

The Utrecht-Management of Identity Commitments Scale (U-MICS): Psychometric Properties of its  
Adaptation to the Religious Domain of Identity

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Abstract

The current study proposed the adaptation of the Utrecht-Management of Identity Commitments Scale (U-MICS) to the religious domain as an instrument to measure both individuals' religious identity formation *processes* (when a variable-centered approach is adopted) and religious identity *statuses* (when a person-centered approach is adopted). The scale has been tested on a sample of 727 Italian participants aged 13-65, by collecting evidence of score structure, convergent, and criterion-related validity. Regarding the score structure validity, we confirmed that religious identity formation consists of three processes (commitment, in-depth exploration, reconsideration of commitment) and that, by using these scores, individuals can be placed into five different religious identity clusters (achievement, diffusion, foreclosure, moratorium, searching moratorium). As to the convergent and criterion-related validity, we tested the relationship that the three factors (religious

identity formation *processes*) and the five clusters (religious identity *statuses*) have with religiousness and subjective well-being respectively. Results indicate that the instrument is a promising tool to measure religious identity. Future studies should test this scale in other countries and with people from diverse religious traditions.

Over the lifespan, individuals have to grapple with the achievement of a clear personal identity across different domains (Fadjukoff & Kroger, 2016). In countries with a deeply-rooted religious culture, religious identity becomes an interesting aspect of identity to investigate. Generally, *religious identity* is conceived as the extent to which people self-identify with a faith tradition/community (Lopez et al., 2011) and is differentiated from the broader construct of *religiousness* (or *religiosity*) concerning the public or private adherence to beliefs and rituals of a religion (Miller & Thoresen, 2003).

While religiosity has been extensively investigated, religious identity remains a less explored topic, especially in terms of its development (Bell, 2016). Indeed, although instruments aimed at measuring this construct adopt different methodological approaches (Ashdown et al., 2014; Brambilla et al., 2016; Dimitrova et al., 2014; Keyes & Reitzes, 2007), they do not unveil the processes underlying the *formation* of religious identity. Briefly, little is known about how people explore, commit to, and reevaluate their religious identity (Crocetti et al., 2008).

On the whole, the dynamics by which religious identity is developed have been studied within Marcia's (1980) theoretical framework (e.g., Bartolo et al., 2020; Bell, 2016) which distinguishes exploration and commitment as two central dimensions of identity and combines them in the four well-known identity statuses: *diffusion*, *foreclosure*, *moratorium*, *achievement*.

Although valuable, this model does not consider other important dimensions related to the formation and maintenance of religious identity (Crocetti et al., 2010). Starting from this gap, Crocetti et al. (2008) introduced a more nuanced picture of the concept of *exploration* and proposed the *three-factor model of identity*. According to it, identity formation is composed of the following processes: *Commitment*, concerning individuals' engagement in domains fitting their expectations; *In-depth exploration*, referring to individuals' active probe of their current commitments; *Reconsideration of commitment*, pertaining to individuals' quest for different areas relevant to identity, when they feel no longer fulfilled with their present commitments. Ultimately, this model

stresses the fact that people keep reflecting on and learning about the domain they decided to embrace even after commitment has been enacted.

On the basis of these theoretical considerations, the *Utrecht - Management of Identity Commitments Scale (U-MICS)* (Crocetti et al., 2010) was developed. Several studies highlighted that this measure might be employed within both a variable and a person-centered approach (Crocetti & Meeus, 2015). Conceptually, the former strategy mainly determines relations at the variable level, whereas the latter at the individual level. In detail, when a variable-centered approach is adopted, the three distinct but intertwined identity formation processes (commitment, in-depth exploration, and reconsideration of commitment) can be singularly associated with identity correlates within populations of individuals regarded as homogeneous and interchangeable. When a person-centered approach is used, the three-factor model is a helpful methodological device to reliably assign individuals sharing similar patterns of identity formation to subgroups within a given population; in other words, this holistic and dynamic view emphasizes the potential uniqueness of individuals and allow to obtain identity profiles which, then, can be compared on several identity correlates to detect interindividual differences. As to this, Crocetti et al. (2008) found five statuses. Four out of them - *diffusion*, *foreclosure*, *moratorium*, and *achievement* - are similar to Marcia's ones, whereas a new one, labelled *searching moratorium* (grouping those individuals who question their established but unsatisfactory current commitments and look for alternatives), reveals a positive side of moratorium (Crocetti & Meeus, 2015).

Although several lines of research showed that the U-MICS is a useful instrument to detect identity formation processes in several realms (Crocetti et al., 2012), it has never been validated in the religious domain. As the distinctive domain of religion identity is an important cognitive and social resource in people's life (King, 2003), we aimed to adapt the U-MICS scale to the religious domain (from now on, U-MICS – religious domain). Specifically, we collected data about the U-MICS – religious domain in a society strongly marked by Catholicism, like the Italian one (Iannello et al., 2019), and explored its psychometric properties by evaluating score structure, convergent,

and criterion-related validity. Each of these kinds of validity evidence was collected both within the variable- (religious identity processes) and person-centered (religious identity statuses) approaches.

### **Score structure validity evidence**

This kind of validity evidence tests whether the scale structure is consistent with the expected theoretical dimensions. Within the variable-centered approach, the factorial structure of the U-MICS – religious domain should consist of three factors (Crocetti et al., 2010) corresponding to three different identity formation processes: *Commitment*, indicating the process of strong engagement in a religion; *In-depth exploration*, referring to the process of active probing own current religious commitment; *Reconsideration of commitment*, pertaining to the process of questioning different religious commitment when current religion is no longer fulfilling. The validity of this three-factor model can be further demonstrated by verifying its reliability and measurement invariance. As in previous validation studies the U-MICS scale has shown very good levels of reliability ( $\alpha > .80$ ; Crocetti et al., 2008), we aimed to verify whether this scale scores are highly reliable also when the scale is applied to the religious domain. Additionally, we tested measurement invariance of the U-MICS – religious domain. Firstly, we verified whether the instrument is gender invariant as it was for the U-MICS scale adapted to other domains (e.g., Crocetti et al., 2015). Secondly, we ascertained whether the U-MICS – religious domain works invariantly across adolescents (less than 18 years old), emerging adults (18-29 years old), and adults (30-65 years old) because the U-MICS scale has so far only been tested among adolescents and emerging adults (Crocetti et al., 2012). This is the first validation study in which the U-MICS is tested on a sample of adults because we agree in considering identity formation as a lifelong process (Fadjukoff & Kroger, 2016). Finally, we tested measurement invariance across believers and atheists in order to investigate whether items work equally well from the psychometric point of view in the two groups and, consequently, can be administered to both populations.

Within the person-centered approach, five identity statuses should be identified (*diffusion*, *foreclosure*, *moratorium*, *achievement*, and *searching moratorium*) in order to confirm the different

positioning that individuals may have respect to the three identity formation processes (Crocetti et al., 2008). In order to further test the meaningfulness and distinctiveness of these statuses, we tested whether gender (males vs. females), age (adolescents vs. emerging adults vs. adults), and religious status (believers vs. atheists) were differently distributed across them.

### **Convergent validity evidence**

Despite different self-report instruments to measure religious identity have been proposed in literature (e.g., Ashdown et al., 2014; Dimitrova et al., 2014), none of these has been validated in the Italian language, so they could not be used to test the convergent validity of the U-MICS – religious domain scores. As the instrument we aimed to validate refers to the religious realm, we collected convergent validity evidence testing the relationships that the U-MICS scores (obtained both using a variable- and person-centered approach) had with four aspects of religiousness (believing, bonding, behaving, and belonging) by using the validated Italian version of the *Big Four Dimensions of Religiousness Scale* (Saroglou, 2011). We expected religious commitment and in-depth exploration would have positive association with religiousness dimensions, as people committed to a religion and/or who are deepening this commitment should also present public or private adherence to beliefs and rituals of a religion. By contrast, we expected a negative association between individuals reconsidering their commitment to the religious domain and religiousness.

As to religious identity statuses, we hypothesized that individuals having high mean levels of both religious commitment and in-depth exploration and low mean level of reconsideration (*achievement status*) would have the highest mean levels of religiousness. Instead, individuals with low mean levels of both religious commitment and in-depth exploration (*diffusion and moratorium*) would show the lowest mean levels of religiousness. Finally, we expect that individuals in searching moratorium and foreclosure would report moderate mean levels of religiousness (Griffith & Griggs, 2001).

### **Criterion-related validity evidence**

Finally, we collected validity evidence of the U-MICS – religious domain verifying if the U-MICS scores (obtained by using both the variable- and person-centered approach) are related to the level of individuals' subjective well-being. Subjective well-being refers to both individuals' cognitive judgments about achieving important values and goals in life (i.e., life satisfaction) and to the balance between positive and negative affect (Diener et al., 2018). Previous studies have investigated the association among the three factors of the U-MICS and subjective well-being (Villani et al., 2019), finding that only commitment is positively associated with both life satisfaction and positive affect.

The relationship between U-MICS scores and subjective well-being has been tested within the person-centered approach too. In particular, studies (e.g., Dimitrova et al., 2018) showed that individuals in commitment statuses (*achievement* and *foreclosure*) reported higher mean levels of psychological adjustment than those in the low commitment ones (*moratorium* and *diffusion*); *Searching moratoriums*, instead, has been reported to be less troubled than moratoriums (Crocetti et al., 2008).

## Method

In this section we report how we determined our sample size, all measures in the study, and all analyses including all tested models. If we use inferential tests, we report exact *p* values, effect sizes, and 95% confidence intervals.

### Participants

The convenient sample was composed of 727 Italian participants, aged 13-65 ( $M = 23.40$ ;  $SD = 11.32$ ), mainly female (78.2%). Many were high school students (43.8%), while other participants had middle school diploma (1.8%), high school diploma (18.9%), a degree (33.9%), or a post-graduate specialization (3.3%) as level of education. Most participants reported to be believers in God (70.8%) and Catholic (94.9% of the believers), whereas the 16.8% to be atheist. The remaining 12.4% had unsure beliefs as participants stated to be neither believers nor atheists.

Participating in the survey was entirely voluntary without any form of compensation. In case of minors, the recruitment was preceded by the collection of parents' informed consent. In case of adults, all subjects gave online informed consent. All participants were treated in accordance with the Declaration of Helsinki.

## **Measures**

We administered four psychometric scales to measure respectively religious identity, religiousness, life satisfaction, and affectivity (see Table 1 for details).

## **Data Analysis**

### *Score structure validity evidence*

**Variable-centered approach.** The expected score structure of the U-MICS was tested performing a Confirmatory Factor Analysis (CFA) in *Mplus*. Missing data, ranging from 1.5% to 1.9% for each item of the U-MICS scale, were managed by the Full Information Maximum Likelihood method. Model fit was evaluated with the following indexes (Little, 2013): Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). Reliability of each U-MICS factor was estimated calculating the composite reliability ( $\omega$ ). After controlling to have sufficient levels of factor determinacy (Devlieger et al., 2016), factor scores were obtained using the SAVEFACTOR command in *Mplus* and adopted to collect following kinds of validity evidence.

Finally, in order to verify the U-MICS – religious domain equivalence across gender, age, and religious status, multigroup analyses were performed. Specifically, configural, weak, strong, and strict measurement invariance were tested sequentially (Brown, 2015) for each of the three comparisons. Two sequential models were considered not sufficiently similar when the decrease in the CFI was equal to or higher than .01 and the increase in the RMSEA was equal to or higher than .015 (Chen, 2007). When a specific test for invariance was not met at one level, partial invariance was tested to determine which parameter(s) was not invariant across groups. If strong invariance



was met, we compared latent means across groups to test religious U-MICS sensitivity to differences. We used a “ $p < .001$ ” criterion (Little, 2013).

**Person-centered approach.** Identity statuses could be identified using both Latent Profile Analysis (LPA) or cluster analysis. Considering that to make LPA converge we had to impose unrealistic constraints (equal factors’ variance and correlations across the different religious profiles; see section II of the Electronic Supplemental Materials, ESM) and that all previous validations of U-MICS used cluster analysis, we proceeded with the latter method. Cluster analysis was performed using the two-step clustering procedure (Gore, 2000) adopted in the original validations of the U-MICS (e.g., Crocetti et al., 2008, 2012). Specifically, in the first step, after having saved from *Mplus* the three factor scores obtained from the CFA, a hierarchical cluster analysis was conducted in *SPSS* using Ward’s method on squared Euclidian distances. We compared different cluster solutions on the basis of three criteria (theoretical meaningfulness of each cluster, parsimony, explanatory power) and selected the best solution. In the second step, the initial cluster centers of that solution were used to run the final cluster solution. Finally, the distinctiveness of the identity statuses was tested in relation to age, gender, and religious status, running a series of chi-square test.

#### ***Convergent validity evidence***

**Variable-centered approach.** Pearson correlations were run between the three factors scores of the U-MICS – religious domain and the four factors scores of the Big Four Dimensions of Religiousness Scale.

**Person-centered approach.** In order to verify whether the religious statuses presented different levels of religiousness, we run a Multivariate Analyses of Variance (MANOVA) in which the identity status was included as independent variable and the four factor scores of religiousness were included as dependent variables.

#### ***Criterion-related validity evidence***

**Variable-centered approach.** A path analysis model, where subjective well-being dimensions (life satisfaction, positive affect, and negative affect) were regressed on the three dimensions of the U-MICS – religious domain, was run to verify if religious identity was able to explain portion of the subjective well-being’s variance. To further verify if U-MICS – religious domain dimensions were able to explain portion of subjective well-being’s variance that is not explained by similar scales (i.e., incremental validity), we performed three hierarchical regressions in *SPSS* (one for each dimension of the subjective well-being). In these hierarchical models, the four religiousness dimensions were included as independent variables in the first step and the religious identity processes were included in the second step. If the change in the portion of explained variance of the subjective well-being dimensions between the two models was significant (i.e., significant  $\Delta R^2$ ), the incremental validity of the U-MICS – religious domain was confirmed.

**Person-centered approach.** In order to verify that the religious statuses presented different levels of subjective well-being, we run a MANOVA in which identity statuses were the independent variable and subjective well-being factor scores were the dependent variables.

## Results

Descriptive statistics of the 13 items of the religious U-MICS (see ESM section III) suggested that some items did not have a normal distribution. Consequently, SEM models were run using the Robust Maximum Likelihood estimator.

### Score structure validity evidence

#### *Variable-centered approach*

The three-factor structure suggested by Crocetti et al. (2010) was tested with a CFA. Fit indices for this model were good [ $\chi^2(62) = 331.54, p < .001$ ; RMSEA (90% confidence interval) = .078 (.070 - .086); CFI = .950; SRMR = .036], confirming the three-factor structure of the scale (see Figure 1). The factor loadings were all high ( $> .70$ ) and significant ( $p < .001$ ). Also, correlations among the three factors were as expected (Crocetti et al., 2010): commitment was strongly and positively related to in-depth exploration ( $p < .001$ ), and in-depth exploration was positively, but

not significantly ( $p = .20$ ), related to reconsideration of commitment. Finally, commitment was slightly and negative related to reconsideration of commitment ( $p = .02$ ).

**Figure 1.** Measurement model of the U-MICS – religious domain

Furthermore, we run a two-factor model in order to verify if this strong correlation between commitment and in-depth exploration justified the merging of their items in the same factor. Fit indices for the two-factor model were not sufficient [ $\chi^2(64) = 816.19, p < .001$ ; RMSEA = .128 (.120 .136); CFI = .860; SRMR = .075]. Furthermore, relative fit indices indicated that the three-factor model suited better the data than the two-factor model: Akaike's information criterion (21318.84 vs. 22014.22) and Bayesian information criterion (21510.94 vs. 22197.17). Consequently, reliability and measurement invariance analysis were carried out on the three-factor model. First, composite reliability was estimated on the three factors and all proved to be highly reliable: Commitment ( $\omega = .96$ ), In-depth exploration ( $\omega = .90$ ), and Reconsideration of commitment ( $\omega = .89$ ).

Second, multi-group analyses of the three-factor model were tested for subgroups based on variables relevant for the construct (see ESM section IV): gender (154 males vs. 561 females), age (219 adolescents vs. 333 emerging adults vs. 102 adults), and religious status (121 atheists vs. 507 believers). Whereas for gender and age comparisons full measurement invariance was found, for the religious status comparison we found full invariance only until the strong invariance step. When the items' residual variances were compared, item 4 (.034 vs .403) and 5 (.071 vs .398) resulted to have residual variance lower for atheists than for believers. As a full strong invariance is sufficient to compare latent means, we verified if the three identity processes had different mean level across groups. No differences were found across gender and age. Instead, believers had levels of commitment and in-depth exploration significantly higher than atheists.

### ***Person-centered approach***

In comparing different cluster solutions, the five-cluster solution was selected as the most appropriate according to the three selection criteria. The five-cluster solution explained 77.9%, 75.9% and 71.6% of the variance of commitment, in-depth exploration and reconsideration, respectively. Furthermore, findings indicated that the emerged five-cluster solution (see Figure 2) strongly resembled the five-cluster solution found in previous publications (Crocetti et al., 2008, 2012; Hatano et al., 2016).

**Figure 2.** Factor scores of commitment, in-depth exploration, and reconsideration of commitment for the five identity statuses.

Specifically, the first cluster (*achievement*;  $n = 226$ ; 31.6% of the sample) included participants scoring high on commitment and in-depth exploration, but low on reconsideration. They gain tranquility and serenity from their religion, are strongly committed, explore deeply their religion, and never reconsider their commitment. The second cluster (*diffusion*;  $n = 125$ ; 17.5%) encompassed individuals scoring low on all three dimensions. These are people who are not religiously committed but, at the same time, do not explore nor reconsider their choice. The third cluster (*foreclosure*;  $n = 207$ ; 28.9%) had moderately low scores on in-depth exploration and reconsideration of commitment. The score on commitment was slightly lower than zero. Some previous studies found moderately high scores on commitment in the foreclosure cluster (e.g., Crocetti et al., 2008). However, the result of the current study was very similar to other related studies (e.g., Hatano et al., 2016). Members of the foreclosure status are those who are partially committed in a religion, without being particularly interested in exploring it, neither in reconsidering it. The fourth cluster (*moratorium*;  $n = 66$ ; 9.2%) entailed individuals scoring low on commitment and in-depth exploration, and high on reconsideration of commitment. These are

people who are currently not committed in any religion and are not actively probing any commitment but are strongly considering to change their religious positioning. Finally, the fifth cluster (*searching moratorium*;  $n = 92$ ; 12.8%) grouped individuals scoring high on all three dimensions, i.e., people who have a religious commitment but are actively probing it and evaluating to reconsider it.

In order to confirm these identity clusters' distinctiveness respect to demographic variables (age, gender, religious status), we performed a series of chi-square. Males and females [ $\chi^2(4) = 8.29, p = .08$ ], as well as adolescents, emerging adults and adults [ $\chi^2(8) = 7.02, p = .53$ ] were equally distributed across the religious identity statuses. Instead, clusters differed for the prevalence of religious statuses [ $\chi^2(4) = 228.89, p < .001$ ; Cramer's  $V = .60$ ]. Achievement, foreclosure, and searching moratorium clusters were mainly composed by believers (respectively 97.7%, 90.2% and 92.6%), while diffusion and moratorium clusters had higher prevalence of atheists than expected by chance (respectively 67% and 43.6%).

### **Convergent validity evidence**

#### ***Variable-centered approach***

After performing a CFA model to save the four religiousness factor scores [ $\chi^2(48) = 120.28, p < .001$ ; RMSEA = 0.057 (0.044 - 0.070); CFI = 0.978; SRMR = 0.019], the correlations between these scores and the factor scores of the U-MICS – religious domain were run (see Table S2). As expected, commitment and in-depth exploration had strong and positive relationships with all the religiousness factors, while reconsideration of commitment had negative and weak relationships with religiousness factors.

#### ***Person-centered approach***

Different levels of religiousness [Wilks's  $\lambda = .39$ ;  $F(16, 1384.57) = 46.04, p < .001, \eta^2 = .29$ ] were found across the five religious identity clusters. As reported in Table S3, post hoc analyses showed that the highest levels of believing, bonding, behaving, and belonging were reported by individuals who had an achieved religious identity status. These were followed by individuals in

searching moratorium cluster, in turn followed by those in foreclosure cluster. Finally, as expected, the lowest mean level of religiousness were reported by individuals in diffusion and moratorium clusters.

### **Criterion-related validity evidence**

#### ***Variable-centered approach***

After performing a CFA model to save factor scores of life satisfaction [ $\chi^2(5) = 10.01, p = 0.075$ ; RMSEA = 0.038 (0.000 - 0.072); CFI = 0.995; SRMR = 0.014] and affectivity [ $\chi^2(169) = 817.51, p < .001$ ; RMSEA = 0.082 (0.076 - 0.087); CFI = 0.848; SRMR = 0.084], a path analysis model was run. Standardized regression coefficients (see Table 2) indicate that Commitment is positively related to life satisfaction and positive affect, while Reconsideration of commitment is positively related to negative affect. The in-depth exploration factor instead was not related to subjective well-being.

Results of the hierarchical regressions indicate that the processes of identity formation explain a significant incremental percentage of the life satisfaction ( $\Delta R^2 = 5.7\%, p < .001$ ) and negative affect ( $\Delta R^2 = 3.9\%, p = .01$ ) that is not explained by religiousness dimensions. Instead, the change in  $\Delta R^2$  is not significant for the hierarchical regression when the dependent variable was the positive affect ( $\Delta R^2 = 0.6\%, p = .60$ ).

#### ***Person-centered approach***

Significantly different mean levels of subjective well-being [Wilks's  $\lambda = .90$ ;  $F(12, 1450.16) = 4.83, p < .001, \eta^2 = .03$ ] were found across the five religious identity clusters (see Table 3). In particular, people in the achieved status reported the highest mean levels of life satisfaction and positive affect as well as the lowest mean level of negative affect. Individuals in the diffused identity status reported lower mean levels of life satisfaction and positive affect and the same mean level of negative affect than achieved people. High mean levels of negative affect instead characterized the moratorium and searching moratorium statuses. Individuals in the searching moratorium status had not only high mean level of negative affect, but also of life satisfaction and

positive affect. The foreclosure religious identity status presented non-extreme/average mean level of subjective well-being.

## **Discussion**

The U-MICS enables researchers to evaluate three pivotal *processes* of identity formation (commitment, exploration, and reconsideration of commitment), when a variable-centered approach is adopted, and to reliably assign individuals to identity *statuses*, when a person-centered approach is adopted. With the aim of adapting the U-MICS to the *religious* realm, we provided (for both approaches) evidence of score structure, convergent, and criterion-related validity. Our findings indicate that both the variable- and person-centered approach yield to valid U-MICS scores (dimensions and clusters respectively). We suggest readers to adopt the variable-centered approach when they are interested in investigating how each religious identity process is related to identity correlates (e.g., subjective well-being), while to prefer the person-centered approach when they aim both at unraveling the “unique pattern” of those processes within a subgroup of individuals and at comparing these profiles on identity correlates in order to identify interindividual similarities and differences. Furthermore, researchers could evaluate to fruitfully integrate both approaches, which together explain more variance than each approach singularly does (see ESM section V).

### **Religious identity formation processes**

Adopting a variable-centered approach, we demonstrated that the U-MICS – religious domain measures three different religious identity formation processes: the degree to which people engage in a religion and gain tranquility and safety from this engagement (*Commitment*); the degree to which individuals deal with their religious commitment actively (e.g., thinking about their choices; *In-depth exploration*); the search for more satisfactory religious commitments (*Reconsideration of commitment*). Despite the high correlation between Commitment and In-depth exploration factors, these two processes might be differentiated in the religious domain for different reasons. First, in other studies these two factors were high correlated as well (e.g., this correlation was equal to .84 and .75 respectively in Iannello et al., 2019, and Llorent & Álamo, 2018); second,

the three-factor model had a better fit than the two-factor model. Finally, these factors showed to be differently related to other variables, particularly to subjective well-being.

After confirming the three-factor model, we verified that these factors were highly reliable ( $\omega \geq .89$ ) and, from a psychometric point of view, worked equally well across different groups. Whereas for measurement invariance across gender and age we found a full strict invariance, for the religious status comparison (believers vs. atheists) we found a partial strict invariance, as two items of the *commitment* factor (“My religion gives me security for the future”; “My religion allows me to face the future with optimism”) had residual variance significantly lower for atheists than for believers. Particularly, it seemed that believers have a more heterogeneous way to cope with future uncertainty than atheists, which is in line with Zwingmann and Murken’s (2000) assumption that religious people use different strategies to overcome future uncertainty. Although these two items had different residual variance across groups, it was possible to compare both latent and observed scores across believers and atheists because it is sufficient to have at least 80% of items that are full invariant across groups to make meaningful comparison (Dimitrov, 2010).

When we compared latent means, we found that religious status (believers vs. atheists) had an impact on the mean level of commitment and in-depth exploration. Specifically, believing in God increases the level of engagement in a religion (commitment) and the active probe of this engagement (in depth-exploration). Conversely, the levels of reconsideration of commitment are the same across the two groups, meaning that believers and atheists are equally sure of their choice and do not want to reconsider it. Despite results suggest that, at least from the psychometric point of view, the U-MICS – religious domain works equally well for both believers and atheist, this study did not investigate how atheists felt in answering items that refer to religion and which meaning they attributed to them. Further studies should carry out cognitive interviews with atheists to explore how they interpret each item of the scale and if they consider them comprehensible and applicable to nonbelievers.



Finally, the relationship that the three factors of the U-MICS – religious domain had with religiousness and subjective well-being confirmed that both the process of being committed to own faith and the process of exploring it in-depth are positively related to religiosity. The very similar relationships that “commitment” and “in-depth exploration” had with the religiousness dimensions should invite scholars to investigate if these two religious identity dimensions are better differentiated in relation to others potential convergent constructs.

The difference between these two dimensions is more evident in relation to the subjective well-being, because only religious commitment was significantly associated with subjective well-being. This is coherent with (1) Crocetti and Meeus (2015) showing that in-depth exploration is associated with curiosity but also with confusion and distress, and with (2) Villani et al. (2019) reporting no association between in-depth exploration and subjective well-being.

The reconsideration of religious commitment was, instead, poorly and negatively associated with religiousness and well-being. As to the relationship between religious identity and subjective well-being, it is important to stress that we treated this relationship as unidirectional as previous studies did (e.g., Villani et al., 2019), but we cannot exclude that this relationship may be bidirectional (e.g., Doane & Elliot, 2016) and/or spurious (e.g., Levin & Markides, 1986).

### **Religious identity status**

According to the position that individuals have respect to the three processes of religious identity formation, individuals can be located in different religious identity profiles. In particular, we identified five different religious identity statuses (*achievement, diffusion, foreclosure, moratorium, searching moratorium*), that were consistent with those found in previous studies (e.g., Crocetti et al., 2008). These clusters were equally distributed across gender and age groups, while had different prevalence of believers and atheist, confirming their relevance for the religious domain. Furthermore, we found significant differences when we tested the levels of religiousness and subjective well-being across these five clusters. Religiously achieved individuals had the highest mean level of religiousness and well-being. Instead, religiously diffused individuals showed

the lowest mean level of religiousness and well-being. Individuals in moratorium and searching moratorium statuses presented high mean levels of reconsideration of commitment and negative affect, even if searching moratorium seemed to be a more adaptive identity status than moratorium (Crocetti & Meeus, 2015). Finally, religiously foreclosed individuals showed an average mean level of religiosity and well-being, maybe because they have inherited their faith from parents, without really questioning it (Baker-Sperry, 2001).

## **Conclusion**

The current study proposed the adaptation of the U-MICS to the religious domain and showed that this scale is a promising instrument to capture the complexity of individual identity in the religious realm by integrating the assessment of both religious identity formation processes and religious identity statuses. An instrument able to detect both processes and statuses is an important tool for researchers and practitioners because religious identity significantly impacts several aspects of people' lives (e.g., psychological adjustment; Villani et al., 2019). As the current study has been carried out in a context marked by a long-established Catholic tradition, future studies should verify if our results are replicable in different cultural contexts and for different religions.

## **Open Science**

**Open Data:** The information needed to reproduce all of the reported results are not openly accessible. The data is available on request from the author(s).

**Open Materials:** The information needed to reproduce all of the reported methodology is not openly accessible. The material is available on request from the author(s).

## References

- Ashdown, B.K., Homa, N., & Brown, C.M. (2014). Measuring Gender Identity and Religious Identity with Adapted Versions of the Multigroup Ethnic Identity Measure-Revised. *Journal of Educational and Developmental Psychology*, 4(1), 226-237.  
<https://doi.org/10.5539/jedp.v4n1p226>
- Baker-Sperry, L. (2001). Passing on the faith: The father's role in religious transmission. *Sociological Focus*, 34(2), 185-198. <https://doi.org/10.1080/00380237.2001.10571190>
- Bell, D.M. (2016). Development of the religious self: A theoretical foundation for measuring religious identity. In A. Day (Ed.), *Religion and the individual. Belief, practice, identity* (pp. 127-143). London, UK: Routledge. <https://doi.org/10.4324/9781315604848>
- Bartolo, M.G., Servidio, R., Musso, P., Palermi, A.L., Iannello, N.M., Perucchini, & Costabile, A. (2020). Multiple identities, social connection and social activism: An explicative model in migrant and Italian adolescents. *Ricerche di Psicologia*, 43(1), 21-43.  
<https://doi.org/10.3280/RIP2020-001003>
- Brambilla, M., Manzi, C., Regalia, C., Becker, M., & Vignoles, V.L. (2016). Is religious identity a social identity? Self-categorization of religious self in six countries. *Psicologia Sociale*, 11(2), 189-198. <https://doi.org/10.1482/84098>
- Brown, T.A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). New York, NY: The Guilford Press.
- Chen, F.F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, 14(3), 464-504.  
<https://doi.org/10.1080/10705510701301834>
- Crocetti, E., Cieciuch, J., Gao, C.H., Klimstra, T., Lin, C.L., Matos, P.M., Morsünbül, Ü., Negru, O., Sugimura, K., Zimmermann, G., & Meeus, W. (2015). National and gender measurement invariance of the Utrecht-management of identity commitments scale (U-

MICS) A 10-nation study with university students. *Assessment*, 22(6), 753-768.

<https://doi.org/10.1177/1073191115584969>

Crocetti, E., & Meeus, W. (2015). The identity statuses: Strengths of a person-centered approach. In K. C. McLean & M. Syed (eds.), *The Oxford handbook of identity development* (pp. 97-112). New York, NY: Oxford University Press.

Crocetti, E., Rubini, M., Luyckx, K., & Meeus, W. (2008). Identity formation in early and middle adolescents from various ethnic groups: From three dimensions to the five statuses. *Journal of Youth and Adolescence*, 37(8), 983-996. <https://doi.org/10.1007/s10964-007-9222-2>

Crocetti, E., Schwartz, S.J., Fermani, A., & Meeus, W. (2010). The Utrecht-Management of Identity Commitments Scale (U-MICS). Italian validation and cross-national comparisons. *European Journal of Psychological Assessment*, 26(3), 172-186. <https://doi.org/10.1027/1015-5759/a000024>

Crocetti, E., Scrignaro, M., Sica, L.S., & Magrin, L.E. (2012). Correlates of identity configurations: Three studies with adolescent and emerging adult cohorts. *Journal of Youth and Adolescence*, 41(6), 732-748. <https://doi.org/10.1007/s10964-011-9702-2>

Devlieger, I., Mayer, A., & Rosseel, Y. (2016). Hypothesis testing using factor score regression: A comparison of four methods. *Educational and Psychological Measurement*, 76(5), 741-770. <https://doi.org/10.1177/0013164415607618>

Diener, E.D., Emmons, R.A., Larsen, R.J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75. [https://doi.org/10.1207/s15327752jpa4901\\_13](https://doi.org/10.1207/s15327752jpa4901_13)

Diener, E., Oishi, S., & Tay, L. (2018). Advances in subjective well-being research. *Nature Human Behaviour*, 2(4), 253-260. <https://doi.org/10.1038/s41562-018-0307-6>

Di Fabio, A., & Busoni, L. (2009). Proprietà psicometriche della versione italiana della satisfaction with life scale (SWLS) con studenti universitari. *Counseling, Giornale Italiano di Ricerca e Applicazioni* 1, 201-212.

Dimitrov, D.M. (2010). Testing for factorial invariance in the context of construct validation. *Measurement and Evaluation in Counseling and Development*, 43(2), 121-149.

<https://doi.org/10.1177/0748175610373459>

Dimitrova, R. (2014). The Four Basic Dimensions of Religiousness and life satisfaction among Dutch and Italian young adults. In M. Mikucka & F. Saraccino (Eds.), *Life satisfaction: Perceptions, social influences and implications for long-term health* (pp. 17–28).

Hauppauge, NY: Nova.

Dimitrova, R., Chasiotis, A., Bender, M., & Van de Vijver, F.J. (2014). Collective identity and well-being of Bulgarian Roma adolescents and their mothers. *Journal of Youth and Adolescence*, 43(3), 375-386. <https://doi.org/10.1007/s10964-013-0043-1>

Dimitrova, R., Buzea, C., Taušová, J., Uka, F., Zakaj, S., & Crocetti, E. (2018). Relationships between identity domains and life satisfaction in minority and majority youth in Albania, Bulgaria, Czech Republic, Kosovo, and Romania. *European Journal of Developmental Psychology*, 15(1), 61-82. <https://doi.org/10.1080/17405629.2017.1336997>

Doane, M.J., & Elliott, M. (2016). Religiosity and self-rated health: A longitudinal examination of their reciprocal effects. *Journal of Religion and Health*, 55(3), 844-855.

<https://doi.org/10.1007/s10943-015-0056-z>

Fadjukoff, P., & Kroger, J. (2016). Identity development in adulthood: Introduction. *Identity: An International Journal of Theory and Research*, 16(1), 1-7.

<https://doi.org/10.1080/15283488.2015.1121821>

Gore, P.A. Jr. (2000). Cluster analysis. In H. E. A. Tinsley & S. D. Brown (Eds.), *Handbook of applied multivariate statistics and mathematical modeling* (pp. 297-321). San Diego, CA: Academic Press.

Griffith, B.A., & Griggs, J.C. (2001). Religious identity status as a model to understand, assess, and interact with client spirituality. *Counseling and Values*, 46(1), 14-25.

<https://doi.org/10.1002/j.2161-007x.2001.tb00203.x>

- Hatano, K., Sugimura, K., & Crocetti, E. (2016). Looking at the dark and bright sides of identity formation: New insights from adolescents and emerging adults in Japan. *Journal of Adolescence*, 47, 156-168. <https://doi.org/10.1016/j.adolescence.2015.09.008>
- Iannello, N.M., Hardy, S.A., Musso, P., Lo Coco, A., & Inguglia, C. (2019). Spirituality and ethnocultural empathy among Italian adolescents: The mediating role of religious identity formation processes. *Psychology of Religion and Spirituality*, 11(1), 32-41. <https://doi.org/10.1037/re10000155>
- Keyes, C.L.M., & Reitzes, D.C. (2007). The role of religious identity in the mental health of older working and retired adults. *Aging and Mental Health*, 11(4), 434-443. <https://doi.org/10.1080/13607860601086371>
- King, P.E. (2003). Religion and identity: The role of ideological, social, and spiritual contexts. *Applied Developmental Sciences*, 7(3), 196-203. [https://doi.org/10.1207/S1532480XADS0703\\_11](https://doi.org/10.1207/S1532480XADS0703_11)
- Levin, J.S., & Markides, K.S. (1986). Religious attendance and subjective health. *Journal for the Scientific Study of Religion*, 25(1), 31-40. <https://doi.org/10.2307/1386061>
- Little, T.D. (2013). *Longitudinal structural equation modeling*. New York, NY: Guilford.
- Llorent, V.J., & Álamo, M. (2018). Utrecht-Management of Identity Commitments Scale: Validation in Spanish University Students. *Frontiers in Psychology*, 9, 1364. <https://doi.org/10.3389/fpsyg.2018.01364>
- Lopez, A.B., Huynh, V.W., & Fuligni, A.J. (2011). A longitudinal study of religious identity and participation during adolescence. *Child Development*, 82(4), 1297–1309. <https://doi.org/10.1111/j.1467-8624.2011.01609.x>
- Marcia, J.E. (1980). Identity in adolescence. In J. Andelson (Ed.), *Handbook of Adolescent Psychology* (pp. 159-187). New York, NY: Wiley.
- Miller, W.R., & Thoresen, C.E. (2003). Spirituality, religion, and health: An emerging research field. *American Psychologist*, 58(1), 24-35. <https://doi.org/10.1037/0003-066x.58.1.24>

- Saroglou, V. (2011). Believing, bonding, behaving, and belonging: The big four religious dimensions and cultural variation. *Journal of Cross-Cultural Psychology, 42*, 1320-1340.  
<https://doi.org/10.1177/0022022111412267>
- Terraciano, A., McCrae, R.R., and Costa, P.T. Jr. (2003). Factorial and construct validity of the Italian positive and negative affect schedule (PANAS). *European Journal of Psychological Assessment, 19*, 131–141. <https://doi.org/10.1027//1015-5759.19.2.131>
- Villani, D., Sorgente, A., Iannello, P., & Antonietti, A. (2019). The role of spirituality and religiosity in subjective well-being of individuals with different religious status. *Frontiers in Psychology, 10*. <https://doi.org/10.3389/fpsyg.2019.01525>
- Watson, D., Clark, L.A., & Tellegen, A. (1988). Positive and negative affect schedule (PANAS). *Journal of Personality and Social Psychology, 54*(6), 1063-1070.  
<https://doi.org/10.1037//0022-3514.54.6.1063>
- Zwingmann, C., & Murken, S. (2000). Coping with an uncertain future: Religiosity and millenarianism. *Archive for the Psychology of Religion, 23*(1), 11-28.  
<https://doi.org/10.1163/157361200x00032>

**Table 1. Details about adopted instruments**

Measure	Original validation	Italian validation	Construct	Subscale	Number and sample of items	Response scale	Alpha
UMICS – religious domain*	Crocetti et al. (2010)	<i>Current paper</i>	Religious identity	Commitment	5 (e.g., “My religion gives me security in life”)	5-point scale (1 = <i>completely untrue</i> ; 5 = <i>completely true</i> )	.96
				In-Depth exploration	5 (e.g., “I try to find out a lot about my religion”)		.91
				Reconsideration of commitment	3 (e.g., “I often think it would be better to try to find a different religion”).		.89
Four Basic Dimensions of Religiousness Scale	Saroglou (2011)	Dimitrova (2014)	Religiousness	Belonging	3 (e.g., “In religion, I enjoy belonging to a group/community”)	7-point scale (1 = <i>strongly disagree</i> ; 7 = <i>strongly agree</i> )	.94
				Behaving	3 (e.g., “Religion helps me to try to live in a moral way”)		.93
				Bonding	3 (e.g., “Religious rituals, activities or practices make me feel positive emotion”)		.87
				Believing	3 (e.g., “I feel attached to religion because it helps me to have a purpose in my life”)		.91
Satisfaction with Life Scale	Diener, Emmons, Larsen, & Griffin (1985)	Di Fabio & Busoni (2009)	Life satisfaction	Life satisfaction	5 (e.g., “If I could live my life over, I would change almost nothing”)	7-point scale (1 = <i>strongly disagree</i> ; 7 = <i>strongly agree</i> )	.86
Positive Affect and Negative Affect Schedule	Watson, Clark, & Tellegen (1988)	Terraciano et al. (2003)	Affectivity	Positive affect	10 (e.g., “interested”)	5-point scale (1 = <i>not at all</i> ; 5 = <i>completely</i> )	.87
				Negative affect	10 (e.g., “guilty”)		.91

\*See ESM section I for the English and Italian version of this scale’s items.



**Table 2. Convergent and criterion validity evidence for the variable-centered approach**

<i>Pearson correlations between factor scores of religious identity and factor scores of religiousness</i>				
	Believing	Bonding	Behaving	Belonging
Commitment	.77 [.70 .84]***	.70 [.65 .77]***	.77 [.71 .84]***	.76 [.69 .83]***
In-depth Exploration	.67 [.60 .74]***	.63 [.56 .70]***	.68 [.60 .75]***	.67 [.60 .74]***
Reconsideration of Commitment	-.13 [-.10 -.06]***	-.11 [-.18 -.04]**	-.13 [-.21 -.06]***	-.14 [-.21 -.06]***
<i>Standardized beta of the regression paths from religious identity to subjective well-being factor scores</i>				
	Life Satisfaction	Positive Affect	Negative Affect	
Commitment	.34 [.19 .49]***	.21 [.05 .38]*	.06 [-.11 .23]	
In-depth Exploration	-.03 [-.19 .12]	-.01 [-.17 .16]	-.04 [-.20 .13]	
Reconsideration of Commitment	-.08 [-.15 .001]	.01 [-.09 .10]	.16 [.07 .25]**	

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; [] = 95% Confidence interval

**Table 3. Convergent and criterion validity evidence for the person-centered approach**

<i>MANOVA's post hoc cluster comparisons based upon Tukey tests for the five identity statuses on their level of religiousness</i>							
Dependent Variable	<i>M (SD) per identity status</i>					F(4,456)	$\eta^2$
	Achievement	Diffusion	Foreclosure	Moratorium	Searching Moratorium		
Believing	0.90 (0.56) <sup>a</sup>	-1.09 (.56) <sup>b</sup>	-0.04 (0.65) <sup>c</sup>	-0.97 (0.46) <sup>b</sup>	0.27 (0.81) <sup>d</sup>	177.61***	.61
Bonding	0.81 (0.68) <sup>a</sup>	-1.00 (0.55) <sup>b</sup>	-0.03 (0.74) <sup>c</sup>	-0.89 (0.45) <sup>b</sup>	0.28 (0.86) <sup>d</sup>	120.19***	.61
Behaving	0.91 (0.57) <sup>a</sup>	-1.10 (0.55) <sup>b</sup>	-0.03 (0.64) <sup>c</sup>	-0.98 (0.48) <sup>b</sup>	0.25 (0.82) <sup>d</sup>	181.29***	.61
Belonging	0.91 (0.59) <sup>a</sup>	-1.09 (.057) <sup>b</sup>	-0.04 (0.63) <sup>c</sup>	-0.97 (0.48) <sup>b</sup>	0.24 (0.82) <sup>d</sup>	174.59***	.60
<i>MANOVA's post hoc cluster comparisons based upon Tukey tests for the five identity statuses on their level of well-being</i>							
						F(4,550)	
	Achievement	Diffusion	Foreclosure	Moratorium	Searching Moratorium		
Life Satisfaction	0.35 (0.88) <sup>a</sup>	-0.29 (1.07) <sup>b</sup>	-0.13 (0.88) <sup>b</sup>	-0.17 (1.03) <sup>b</sup>	0.09 (0.81) <sup>ab</sup>	10.22***	.07
Positive Affect	0.19 (0.80) <sup>a</sup>	-0.18 (1.10) <sup>b</sup>	-0.09 (0.88) <sup>b</sup>	0.08 (0.98) <sup>ab</sup>	0.12 (0.91) <sup>ab</sup>	3.78**	.03
Negative Affect	-0.09 (0.88) <sup>a</sup>	-0.08 (0.97) <sup>a</sup>	0.01 (0.94) <sup>ab</sup>	0.18 (.92) <sup>ab</sup>	0.33 (1.06) <sup>b</sup>	3.24**	.02

*Note.* A cluster mean is significantly different from another mean if they have different superscripts. A mean without a superscript is not significantly different from any other mean.

\*\* $p < .01$ , \*\*\* $p < .001$ .



