apperception Test God Representations (ATGR)

The ATGR is a performance based test for measuring implicit God representations. Analogous to the Thematic Apperception Test, (TAT, Murray, 1943) it consists of a series of cards (15) with pictures of more or less ambiguous situations, especially designed to elicit narratives that conceal object-relational and attachment functioning with regard to the God the person believes in. Westen (1985) developed a scoring system for TAT-narratives, the Social Cognition and Object Relations Scales (SCORS), to assess implicit relational functioning. For the ATGR, this coding system is adapted to make it suitable for God representations. Also, some experimental scales were added to focus specifically on attachment to God styles.

Psychological Theory, Religion, and this study's approach

In the domain of the psychology of religion, there exist various assumptions about the meaning and relevance of psychological descriptions and explanations of religion and religiosity. At the extremes, two opposite positions can be discerned. The first is the reductionist view that religious processes can fully be understood by psychological theories and grasped with scientific methods. In fact, this approach assumes that there is no transcendent reality. The content of God representations is purely made up out of psychological material. The second position states that there is a transcendent reality, that there is a divine being or power, that can only be experienced in a state of faith. These religious experiences can hardly (or, according to some, not) be approached by scientific methods. Nor can they be understood by psychological explanations that also play a role in explanations of non-religious behavior. Like most psychologists of religion, we see our position as somewhere in the middle of these extremes. We think that religious experiences cannot be reduced to psychological processes, but that they are partly 'determined' by them. Psychological processes are part of religious experiences and religious experiences are mediated by psychological

processes. It is like a house that is build-up by stones: the house consists of stones and it is also more: a home.

As a consequence we prefer psychological explanations of religious behavior that do not ‘explain away’ religious experiences by assuming that they are purely the product of infantile fears and desires, as Freud stated, or by assuming that the brain produces these experiences in dealing with unpredictable events, as is the explanation of the cognitive science of religion (although these approaches may discover things that we should not too easily put aside). We find the object-relation theory approach of religion of for example Winnicott and Rizutto more preferable, because they leave open the possibility that people can only fantasize about or create someone (in the transitional space) that somehow also really exists and who’s existence and attributes are conveyed by (religious) culture. And although the attachment theory may be interpreted along Freudian lines, as if God should be viewed as the ultimate attachment figure, and that he therefore can make up for failing interpersonal attachment relations, or that interpersonal attachment filters also determine the attachment to God, it also leaves open the possibility that our experienced relationship with God does not (primarily) stem from those interpersonal attachment experiences and might be obscured or supported by them. A more extreme position would be to start from the religious assumption that God, who has created us, has also given us a consciousness of and a longing for a relationship with him, and that, because our spiritual nature is more basic than our experiences with important caregivers, our interpersonal experiences are determined by the religious/spiritual reality (Miner, 2007).

In this study, although we especially examined associations between interpersonal and God representations, we tried to keep an openness for characteristics of religious experiences that differ from psychological experiences. The narrative method, in which respondents can report in their own words, contributes to that. But also in the coding of experiences, based on the SCORS scales for interpersonal representations, we adapted some categories of this system to fit more adequately to religious experiences. This is most clearly the case for the adaptation of the SCORS scale Understanding of Social Causality, that measures the extent to which respondents understand the behavior of others, by offering psychological explanations (motives, intentions, emotions) for their behavior. Actions of God are viewed quite different from human actions, and attributing them in a narrative is an act of faith. Gods influences can be seen as affecting situations or as directly affecting human’s feelings, or their will or motivation, their heart. In contrast to current psychological notions, external locus of control (agency attributed to God) instead of internal locus of control (agency attributed to the self) can —from a religious perspective— be viewed as more mature, and may also refer to notions of surrender to God as quite healthy. For depressed persons that are strongly demoralized, and do not believe that there is a positive force insides themselves that makes them yearn for a relationship with God, it might even be a comfort

to attribute to God the power to completely overrule their own will and personality. Instead of understanding God, it may be more important to believe that, although one does not understand what God does in his or her life, it will eventually turn out to take a turn for the better. This also refers to a more passive, receptive attitude than the usual favorable psychological attitude of internal locus of control.

Aims of the Thesis

The purpose of the studies conducted for this thesis was 1) to examine the associations between God representations and psychological functioning, in order to get more insight into the relevance of God representations for mental health, and 2) to describe the construction, reliability and validity of the ATGR

Research Questions

1. Do measures of God representations in general have stronger associations with well-being and distress than more general or behavioral measures of religiosity/spirituality?
2. Are God representations in general associated with indicators of interpersonal functioning as conceptualized by object-relations and attachment theory?
3. What is the reliability of the ATGR?
4. What is the validity of the ATGR?
5. Is the ATGR sensitive for changes in God representations after treatment and are these changes associated with changes in distress and relational functioning?

Outline of the thesis

Chapter 2. Chapter 2 addresses the first and second research questions. It describes the results of a meta-analysis investigating the associations between God representation measures on the one hand, and measures of distress and well-being, (object-relational) views of self and others, and neuroticism/worrying or hope, on the other. Six types of God representation measures were distinguished: secure attachment to God, anxious attachment to God, avoidant attachment to God, positive God representation, negative God representation, and God control.

Chapter 3. Chapters 3 to 6 address research questions 3 and 4. Chapter 3 describes the construction of the ATGR and of the separate scales that were based on object-relation theory. It reports the reliability of these scales. Validity of the ATGR scales was examined by comparing associations between the implicit ATGR scales and scores on explicitly and implicitly measured distress, with associations between explicit God representation scales and explicitly and implicitly measured distress. This has been done in both a clinical group and a nonclinical group. Evidence of validity

would be that associations between same-method variables are stronger than associations between mixed method variables.

Chapter 4. In chapter 4, the ATGR scale and subscales that were derived from attachment theory are described, as well as their reliability. The validity is examined in a similar way as for the object-relational God representation scales, described in chapter 3.

Chapter 5. In chapter 5, associations of the ATGR with explicit and implicit measures of object-relational (OR) functioning are compared with associations of explicit God representation scales with those OR-measures.

Chapter 6. In this chapter, associations of the ATGR with a self-report measure for personality functioning are described and compared with associations of explicit God representation scales with these personality functioning scales

Chapter 7. Chapter 7 addresses research question 5. In this last chapter, the sensitivity of the ATGR for changes in aspects of God representations is described, by examining differences between implicit God representation scores before and at the end of a therapy program of approximately 9 months. In addition, the association between changes in implicit God representations and changes in implicitly and explicitly measured distress and in explicitly measured object-relational functioning has been investigated.

In table 1 the contributions to the study of the various co-authors and others are summarized.

Table 1 *Contribution of PHD-Candidate, Co-authors and Others to the Study*

| | HS | LE | GG | JK | AS | PdH | StV | StL | Ps.Ass. |
|--|----|----|----|----|----|-----|-----|-----|---------|
| General design of the study | | | | | | | | | |
| Design | x | x | x | | | | | | |
| Supervision | | x | x | | | | | | |
| Chapter 2: Meta-analysis | | | | | | | | | |
| Design | x | x | x | x | | | | | |
| Search | x | | | | | | | | |
| Inclusion/scoring of quality | x | | | | x | | | | |
| Analyses | x | | | | | | | | |
| Writing | x | | | | | | | | |
| Critical supervising/editing | | x | x | x | | | | | |
| General tasks empirical studies | | | | | | | | | |
| Construction of ATGR cards | x | | | | | | | | |
| Adaptation of SCORS system | x | | | | | | | | |
| Pilot with cards and scoring system | x | | | | | | | | |
| Training students in assessment with ATGR | x | | | | | | | | |
| Training students in assessment with TAT/SCORS | | x | | | | | | | |
| Assessments ATGR/TAT clinical gr. | x | | | | | | | | x |
| Assessments ATGR/TAT nonclinical | | | | | | | x | | |
| Scoring of ATGR | x | | | | | | x | | |
| Scoring of TAT | | | | | | | | x | |
| Chapter 3 | | | | | | | | | |
| Design | x | x | x | | | | | | |
| Data Analysis | x | | | | | | | | |
| Writing | x | | | | | | | | |
| Critical supervising/editing | | x | x | x | | x | | | |
| Chapter 4 | | | | | | | | | |
| Design | x | x | x | | | | | | |
| Translation AGI | x | | | | | | | | |
| Data Analysis | x | | | | | | | | |
| Writing | x | | | | | | | | |
| Critical supervising/editing | | x | x | | | x | | | |

Table 1 (continued)

| | | | | | | |
|------------------------------|---|---|---|---|--|---|
| Chapter 5 | | | | | | |
| Design | x | x | x | | | |
| Translation BORI | x | | | | | |
| Data Analysis | x | | | | | |
| Writing | x | | | | | |
| Critical supervising/editing | | x | x | x | | x |
| Chapter 6 | | | | | | |
| Design | x | x | x | | | |
| Data Analysis | x | | | | | |
| Writing | x | | | | | |
| Critical supervising/editing | | x | x | x | | x |
| Chapter 7 | | | | | | |
| Design | x | x | x | | | |
| Data Analysis | x | | | | | |
| Writing | x | | | | | |
| Critical supervising/editing | | x | x | x | | x |
| Chapters 8,9 | | | | | | |
| Writing | x | x | x | | | |
| Critical supervising/editing | | x | x | | | x |

NOTE. HS= Henk Stulp; LE=Liesbeth Eurelings-Bontekoe; GG=Gerrit Glas; JK= Jurrijn Koelen; AS= Annemiek Schep; PdH= Peter de Heus, StV= Students Viaa University| StL= Students University of Leiden; Ps.Ass.=Psychological assistant of the mental health institution

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