

# Brazilian Validation of the Attachment to God Inventory (IAD-Br)

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**Abstract:** Bowlby's Attachment Theory proposes that the person seeks protection and security with his or her caregiver, establishing a significant bond, which Bowlby characterizes as "attachment relationship". The relationship with God can also be understood as an attachment relationship. Until now, there are no instruments in Brazil to measure one's attachment to God. The purpose of this article is to present the adaptation and validation process of the Attachment to God Inventory for the Brazilian context, resulting in a Brazilian version of the Attachment to God Inventory (IAD-Br). The validation methodology for the IAD-Br consisted of Portuguese translation, reverse translation to English, pre-test, data collection, and validation through confirmatory factorial analysis (CFA). A total of 470 people participated in the study: 179 men and 291 women. Confirmatory factorial analysis presented unsatisfactory statistical parameters. Of the 28 items of the instrument, 11 items did not present adequate Item-Total Correlation. After excluding these 11 items, the instrument presented adequate adjustment indices. The IAD-Br, composed of 17 items, is able to be used to measure attachment to God in Brazil and constitutes a relevant instrument to identify the attachment to God style, being useful for application in the psychotherapeutic clinic and in contexts of spiritual care.

**Keywords:** Attachment to God Inventory; IAD-Br; styles of attachment; attachment theory; Validation; Brazil

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## 1. Introduction

In researching the links between young children and their caregivers, the British psychiatrist John Bowlby (2002, 2004a, 2004b) structured what has come to be called the Attachment Theory, thus providing a solid conceptual basis on the formation, maintenance, and modification of affective bonds. Unlike the classic Freudian psychoanalysis perspective, which emphasizes the exploration of the fantasy world of adults and children, Bowlby directs his attention to real experiences and the real world of people. He deals with the impact of parents' emotional problems on children (Bowlby 1988, pp. 43–44). He himself states that he distances himself from classical psychoanalysis and, in his most recent works, presents an approach based on the principles of cognitive psychology (Bowlby 2004a, p. 37). For Bowlby, "attachment behavior is interpreted as any form of behavior that results in a person attaining or retaining proximity to some other differentiated and preferred individual" (Bowlby 2004a, p. 38) and it "contributes to the survival of the individual" (Bowlby 2004a, p. 40), insofar as the caregiver (the person or persons responsible for the care of the child) protects and cares for the attached person. Over time, "attachment behavior leads to the development of

bonds or attachments” (Bowlby 2004a, p. 38). Attachment behaviors “are active throughout the life cycle” (Bowlby 2004a, p. 39). Thus, the patterns of attachment between the person and his or her caregiver are established through search mechanisms for protection and security for the exploration of the environment (Bowlby 2004a, p. 41).

When the child feels threatened or otherwise anguished, he or she engages in attachment behaviors such as crying and clinging to the caregiver. When possible, the child turns to the caregiver in order to reinforce closeness and, consequently, a sense of security (Kirkpatrick and Shaver 1990, p. 317). On the other hand, when the child feels safe, he or she voluntarily steps away from the caregiver to explore the environment, periodically checking to see if the base of her security remains attentive and available. Thus, through these search mechanisms of protection and security for the exploration of the environment, the patterns of attachment between the child and his or her caregiver are established.

With each experience with their caregivers, children seek to understand, even if unconsciously, how their mother and father will react to their need for protection and comfort. This response of caregivers to the needs of the child will lead to a secure or more insecure attachment (Esperandio and August 2014, p. 248). The Attachment models developed throughout personal history (through relationships) “are integrated into our personality structure in the form of general internal working models that will determine the characteristics of the self in the different life situations” (Abreu 2005, p. 15).

Differently from what occurs in childhood attachment, in healthy adult attachment there is reciprocity, and two people can perform the attachment function on each other. Although attachment styles learned in childhood tend to be reproduced in adulthood, new experiences provide opportunities for changes in the attachment style, as exemplified in a love relationship. While at least one partner has a secure attachment style, the person with insecure attachment style can be positively affected by the secure attachment style of his/her loving partner. Thus, throughout the existential process there are possibilities for change in the attachment styles. These bonding and dependence feelings shape the way one relates to other people. The attachment style influences the formation of identity, self-assessment and the assessment of others, expectations about the partner and marital relationship, the way sexuality is viewed and practiced, and the way a person relates to others in a professional environment and how he or she handles conflicts (Mikulincer and Shaver 2010).

Recently, there have been studies proposing to approach the field of research of science of religion with cognitive psychology using the perspective of the Theory of Attachment. The reference researcher in this area is Lee A. Kirkpatrick (2005), a psychologist of religion who proposes to characterize the relationship of believers with God as a relation of attachment. Research on the nature and functions of attachment to God provided new ways of understanding psycho-spiritual health through analogies with interpersonal attachment relationships (Granqvist and Kirkpatrick 2013). Kirkpatrick (2005) shows that for the person who professes a religious belief in a personal God, God will play the role of an attachment figure. Thus, in the relationship with God, the attachment styles constructed in the relationship with the caregivers can be reproduced or be a “substitute” (compensatory) of an insecure attachment relationship (Granqvist and Kirkpatrick 2004). In Brazil, a pioneering study in the perspective of Psychology of Religion is the article published under the title Attachment Theory and Religious Behavior (*Teoria do Apego e Comportamento Religioso* (Esperandio and August 2014)).

In an article published in 2004, Richard Beck & Angie McDonald proposed an instrument for measuring attachment to God and described the methodology used for its preparation. Following the recommendations of Brennan et al. (1998), the purpose of the authors was to develop an instrument for measuring the dimensions of Avoidance of Intimacy and Anxiety about Abandonment in the person’s relationship with God. For this reason, the Experiences in Close Relationships (ECR) scale of Brennan et al. became the model for the construction of the instrument Attachment to God Inventory—AGI.

Up to the present moment, there is no instrument adapted to the Brazilian context that allows us to measure the style of a person's attachment to God. For this reason, a study was conducted with the objective of validating the AGI (Beck and McDonald 2004) for the Brazilian context.

Before presenting the validation process of the AGI for the Brazilian context, a brief description of the processes of validation and application of this instrument in other cultural contexts will be made.

## 2. Attachment to God Inventory—A Brief Theoretical Background

For the structuring and validation of the AGI, Beck and McDonald (2004) organized their work in three studies. Study 1 contemplated the construction of the questionnaire. In Study 2, a first validation of the questionnaire was made with the participation of 507 US students, of which 80.2% were of Evangelical Protestant churches (Churches of Christ, Baptists, and Methodists); 6.5% did not belong to a denomination, and 3.4% were Catholics. In Study 3, a new validation was performed on a sample with a higher level of religious diversity. This stage had the participation of 118 US students, of which 75.4% were from of Protestant evangelical churches (Churches of Christ, Baptists, and Methodists); 6.8% did not belong to a denomination, and 6.8% were Catholics. The final selection of the items was based on the simultaneous obtaining of the best balance between three psychometric properties: factorial structure (load of dominant factors  $\geq 0.40$ , load of cross factors  $\leq 0.25$ ), internal consistency (Cronbach's  $\alpha > 0.80$ ), and minimum shared variation between the subscales ( $r^2 < 0.10$ ). Thus, 28 items (14 items of avoidance and 14 items of anxiety) were selected to compose the Attachment to God Inventory.

The original AGI was constructed and validated in the USA. Subsequently, several researchers conducted studies aimed at its validation in other cultural contexts. The results obtained in these studies will be presented in the next section in order to contextualize, among those processes of validation, the validation process of this instrument in Brazil.

### 2.1. Validation of the Attachment to God Inventory (AGI) In the USA and Canada

The US concentrates 84% of the localized publications that used the AGI as an instrument of measuring the attachment to God. All 21 studies of the US that applied the AGI did so with individuals from Christian teaching institutions or Christian churches (Beck (2006a, 2006b); Bruce et al. 2011; Cooper et al. 2009; Dumont et al. 2012; Freeze and Ditommaso 2014, 2015; Hall et al. 2009; Homan 2012, 2014; Homan and Lemmon 2014, 2015; Homan and Boyatzis 2010; Houser and Welch 2013; Knabb and Pelletier 2014; Limke and Mayfield 2011; Olson et al. 2016; Prout et al. 2012; Rasar et al. 2013; Reiner et al. 2010; Thomas et al. 2011).

Among these publications, the four that published the psychometric data of the research presented satisfactory reliability indexes: Prout et al. (2012) surveyed 46 individuals, 60% of whom were Catholics, 28% of whom were Protestant evangelicals, 6% of whom had other affiliations, and 6% of whom had no religious affiliation. Homan and Lemmon (2014) collected data on 186 women, of whom 43% declared themselves Protestant and 48% from other Christian religions; 7% were Catholics, and 2% had no religious affiliation. In the study by Knabb and Pelletier (2014), the 187 university students reported the following religious affiliations: 45% Christians, 18% Protestant or Pentecostal Evangelicals, 17% Catholics, and 9% non-affiliated; 11% did not inform. The studies of Homan (2012) and Houser and Welch (2013) did not report data on religious affiliation.

The research conducted in Canada by Freeze and Ditommaso (2014) had the participation of 185 members of Baptist churches and 19 students of a Baptist institution and also presented adequate reliability indexes.

### 2.2. Validation of the AGI in Taiwan

Yeo (2011) conducted a psychometric study to validate the AGI scale for the Taiwanese reality. Four hundred people, recruited from Protestant (Baptists, Presbyterians, Charismatic, and Lutheran) and Catholic churches from Taipei, participated in the survey. The results of his research only

presented the necessary consistency for validation after the exclusion of fifteen items of the instrument. The hypothesis raised by the author is that cultural differences may have influenced the responses. Yeo argues that the AGI was developed for American individualist culture, while in Taiwan, a collectivist culture prevails. According to Yeo, in a collectivist culture, being jealous of the way God answers the prayers of others, for example, is seen as inadequate. Thus, these and other issues that make up the original instrument and that aim to measure the level of anxiety and avoidance in the person's attachment to God may have very different weights for the respondent, depending on the cultural context in which he or she was raised.

### 2.3. Validation of the AGI in Italy

Rossi and Tagini (2011) conducted an AGI validation study for Italy. The work counted with 751 participants, of whom 73% declared themselves Catholics, 13% declared that they did not believe in God, 9% declared themselves Christians (of which the majority declared themselves Seventh-day Adventists), and the remaining 5% identified themselves with other religions. The AGI scale only met the psychometric requirements after the exclusion of five items from the scale. The authors argue that

The original instrument was mainly developed on a sample of believers, protestant groups with a high percentage of women, while our sample is more heterogeneous and more balanced for sex (Rossi and Tagini 2011).

Therefore, the hypothesis proposed by the authors for this divergence is that it was influenced by the profile of the respondents.

### 2.4. Validation of the AGI in Korea

Kim et al. (2017) validated the AGI scale with Christian Koreans who immigrated to the United States. The study participants were recruited from Christian communities, 220 were Catholics, and 43 were Methodists (Protestant evangelicals). In their studies, the scale only presented reliable indexes after the exclusion of 17 of the 28 items. The hypothesis raised by the authors is that the original scale did not present necessary consistency in view of the fact that Korean immigrants maintain different spiritual and religious traditions from the American tradition (p. 21), which may have interfered with the responses to the instrument. Christianity in Korea is strongly influenced by Confucianism and Shamanism, demonstrating characteristics of a religious syncretism. In this cultural context, the expression of emotions is not seen with good eyes, which may have contributed to the discarding of items dealing with emotional relationship with God (Kim et al. 2017, p. 23).

The validation of this instrument in other contexts demonstrated the need to exclude some items from the original instrument so that the model reached the necessary minimum parameters. Some hypotheses for these exclusions are presented in item 4.2.

## 3. Method

### 3.1. Translation and Adaptation

The adaptation and adaptation of the Attachment to God Inventory (AGI) to the Brazilian context, hereinafter called the *Inventário de Apego a Deus—Brazilian Version (IAD-Br)*, was carried out according to the methodological and descriptive method, following the procedures of translation, cross-cultural adaptation, and validation, which are applicable to measuring instruments used in social sciences (Reichenheim and Moraes 2007).

All participants gave their informed consent for inclusion before participated in the study. The study was conducted in accordance with the declaration of Helsinki, and the protocol was approved on 20 October 2015 by PUCPR Research Ethics Committee, Protocol No. 49743315.4.0000.0020, Approval No. 2.365.692.

The process of translation, adaptation, and validation of the Attachment to God Inventory for its use in the Brazilian context went through a number of phases:

Phase 1—Translation to Portuguese. At this phase, the original instrument was sent to a sworn translator, who produced the Portuguese version of the instrument. Version 2 of the IAD-Br instrument was forwarded separately to four experts, who were asked to give their individual opinion on the version. Each specialist analyzed whether the Portuguese version had the original meaning. Based on the opinions of the specialists, the necessary adjustments were made, generating a new version of the instrument in Portuguese.

Phase 2—Reverse Translation to English. In this phase, the Portuguese version was translated into English, aiming to evaluate if the terms adopted in Portuguese maintained fidelity with the original terms of the instrument. This translation was done by a professional whose native language is English and who was qualified in this area. From the confrontation between the original English text and the translated text from Portuguese to English, some adjustments were made to the instrument, thus generating a new Portuguese version.

Phase 3—Pilot study. The new version of the IAD-Br instrument was fed into the Qualtrics® system, an online data collection and analysis tool, in order to evaluate the degree of comprehension and the ease of responding to the instrument. The participants were asked to inform bio-socio-demographic data and to answer some questions pertinent to the study. The sample consisted of 49 (forty-nine) online participants and 22 (twenty-two) presential participants. It was found that the scale issues were clearly described, and therefore no adjustments were necessary in the instrument.

Phase 4—Data Collection. At this phase, the final version of the instrument, together with the bio-socio-demographic data and the added questions, was fed back into the Qualtrics® system. The virtual questionnaire link was posted on random email lists and social networks. Participants were selected for convenience, aiming to compose a heterogeneous group in socioeconomic, religious, educational, ethnic, and racial terms. As the research could generate some emotional discomfort, participation was directed toward people older than 18 (eighteen) years old.

Phase 5—Confirmatory Factor Analysis. Confirmatory factorial tests were performed to extract the main components. The results of this analysis, as well as the refinements made in the IAD-Br instrument, are described in the following topic.

### 3.2. Sample

541 individuals participated in the study. Considering that the AGI was validated only or predominantly with Christian individuals (as seen in item 2 above), individuals who do not believe in God, as well as those who belong to other beliefs or who do not belong to any religious group, were excluded. The content of religious beliefs tends to vary between religious groups (Ghorbani-Bonab et al. 2013; Miner et al. 2014), indicating that in the case of religious groups that do not emphasize belief in a personal and relational God, the application of this instrument proves to be of little use, since the purpose of the Inventory is to measure the quality of attachment to God. Thus, subjects who declared themselves Kardecist Spiritists ( $N = 10$ ) and/or those affiliated with Afro-Brazilian religious groups (Candomblé and Umbanda,  $N = 5$ ) were excluded from the sample. Although this number was not very representative, the decision to exclude them was based on the consideration that such samples would be potential confounders. Given the religious characteristics of the Kardecist Spiritists, who believe in spiritual evolution through successive reincarnations, and of Afro-Brazilian religious groups, which are not categorized as Christians in Brazilian sociology, the inclusion of such data could cause some distortion in the results. For the same reason, 34 samples from the “non-religion” group were excluded. Participants under the age of eighteen were also excluded. After these exclusions, there were 470 participants ( $N = 470$ ), more than the minimum of 300 individuals, as recommended by Guilford (1954) and MacCallum et al. (1999), to evaluate the reliability of an instrument.

The participants are divided into the following age groups: 54 individuals between 18 and 25 years old (11%), 112 between 26 and 36 (24%), 108 between 36 and 45 (23%), 111 between 46 and 55 (24%), 64 between 56 and 65 (14%), and 21 older than 65 (4%). Of the total, 179 are men (38%) and 291 are women (62%). In terms of schooling, 56 have a high school education (12%), 103 have an incomplete university degree (22%), 126 have a university degree (27%), and 185 have a postgraduate

degree (39%). As for marital status, 59% are married, 26% are single, 11% are separated or divorced, and 4% are widowed. In terms of monthly family income, 13% reported having income lower than R\$ 1760, 65% reported having income between R\$ 1760 and R\$ 8800 and 22% reported an income above R\$ 8800. As for the place of residence, 80% are from the South Region, 9% from the Southeast Region, 7% from the Central-West Region, 3% from the Northeast Region, and 1% from the Northern Region of Brazil, so that individuals from all geographic regions of the country participated in the study.

As for religiousness, 57% consider themselves religious and spiritual, 28% consider themselves religious, and 15% consider themselves spiritual, but not religious. Regarding religious services, 11% participate in religious services at most every two weeks, 43% participate once a week, and 46% participate several times a week. As for the religious community, 51% are Protestant evangelicals, 37% are Catholics, 8% are Pentecostal evangelicals, 2% are neo-Pentecostal evangelicals, and 2% are independent Christians.

## 4. Results and Discussion

### 4.1. Confirmatory Factor Analysis and Refinements of the IAD-Br

The answers to the questionnaire were analyzed through the use of two statistical software, the IBM SPSS Software 17.0, and the IBM SPSS Amos 22.0. Considering that the AGI instrument is structured in two factors (Anxiety about Abandonment by God and Avoidance of Intimacy with God), a confirmatory factorial analysis of the collected data was performed, consisting of a “multivariate technique used to test (confirm) a prespecified relationship” (Hair et al. 2009, p. 540). For this analysis, the factorial analysis software SPSS AMOS version 22 was adopted.

According to recommendations applicable to analyzes of data on human behavior, the adherence to the model was evaluated using values recommended by Hair et al. (2009). The loading of the data generated Model 1. Since the statistical indices of Model 1 do not fit within the required satisfactory parameters, the items of the instrument were refined. This refinement was performed by excluding the items with the Item-Total Correlation lower than 0.40, until the model reached all the necessary minimum adjustment parameters (Hair et al. 2009, p. 122). The recommended loading indexes were achieved after the exclusion of eleven items.

Table 1 presents the Total-Item Correlation indices obtained in Model 1 (with 28 items) and in Model 2 (with 17 items).

**Table 1.** Total-Item Correlation in Models 1 and 2.

	Model 1	Model 2
1. I worry a lot about my relationship with God ( <i>Eu me preocupo muito com meu relacionamento com Deus</i> )	−0.09	--
2. I just don't feel a deep need to be close to God ( <i>Eu não sinto uma necessidade tão grande de estar próximo(a) a Deus</i> )	0.20	--
3. If I can't see God working in my life, I get upset or angry ( <i>Se eu não vejo Deus agindo em minha vida, eu fico chateado(a) ou com raiva</i> )	0.53	0.51
4. I am totally dependent upon God for everything in my life (R) ( <i>Sou totalmente dependente de Deus para tudo na minha vida</i> )	0.70	0.74
5. I am jealous at how God seems to care more for others than for me ( <i>Tenho ciúmes da forma como Deus parece cuidar mais dos outros do que de mim</i> )	0.78	0.74
6. It is uncommon for me to cry when sharing with God ( <i>Não é habitual eu chorar quando estou em comunhão com Deus</i> )	0.31	--
7. Sometimes I feel that God loves others more than me ( <i>Às vezes sinto que Deus ama os outros mais do que a mim</i> )	0.70	0.69
8. My experiences with God are very intimate and emotional (R) ( <i>Minhas experiências com Deus são muito íntimas e emocionais</i> )	0.43	--
9. I am jealous at how close some people are to God ( <i>Tenho ciúmes da proximidade que algumas pessoas têm com Deus</i> )	0.67	0.64

10. I prefer not to depend too much on God ( <i>Prefiro não depender muito de Deus</i> )	0.64	0.62
11. I often worry about whether God is pleased with me ( <i>Com frequência me preocupo se Deus está satisfeito comigo</i> )	0.11	--
12. I am uncomfortable being emotional in my communication with God ( <i>Sinto-me desconfortável se minha comunicação com Deus é emocional</i> )	0.15	--
13. Even if I fail, I never question that God is pleased with me (R) ( <i>Mesmo quando eu falho, nunca me pergunto se Deus está contente comigo</i> )	−0.01	--
14. My prayers to God are often matter-of-fact and not very personal ( <i>Minhas orações a Deus frequentemente são práticas e não muito pessoais</i> )	0.28	--
15. Almost daily, I feel that my relationship with God goes back and forth from “hot” to “cold” ( <i>Quase diariamente sinto que minha relação com Deus é oscilante, vai de “intensa” a “fria”</i> )	0.48	0.48
16. I am uncomfortable with emotional displays of affection to God ( <i>Sinto-me desconfortável com demonstrações emocionais de afeto a Deus</i> )	0.33	--
17. I fear God does not accept me when I do wrong ( <i>Temo que Deus não me aceite quando faço algo errado</i> )	0.45	0.45
18. Without God I could not function at all (R) ( <i>Sem Deus eu não consigo fazer nada</i> )	0.61	0.63
19. I often feel angry with God for not responding to me when I want ( <i>Muitas vezes fico bravo(a) com Deus quando Ele não me responde quando quero</i> )	0.64	0.62
20. I believe people should not depend on God for things they should do for themselves ( <i>Eu acredito que as pessoas não deveriam depender de Deus para fazer as coisas que elas deveriam fazer sozinhas</i> )	0.49	0.48
21. I crave reassurance from God that God loves me ( <i>Eu preciso intensamente que Deus reafirme o seu amor por mim</i> )	0.42	0.42
22. Daily I discuss all of my problems and concerns with God (R) ( <i>Diariamente eu discuto todos os meus problemas e preocupações com Deus</i> )	0.45	0.42
23. I am jealous when others feel God’s presence when I cannot ( <i>Eu fico com ciúmes quando outros sentem a presença de Deus e eu não</i> )	0.68	0.70
24. I am uncomfortable allowing God to control every aspect of my life ( <i>Eu fico desconfortável em deixar que Deus controle cada aspecto da minha vida</i> )	0.52	0.51
25. I worry a lot about damaging my relationship with God ( <i>Preocupo-me bastante com a possibilidade de eu prejudicar meu relacionamento com Deus</i> )	0.11	--
26. My prayers to God are very emotional (R) ( <i>Minhas orações a Deus são muito emocionais</i> )	0.21	--
27. I get upset when I feel God helps others, but forgets about me ( <i>Eu fico chateado(a) quando sinto que Deus ajuda outros, mas se esquece de mim</i> )	0.81	0.83
28. I let God make most of the decisions in my life (R) ( <i>Eu deixo que Deus tome a maior parte das decisões na minha vida</i> )	0.67	0.69

Source: Data study analysis.

Table 2 presents the reliability and convergent validity before and after the exclusion of eleven items.

**Table 2.** Reliability and Convergent Validity in Models 1 and 2.

	Model 1	Model 2
Anxiety about Abandonment by God		
Cronbach’s Alpha	0.80	0.85
Composite Reliability	0.80	0.91
Average Variance Extracted	0.29	0.50
Avoidance of Intimacy with God		
Cronbach’s Alpha	0.76	0.77
Composite Reliability	0.77	0.87
Average Variance Extracted	0.22	0.50

Source: Data study analysis.

As can be verified, all indices showed significant improvements after the exclusion of the 11 items.

Table 3 presents the adjustment rates for Model 2.

**Table 3.** Adjustment Rates for Model 2.

	P	X2	DF	X2/DF	RMSEA	GFI	AGFI	CFI	NFI	SRMR
Model 2	<0.001	244.860	114	2.148	0.049	0.942	0.922	0.949	0.909	0.067

Source: Data study analysis.

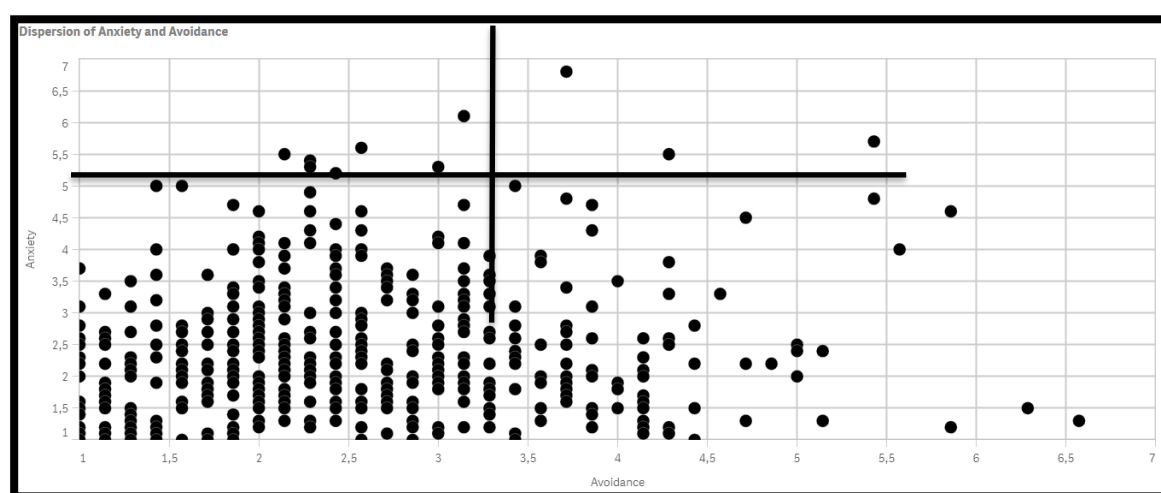
The adjustment of the model was calculated through several indices, all within parameters considered good or excellent. On the other hand, the reliability was calculated through the Composite Reliability, which should be above 0.70. Finally, the convergent validity was calculated through the Average Variance Extracted (AVE), which should be considered valid if above 0.5 (Hu and Bentler 1999).

Confirmatory factorial analysis of Model 1 presented unsatisfactory statistical parameters. This required the refinement of the instrument, excluding the eleven items that presented Item-Total Correlation below the recommended one (0.40).

After the exclusion of these items, a new confirmatory factorial analysis (Model 2) was generated, which presented adequate adjustment indexes, indicating that the IAD-Br instrument measures the phenomenon adequately, being therefore able to be used to measure attachment of people to God for the Brazilian population (see Appendix A and B).

A person's attachment to God style can be represented through the indices of anxiety and avoidance obtained in the IAD-Br. The closer to 1 (one) the rates of Anxiety about Abandonment by God and Avoidance of Intimacy with God, the more secure the person's style of attachment to God. On the other hand, the closer to 7 (seven) the rates of Anxiety about Abandonment by God and Avoidance of Intimacy with God, the greater the anxiety and avoidance in the attachment to God, respectively.

Figure 1 shows the dispersion of the Anxiety about Abandonment by God and Avoidance of Intimacy with God rates of the study participants. Each point on the chart reproduces the responses of one individual.



**Figure 1.** Dispersion of Anxiety and Avoidance Rates. Source: data study analysis.

The individuals are distributed in the most different positions in the graph, in which the horizontal axis 'x' represents the Anxiety about Abandonment by God, and the vertical axis 'y' represents the Avoidance of Intimacy with God. The closer to 1 (both on the x-axis and the y-axis), the more secure the person's relationship with God. On the other hand, the more to the right the



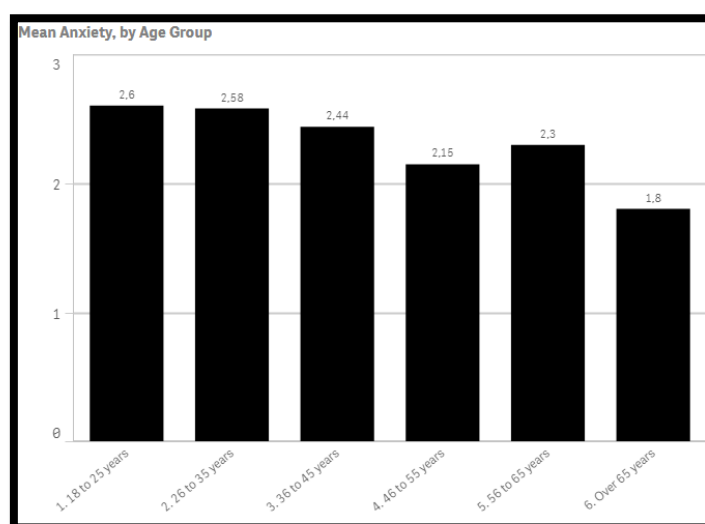
person is on the chart, the more anxious his or her relationship with God. Finally, the higher the point in the chart, the more avoidant the person's relationship with God.

It is noticed that 85% of the individuals are within the quadrant of security in relationship with God (anxiety and avoidance less than 4), 7% are in the quadrant of anxiety, 7% are in the avoidance quadrant, and 1% in the anxiety-avoidance quadrant. However, even among those in a given quadrant, there is infinite variation in anxiety and avoidance rates.

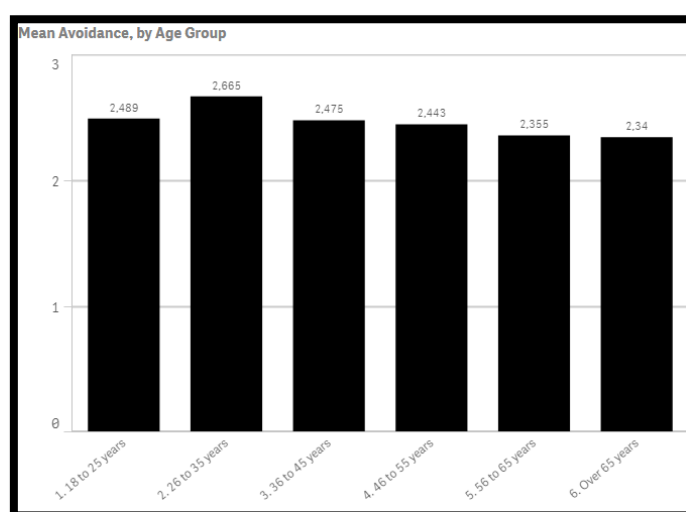
Attachment mechanisms are universal. However, insofar as religion includes the activation and operationalization of the attachment system, the parameters of the attachment system act differently in different people (Kirkpatrick 2005, p. 126). These differences in attachment styles are evidenced in the correlations between the Attachment to God anxiety and avoidance rates, and the following sample variables: (a) age group, (b) gender, (c) schooling, (d) marital status, (e) religious frequency, and (f) membership in the religious community.

#### 4.1.1. Attachment to God Style and Age Group

Figures 2 and 3 present the average rates of Anxiety about Abandonment by God and Avoidance of Intimacy with God, sorted by age group.



**Figure 2.** Anxiety, by age. Source: data study analysis.

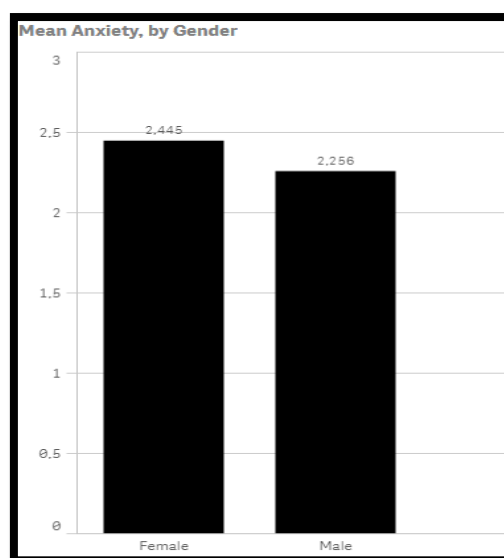


**Figure 3.** Avoidance, by age. Source: data study analysis.

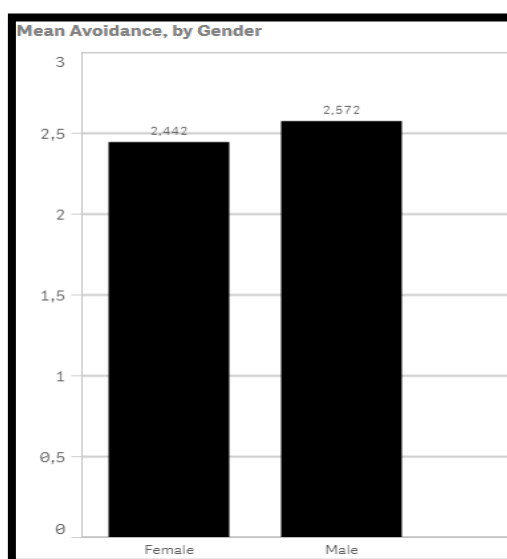
There is a slight decrease in the Anxiety about Abandonment by God as the age ranges go up. However, when applying the Pearson correlation method, this decrease is evidenced ( $r = -0.179$ ;  $p < 0.001$ ). Regarding the Avoidance of Intimacy with God, there is a marginal trend to lower scores with increasing age ( $r = -0.079$ ;  $p = 0.088$ ). Van Assche et al. (2013), in a study on the impact of the attachment on behavioral and psychological symptoms in dementia, identified that “anxiety in close relations appears to diminish as people age”. These authors also noted in their research that “attachment avoidance remains relatively stable” among the elderly. One possible explanation for greater security in the attachment to God among older people is raised by Cicirelli: “The nature and identities of attachment figures changed from those of earlier adult life to adult children, deceased loved ones, and God” (Cicirelli 2010).

#### 4.1.2. Attachment to God Style and Gender

Figures 4 and 5 present the mean rates of Anxiety about Abandonment by God and Avoidance of Intimacy with God, grouped by gender.



**Figure 4.** Anxiety, by Gender. Source: data study analysis.



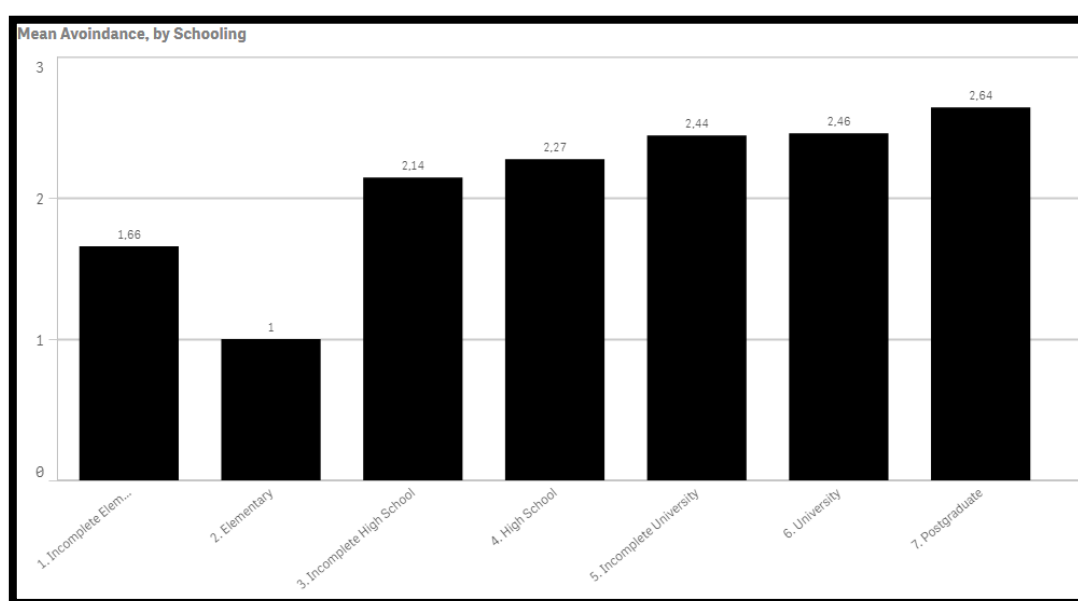
**Figure 5.** Avoidance, by Gender. Source: data study analysis.

The mean of the Anxiety about Abandonment by God is higher in the female sample ( $M = 2.44$ ;  $SD = 1.10$ ) than in the male sample ( $M = 2.25$ ;  $SD = 0.90$ ). To indicate which items of the IAD-Br instrument best express this tendency to greater anxiety in women's attachment to God, the Student's *t*-test was applied for independent samples. Thus, it has been identified that the statements that best illustrate this greater anxiety of women in attachment to God are the items 21 "I crave reassurance from God that God loves me" ( $t(405.059) = -2.343$ ,  $p = 0.02$ ), 23 "I am jealous when others feel God's presence when I cannot" ( $t(416.024) = -2.185$ ,  $p = 0.029$ ), and 27 "I get upset when I feel God helps others, but forgets about me" ( $t(426.341) = -2.251$ ,  $p = 0.025$ ).

Figure 5 shows that the mean of Avoidance of Intimacy with God is higher in the male sample ( $M = 2.57$ ;  $SD = 1.04$ ) than in the female sample ( $M = 2.44$ ;  $SD = 1.00$ ). However, differences in avoidance of attachment to God between men and women are statistically insignificant, as found in applying the Student's *t*-test on independent samples ( $t(468) = 1.336$ ,  $p = 0.18$ ). The statement that best illustrates the tendency toward greater avoidance of men in their relationship with God is item 24 "I am uncomfortable allowing God to control every aspect of my life" ( $t(335.696) = 2.087$ ,  $p = 0.03$ ).

#### 4.1.3. Attachment to God Style and Schooling

Regarding Anxiety about Abandonment by God, a correlation with schooling of the individuals was not identified. Figure 6 shows the mean rates of Avoidance of Intimacy with God, classified by schooling.

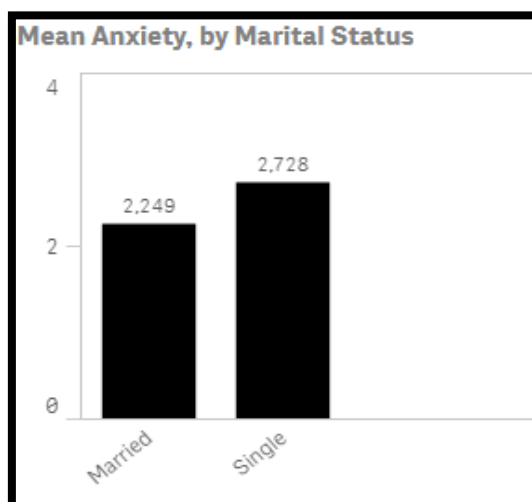


**Figure 6.** Avoidance, by Schooling. Source: data study analysis.

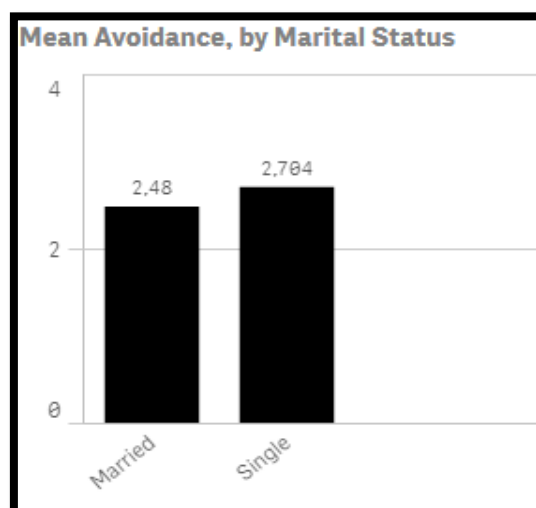
The rates of avoidance of intimacy with God increase as the degree of instruction rises, which was validated by the Pearson's correlation test ( $r = 0.150$ ;  $p < 0.001$ ).

#### 4.1.4. Attachment to God Style and Marital Status

Figures 7 and 8 present the mean rates of Anxiety about Abandonment by God and Avoidance of Intimacy with God, comparing single and married people.



**Figure 7.** Anxiety, by Marital Status. Source: data study analysis.



**Figure 8.** Avoidance, by Marital Status. Source: data study analysis.

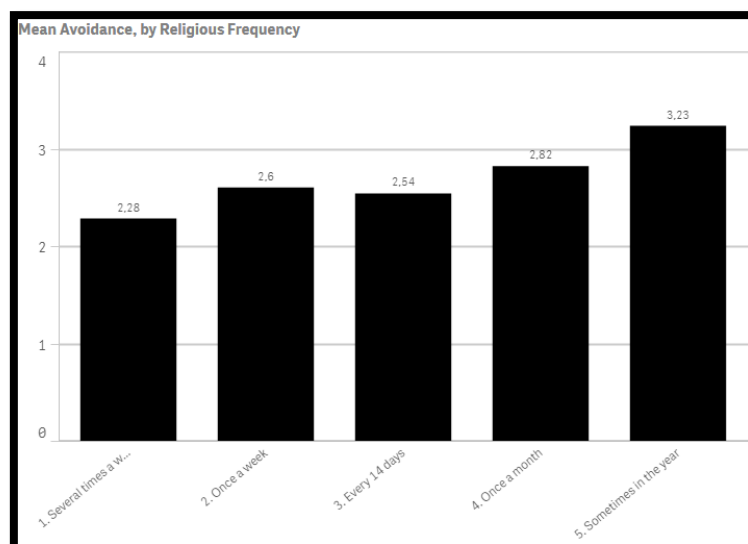
Both anxiety and avoidance of attachment to God vary according to marital status. Compared with married people ( $M = 2.24$ ;  $SD = 0.90$ ), single people ( $M = 2.72$ ;  $SD = 1.24$ ) had higher mean values for both Anxiety about Abandonment by God ( $t(181.205) = 3.841$ ;  $p = 0.000$ ) and Avoidance of Intimacy with God, in which single people presented a higher mean ( $M = 2.70$ ;  $SD = 1.09$ ) than those married ( $M = 2.48$ ;  $SD = 0.96$ ), and the  $t$ -test was also significant for this difference of means ( $t(208) = 1.948$ ;  $p = 0.041$ ).

In comparison to married people, single people provided more anxious answers on all ten questions that measure Anxiety about Abandonment by God, as demonstrated by the Student's  $t$ -test rates: Item 3 ( $t(217.700) = 2.405$ ;  $p = 0.074$ ), Item 5 ( $t(180.765) = 2.386$ ;  $p = 0.000$ ), Item 7 ( $t(173.075) = 1.991$ ;  $p = 0.000$ ), Item 9 ( $t(196.192) = 2.261$ ;  $p = 0.001$ ), Item 15 ( $t(209.808) = 3.691$ ;  $p = 0.001$ ), Item 17 ( $t(217.881) = 2.559$ ;  $p = 0.033$ ), Item 19 ( $t(187.973) = 03.597$ ,  $p = 0.000$ , Item 21 ( $t(223.049) = 2.026$ ;  $p = 0.150$ ), Item 23 ( $t(187.151) = 2.825$ ,  $p = 0.000$ ), and Item 27 ( $t(186.845) = 2.310$ ;  $p = 0.001$ ).

Of the seven questions that measure the avoidant dimension attachment to God, the statements that best represent this behavior are items 10 "I prefer not to depend too much on God" ( $t(176.066) = 2.375$ ;  $p = 0.000$ ) and 24 "I am uncomfortable allowing God to control every aspect of my life" ( $t(190.871) = 2.155$ ;  $p = 0.000$ ).

#### 4.1.5. Attachment to God Style and Religious Frequency

A marginal correlation between the religious frequency reported by the participants and Anxiety about Abandonment by God was identified. Figure 9 shows the averages of Avoidance of Intimacy with God, ranked according to the religious frequency reported.



**Figure 9.** Avoidance, by Religious Frequency. Source: data study analysis.

Avoidance of Intimacy with God is lower among those who most attend religious activities, whether they are church services, masses, sessions, Bible studies, meetings, prayer groups, etc. In studying the attachment to God behavior in people who pray, Maeland (2013) concludes that “the experience of predictability and responsiveness is what allows a corrective relational experience, which in turn changes the pattern of connection”. Another study with individuals from a Protestant community noted that “a secure attachment to God was related to an increase in religious behaviors and spirituality. It seems that increases in these religious and spiritual variables are related to less emotional distress” (Freeze and Ditommaso 2014, pp. 699–700).

These studies suggest that the participation in religious activities helps a person to regulate their security in God, reducing the rates of avoidance of intimacy with God. Another possibility is that people with secure attachment to God are more motivated to participate in religious activities in their community. In any case, these factors deserve specific studies, in order to better understand this phenomenon.

#### 4.1.6. Attachment to God Style and Belonging to the Religious Community

When analyzing the data of the present research, only marginal differences of means were observed between the religious community frequented by the participants of the research and their Anxiety about Abandonment by God.

However, there were significant differences in Avoidance of Intimacy with God, depending on the religious community to which the person belongs. Applying the Student’s *t*-test for independent samples on the Avoidance of Intimacy with God rates of statistically representative communities ( $N > 30$ ) and comparing groups two to two, the following differences were found: Catholics ( $M = 2.94$ ;  $SD = 1.13$ ) are more avoidant in their relationship to God than Pentecostal evangelicals ( $M = 1.92$ ;  $SD = 0.67$ ) ( $t(93.349) = 7.414$ ;  $p = 0.000$ ). Catholics ( $M = 2.94$ ;  $SD = 1.13$ ) are also more avoidant in their relationship with God than Protestant evangelicals ( $M = 2.26$ ;  $SD = 0.87$ ) ( $t(310.997) = 6.631$ ;  $p = 0.000$ ). Finally, Protestant evangelicals ( $M = 2.26$ ;  $SD = 0.87$ ) are more avoidant in their relationship with God than Pentecostal evangelicals ( $M = 1.92$ ;  $SD = 0.67$ ) ( $t(61.053) = -2.792$ ;  $p = 0.007$ ).

Participant data analysis showed that anxiety about abandonment by God is greater among younger people, among women, and among single people. On the other hand, avoidance of intimacy with God is greater among people with higher schooling and among single people. It was also observed that the attachment to God style differs among people from different religious communities.

These indicators suggest that a person's attachment to God suffers multiple influences, since their relationship with God does not occur isolated of the context of the person. In the same way, attachment to God has repercussions in other spheres of the person's life. Further studies could deepen research in this field.

It is also necessary to raise some possible explanations for the exclusion of the 11 items of the IAD-Br scale.

#### *4.2. Culture Influences the Expression of Faith*

As for the cultural question and the way in which it affects a process of adaptation/validation of an instrument that was constructed in another cultural context, at least two aspects can be raised: each culture has its way of expressing faith, and an individualist culture will express its faith in a different way than a relational culture.

Regarding the first aspect, it is observed that only one item of the 14 items that measure Anxiety about Abandonment by God in the original scale remained in all four validations. It is item 17 (I fear God does not accept me when I do wrong). Of the 14 items that measure Avoidance of Intimacy with God in the original scale, only three items remained in all four validations. These are item 4 (I am totally dependent upon God for everything in my life), item 18 (Without God I couldn't function at all) and item 22 (Daily I discuss all of my problems and concerns with God). This analysis suggests that in the original scale there is a variation of the factors and that it is sensitive to the cultural context in which it is applied.

As for the aspect of difference in the expression of faith in an individualist culture if compared to a relational culture, the philosopher Ales Bello emphasizes that the religious moment is central to each cultural expression (Ales Bello 1998, p. 147). Since the human being presents himself basically as a religious being, the way in which he expresses his religiosity is closely related to the culture to which he belongs. Culture "is the artificial, 'secondary environment', which man superimposes on the natural. It encompasses language, habits, ideas, beliefs, customs, social organization, inherited artifacts, technical processes, and values" (Niebuhr 1967, p. 53). And as an environment produced by society, culture is constituted in the environment in which faith is expressed (Niebuhr 1967, p. 16). Therefore, the comparison between different cultures allows us to understand the differences between the expressions of faith of these cultures (Ales Bello 1998, p. 148).

Roberto DaMatta, a renowned Brazilian sociologist, defends the thesis that

The Brazilian ritual system is a complex mode of establishing and even proposing a permanent and strong relation between the house and the street, between 'this world' and the 'other world'. In other words, the festivity, ceremonial, ritual and solemn moment are modalities of relating separate and complementary sets of the same social system (DaMatta 1997, p. 56).

The house, the street, and the other world are sociological categories that are "fundamental for the understanding of the Brazilian society", proposed DaMatta (1997, p. 14). As 'house', DaMatta understands the private, personal, familiar, intimate world of the Brazilian. The 'street' refers to the public, juridical/legal, impersonal, anonymous, and torn environment. However, the 'other world' comprises the environment of the 'supernatural', of religion, beliefs, rituals, and the dead. According to this proposition, the understanding of Brazilian society takes place through the observation of the mediations that appear in the interface between the three worlds (the house, the street, and the other world). Thus, for DaMatta, Brazilian society is characterized by being essentially relational, where the meaning of the person is in the way he or she relates to the interface between these worlds. This

relational characteristic that differentiates Brazilian culture also impacts the way individuals view and practice their faith (DaMatta 1997, p. 58).

Whereas the “American society would be homogeneous, individualistic and exclusive; in Brazil it would be heterogeneous, unequal, relational and inclusive. In one situation, what counts is the individual and the citizen; in another, it is the relationship” (DaMatta 1997, pp. 70–71). Thus, “in the United States there is exclusion and separation; in Brazil, there is junction and hierarchy. In one situation the creed says: equal, but separate; in another, it decrees: different, but together” (DaMatta 1997, p. 97).

Therefore, items that were adequately correlated with the factor they should measure (Anxiety about Abandonment by God and Avoidance of Intimacy with God) in the Anglo-Saxon context in which the AGI was constructed; they behaved differently in collectivist (Taiwan), secularized (Italy), syncretic (Korea), and relational (Brazil) contexts.

Even considering the cultural differences noted, the IAD-Br is able to be used to measure attachment to God in the Brazilian context, since attachment to God is a universal element of the manifestation of faith. Cultural differences in the measurement of attachment to God are restricted to items that measure anxiety and avoidance in attachment to God, without compromising the basic conceptual structure of the original instrument. Understanding God as a figure of attachment who acts as a safe haven and secure base for those who trust Him remains a common value in all cultures.

#### 4.3. Limitations and Future Studies

Since the IAD-Br instrument aims to measure the person’s relationship with God, the results of applying the instrument will only make sense to people who believe in God and who in some way maintain a relationship with Him.

The use of a self-assessment tool brings with it the risk of the participant’s self-misunderstanding. In addition, responses may also be influenced by socially desirable patterns (Olson et al. 2016, p. 87). Therefore, the interpretation of the data should take these elements into account.

The results suggest a correlation between the style of Attachment to God and the different ways of experiencing faith in each community of faith, which could be the object of future studies. In addition, the exclusion of some specific religious groups, such as Kardecist Spiritists and Afro-Brazilian religions, leave open the question about the applicability of the Inventory in these groups and whether such applicability would actually demonstrate significantly different results from those presented here. Thus, it is suggested to apply this instrument in these groups, as well as in other religious groups, such as Muslims and Jews. Although there have been changes in the Brazilian religious map, as evidenced in the last religious census, Brazil remains a predominantly Christian country (IBGE 2010). The changes show a decline in the number of Catholics (from 73.8% in 2000 to 64.6% in 2010) and an increase of 22.2% in the number of Evangelicals (Protestants, Pentecostals and Neo-Pentecostals) between 2000 and 2010. Muslims and Jews are still a minority, with 35,000 Muslims and 107,329 Jews (IBGE 2010).

Given that none of the participants identified themselves as affiliated to Jewish or Islamic religions, it is suggested that future studies should include these groups in order to verify the instrument’s reliability with them. It is worth highlighting that in the study of Miner et al. (2017), the authors note that in the Islamic context it is recommended to use a specific instrument to measure attachment to God because of the differences between Christians and Muslims in the understanding of God (Miner et al. 2017, p.184).

## 5. Conclusions

This article demonstrated the validation process of the Inventário de Apego a Deus (IAD-Br) for the Brazilian context. The purpose of IAD-Br is to measure the person’s attachment to God, considering the existence of two factors: Anxiety about Abandonment by God and Avoidance of Intimacy with God. After the reduction from 28 to 17 items, the model presented adequate psychometric qualities.

The results indicated that the IAD-Br is a useful tool for use in the Brazilian cultural context, as it will allow researchers to make comparisons between data obtained in different contexts and samples. It will also make it possible to add important content in the curricula of training courses for theologians, spiritual caregivers, counselors, pastors, and spiritual leaders.

In addition, it is important to emphasize that the use of this instrument and consequently the studies on its application in the most diverse contexts may impact theological reflection (mainly the practical theology), especially in the questions about the provision of spiritual care in the most diverse contexts and situations of the cycles of life.

The analysis of the data collected during the validation process shows that the indices of anxiety about abandonment by God and avoidance of intimacy with God vary according to age, schooling, gender, marital status, and religious community. As already argued, the person's affective relationship with God undergoes multiple influences.

Although the validation of the IAD-Br expands the wide field of research on religious behavior in Brazil, further studies are required with the application of the Inventory. It is suggested that it be applied in specific populations, such as groups with different religious traditions and in health-disease contexts. It is believed that the use of IAD-Br will allow an application of the concepts of the attachment theory and the verification of the Inventory as a reliable instrument for the measurement of attachment to God in clinical and research use. Such studies would be promising, especially if applied with other instruments such as the Spiritual/Religious Coping Scale, the Religious and Spiritual Struggle Scale, and the Centrality of Religiousness Scale.

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**Conflicts of Interest:** The authors declare no conflict of interest.

## **Appendix A. Inventário de Apego a Deus—Versão Brasileira (IAD-Br)—In Portuguese**

Adaptado de Beck and McDonald (2004).

As seguintes afirmações se referem a como você se sente em seu relacionamento com Deus. Estamos interessados em como você de modo geral experimenta sua relação com Deus, não apenas no que está acontecendo atualmente, nessa relação. Assinale em cada afirmação o quanto você concorda ou discorda dela.



		Discordo Fortemente	Discordo	Discordo Moderadamente	Não Concordo; Nem Discordo	Concordo Moderadamente	Concordo	Concordo Fortemente
1	Sou totalmente dependente de Deus para tudo na minha vida.	7	6	5	4	3	2	1
2	Prefiro não depender muito de Deus.	1	2	3	4	5	6	7
3	Sem Deus eu não consigo fazer nada.	7	6	5	4	3	2	1
4	Eu acredito que as pessoas não deveriam depender de Deus para fazer as coisas que elas deveriam fazer sozinhas.	1	2	3	4	5	6	7
5	Diariamente eu discuto todos os meus problemas e preocupações com Deus.	7	6	5	4	3	2	1
6	Eu fico desconfortável em deixar que Deus controle cada aspecto da minha vida.	1	2	3	4	5	6	7
7	Eu deixo que Deus tome a maior parte das decisões na minha vida.	7	6	5	4	3	2	1
Soma 1								
8	Se eu não vejo Deus agindo em minha vida, eu fico chateado(a) ou com raiva.	1	2	3	4	5	6	7
9	Tenho ciúmes da forma como Deus parece cuidar mais dos outros do que de mim.	1	2	3	4	5	6	7
10	Às vezes sinto que Deus ama os outros mais do que a mim.	1	2	3	4	5	6	7
11	Tenho ciúmes da proximidade que algumas pessoas têm com Deus.	1	2	3	4	5	6	7
12	Quase diariamente sinto que minha relação com Deus é oscilante, vai de “intensa” a “fria”.	1	2	3	4	5	6	7
13	Temo que Deus não me aceite quando faço algo errado.	1	2	3	4	5	6	7
14	Muitas vezes fico bravo(a) com Deus quando Ele não me responde quando quero.	1	2	3	4	5	6	7
15	Eu preciso intensamente que Deus reafirme o seu amor por mim.	1	2	3	4	5	6	7
16	Eu fico com ciúmes quando outros sentem a presença de Deus e eu não.	1	2	3	4	5	6	7
17	Eu fico chateado(a) quando sinto que Deus ajuda outros, mas se esquece de mim.	1	2	3	4	5	6	7
Soma 2								
Dimensão da Evitação a Deus			Dimensão da Ansiedade a Deus					
Soma 1: ____ : 7 = ____			Soma 2: ____ : 10 = ____					

## Appendix B. The Attachment to God Inventory

The following statements concern how you feel about your relationship with God. We are interested in how you generally experience your relationship with God, not just in what is happening in that relationship currently. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

1	2	3	4	5	6	7
Disagree			Neutral/Mixed			Agree
Strongly						Strongly

- \_\_\_\_\_ 1. I worry a lot about my relationship with God.
- \_\_\_\_\_ 2. I just do not feel a deep need to be close to God.
- \_\_\_\_\_ 3. If I cannot see God working in my life, I get upset or angry.
- \_\_\_\_\_ 4. I am totally dependent upon God for everything in my life. (R)
- \_\_\_\_\_ 5. I am jealous at how God seems to care more for others than for me.
- \_\_\_\_\_ 6. It is uncommon for me to cry when sharing with God.
- \_\_\_\_\_ 7. Sometimes I feel that God loves others more than me.
- \_\_\_\_\_ 8. My experiences with God are very intimate and emotional. (R)
- \_\_\_\_\_ 9. I am jealous at how close some people are to God.
- \_\_\_\_\_ 10. I prefer not to depend too much on God.
- \_\_\_\_\_ 11. I often worry about whether God is pleased with me.
- \_\_\_\_\_ 12. I am uncomfortable being emotional in my communication with God.
- \_\_\_\_\_ 13. Even if I fail, I never question that God is pleased with me. (R)
- \_\_\_\_\_ 14. My prayers to God are often matter-of-fact and not very personal.\*
- \_\_\_\_\_ 15. Almost daily I feel that my relationship with God goes back and forth from “hot” to “cold.”
- \_\_\_\_\_ 16. I am uncomfortable with emotional displays of affection to God.\*
- \_\_\_\_\_ 17. I fear God does not accept me when I do wrong.
- \_\_\_\_\_ 18. Without God I could not function at all. (R)
- \_\_\_\_\_ 19. I often feel angry with God for not responding to me when I want.
- \_\_\_\_\_ 20. I believe people should not depend on God for things they should do for themselves.
- \_\_\_\_\_ 21. I crave reassurance from God that God loves me.
- \_\_\_\_\_ 22. Daily I discuss all of my problems and concerns with God. (R)
- \_\_\_\_\_ 23. I am jealous when others feel God’s presence when I cannot.
- \_\_\_\_\_ 24. I am uncomfortable allowing God to control every aspect of my life.
- \_\_\_\_\_ 25. I worry a lot about damaging my relationship with God.
- \_\_\_\_\_ 26. My prayers to God are very emotional. (R)
- \_\_\_\_\_ 27. I get upset when I feel God helps others, but forgets about me.
- \_\_\_\_\_ 28. I let God make most of the decisions in my life. (R)

Scoring:

Avoidance = sum of even numbered items

Anxiety = sum of odd numbered items

Items 4, 8, 13, 18, 22, 26, and 28 are reverse scored

\* Researchers may want to consider dropping these items (14 and 16)

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