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# The Questionnaire God Representations for clinical and scientific use in the context of mental health care (QGR-17)

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**Abstract**

**Objective**

In this article we present a new version of the Questionnaire God Representations (QGR), the QGR-17. This version is particularly aimed for use in scientific studies among psychiatric patients and applications in a clinical context, such as routine outcome measurement and the monitoring of existential recovery during treatment. We calculated norm scores and examined psychometric properties of the QGR-17, for both a general population and a population of people who receive mental health care.

**Methods**

We calculated norm scores (based on stanine scores) and analyzed internal consistency, comparative and structural validity (study 1, *N*= 1788). Convergent and divergent validity were examined with correlation analyses with psychopathology, vitality and hope/meaning in life and identity as existential factors (study 2, *N*=1366).

**Results**

The results show that internal consistencies of the QGR-17 scales are adequate to good and that is has structural validity. The average item scores of each QGR-17 scale resembles the scales of the total QGR. We found that the positively valenced aspects of God representations were predominantly related to higher levels of vitality and the existential constructs identity and hope/meaning in life, while the negatively valenced aspects were related to higher levels of psychopathology, less hope/meaning in life and more negative identity scores.

**Conclusions**

Taken together, these findings provide support for the QGR-17 as a relatively brief measure of God representations and its potential to address the positive or negative relationships of religion/spirituality with mental health in treatment. Implications for clinical work are discussed.

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# Introduction

The Questionnaire God Representations (QGR) is a reliable and valid self-report instrument (Schaap-Jonker et al., 2008; Sharp et al., 2021) that measures an important aspect of the individual's religious life: the mental representations of the relationship with God or the divine, which is a core theme in monotheistic religions and part of relational spirituality (Koenig et al., 2012, p. 308). God representations reflect someone's personal experiences of God and comprise an affective dimension, with one's own feelings towards God or the divine, and a cognitive one, with perceptions of what God does or how the divine works. In this article, we present a new, short version of the QGR that is useful for scientific or diagnostic research in the context of mental health care and discuss implications for clinical work.

Knowledge of individual God representations contributes to understanding religious beliefs, experiences and behavior, as it gives insight into how the God or divine power is experienced and believed in. Furthermore, it may explain why someone has devoted herself or himself to this God, or whether or not her or she wrestles with this God, obeys God's will, and turns towards God in times of need. As a relational measure of religiousness, God representations are highly relevant in the context of mental health and/or psychopathology, casting light on both the content and function of personal faith (or faithlessness). Hence, insight into God representations can help therapists to address spiritual content or perspectives in an adequate way, and inform decision-making in clinical practice, for instance on the applications of therapeutic interventions on God representations that are negatively valenced or on the delivery of spiritually integrated psychotherapies (Currier et al., 2021; Koenig et al., 2012, p. 308; Paine & Sandage, 2017). This is all the more important as empirical research shows that therapies which address religion and spirituality (R/S) in a culturally congruent way may result in greater improvement in psychological and spiritual well-being and more patient satisfaction, especially for those patients to whom R/S is highly relevant (Captari et al., 2018; Weber & Pargament, 2014).

The QGR has six scales: on the affective or experiential dimension, it taps Positive Feelings towards God (POS), Anxiety towards God (ANX), Anger towards God (ANG), and on

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the cognitive or doctrinal dimension, it assesses Supportive Actions of God (SUP), Ruling/ Punishing Actions (RULP), and Passivity of God. Compared to other instruments, the list consists of short items, which simplifies translation to other languages, reducing the risk of bias due to translation, and enabling cross-cultural comparison. In addition, the short formulations imply low burden for respondents, which benefits especially those with mental health problems.

The QGR was originally developed in German by Sebastian Murken (1998; Murken et al., 2011) and translated and validated into Dutch by Hanneke Schaap (Schaap-Jonker et al., 2008). Subsequently, an English translation was made, and in different regions of the world, including America, Asia and Europe, various versions of the list were used in scientific studies (e.g. Braam et al., 2008; Chapin 2019; Dezutter et al., 2010; Nguyen et al., 2015; Park & Carney, 2022). A shortened version (S-QGR) was constructed too (Schaap-Jonker et al., 2016), in order provide science and clinical practice with a less time consuming, but still relevant measure.

Starting point for the development of the original Dutch QGR (QGR-33) was that the list should be a reliable and valid instrument for those with a psychiatric diagnosis (a so-called clinical group, involving both inpatients and ambulatory patients) and those without such a diagnosis (a so-called general population). As a result, the Dutch version had less items than the German original one, which contained 50 items (Murken, 1998), although the final German version has 30 items (Murken et al., 2011). For example, the feeling of abandonment was omitted in the Dutch version, as that item loaded on both the ANX and ANG scale. However, Braam and colleagues (2008) used the translation of the German scales in their studies among depressive elders before the analyses in the Dutch validation study were performed. Once and again, the item of feeling abandoned by God turned out to be a crucial item, which led Braam to the conclusion that feeling of being forsaken could be an existential symptom of depression (Braam et al., 2014). Other studies reported the same association between depression and abandonment (e.g. Exline et al., 2000; Jongkind et al., 2019). Therefore, we felt that the QGR-33 was not able to measure all relevant feelings towards and perceptions of God in the context of psychiatric research and clinical practice. The same applied to the S-QGR, which also did not include abandonment. In addition, we

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found another item that was important for psychiatric patients, but not included in the S-QGR: the item 'God sends people to hell'. For those religious people suffering from psychiatric problems, (only) this item discriminated between a positive-authoritative type of God representation, with God being experienced as a supportive ruler, and a negative-authoritarian type, with God being experienced as a harsh judge (Schaap-Jonker et al., 2017).

With these results in mind, we constructed a new, short version of the questionnaire: the QGR-17. This version is particularly aimed for use in scientific studies among (psychiatric) patients and other applications in a mental health care context, such as routine outcome monitoring of existential recovery (Whitley & Drake, 2010) during psychological or psychiatric treatment, next to clinical recovery. In order to reduce the possibility of the questionnaire being burdensome for those with mental health problems, the list was made even shorter than the S-QGR (i.e., 17 versus 23 items). Before we present the QGR-17 and its psychometric properties, we firstly describe the theoretical background of the instrument. Furthermore, we underline its relevance by describing associations between God representations and mental health that are reported in empirical literature.

*Theoretical background*

Since long, God representations have been studied within psychology of religion. Already in 1910, Sigmund Freud argued that a personal God is – psychologically speaking – nothing else than an exalted father, implying that the desire for protection is the (illusionary) origin of belief in God. In 1979, Ana-Maria Rizzuto published *The Birth of the Living God* (Rizzuto 1979), in which she described the process of 'the formation of the God representation during childhood and its modifications and uses during the entire course of life' (Rizzuto, 1979, p. 41). Since then, many books and articles on God representations have been published, from developmental and psychodynamic perspectives within psychology such as the attachment theory (AT) (e.g., Granqvist et al., 2012) and object relations theory (ORT) (e.g., Jones, 2007), but also from social, cognitive, evolutionary or neuropsychological perspectives (e.g., Barrett & Zahl, 2013; Exline et al., 2011; Kapogiannis et al., 2009).

From a relational-psychological perspective, which combines insights from the object relations theory and attachment theory, God representations comprise both God

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images (relational and emotional understandings of God/the divine) and God concepts (conceptual and cognitive understandings of God/the divine) (Davis et al., 2013; Hall, 2003; Hall & Fujikawa, 2013; cf. Rizzuto, 1979). God images refer to models or object relations of oneself and God, which are developed through a relational, initially subconscious, process to which parents and significant others make important contributions. God concepts refer to sets of beliefs about this God, which are learned through a process of religious socialization and selective appropriation of the explicit and implicit doctrines about God/the divine that are present within the religious (sub)culture, with the God image functioning as an internal working model and filter in this regard (Davis et al., 2013; Hall & Fujikawa, 2013; Schaap-Jonker, 2021; cf. Rizzuto, 1979). Although both God images and God concepts may function on an explicit and implicit level of awareness, the God images, which tend to be more affect-laden and subcortically dominant, largely function at an implicit and mainly nonverbal level, outside of conscious awareness. In contrast, the God concepts, being more belief-laden and cortically dominant, predominantly function at an explicit, verbal and conscious level (Davis, et al., 2013; Hall, 2003). Sharp et al (2021) stress that features and processes of each of the four subtypes of God representations may influence and overlap with each other. Results of Stulp et al. (2019), who examined God representations of patients with a personality disorder with both the QGR and a performance based measure, confirm this interrelatedness. They found that the QGR measured God representations at both an implicit and explicit level of awareness.

As is evident from the above, the QGR fits a dual-process conceptualization of God representations as multidimensional and multifaceted processes in which cognitive and emotional aspects are dynamically interrelated, interacting on different levels and being activated in different constellations. Like all representations, they are dynamic, context-sensitive reconstructions in a connectionist memory system (Smith & Conrey, 2007). Consequently, through psychological and contextual factors, distinct aspects of God representations may be dominant or latent within psychic experience (Rizzuto, 1979; Rizzuto & Shafranske, 2013; Schaap-Jonker et al., 2007; Zahl & Gibson, 2012; cf. Smith & Conrey, 2007).

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Psychopathology may affect the development and functioning of God representations through the relational-developmental line. For instance, early maladaptive interactions with significant others may result in insecure attachment styles and (personality) pathology with the accompanying negative representations of God (Schaap-Jonker, 2021). Furthermore, psychopathology may reinforce selective appropriation of (sub)cultural beliefs about God, as someone's affective state lead to attentional biases (Baert et al., 2010; Cisler & Koster, 2010).

Although most research on God representations is performed within a theistic context, non-monotheistic believers and spiritual persons can also communicate their representations of the divine in a relational way (e.g. 'I take refuge in the Buddha, the Dharma, and the Sangha'; Augustyn et al., 2017), and their feelings and understandings of the divine can be empirically studied from a relational-psychological framework. The QGR could be a useful instrument in this regard, as its items do not reflect specific theological notions or religious beliefs about God/ the divine. Neither does it suppose theistic or anthropomorphic conceptualizations.

*God representations and mental health*

In general, psychopathology is related to more negative and less positive feelings towards God, and to the perception of God as ruling/punishing, although the latter is also associated with religious background, especially an orthodox denomination (Schaap-Jonker et al., 2008). A depressive disorder is often characterized by feeling forsaken by God and God's absence or passivity (Braam et al., 2014; Jongkind et al., 2019; Van Vliet et al., 2020; cf. Exline et al., 2000). When people recover from their depression, these aspects of their God representation become less prominent (Van den Brink et al., 2023). Among people with an autism spectrum disorder (ASD), more autistic traits are associated with more anxiety and particularly uncertainty in relation to God, less positive and supportive aspects, and more ruling/punishing and passive perceptions of God (Schaap-Jonker et al., 2013). These aspects seem to be associated with their general level of distress and the personality traits typical of ASD (Van Nieuw Amerongen – Meeuse et al., *submitted*). Personality disorders are related to more negative feelings towards God, but may differ in their specific God representations.

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When symptoms of the A-cluster are present, God is experienced as detached and passive, while C-cluster symptoms are associated with the representation of God as a harsh judge (Schaap-Jonker et al., 2002). Psychiatric patients with (structural) borderline personality pathology reported more anxiety and anger towards God on the one hand, but at the other hand, they report more positive feelings towards God in relation to more psychological distress. Among patients who were more stable in terms of personality organization, positive feelings towards God were associated with less psychological distress. This may suggest that the positive feelings of the former group have a compensating or even magical function (Van der Velde et al., 2021).

*Current study*

Aim of the current study is to present the QGR-17, its norm scores and its psychometric properties. Regarding these properties, we hypothesize that this even shorter version for clinical and scientific use in the context of mental health care is internal consistent and has structural and comparative validity. These hypotheses are investigated with study 1. Furthermore, our hypothesis is that the QGR-17 shows convergent and divergent validity (i.e., higher scores on psychopathology are related to more negative and less positive feelings towards God, less supportive perceptions, more ruling/ punishing perceptions, and more passivity of God). Study 2 addresses these topics. Taken together, the current study touches on the measurement challenges that Sharp et al. (2021) formulated, as it contributes to the development of reliable and valid measures that assess the different subtypes and dimensions of God representations in a non-conflating way.

**Box 1. Items for the final QGR-17, in comparison to the total QGR (Dutch translation)**

| **Total QGR (34 items)** | **QGR-17, for scientific and diagnostic use in mental health care (17 items)** |
|---|---|
| **POS (9 items)** | **POS-17 (3 items)** |
| *When I think of God I experience …* | *When I think of God I experience …* |

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| | |
|---|---|
| thankfulness | thankfulness |
| closeness | closeness |
| trust | security |
| love | |
| affection | |
| respect | |
| satisfaction | |
| security | |
| solidarity | |
| | |
| **ANX (5 items)** | **ANX-17 (3 items)** |
| *When I think of God I experience …* | *When I think of God I experience …* |
| fear of being rejected | fear of being rejected |
| fear of being not good enough | fear of being not good enough |
| fear of being punished | fear of being punished |
| guilt | |
| uncertainty | |
| | |
| **ANG (4 items)** | **ANG-17 (3 items)** |
| *When I think of God I experience …* | *When I think of God I experience …* |
| disappointment | disappointment |
| anger | anger |
| dissatisfaction | abandonment |
| abandonment* | |
| | |
| **SUP (10 items)** | **SUP-17 (3 items)** |
| *God …* | *God …* |
| has patience with me | has patience with me |
| frees me from my guilt | frees me from my guilt |
| protects me | guides me |
| guides me | |
| is unconditionally open to me | |

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| | |
|---|---|
| comforts me | |
| gives me strength | |
| lets me grow | |
| is trustworthy | |
| gives me security | |
| | |
| **RULP (4 items)** | **RULP-17 (3 items)** |
| *God …* | *God …* |
| exerts power | exerts power |
| punishes | punishes |
| rules | sends people to hell |
| sends people to hell | |
| | |
| **PAS (2 items)** | **PAS-17 (2 items)** |
| *God …* | *God …* |
| leaves people to their own devices | leaves people to their own devices |
| lets everything take its course | lets everything take its course |

Note. POS=positive feelings towards God, ANX=anxiety towards God, ANG=anger towards God, SUP=supportive actions, RULP=ruling and/or punishing actions, PAS=passivity.

* Abandonment was not included in the original Dutch translation (Schaap-Jonker et al., 2008). Therefore the number of items here is 34 instead of the originally proposed 33 items.

# Method

### QGR-17

Box 1 provides an overview of the items used in the QGR-17 in comparison with the total QGR (34 items, including abandonment). In this short version, we included those items that were the most important items in the QGR-33 and S-QGR in terms of scale construction, based on the factor analyses, reliability analyses, and Item Response Theory analyses (Schaap-Jonker et al., 2008; 2016). Thus, we selected the items with the highest factor loadings, highest discrimination parameters, high item-test correlation, and non-significant DF (differential functioning) parameters. On the basis of results of earlier empirical studies

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on God representations, as outlined above, we added the two items which seemed to be key items in a psychiatric context. Similar to the S-QGR, the selected items fit exactly into a relational perspective on God representations, the content of the various scales reflecting an attachment relationship with God (Schaap-Jonker et al., 2016). At first, we included the item 'God rules' in the subscale 'Ruling and/or punishing actions of God'. However, as we were working on this paper we found that – especially in the clinical group – in the principal component analysis the item 'God rules'-item loaded low on this scale (factor loading of .44). Furthermore, this item had a low item-total correlation of .27 in the clinical group, resulting in a below adequate below adequate internal consistency (Cronbach's $\alpha$ of .58) for the subscale 'Ruling and/or punishing actions of God'. Because exchanging the item 'God rules' with the item 'God exerts power' led to better scores (see results section), we choose to include the latter in the QGR-17. However, as the subscale 'Ruling and/or punishing actions of God' with the item 'God rules' was already implemented in the data collection at the care organization (see study 2), we are not able to present here the convergent and divergent validity of the subscale ''Ruling and/or punishing actions of God'.

# Study 1: normscores, reliability, structural and comparative validity

## Method

### Dataset

To calculate norm scores and examine reliability, structural and comparative validity of the QGR-17, we used a large dataset with data from different subsets that included the QGR as outcome measure. These datasets included (1) data from participants of earlier studies on the QGR (Schaap-Jonker et al., 2016), (2) Routine Outcome Monitoring (ROM) data of Eleos, collected between 2018-2019 (Van Leeuwen, 2020), (3) data of depressive Christian patients (Jongkind et al., 2019), (4) patients with substance abuse disorder (SUD) and (5) non-diagnosed controls (both the first part of the samples of Oudijn-van Engelen et al., 2022). Procedures for data collection for the various subsets are described in the publications

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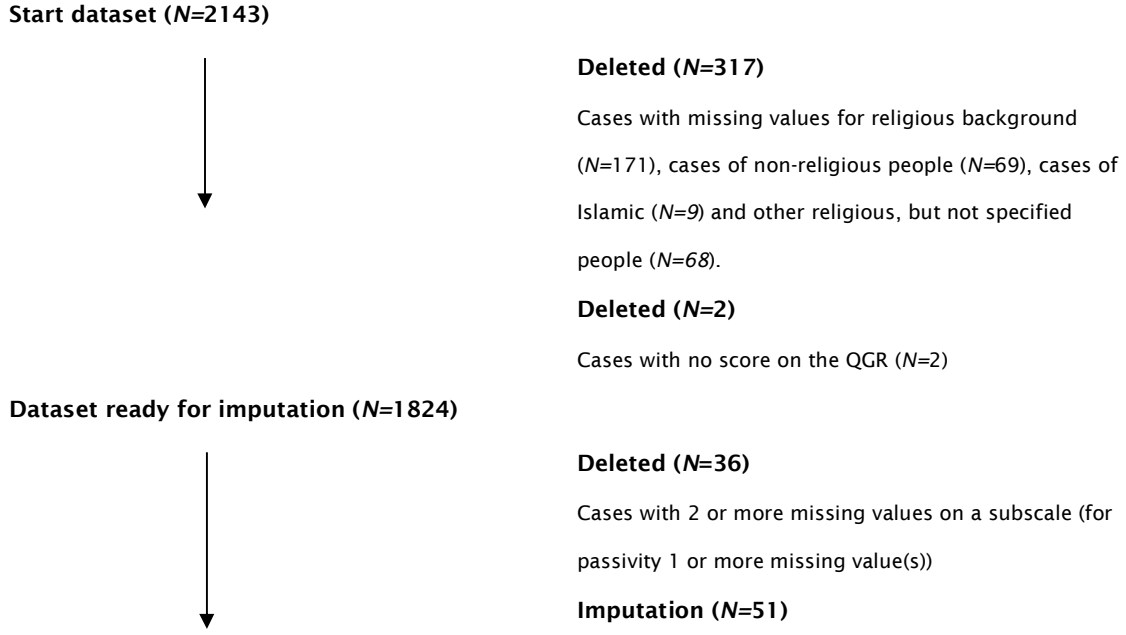
mentioned. In general, non-diagnosed participants were recruited through voluntarily and snowball sampling, while those who were clients of a mental health care institute were included through consecutive sampling. We combined these sets into one large dataset. Figure 1 showed the steps needed for preparing a clean dataset for analysis. Because the group with a non-Christian religious affiliation was too small, compared to the total group (less than four percent), this group was omitted from the data set.

As the number of items used per subscale of the QGR differed between the five studies, the number of people included for developing norm scores differs between subscales in each norm group. We were not able to use data of (2) ROM at Eleos for calculating norm scores for 'Positive feelings towards God', 'Anxiety towards God' and 'Anger towards God' in the total QGR and for 'Positive feelings towards God' on the QGR-17, because it used a different shortened version of the QGR consisting of 23 items (based on the 22-item QGR proposed by Schaap-Jonker et al. (2016) plus the item 'feeling abandonment'). Data of the subsets (1) and (4) were not included in developing norm scores for anger towards God in both versions, as a result of not including the item 'feeling abandonment'.

Figure 1. Flowchart of preparing a clean combined dataset for study 1



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Cases with a maximum of 1 missing value per subscale (except for passivity), imputation with mean of other items on that subscale.

**Clean dataset (*N*=1788)**

Subset 1) *N*=956

Subset 2) *N*=265

Subset 3) *N*=144

Subset 4) *N*=152

Subset 5) *N*=271

## Data analyses

### *Norm scores*

We used descriptive analyses to present background statistics of each norm group (mainly sex and age). Norm scores were calculated based on a stanine distribution of percentile scores. First, we calculated the percentiles by ranking the real scores on the subscales (ranks as percentage in a range of 0-100; method ties=high). Second, we recoded the percentiles into stanine scores based on the categories as shown in Table 1. We then checked and presented the real scores per stanine score. Missing real scores at the end of the stanine distribution were placed under S1 or S9 (e.g. a score lower than lowest reported under S1 and higher than the highest reported under S9). Not reported real scores within a stanine subscale were included in that scale, whereas not reported scores between two scales were included in the lowest of the two (e.g., S1=10-28 and S2=30-35, then a not reported 29 is placed in S1).

Table 1. Meaning of stanine scores

| Percentile | Stanine score | Meaning of the score compared to the norm group |
|---|---|---|
| ≤ 4 | 1 | Very low |
| 5 – 11 | 2 | Low |
| 12 – 23 | 3 | Low |

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| | | |
|---|---|---|
| 24 – 40 | 4 | Below average |
| 41 – 60 | 5 | Average |
| 61 – 77 | 6 | Above average |
| 78 – 89 | 7 | High |
| 90 - 96 | 8 | High |
| > 96 | 9 | Very high |

*Psychometric properties*

In line with the COSMIN-criteria, the QGR-17 was examined with regard to reliability and validity (Mokkink et al., 2010). First, a reliability analysis was done by calculating the internal consistency for each subscale in the total group and the general population and clinical group separately. In this analysis, we provide Cronbach's alpha's for both the total QGR as for the QGR-17 in order to compare the internal consistencies. To assess structural validity, a Principal Component Analysis (PCA) was performed with Varimax Rotation (threshold factor loadings > .50, cross-loadings < .40). We performed this analysis twice: (1) for the affective and (2) more cognitive items. For each PCA, we specified the number of factors upfront (i.e., 3), in order to resemble the original QGR. We present the results for the general population and clinical population separately. We tested comparative validity by looking at resemblance between the QGR-17 and the total QGR. We plotted the mean for the subscales in all groups (except again the total group). Second, in order to compare the mean scores of general and clinical population we performed an independent sample t-test, while for the five different denominations we performed one-way ANOVA's. Data analyses were performed using SPSS v26.

# Results study 1

**Participants**

The data file comprised of 1788 Christians, including the following denomination categories: Roman Catholic (*N*=170), Protestants (*N*=404), Orthodox Reformed (*N*=395), Pietistic Reformed (*N*=253), Evangelical (*N*=341). For these five groups, we calculated separate norm

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scores (for background statistics see supplemental online material). A group of people for whom it was unclear whether they belonged to the Orthodox or Pietistic Reformed churches (*N*=161) and a group of people who was categorized as 'Christian, other' (*N*=64) were only included in the other two norm groups: a 'clinical population' (*N*=853*)*, that is people receiving mental health care, and a 'general population'.

The clinical versus general population group were comparable regarding distribution of sex (both 61% females), but the age was slightly higher in the latter group (38.8 years (*SD*=13.3) versus 43.2 years (*SD*=16.9)). In the clinical group, most frequent mentioned primary problems were: depressive disorder (*N*=216), addiction disorder (*N*=149), anxiety disorder (*N*=91), personality disorder (*N*=57), other (e.g., pervasive developmental disorder, attention disorder, somatoform disorder; *N*=45).

**Calculation of norm scores**

In the tables in the supplemental online material, the final norm scores per group are shown (including mean scores and standard deviations). As the total QGR used here included one item extra ('Abandonment') we present the norm scores of both the QGR-17 as the total QGR for each group.

**Analysis of psychometric properties**

*Internal consistency of the QGR-17*

Table 2 comprises the internal consistency for the QGR subscales, based on the complete group of sample 1 (*N*=1788), and the discrimination between a general population and clinical group. The internal correlations between items were adequate in all of the total QGR subscales (although for 'Ruling and/or punishing actions of God', the Cronbach's $\alpha$ was borderline adequate in the clinical group). In comparison, for the QGR-17 the consistencies were structural smaller, however, still adequate for most scales in the three groups. Again, the exception is the subscale 'Ruling and/or punishing actions of God', for which we found a nearly adequate Cronbach's $\alpha$ in the clinical group.

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Table 2. Internal consistencies subscales

| | Total QGR | | | | | | | QGR-17 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total group (*N*=1788) | | General population (*N*=688) | | Clinical population (*N*=853) | | | Total group (*N*=1788) | | General population (*N*=688) | | Clinical population (*N*=853) | |
| | *N* | α | *N* | α | *N* | α | | *N* | α | *N* | α | *N* | α |
| **POS** | 1523 | .94 | 688 | .93 | 588 | .94 | **POS-17** | 1523 | .88 | 688 | .86 | 588 | .87 |
| **ANX** | 1523 | .88 | 688 | .86 | 588 | .89 | **ANX-17** | 1788 | .87 | 688 | .84 | 853 | .86 |
| **ANG** | 680 | .85 | 222 | .82 | 456 | .84 | **ANG-17** | 680 | .79 | 222 | .76 | 456 | .79 |
| **SUP** | 1523 | .95 | 688 | .95 | 588 | .94 | **SUP-17** | 1788 | .82 | 688 | .84 | 853 | .78 |
| **RULP** | 1788 | .77 | 688 | .83 | 853 | .70 | **RULP-17** | 1788 | .73 | 688 | .77 | 853 | .68 |
| **PAS** | 1788 | .75 | 688 | .72 | 853 | .75 | **PAS-17** | 1788 | .75 | 688 | .72 | 853 | .75 |

Note. POS=positive feelings towards God, ANX=anxiety towards God, ANG=anger towards God, SUP=supportive actions, RULP=ruling and/or punishing actions, PAS=passivity.

*Structural validity of the QGR-17*

The results of the PCA are presented in table 3. With regard to general population group, we found that for the affective dimension, the ANX-17 items loaded on the first factor (explaining 50.2% variance), the POS-17 items loaded on the second factor (explaining 13.4% variance) and the ANG-17 items loaded on the third factor (explaining 11.1% variance). For the cognitive dimension, SUP-17, RULP-17, PAS-17 were also three different factors, explaining 44.6%, 17.4% and 12.9% variance respectively.

In the clinical population group, results showed that for the affective dimension, the POS-17 items loaded on the first factor (explaining 48.8% variance), the ANX-17 items loaded on the second factor (explaining 18.1% variance) and the ANG-17 items loaded on the third

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factor (explaining 10.4% variance). Also in this group, SUP-17, RULP-17, PAS-17 were three different factors, explaining 33.2%, 22.8% and 14.7% variance respectively.

Of note is that, for the general population group the item 'abandonment' almost equally loaded on component one (.43) and three (.46), meaning that this item relates both to anger and anxiety towards God. However, all loadings were below threshold value. In comparison, for the clinical population the factor loading difference was slightly greater (.55 on ANG-17 vs. .39 on ANX-17). Because the QGR-17 is primarily meant for clinical use, cross-loadings <.40 are less relevant, and the factor loading on POS is negative, this item is maintained in the subscale 'Anger towards God', which is also the only subscale where it loads beyond threshold value.

Table 3. Results of the PCA for three factors (varimax rotation)

| | General population | | | Clinical population | | |
|---|---|---|---|---|---|---|
| **Component** | **1** | **2** | **3** | **1** | **2** | **3** |
| **Feelings towards God** | | | | | | |
| *When I think of God I experience …* | | | | | | |
| thankfulness | -.15 | **.73** | -.25 | **.80** | -.06 | -.27 |
| closeness | -.24 | **.83** | -.04 | **.89** | -.17 | -.18 |
| security | -.20 | **.86** | -.14 | **.85** | -.21 | -.21 |
| fear of being rejected | **.81** | -.24 | .28 | -.18 | **.85** | .14 |
| fear of being not good enough | **.83** | -.15 | .31 | -.08 | **.87** | .17 |
| fear of being punished | **.84** | -.27 | .05 | -.17 | **.86** | .06 |
| disappointment | .20 | -.10 | **.86** | -.18 | .04 | **.89** |
| anger | .20 | -.22 | **.83** | -.29 | .20 | **.78** |
| abandonment | .43 | -.47 | **.46** | -.47 | .39 | **.55** |
| **Perception of God's actions** | | | | | | |
| *God …* | | | | | | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| has patience with me | **.81** | .26 | -.15 | **.83** | .09 | -.16 |
| frees me from my guilt | **.87** | .07 | -.12 | **.84** | -.08 | -.03 |
| guides me | **.81** | .26 | -.24 | **.79** | .07 | -.27 |
| punishes | .14 | **.87** | -.10 | -.04 | **.85** | .00 |
| exerts power | .36 | **.73** | -.10 | .25 | **.73** | -.09 |
| sends people to hell | .10 | **.82** | -.04 | -.10 | **.76** | .04 |
| leaves people to their own devices | -.15 | -.07 | **.88** | -.20 | .04 | **.86** |
| lets everything take its course | -.21 | -.09 | **.85** | -.13 | -.06 | **.89** |

*Comparative validity of the QGR-17*

In Figure 2, we present the mean item scores of the general and clinical population on the total QGR and QGR-17 subscales. Visual inspection suggests that the differences between the groups for the QGR-17 resemble the differences seen in the total QGR with 34 items. Furthermore, the mean item scores between the total QGR subscales and QGR-17 within each group was comparable.

Figure 2. Mean item scores on the *total QGR* and QGR-17 of the general population vs. clinical population

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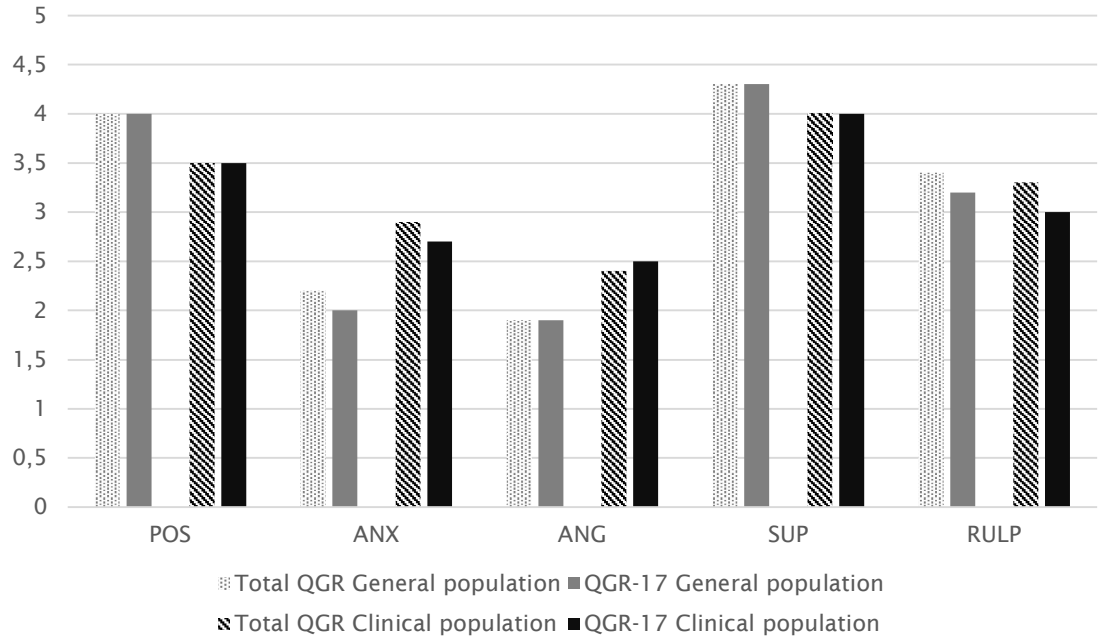


Note. POS=positive feelings towards God, ANX=anxiety towards God, ANG=anger towards God, SUP=supportive actions, RULP=ruling and/or punishing actions. 'Passivity of God' was left out as it encompasses the same items in both the total QGR as the QGR-17.

# Study 2: convergent and divergent validity

## Method

### Procedure

For analysis of convergent and divergent validity we used the anonymous ROM data from patients that were referred to and/or received treatment at Eleos in the period June 2020-December 2021. These patients had at least completed one measurement, including the QGR-17 and questions regarding psychopathology and existential constructs (that is, hope, meaning in life and identity) and. After cleaning the dataset, we had data of 1366 patients with a measurement around intake.

### Measurement instruments

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With regard to psychopathology, study 2 included the total score of the Symptom Questionnaire-48 (SQ-48; Carlier et al., 2012) to measure the nature and extent of psychiatric problems. This score is based on 37 of the 48 items (excluding the subscale 'work' and 'vitality'). Next to this, we included the vitality subscale score (6 items) as a measure of positive psychological functioning. Each item is scored on a scale from never (0) to very often (4), giving the total score a range of 0-148 and the vitality score a range of 0-24. The SQ-48 is responsive to therapeutic change and has shown good psychometric properties (Carlier et al., 2012; Carlier et al., 2017).

Hope / meaning in life was operationalised using two items of the subscale purpose & confidence of the Dutch Empowerment Questionnaire (Boevink et al., 2009; 2017), that is *'I have a purpose in life'* and *'I am determined to go on'* and the item *'I have a good sense of what makes my life meaningful'* of the Meaning in Life Questionnaire (Steger et al., 2006). Items were scored on a five point scale ranging from (0) strongly disagree to (4) strongly agree. In our dataset, Cronbach's $\alpha$ for this scale was .82.

Identity was measured with three items of the subscale purpose & confidence of the Dutch Empowerment Questionnaire (Boevink et al., 2009; 2017). The questions were: *'I think of myself as a person worth something', 'I am able to deal with the problems that come my way',* and *'I can deal with my vulnerabilities'.* Items were scored on a five point scale ranging from (0) strongly disagree to (4) strongly agree. Internal consistency in this study was adequate ($\alpha$ = .74).

### Data analysis

We looked at convergent/divergent validity using correlations between the QGR-17 subscales (as said before, except for the 'Ruling/punishing perception of God') and other existential constructs (hope / meaning in life and identity) vitality and general psychopathology.

## Results study 2

### Participants

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Of the 1366 people that were referred to and/or received treatment at Eleos 434 were male (31.8%) and 932 were female (68.2%). Participants were on average 38.6 years old (*SD* = 14.7). Most people were religiously affiliated – with only 37 people reported to be not religiously affiliated, however, for another 500 people, whether or not they were affiliated was not reported.

**Convergent and divergent validity of the QGR-17**

In Table 4, we show the correlations of the QGR-17 subscales with level of vitality and psychopathology and existential constructs. More positive feelings towards God and more supportive perceptions, but less anxiety or anger towards God and less passive perception were related to more experienced hope / meaning in life, more positive identity and higher level of vitality. On the other hand, contrasting God representations were related to higher levels of psychopathology. We were not able to find correlations with the proposed subscale 'Ruling/punishing actions', as for this group the scale did not include the 'God exerts power'-item, but the originally used 'God rules'-item.

Table 4. Mean scores of and correlations between the QGR-17 subscales and other existential constructs, vitality and psychopathology

| | | **Hope / Meaning in life** | **Identity** | **Vitality (SQ-48 subscale)** | **Psychopathology (SQ-48 total score)** |
|---|---|---|---|---|---|
| | ***M (SD)*** | 10.8 (2.9) | 8.0 (2.6) | 11.6 (4.3) | 64.0 (23.0) |
| **POS -17** | 10.3 (3.1) | .50** | .43** | .39** | -.26** |
| **ANX-17** | 7.7 (3.7) | -.26** | -.32** | -.18** | .29** |
| **ANG-17** | 6.4 (3.0) | -.38** | -.33** | -.30** | .31** |
| **SUP-17** | 12.1 (2.7) | .42** | .34** | .24** | -.20** |
| *RULP-17* | - | - | - | - | - |
| **PAS-17** | 3.9 (2.0) | -.24** | -.14** | -.14** | .17** |

Pearson's *r* was * significant at $p < .05$; ** significant at $p < .05$.

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# Discussion

The aim of this paper was to present the QGR-17, a shorter version of the QGR that is more applicable for use in clinical practice and research with its norm scores and psychometric properties. To our opinion, the QGR-17 turns out to be a valid instrument that adequately measures feelings towards God and perceptions of God's actions. First, the results show that internal consistencies of the QGR-17 subscales are adequate to good, in both a general as a clinical population. Second. the PCA showed the three affective and three cognitive dimensions proposed in the full version of the QGR, providing indications of structural validity. Third, the comparative validity analysis revealed that the average item scores of each QGR-17 subscale resembles the subscales of the total QGR. Last, we found that associations with aspects of mental health and well-being are as expected: the positively valenced aspects of God representations were predominantly related to higher levels of vitality and the existential constructs identity and hope/meaning in life, while the negatively valenced aspects were related to higher levels of psychopathology, less hope/meaning in life and more negative identity scores. Consequently, we may conclude that the QGR-17 is a useful questionnaire for applications in a clinical context, such as routine outcome measurement and the monitoring of existential recovery during psychological or psychiatric treatment, and for scientific studies among psychiatric patients.

In the process of analyzing, the originally chosen item 'God rules' was replaced by 'God exerts power'. As a result, the reliability of the RULP-scale improved among the clinical group, for which this version of the QGR is meant. The difficulties with the former item reflect the ambiguity that the original RULP-scale has: the scale could be predominantly interpreted from the perspective of God as a trustworthy king who reigns and offers stability ('ruling' interpretation), or from the perspective of God as a harsh and even wrathful judge, who has to be feared ('punishing' interpretation). In a previous study, we found that the RULP scale was associated with supportive perception of God's acting and positive feelings towards God in the former case, whereas is was related to feelings of anxiety and anger in the latter (Schaap-Jonker et al., 2017). In that study, the punishing interpretation was only found among those with a psychiatric diagnosis. As the QGR-17 is explicitly meant for

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assessment of God representations in the context of psychopathology or mental health problems, it is reasonable to include items that give insight into the extent to which patients suffer from harsh and judging perceptions of God. Therefore, the item 'God exerts power' may be seen as an improvement for use in clinical practice compared to the original proposed item 'God rules'.

Results confirm the theoretical framework of this article. Not only do the items of the QGR-17 reflect an attachment perspective (Schaap-Jonker et al., 2016), the dimensions also fit the dual-process conceptualization of God representations, making a clear distinction between experiential and doctrinal aspects of God representations (Sharp et al., 2021). Moreover, the list seems to tap both explicit and implicit dimensions, at least among psychiatric patients, as Stulp et al. (2019) found considerable overlap between the QGR and a performance-based measure. This suggests that a self-report measure has the potential to assess more than what the respondent is explicitly aware of, which would be an important step forward in the scientific and clinical measurement of God representations, shedding a different light on criticism of self-report.

In addition to these unique and valuable features of the QGR-17, it should be noted that this instrument measures both positively and negatively valenced aspects of religiousness. Although mental health problems and stressful events often go together with spiritual struggles, which are characterized by a lack of positive feelings among psychiatric patients (Van Nieuw Amerongen-Meeuse et al., 2022), those with mental health problems still report positive feelings and supportive God representations (e.g. Braam et al., 2014; Jongkind et al., 2019). Hence, instruments that are limited to only negative aspects of religiousness prevent a comprehensive view on the therapeutic potential of religion for this specific group.

In line with previous studies, religious denomination affected the scores on the QGR. Therefore, different norm groups were calculated. Especially in a clinical context scores on the QGR might be better understood in the context of the individual's religious background. Imagine a patient who reports a score of 13 on the QGR-17 subscale 'Positive feelings towards God'. When this person comes from a pietistic-reformed background, this may be seen as a high score (stanine score = 7). However, if the person is evangelical, the reported

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level of positive feelings reflects the average of her/his denomination (stanine score = 5). Understanding scores in the context of a specific religious background or subculture may be essential, especially when a low level of positive feelings or a high level of negative feelings towards God indicates the presence of religious / spiritual struggles (Exline, 2013; Pargament & Exline, 2022; Van Nieuw-Amerongen - Meeuse et al., 2022), that in turn may be related to the psychiatric problems patients are dealing with. To know which scores are low and which are high, given the norm scores in a specific denomination, may help professionals by providing an indication whether problems are related to religion / spirituality and whether attention to this relationship benefits treatment outcomes (Captari et al., 2022).

*Implications for clinical use*

The QGR-17 gives clinicians insight into the content of a God representation and its functioning in relation to mental health problems and existential recovery. As God representations may be viewed as a core element of religious faith, and therefore for religious patients part of a fundamental dimension of existence, attention to these representations may facilitate, or even be crucial for, recovery on other domains (Van de Loo et al., 2022; cf. Huber et al., 2016). If, for example, the score pattern of a patient reflects a supportive or comforting function of religion, this function can be used in treatment in the form of positive religious coping. On the other hand, religion may have a hampering or even harmful effect on the process of recovery, with a harsh and wrathful God aggravating, maintaining or even causing parts of psychopathology (cf. Pargament & Lomax, 2013; Schaap-Jonker et al., 2017). Furthermore, it is possible that the score pattern is an expression of underlying psychopathology. For instance, feeling abandoned by God could be understood as an existential symptom of depression (Braam et al., 2014). The results are therefore not interpretable on their own, but best understood in light of other diagnostic instruments and throughout the diagnostic and treatment process in conversation with the person who filled in the QGR-17.

With regard to its diagnostic value, the patient could, for instance, be asked for the narrative that explains extreme scores on scales or the combinations of specific scale scores

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(e.g. *'You report high scores on positive feelings and anxiety towards God, can you tell how we can understand them?'*). It is also possible to have a conversation with the patient about parallels between dominant themes or dynamics in her/his relationship with God and the person's themes or dynamics in interpersonal relationships, with the QGR-profile as a starting point. This may provide valuable information for formulation of therapeutic aims. In the Netherlands, the Faith Relationship Interview has been developed for this purpose (Mosterd-Pol et al., 2021).

Regarding treatment interventions, God representations may reflect religious struggles that should be addressed into therapy (Van Nieuw-Amerongen - Meeuse et al., 2020; 2022). Psycho-education on the interactions between dimensions of psychopathology and religion/spirituality in general and the God relationship in particular is one of the interventions that may be used for this. For example, feelings of failure, anxiety and uncertainty in relation to God reported by autistic persons (Schaap-Jonker et al., 2013) may give rise to doubt-related struggles *(*e.g., *'Am I a true believer?'*). With psycho-education a person can learn to understand these struggles in terms of their autism, corresponding to anxiety in the social domain with feelings of inadequacy due to not meeting expectations. The same applies to feelings of abandonment as existential symptom of a depressive disorder (Braam et al., 2014). This cognitive reframing may diminish the impact on mental health and well-being. In addition, interventions in psychotherapy can explicitly focus on the God relationship as one of the meaningful relationships of the patient. Diverse therapeutic approaches may be useful. For example, within a cognitive-behavioral therapeutic framework, automatic thoughts on God can be identified and addressed. From a dynamic-relational perspective, such as schema focused therapy, corrective emotional experiences can be facilitated, for example through imaginative description. Therapists could also consider to use (meditative) techniques from specific traditions, such as (self)compassion or the Jesus prayer (Currier et al., 2002; Knabb, 2018; Moriarty & Davis, 2012; Rosmarin, 2018, Seesink et al., 2022; Wilhoit, 2019).

**Limitations**

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Because we made use of different samples, we were able to provide norm scores and psychometric properties for both a general population and a population who receives some form of mental health care. Furthermore, norm scores were reported for the different major denominations in the Netherlands. As a first limitation, however, we must note though that results are likely to be different in other monotheistic religions or among Christians in non-western parts of the world. Our results are limited to a sample with a western theistic God representation, that nowadays may be influenced by welfare and a culture focused on the individual (Van der Lans, 2001). However, the underlying idea of God representations as an existential factor being related to (problems with) mental health may be universal. We therefore feel that the QGR-17, whether or not with adaptations, may in potential be valuable in treatment of other religious people. This particularly applies to the instrument's feelings-dimension, which seems to be able to tap the affective color of someone's stance towards impersonal representations of God, the divine, the sacred or a higher power. It would be interesting to use the QGR-17 in research to come to know whether this assumption holds. A second limitation is that we were not able to examine convergent and divergent validity of the *'Ruling and punishing actions'* scale. Third and last, as the item 'Abandonment' was not included in the original Dutch translation (Schaap-Jonker et al., 2008), some of the datasets used for calculating the norm scores did not include this item in the scale *'Anger towards God'*. Next to this, one dataset did not include 'Security', but 'Trust' as one of the items of the scale 'Positive feelings towards God'. Although the remaining sample sizes were still sufficient (except for the subgroup of Roman Catholics), this meant that the norm scores for these QGR-17 scales are estimated on a different group of people than the four other scales.

## Conclusion

This paper presented the QGR-17, a shorter version of the QGR for use in clinical practice and research, its norm scores and its psychometric properties. The results showed that the QGR-17 scales have sufficient internal consistency and validity, suggesting that it is a useful questionnaire to measure God representations for clinical and research purposes. The QGR-17 has potential to provide valuable information for clinicians in the diagnostic and treatment process about the relationship of God representations and related religious beliefs

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with mental health. And thereby, provide a basis for attention in therapy for either the positive effect of a supportive or comforting function of religion or the negative effect of related religious struggles.

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# Supplemental online material: Norm scores per group

In Table S1 the background statistics of the different denominations are provided. Visual comparison of the other five groups suggests that the Roman Catholic and Protestant group were on average older compared to the other groups. The sex distribution was notably different in the Pietistic Reformed group (with the smallest % males), while the Evangelical group included the largest % of males. Last, the percentage of people known to receive mental health care at the moment of measurement (and the % unknown) differed between the groups.

Tables S2-5 show the norm scores of the general and clinical population, while the Tables S6-15 display the norm scores of the five different denominations. With regard to Roman Catholics: as the *N* for the subscale 'Anger towards God' was very low, a proper stanine distribution was not possible. One possibility for now is to say that - based on the mean, median and 25-75 quartiles - for the total QGR a real score of 4-9 is average and 10 or more is divergent. For the QGR-17, an average score may be 3-7, while 8 or more is divergent.

Table S1. Background characteristics per group

| | Clinical population (*N*=853) | General population (*N*=688) | Roman Catholic (*N*=170) | Protestant (*N*=404) | Orthodox Reformed (*N*=395) | Pietistic Reformed (*N*=253) | Evangelical (*N*=341) |
|---|---|---|---|---|---|---|---|
| **Age (*SD*)** | 38.8 (13.3) | 43.2 (16.9) | 55.7 (18.1) | 48.9 (17.3) | 41.3 (16.9) | 38.6 (14.2) | 40.4 (12.8) |
| **Sex (%)**[a] | | | | | | | |
| Female | 520 (61.0) | 420 (61.0) | 95 (56.2) | 230 (57.5) | 243 (61.5) | 185 (73.1) | 177 (51.9) |
| Male | 332 (39.0) | 268 (39.0) | 74 (43.8) | 170 (42.5) | 152 (38.5) | 68 (26.9) | 164 (48.1) |
| **MHC (%)**[b] | | | | | | | |
| Yes | *NA* | *NA* | 47 (27.6) | 130 (32.2) | 184 (46.6) | 154 (56.9) | 225 (66.9) |
| Missing | *NA* | *NA* | 30 (17.7) | 128 (31.7) | 81 (20.6) | - | 5 (1.5) |

[a] Roman Catholic (N=169) and Protestant (*N*=400)

[b] MHC(%)= number and percentage of people reported that they received mental health care.

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Legend Table 2-15:
POS=positive feelings towards God
ANX=anxiety towards God
ANG=anger towards God
SUP=supportive actions
RULP=ruling and/or punishing actions
PAS=passivity

## Clinical group (receiving mental health care)

Table S2. Norm scores for a clinical group, for the *total* QGR (34 items)

| **Percentile** | **Stanine score** | **Real scores** | | | | | |
|---|---|---|---|---|---|---|---|
| | | POS (*N*=588) | ANX (*N*=588) | ANG (*N*=456) | SUP (*N*=588) | RULP (*N*=853) | PAS (*N*=853) |
| ≤ 4 | 1 | 9-15 | - | - | 10-21 | 4-5 | - |
| 5 – 11 | 2 | 16-20 | 5-6 | - | 22-27 | 6-7 | - |
| 12 – 23 | 3 | 21-25 | 7-9 | 4-5 | 28-33 | 8-9 | - |
| 24 – 40 | 4 | 26-30 | 10-12 | 6-7 | 34-38 | 10-11 | 2 |
| 41 – 60 | 5 | 31-34 | 13-15 | 8-10 | 39-44 | 12-13 | 3 |
| 61 – 77 | 6 | 35-38 | 16-18 | 11-12 | 45-47 | 14-15 | 4-5 |
| 78 – 89 | 7 | 39-42 | 19-22 | 13-14 | 48-49 | 16-17 | 6 |
| 90 - 96 | 8 | 43-44 | 23-24 | 15-18 | - | 18-19 | 7-8 |
| > 96 | 9 | 45 | 25 | 19-20 | 50 | 20 | 9-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 31.9 (8.8) | 14.3 (5.6) | 9.7 (4.2) | 39.7 (9.3) | 13.0 (4.0) | 3.9 (2.1) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

Table S3. Norm scores for a clinical group, for the *short* QGR (17 items)

| **Percentile** | **Stanine score** | **Real scores** | | | | | |
|---|---|---|---|---|---|---|---|
| | | S-POS (*N*=588) | S-ANX (*N*=853) | S-ANG (*N*=456) | S-SUP (*N*=853) | S-RULP (*N*=853) | S-PAS (*N*=853) |
| ≤ 4 | 1 | 3-4 | - | - | 3-6 | - | - |
| 5 – 11 | 2 | 5 | - | - | 7-8 | 3-4 | - |
| 12 – 23 | 3 | 6-7 | 3-4 | 3 | 9 | 5-6 | - |
| 24 – 40 | 4 | 8-9 | 5-6 | 4-5 | 10-11 | 7 | 2 |
| 41 – 60 | 5 | 10-11 | 7-8 | 6-7 | 12 | 8-9 | 3 |
| 61 – 77 | 6 | 12 | 9-10 | 8-9 | 13-14 | 10-11 | 4-5 |
| 78 – 89 | 7 | 13-14 | 11-12 | 10-11 | - | 12 | 6 |
| 90 - 96 | 8 | - | 13-14 | 12-13 | - | 13-14 | 7-8 |
| > 96 | 9 | 15 | 15 | 14-15 | 15 | 15 | 9-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 10.5 (3.2) | 8.0 (3.7) | 7.4 (3.2) | 12.0 (2.8) | 9.0 (3.3) | 3.9 (2.1) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

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## General population

Table S4. Norm scores for a general population, for the *total* QGR (34 items)

| **Percentile** | **Stanine score** | **Real scores** | | | | | |
|---|---|---|---|---|---|---|---|
| | | POS (*N*=688) | ANX (*N*=688) | ANG (*N*=222) | SUP (*N*=688) | RULP (*N*=688) | PAS (*N*=688) |
| ≤ 4 | 1 | 9-22 | - | - | 10-24 | - | - |
| 5 – 11 | 2 | 23-28 | - | - | 25-33 | 4-6 | - |
| 12 – 23 | 3 | 29-31 | 5-6 | 4 | 34-38 | 7-9 | - |
| 24 – 40 | 4 | 32-34 | 7-9 | 5 | 39-42 | 10-12 | - |
| 41 – 60 | 5 | 35-37 | 10-11 | 6-7 | 43-46 | 13-14 | 2 |
| 61 – 77 | 6 | 38-41 | 12-14 | 8-9 | 47-49 | 15-17 | 3 |
| 78 – 89 | 7 | 42-43 | 15-17 | 10-11 | - | 18 | 4-5 |
| 90 - 96 | 8 | - | 18-20 | 12-14 | - | 19 | 6-7 |
| > 96 | 9 | 45 | 21-25 | 15-20 | 50 | 20 | 8-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 35.9 (7.1) | 11.3 (4.7) | 7.5 (3.3) | 42.8 (8.4) | 13.6 (4.6) | 3.3 (1.7) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

Table S5 . Norm scores for a general population, for the *short* QGR (17 items)

| **Percentile** | **Stanine score** | **Real scores** | | | | | |
|---|---|---|---|---|---|---|---|
| | | S-POS (*N*=688) | S-ANX (*N*=688) | S-ANG (*N*=222) | S-SUP (*N*=688) | S-RULP (*N*=688) | S-PAS (*N*=688) |
| ≤ 4 | 1 | 3-5 | - | - | 3-6 | - | - |
| 5 – 11 | 2 | 6-8 | - | - | 7-9 | 3-4 | - |
| 12 – 23 | 3 | 9-10 | - | 3 | 10-11 | 5-6 | - |
| 24 – 40 | 4 | 11 | 3-4 | 4 | 12 | 7-8 | - |
| 41 – 60 | 5 | 12 | 5 | 5 | 13-14 | 9-10 | 2 |
| 61 – 77 | 6 | 13 | 6-8 | 6-7 | - | 11-12 | 3 |
| 78 – 89 | 7 | 14 | 9 | 8 | - | 13 | 4-5 |
| 90 - 96 | 8 | - | 10-12 | 9-11 | - | 14 | 6-7 |
| > 96 | 9 | 15 | 13-15 | 12-15 | 15 | 15 | 8-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 12.0 (2.6) | 6.1 (3.0) | 5.8 (2.6) | 12.8 (2.8) | 9.5 (3.6) | 3.3 (1.7) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

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## Roman Catholic

Table S6. Norm scores for Roman Catholic, for the *total* QGR (34 items)

| Percentile | Stanine score | Real scores | | | | | |
|---|---|---|---|---|---|---|---|
| | | POS (*N*=169) | ANX (*N*=169) | ANG‡ (*N*=24) | SUP (*N*=169) | RULP (*N*=170) | PAS (*N*=170) |
| ≤ 4 | 1 | 9-11 | - | - | 10-13 | - | - |
| 5 – 11 | 2 | 12-20 | - | - | 14-24 | - | - |
| 12 – 23 | 3 | 21-26 | - | - | 25-30 | 4,5 | - |
| 24 – 40 | 4 | 27-32 | 5-6 | 4,5 | 31-35 | 6-7 | 2,3 |
| 41 – 60 | 5 | 33-35 | 7-9 | 6 | 36-40 | 8-9 | 4 |
| 61 – 77 | 6 | 36-38 | 10-12 | 8-9 | 41-45 | 10-11 | 5 |
| 78 – 89 | 7 | 39-43 | 13-15 | 10 | 46-49 | 12-13 | 6 |
| 90 - 96 | 8 | 44 | 16-19 | 12,16 | - | 14-15 | 7-8 |
| > 96 | 9 | 45 | 20-25 | 20 | 50 | 16-20 | 9-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 32.3 (9.2) | 9.6 (4.5) | 8.0 (4.2) | 37.0 (10.6) | 9.2 (3.8) | 4.5 (2.2) |

Note. ‡ = the *N* is so small that these scores are indicative and should be interpreted with caution. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

Table S7. Norm scores for Roman Catholic, for the *short* QGR (17 items)

| Percentile | Stanine score | Real scores | | | | | |
|---|---|---|---|---|---|---|---|
| | | S-POS (*N*=169) | S-ANX (*N*=170) | S-ANG‡ (*N*=24) | S-SUP (*N*=170) | S-RULP (*N*=170) | S-PAS (*N*=170) |
| ≤ 4 | 1 | - | - | - | - | - | - |
| 5 – 11 | 2 | 3-5 | - | - | 3-5 | - | - |
| 12 – 23 | 3 | 6-8 | - | - | 6-8 | 3 | - |
| 24 – 40 | 4 | 9 | 3 | 3-4 | 9 | 4 | 2,3 |
| 41 – 60 | 5 | 10-11 | 4 | 5-6 | 10-11 | 5-6 | 4 |
| 61 – 77 | 6 | 12 | 5-6 | 7 | 12-13 | 7 | 5 |
| 78 – 89 | 7 | 13-14 | 7-8 | 8 | 14 | 8-10 | 6 |
| 90 - 96 | 8 | - | 9-11 | 9, 12 | - | 11 | 7-8 |
| > 96 | 9 | 15 | 12-15 | 15 | 15 | 12-15 | 9-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 10.5 (3.4) | 5.4 (2.8) | 6.2 (3.1) | 10.7 (3.6) | 6.4 (2.8) | 4.5 (2.2) |

Note. ‡ = the *N* is so small that these scores are indicative and should be interpreted with caution. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

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## Protestant

Table S8. Norm scores for Protestant, for the *total* QGR (34 items)

| Percentile | Stanine score | Real scores | | | | | |
|---|---|---|---|---|---|---|---|
| | | POS (*N*=360) | ANX (*N*=360) | ANG (*N*=106) | SUP (*N*=360) | RULP (*N*=404) | PAS (*N*=404) |
| ≤ 4 | 1 | 9-17 | - | - | 10-17 | - | - |
| 5 – 11 | 2 | 18-23 | - | - | 18-28 | 4-5 | - |
| 12 – 23 | 3 | 24-29 | 5-6 | 4 | 30-34 | 6-7 | - |
| 24 – 40 | 4 | 30-32 | 7-8 | 5-6 | 35-39 | 8-9 | - |
| 41 – 60 | 5 | 33-35 | 9-11 | 7-8 | 40-42 | 10-11 | 2-3 |
| 61 – 77 | 6 | 36-38 | 12-13 | 9-11 | 43-46 | 12-13 | 4-5 |
| 78 – 89 | 7 | 39-42 | 14-17 | 12-14 | 47-49 | 14-16 | - |
| 90 - 96 | 8 | 43-44 | 18-22 | 15-16 | - | 17-18 | 6-7 |
| > 96 | 9 | 45 | 23-25 | 17-20 | 50 | 19-20 | 8-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 33.6 (7.8) | 11.0 (4.9) | 8.8 (4.2) | 39.3 (9.4) | 11.0 (4.3) | 3.7 (2.0) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

Table S9. Norm scores for Protestant, for the *short* QGR (17 items)

| Percentile | Stanine score | Real scores | | | | | |
|---|---|---|---|---|---|---|---|
| | | S-POS (*N*=360) | S-ANX (*N*=404) | ANG (*N*=106) | SUP (*N*=404) | RULP (*N*=404) | PAS (*N*=404) |
| ≤ 4 | 1 | 3-4 | - | - | 3-4 | - | - |
| 5 – 11 | 2 | 5-7 | - | - | 5-7 | 3 | - |
| 12 – 23 | 3 | 8-9 | - | 3 | 8-9 | 4 | - |
| 24 – 40 | 4 | 10 | 3 | 4-5 | 10-11 | 5-6 | - |
| 41 – 60 | 5 | 11 | 4-5 | 6 | 12 | 7 | 2-3 |
| 61 – 77 | 6 | 12 | 6-7 | 7-9 | 13-14 | 8-9 | 4-5 |
| 78 – 89 | 7 | 13-14 | 8-10 | 10-11 | - | 10-11 | - |
| 90 - 96 | 8 | - | 11-13 | 12-13 | - | 12-13 | 6-7 |
| > 96 | 9 | 15 | 14-15 | 14-15 | 15 | 14-15 | 8-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 11.2 (2.9) | 6.1 (3.1) | 6.9 (3.4) | 11.7 (3.0) | 7.6 (3.2) | 3.7 (2.0) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

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## Orthodox reformed

Table S10. Norm scores for Orthodox Reformed, for the *total* QGR (34 items)

| **Percentile** | **Stanine score** | **Real scores** | | | | | |
|---|---|---|---|---|---|---|---|
| | | POS (*N*=311) | ANX (*N*=311) | ANG (*N*=186) | SUP (*N*=311) | RULP (*N*=395) | PAS (*N*=395) |
| ≤ 4 | 1 | 9-21 | 5 | - | 10-27 | 4-7 | - |
| 5 – 11 | 2 | 22-26 | 6 | - | 28-34 | 8-9 | - |
| 12 – 23 | 3 | 27-30 | 7-8 | 4 | 35-39 | 10-11 | - |
| 24 – 40 | 4 | 31-33 | 9-10 | 5-7 | 40-43 | 12-13 | - |
| 41 – 60 | 5 | 34-37 | 11-13 | 8-9 | 44-47 | 14-15 | 2 |
| 61 – 77 | 6 | 38-40 | 14-16 | 10-11 | 48-49 | 16 | 3 |
| 78 – 89 | 7 | 41-43 | 17-20 | 12-14 | - | 17-18 | 4-5 |
| 90 - 96 | 8 | 44 | 21-23 | 15 | - | 19 | 6-7 |
| > 96 | 9 | 45 | 24-25 | 16-20 | 50 | 20 | 8-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 35.2 (7.3) | 13.2 (5.1) | 9.2 (4.0) | 43.5 (7.2) | 14.3 (3.6) | 3.3 (1.8) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

Table S11. Norm scores for Orthodox Reformed, for the *short* QGR (17 items)

| **Percentile** | **Stanine score** | **Real scores** | | | | | |
|---|---|---|---|---|---|---|---|
| | | S-POS (*N*=311) | S-ANX (*N*=395) | S-ANG (*N*=186) | S-SUP (*N*=395) | S-RULP (*N*=395) | S-PAS (*N*=395) |
| ≤ 4 | 1 | 3-5 | - | - | 3-7 | 3-4 | - |
| 5 – 11 | 2 | 6-7 | - | - | 8-9 | 5 | - |
| 12 – 23 | 3 | 8-9 | 3 | 3 | 10 | 6-7 | - |
| 24 – 40 | 4 | 10-11 | 4-5 | 4-5 | 11-12 | 8 | - |
| 41 – 60 | 5 | 12 | 6-7 | 6-7 | 13-14 | 9-10 | 2 |
| 61 – 77 | 6 | 13 | 8-9 | 8 | - | 11 | 3 |
| 78 – 89 | 7 | 14 | 10-11 | 9-11 | - | 12-13 | 4-5 |
| 90 - 96 | 8 | - | 12-14 | 12 | - | 14 | 6-7 |
| > 96 | 9 | 15 | 15 | 13-15 | 15 | 15 | 8-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 11.8 (2.8) | 7.2 (3.4) | 6.9 (3.1) | 13.0 (2.5) | 10.0 (3.0) | 3.3 (1.8) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

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## Pietistic Reformed

Table S12. Norm scores for Pietistic Reformed, for the *total* QGR (34 items)

| **Percentile** | **Stanine score** | **Real scores** | | | | | |
|---|---|---|---|---|---|---|---|
| | | POS (*N*=183) | ANX (*N*=183) | ANG (*N*=247) | SUP (*N*=183) | RULP (*N*=253) | PAS (*N*=253) |
| ≤ 4 | 1 | 9-14 | 5-6 | - | 10-21 | 4-10 | - |
| 5 – 11 | 2 | 15-19 | 7-8 | 4 | 22-28 | 11 | - |
| 12 – 23 | 3 | 20-26 | 9-11 | 5 | 29-35 | 12-13 | - |
| 24 – 40 | 4 | 27-31 | 12-14 | 6-7 | 36-39 | 14 | - |
| 41 – 60 | 5 | 32-35 | 15-17 | 8-9 | 40-43 | 15-16 | 2 |
| 61 – 77 | 6 | 36-38 | 18-19 | 10-11 | 44-46 | 17 | 3 |
| 78 – 89 | 7 | 39-40 | 20-22 | 12-13 | 47-49 | 18-19 | 4-5 |
| 90 - 96 | 8 | 41-44 | 23-24 | 15-17 | - | - | 6-7 |
| > 96 | 9 | 45 | 25 | 18-20 | 50 | 20 | 8-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 32.2 (8.5) | 16.1 (5.2) | 9.1 (3.8) | 39.8 (8.5) | 15.7 (3.0) | 3.4 (1.8) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

Table S13. Norm scores for Pietistic Reformed, for the *short* QGR (17 items)

| **Percentile** | **Stanine score** | **Real scores** | | | | | |
|---|---|---|---|---|---|---|---|
| | | S-POS (*N*=183) | S-ANX (*N*=253) | S-ANG (*N*=247) | S-SUP (*N*=253) | S-RULP (*N*=253) | S-PAS (*N*=253) |
| ≤ 4 | 1 | 3 | - | - | 3-6 | 3-6 | - |
| 5 – 11 | 2 | 4-5 | 3 | 3 | 7-8 | 7 | - |
| 12 – 23 | 3 | 6-8 | 4-5 | - | 9-10 | 8 | - |
| 24 – 40 | 4 | 9-10 | 6-7 | 4-5 | 11 | 9-10 | - |
| 41 – 60 | 5 | 11 | 8-9 | 6-7 | 12 | 11 | 2 |
| 61 – 77 | 6 | 12 | 10-11 | 8 | 13 | 12 | 3 |
| 78 – 89 | 7 | 13 | 12 | 9-10 | 14 | 13-14 | 4-5 |
| 90 - 96 | 8 | 14 | 13-14 | 11-13 | - | - | 6-7 |
| > 96 | 9 | 15 | 15 | 14-15 | 15 | 15 | 8-10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 10.7 (3.0) | 8.8 (3.5) | 7.0 (3.0) | 12.0 (2.4) | 11.2 (2.5) | 3.4 (1.8) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

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## Evangelical

Table S14. Norm scores for Evangelical, for the *total* QGR (34 items)

| Percentile | Stanine score | Real scores | | | | | |
|---|---|---|---|---|---|---|---|
| | | POS (*N*=288) | ANX (*N*=288) | ANG (*N*=99) | SUP (*N*=288) | RULP (*N*=341) | PAS (*N*=341) |
| ≤ 4 | 1 | 9-22 | - | - | 10-29 | 4-5 | - |
| 5 – 11 | 2 | 23-27 | - | - | 30-35 | 6-7 | - |
| 12 – 23 | 3 | 28-31 | 5-6 | 4 | 36-40 | 8-9 | - |
| 24 – 40 | 4 | 32-35 | 7-8 | 5-6 | 41-45 | 10-11 | - |
| 41 – 60 | 5 | 36-40 | 8-11 | 7-9 | 46-48 | 12-13 | 2-3 |
| 61 – 77 | 6 | 41-42 | 12-14 | 10-11 | 49 | 14-15 | 4-5 |
| 78 – 89 | 7 | 43-44 | 15-17 | 12-14 | - | 16-17 | - |
| 90 - 96 | 8 | - | 18-22 | 15-19 | - | 18-19 | 6-9 |
| > 96 | 9 | 45 | 23-25 | 20 | 50 | 20 | 10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 36.5 (7.7) | 11.3 (5.1) | 8.7 (4.3) | 44.6 (7.2) | 12.7 (3.7) | 3.8 (2.1) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.

Table S15. Norm scores for Evangelical, for the *short* QGR (17 items)

| Percentile | Stanine score | Real scores | | | | | |
|---|---|---|---|---|---|---|---|
| | | S-POS (*N*=288) | S-ANX (*N*=341) | S-ANG (*N*=99) | S-SUP (*N*=341) | S-RULP (*N*=341) | S-PAS (*N*=341) |
| ≤ 4 | 1 | 3-6 | - | - | 3-8 | - | - |
| 5 – 11 | 2 | 7-8 | - | - | 9-10 | 3 | - |
| 12 – 23 | 3 | 9-10 | - | - | 11 | 4-5 | - |
| 24 – 40 | 4 | 11 | 3-4 | 3-4 | 12-13 | 6 | - |
| 41 – 60 | 5 | 12-13 | 5-6 | 5-6 | 14 | 7-8 | 2-3 |
| 61 – 77 | 6 | 14 | 7-8 | 7-8 | - | 9-10 | 4-5 |
| 78 – 89 | 7 | - | 9-10 | 9-10 | - | 11-12 | - |
| 90 - 96 | 8 | - | 11-13 | 11-14 | - | 13-14 | 6-9 |
| > 96 | 9 | 15 | 14-15 | 15 | 15 | 15 | 10 |
| | | **Mean scores (*SD*)** | | | | | |
| | | 12.2 (2.7) | 6.5 (3.4) | 6.6 (3.2) | 13.3 (2.3) | 8.5 (3.2) | 3.8 (2.1) |

Note. Stanine scores compared to norm group: 1 = very low, 2 and 3 = low, 4 = below average, 5 = average, 6 = above average, 7 and 8 = high, 9 = very high.