

The Attachment to God Inventory (AGI, Beck & MacDonald, 2004):

An Italian adaptation

G. Rossi*, A. Tagini*
University of Milan-Bicocca (Italy)

1

Hello, I'm presenting an attempt at translating a questionnaire for measuring attachment to God. It is a self-report or explicit measure questionnaire.

Introduction

- Measures of attachment to God
 - Typology of Kirkpatrick e Shaver
 - Secure, Ambivalent, Avoidant
 - AGI - *Attachment to God Inventory* by Beck & McDonald (2004)
 - Anxiety of being abandoned, Avoidance of Intimacy Scale

2

The first author that postulated a relation between attachment theory and religiousness is Kirkpatrick (1997, 1998, 1999; Kirkpatrick & Shaver, 1990, 1992). More in detail, Kirkpatrick associates the characteristics of the child-caregiver relationship with the relation between believers and God.

He extends the construct of attachment from the context of early relationships to the context of religion and God.

In particular, similarly to what happens within the traditional attachment relationship, believers seek protection and refuge in God and attempt to maintain a contact with him. Also, the divinity is considered a secure base when the believer perceives himself as being separated from God.

More recently, on the basis of this first theory, Beck and MacDonald (2004) created the Attachment to God Inventory (*AGI*). Initially, the AGI was composed of 70 items, then it was reduced to 28 items. 14 of these items compose an “avoidance of intimacy” scale, the remaining ones, an “anxiety of being abandoned” scale.

Attachment to God (K&S)

- **Secure:** “God is generally warm and responsive to me; He always seems to know when to be supportive and protective of me, and when to let me make my own mistakes. My relationship with God is always comfortable and I am very happy and satisfied with it.” (70%)
- **Avoidant:** “God s generally impersonal, distant, and often seems to have little or no interest in my personal affairs and problems. I frequently have the feeling that He doesn’t care very much about me, or that he might not like me” (23%)
- **Anxious-Ambivalent:** “God seems to be inconsistent in His reactions to me; He sometimes seems very warm and responsive to my needs, but sometimes not. I’m sure that He loves me and cares about me, but sometimes He seems to how it in ways I don’t really understand” (7%)

3

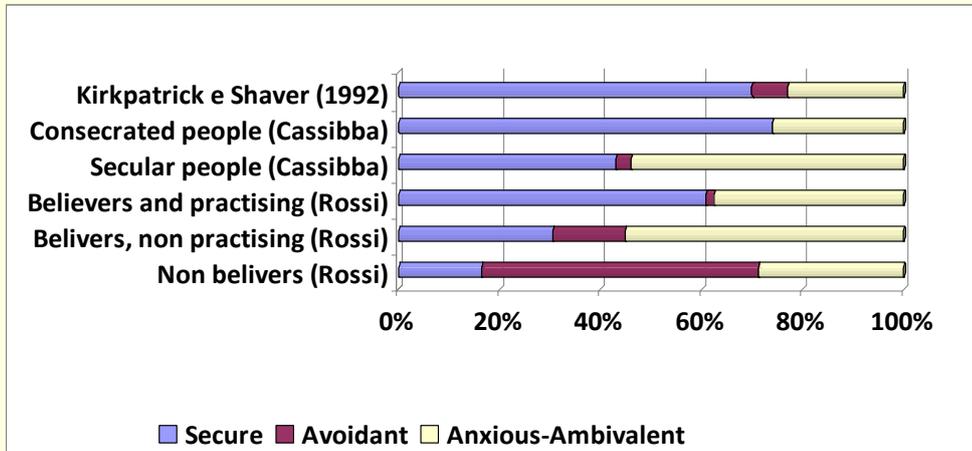
The Kirpatrick & Shaver’s “measure of attachment to God” is made of 3 descriptions of a possible relationship with God.

It was modeled on similar types proposed by Hazan and Shaver’s romantic attachment.

The data collected by Kirpatrick and Shaver indicate a high percentage of Secure attachment, a lower percentage (23 %) of "ambivalent" and a very small percentage of "Avoidant" (7%).

But in the Italian sample the measure had a number of problems.

**Measure of attachment to God
(Kirkpatrick & Shaver, 1992; Cassiba, 2007; Rossi, 2010)**



4

In this slide we compare Kirkpatrick and Shaver's results of the "Measure of attachment to God" with those obtained in Italy by Cassibba and collaborators and by my group.

The first line shows the results obtained by Kirkpatrick: most people have a Secure attachment to God. This results is similar to that obtained by Cassibba with consecrated people (priests, nuns and seminarians).

The other four lines show the results obtained by Cassibba with Secular people, by my group with a secular believers sample (practicing and not practicing), and with a non believer sample.

Except for the religious samples (consecrated or Secular, believers and practicing ones), the Italian groups have in common a large percentage of "Anxious-Ambivalent" attachment to God. The Avoidant category tends to become higher in non practicing and highest in non believers.

The avoidant category increases passing from practicing believers to the non believers. The anxious –ambivalent percentage is much higher than in Kirkpatrick, in Cassibba's secular subjects and in my non-practicing believers and in non-believers.

AGI – Attachment to God Inventory

- Developed by Beck and McDonald's to overcome the problems of the K&S typology
- From *Experiences in Close Relationships* (ECR) by Brennan et al. (1998)
- It consists of 28 items that measure Anxiety of Abandonment (14 items) and Avoidance of Intimacy (14 items)
- B & M have published 3 studies

5

Beck and McDonald's instrument is based upon the Experiences in Close Relationships (ECR) of Brennan et al. (1998), a measure of attachment style in adults. It is composed of 28 items that measure two dimensions: Anxiety about Abandonment and Avoidance of Intimacy. Each of these two dimensions can be further dichotomized to generate the classic fourfold typology by Bartholomew (1990): Secure, Preoccupied, Fearful, or Avoidant.

An operation that the authors have not done.

The questionnaire was developed and improved in three further studies.

The First Study

- **Aim:** To create an instrument based on the two dimensions of Anxiety and Avoidance
- **Procedure:** 70 items on 7-point Likert scales, derived from the ECR (*Experiences in Close Relationships*)
- **Sample:** 507 students at the Abilene Christian University
- **Age:** 20.13 (s.d.=2.89)

6

The aim of the first study was to create the instrument. In fact, the first version was based upon the ECR, and it was composed of 70 items on 7-point Likert scales. The dimension "Avoidance" included items measuring the difficulty of depending upon God, the unwillingness to express intimacy with God, and the need for self-reliance; the dimension "Anxiety" included angry protest, preoccupation with the relationship, fears of abandonment by God, anxiety over one's lovability, and jealousy.

The sample was composed of 507 undergraduate and graduate students of the Abilene Christian University, a small, private, Christian institution. The mean age of the sample was 20.13 (with standard deviations 2.89).

The First study

- 62% women
- 67% Church of Christ
- 11% Baptists
- 3,4% Catholic
- 2,2% Methodist
- 6.5% Non-Denominational

7

Sixty-two percent of the sample was female. As for the religion, most of the sample was affiliated with the Churches of Christ, follow Baptist, Non-Denominational, and a small percentage was Catholic or Methodist.

The First Study: Data Analysis

- Principal component (Varimax) analysis
- 2 factors
- Criteria: loadings $\geq .40$ on one factor; $\leq .25$ on the others
- Internal consistency $\geq .80$
- Covariance between the two factors $\leq .10$

8

Data analysis was done using principal component analysis with a Varimax rotation. The authors chose a two-component solution using 3 psychometric criteria: dominant factor loadings more or equal to .40, cross factor loadings lower or equal to .25, an internal consistency (alpha lower or equal to .80), and minimal shared variance between subscales (r square lower than .10).

The First Study: results

- 28 items (14 item x 2 factors)
- Covariance: .248 (6,1% common variance)

	Avoidance	Anxiety
% explained var.	23,2	13,9
Internal consistency	.86	.84

9

At the end of the analysis , considering the criteria the authors decided to adopt and also the wish to balance the dimensions, B&M selected 14 items for every dimension, a total of 28. Together the two components explain only 37,1% of the total variance, but the internal coherence Cronbach's alpha is quite high.

The Second Study

- **Aim:** To test the instrument and compare it with the ECR
- **Procedure:** 28 items on 7-point Likert scales
- **Sample:** 118 students at the Abilene Christian University
- **Age:** 20.66 (s.d.=3.98)

10

With the second study, B and M wanted to see if the structure of the instrument was going to be the same and at the same time to see if the data they obtained were comparable to those of the ECR. The new instrument was based on the ECR.

Finally, they wanted to see if “an initial exploration into the compensation versus correspondence hypotheses”. Was possible

They had a sample of 118 students in undergraduate and graduate courses at Abilene Christian University, the ages were between 18 and 46 years. The mean age was 20.66.

The Second Study

- 75,4% women
- 55.1% Church of Christ
- 18,6% Baptists
- 6,8% Catholic
- 1,7% Methodist
- 6.8% Non-Denominational

11

Mostly they are female in sex; more than half belong to the Church of Christ then approximately 20% are Baptists then Catholics and Non-Denominational

The Second Study: results

- Covariance: .12 (1.4% common variance)
- Problems: item 14 and 16 are not highly saturated in the factor
- Only Anxiety correlates with AGI and ECR (.54)

	Avoidance	Anxiety
% expl. var.	15,4	17,9
alpha	.84	.80

12

The percentage of explained variance in this new solution is 33.3%, which is less than in the first study. The internal coherence also decreases. Also two items do not saturate their factor very highly.

Finally, the relation between AGI and ECR was only studied by correlations, and the only significant and quite high correlation was between the two Anxiety scales.

The Third Study

- **Aim:** to check the instrument with a non-student sample
- **Tools:** AGI, ECR, Relationship Questionnaire, Spiritual Well-Being Scale
- **Sample:** 109 adults, believers from all major denominations in the city of Abilene
- **Age:** 38.82 (s.d.=13.00)

13

In the third study B&M wanted to verify the instrument's functioning in an adult sample.

They also used the AGI, the ECR, and the Relationship Questionnaire of Bartholomew & Horowitz (1991), and finally they added the Spiritual Well-Being Scale of Paloutzian & Ellison (1982).

The sample consisted of adults selected from an educational program held in three Abilene churches. The mean age was 38.82 years, with a standard deviation of years;

If we have a normal age distribution, this would mean that 68% percent of the samples would have an age between 26 and 52

The Third Study

- 61% women
- 82% married

- 37,6% Church of Christ
- 31,2% Non-Denominational Charismatic
- 32,2% Catholic

14

The sex distribution is also unbalanced towards women. More than a third of the sample was married and derives from 3 denominations : the Church of Christ, the Non-Denominational Charismatic and the Catholic.

The Third Study: results

- Component solution similar to that of previous studies
- Problems with items 14 and 16
- Covariance: 31% common variance (estimated $r=.56$)

	Avoidance	Anxiety
% expl. var.	9.83	30.42
alpha	.86	.87

15

The main result of the principle component analysis that one factor alone explains 30% percent of the variance and the second factor explains a much smaller percentage. But the authors affirm that the factorial solution is basically similar to the previous one, except for items 14 and 16.

Also the internal coherence is good, even though the correlation between the two components is very high (.56).

The results about the other instruments are more complex, but they are not relevant at the moment.

The Italian Version

■ Aim

- To translate AGI
- To compare it with Kirkpatrick's typology
- To compare it with other attachment measures (with parents, adult styles)

16

The aim was to create an Italian adaptation of the AGI questionnaire. For this purpose, the questionnaire was translated by the authors according to the standard procedure (back-translation etc.).

The questionnaire was then administered to over 600 participants, including Catholics, atheists and those who declared to believe in 'other religions'.

Kirkpatrick and Shaver's (1992) questionnaire and scales on religiousness and adult attachment were administered as well.

The Italian Sample

- At the moment, the sample is composed of 751 people, ranging in age from 16 to 92 years (mean age = 39.65 ± 15.6)
- Only 635 participants completed the AGI with no missing values (mean age: 39.64, s.d.=15.36)
- 533 participants (72,9%) declared to be Catholic, 13,1% non-believers, 8.9% “Christian” (almost all Seventh-day Adventist), and the remaining 5% “other religions”, although many of them specified “spiritual”, “seeking”, “doubting”)

17

The current sample is composed of 751 participants with an age between 16 and 92 years.

But only 635 individuals completed the questionnaires of interest (after we checked problems linked to the response-set). Considering that age and other variables do not seem to vary between the whole sample and the reduced one, we considered the missing answers as completely casual.

In the sample 72.9% declared to be Catholic, 13 percent are non-believers, nine percent say they are Christian, but 96% percent of these belong to the **Italian Adventist of the Seventh Day**.

Control Procedure

1. Confirmatory factor analysis
 2. Explorative factor analysis
 3. Internal consistency analysis
 4. Comparison of solution
- 'Cleaning-up' the data (response-sets)
 - A questionnaire is used only if there are answers for more than half of the items of each scale

18

We had three steps in our analysis of the Italian version of the instrument:

Confirmatory factor analysis as used in the original model of Beck & MacDonald, exploratory factor analysis, analysis of internal consistency and finally we compared the three approaches.

First we cleaned up the data, considering the response-set problem, that is when participants used the same value for all items or had very similar values. When the standard deviation within a participant (considering all items as if they went in the same direction) was not above 0.5, we eliminated the case.

Questionnaires were also eliminated when less than half of the answers were given on each scale (Anxiety or Avoidance).

Confirmatory Factor Analysis

- Sub-sample:
 - All participants (N=735)
 - All believers (N=694)
 - All faithful Catholics (N=509)
- Model: Even item for the Avoidance dimension, odd items for Anxiety dimension
- Using a polychoric correlation matrix and Pearson correlation matrix
- Listwise approach and multiple imputation approach
- Lisrel 8.80; R (Lavaan 0.4-9)

19

Confirmatory factor analysis was used on the whole sample of 735 subjects and also on the believer sample (any type of believer) as well as on a sample of only Catholics.

The model tested was that of B&M in which even items belonged to the Avoidance scale and the odd to the Anxiety scale.

We applied a normal correlation matrix calculated with the Pearson formula as well as a Polychoric correlation matrix. Both matrices were calculated from the data in which the missing data was either eliminated or reconstructed with a multiple imputation technique. Different software, correlations and data were used, because in theory, a good model should not change significantly with the approach used.

Confirmatory Factor Analysis

- The model does not fit
 - Using Lisrel, RMSEA min=.148; max=.168
 - Using R, RMSEA min=.104, max=.108
- Items 6, 13, 14, 16 had no significant values of t
- There are numerous “modification indices” that link some items of the two scales

20

We made 12 different analyses, but results were less than comforting.

With LISREL the minimum RMSEA obtained was .148, with R it was .104; apart from the almost acceptable model calculated with R, we need to conclude that the Italian data do not fit the model proposed by B&M.

In particular the items 6, 13, 14 e 16 (alone, in couples or all together) are not necessary in the model.

Also every analysis suggests (through the modification index) that a certain number of links have to be added to the model, **molti dei legami suggeriti sono fra varianze d'errore.**

Explorative Factor Analysis

- Same original criteria (Principal component, Varimax rotation; loading $\geq .40$ in one factor; $\leq .25$ on the other); expanded to ML and Minres
- The parallel analysis suggest 2 (Velicer MAP) o 3 components (Hull)
- Software: SPSS, R (psych package), FACTOR
- The factor solution is similar but not equal to B&M solution

21

Since the confirmatory factor analysis did not confirm Beck & MacDonald's model, we tried some explorative factor analyses.

We started by using Beck's criteria (principal component, Varimax rotation; saturations above or equal to .40 in one factor and less than or equal to .25 in the other). Then we passed onto the use of maximum likelihood and minimum residuals (**mantenendo invariati gli altri criteri**).

Before carrying out the analysis we used parallel analysis techniques to verify the factorialisation of data.

According to the method, parallel analysis suggests an extraction of 2 or 3 components.

Various analyses were carried out with SPSS, R and FACTOR. The factorial solutions we obtained are similar to each other but none are equivalent to that of B&M.

Explorative Factor Analysis

- The results do not change much
- Solutions with 3 components (or factors) tend to include the unsaturated item or the group 1, 2, 3, 4
- Items that appear together in all 2-factor solutions...
 - Avoidance: item 1, 2, 3, 4, 8, 10, 18, 20, 22, 26, 28
 - Anxiety: item 5, 7, 9, 17, 19, 23, 27

22

I will go into some detail now: the 2 factor solutions are similar while the three factor solutions tend to include the items that did not saturate in the two factor analysis or the group of the first 4 items (1, 2, 3, 4).

Considering the invariance of the 2 factor solutions, Avoidance is saturated by 11 items including 2 odd ones, while Anxiety is only saturated by 7 odd items.

Internal Consistency Analysis

- Avoidance [rif **.87**]
 - 1) B&M proposal: alpha = **.84**
 - 2) Item 14, 16 deleted, alpha = **.87**
 - 3) Item 6, 12, 14, 16 deleted, alpha = **.90***
 - 4) AFE solution, alpha = **.92**
 - 5) AFE solution (only odd), alpha = **.90**
- Anxiety [rif **.86**]
 - 1) B&M model: alpha = **.84**
 - 3) item 13 deleted, alpha = **.86***
 - 5) AFE solution, alpha = **.83**

23

Internal consistency was calculated by using the B&M model as a starting point and then by using the solution found by explorative factor analysis to improve internal consistency.

Regarding Avoidance, the B&M solution is obtained by eliminating items 14 and 16, as they suggested, but increases if items 6 and 12 are also eliminated. The solution obtained by factor analysis is better still, (.92), but it includes items which belong to the other scale in the original model. If these are eliminated, a solution is obtained with an internal consistency of .90.

Concerning Anxiety, the alpha value obtained by using the original model is slightly lower than the original one but becomes almost equal to it when item 13 is eliminated.

Comparison with the Original Data

	M	s.d.	M	s.d.
Italian Catholics and practicing believers N=278			Study 3 N=109	
Anx.	45.66	13.6	36.74	15.03
Avoid.	47.48	15.5	36.91	13.83
Italian Catholics N=509				
Anx.	43.75	14.08	36.74	15.03
Avoid.	55,78	17.21	36.91	13.83

24

To see whether the different estimates are comparable to those of B&M, we compared the ones we obtained with those of the United States.

Since B&M used student and adult believers, we used the sub-sample of believers who declared themselves to be Catholic. Also, since the mean age of our sample was similar to that of adults, we compared them to the American adult sample.

All differences were significantly different and higher than the American data, in the Catholic believers who practice their faith and in the Catholics in general (including the non practicing). It would seem then that the Italians have higher scores of attachment anxiety and avoidance when compared with the adult American sample used by B&M.

Comparison with the Original Data

	M	s.d.	M	s.d.
Italian Catholics not practicing believers N=???			Study 3 N=109	
Anx.			36.74	15.03
Avoid.			36.91	13.83
Italian no believers N=???				
Anx.			36.74	15.03
Avoid.			36.91	13.83

Comparison with the Original Data

	M	s.d.	M	s.d.
Giovani italiani credenti e praticanti N=???			Study 2 N=118	
Anx.				
Avoid.				
Giovani italiani credenti non praticanti N=???				
Anx.				
Avoid.				

Comparison of (Non)Belief

	N	Anxiety	Avoid.
<i>Practicing Believers</i>	337	45.97	45.19
<i>Non Practicing Believers</i>	257	41.51	65.38
<i>Non practicing Non believers,</i>	125	28.17	83.13

Look at the means of anxiety and avoidance, according to belief. We can see that the anxiety of being abandoned is highest in practicing believers. It decreases as we move to non-practicing believers and even more so to non-believers. On the contrary, "Avoidance of intimacy" is lowest in practicing believers and increases in non-believers. This does not support Bartholomew's theory: according to the theory low anxiety and low avoidance should indicate attachment security (Group B)- which we should find in practicing believers. In our Italian sample the practicing believers have high anxiety and low avoidance, according to Bartholomew this is the anxious group (C). And the non-believers have low anxiety and high avoidance (distancing attachment, b).

Comparison with K&S

K&S	N	Anxiety	Avoid.
<i>Secure (B)</i>	227	41.40	49.70
<i>Avoidant (A)</i>	76	31.59	81.33
<i>Anxious-Ambivalent (C)</i>	231	45.66	60.57

If we compare anxiety and avoidance in the Italian sample with Kirckpatrick's, there is a certain overlap. The avoidant group C has low anxiety and high avoidance as in Bartholomew. The anxious-ambivalent should have high anxiety and low avoidance, but instead it has high anxiety and intermediate levels of avoidance. In a similar way, the secure should have high anxiety and low avoidance, while in our sample they have a high but not very high anxiety.

Conclusions

- The structure of the Italian scales does not correspond perfectly to the Beck & MacDonald scale
- The scales derived from the internal consistency analysis seem to be acceptable estimates
- The original instrument was mainly developed on Protestant believers with a high percentage of
- The Italian sample is heterogeneous

On the basis of our current sample (N=735) and the various analyses we carried out, the composition of the Italian scales does not correspond perfectly to the Beck & MacDonald scale:

The scales that derive from the internal consistency analysis seem to be acceptable although not perfectly corresponding.

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.

Conclusions

- A part of the problems may be due to the way Italians see and interpret God
- By increasing the sample the more statistical problems should be eliminated
- We may need to re-categorize the Anxiety and Avoidance scales according to Bartholomew's types

But the various analyses suggest that the problems are only in part linked to the instrument itself. In great part it may be due to the way Italians interpret god. But other problems may be due to the quantitative use of the two scales. A larger sample should allow the statistical problems to be eliminated and we could categorize the two scales according to the four types of Bartholomew.