# Using Exploratory and Confirmatory Factor Analytic Approaches to Examine Commonly Used Religious and Spiritual Measures

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Introduction

Religion and spirituality are central to the human experience for many individuals. Specifically, connections to religion and/or spirituality can have a significant impact on one's overall personal identity, coping strategies, and interpersonal relationships. Given their importance, it is important to differentiate between religion and spirituality as separate but related psychological constructs.
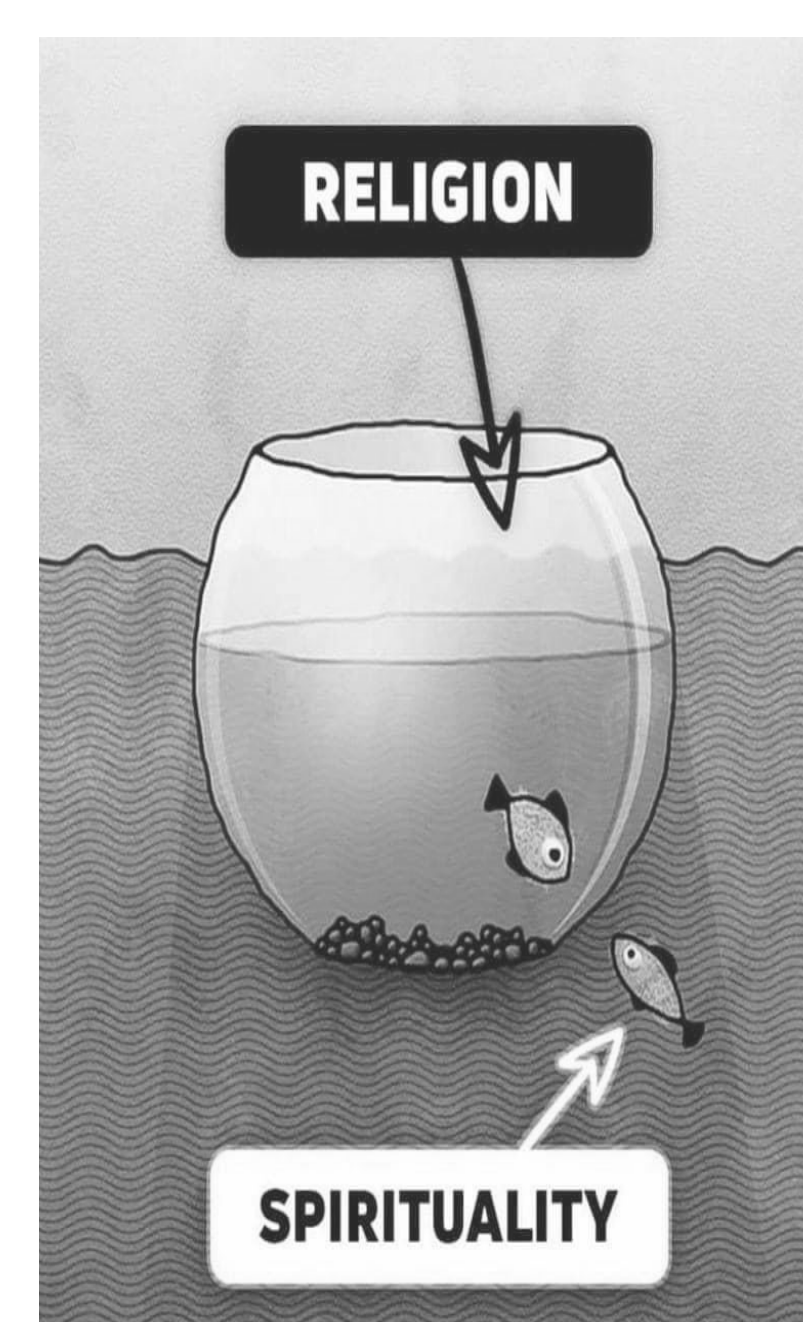
Religiosity can be defined as one's ascription to particular beliefs and behaviors, often in community with others.

Spirituality can be defined as one's personal search for meaning and one's sense of connectedness beyond oneself (e.g., to a Higher Power, the universe, humanity, nature)

The current study aims to shed light on definitional variations present in the literature by examining commonly used measures of religion and spirituality.

Methods

This study collected responses to a Qualtrics self-report survey from a sample of 297 individuals (aged 18+ and in a romantic or intimate relationship) through Prolific.

Participants' religious and/or spiritual beliefs, as well as their commitment to God or a Higher Power, were assessed among other relationship-related variables.

Relevant scales included:
The Religious Commitment Inventory **(RCI)**, Faith Maturity Scale **(FMS)**, Index of Spiritual Experiences **(INSPIRIT)**, Intrinsic Religious Motivation Scale **(IRMS)**, Spiritual Experiences Index **(SEI)** Openness Subscale, Paranormal Beliefs Questionnaire **(PBQ)**, Spiritual Assessment Scale **(SAS)**, Death Transcendence Scale **(DTS)**, & the Spiritual Well-Being Scale **(SWBS)**

Results

Several exploratory factor analyses were run. First, a principal component analysis (PCA) of the subscales of all included religious or spiritual scales showed **4 factors**. This number of factors was then confirmed by a Revised Velicer's Minimum Average Partial (MAP) Test, which also revealed **4 factors.**
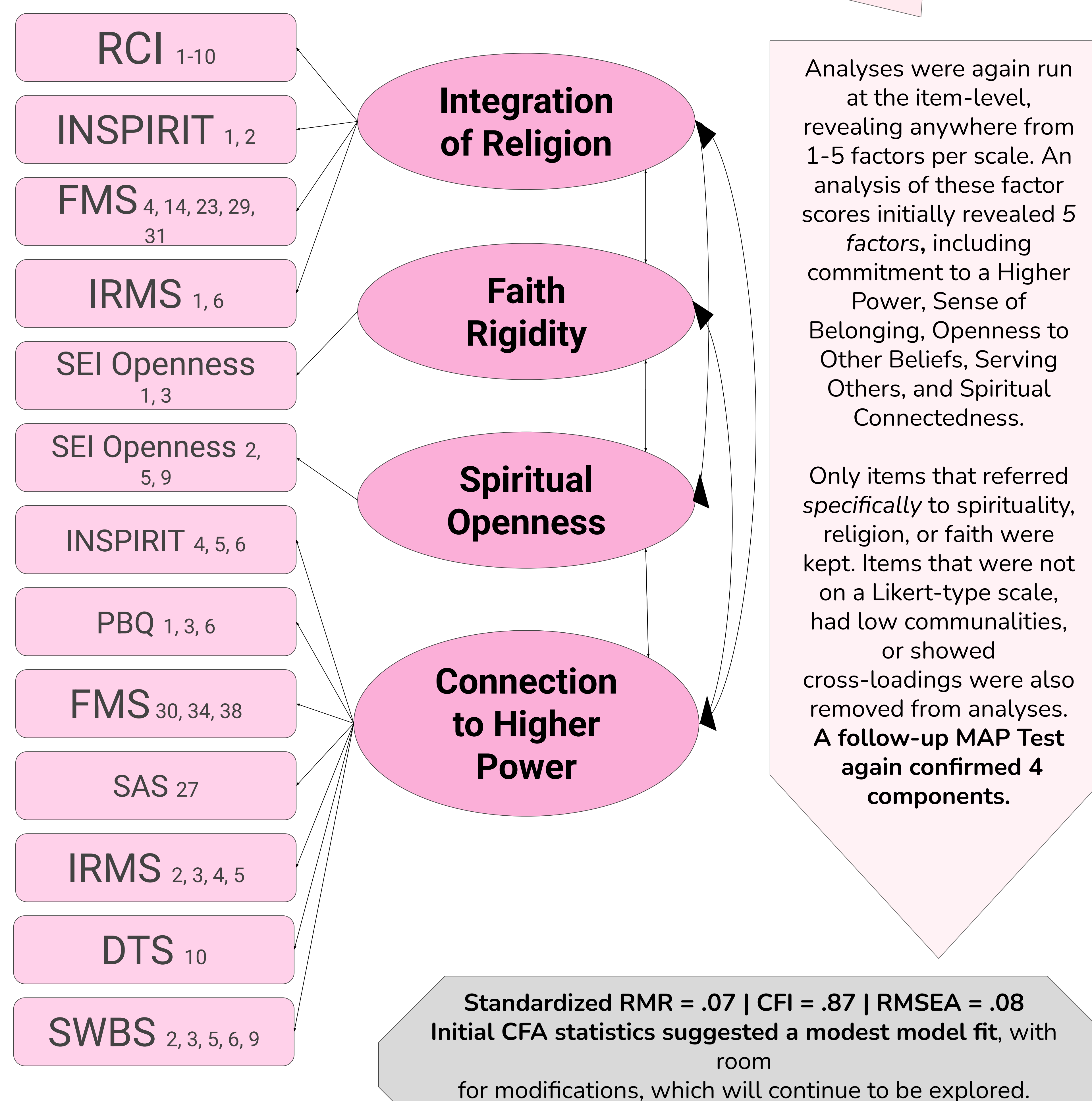

Analyses were again run at the item-level, revealing anywhere from 1-5 factors per scale. An analysis of these factor scores initially revealed 5 *factors*, including commitment to a Higher Power, Sense of Belonging, Openness to Other Beliefs, Serving Others, and Spiritual Connectedness.

Only items that referred *specifically* to spirituality, religion, or faith were kept. Items that were not on a Likert-type scale, had low communalities, or showed cross-loadings were also removed from analyses. **A follow-up MAP Test again confirmed 4 components.**

Standardized RMR = .07 | CFI = .87 | RMSEA = .08
Initial CFA statistics suggested a modest model fit, with room for modifications, which will continue to be explored.

Figure 1. Confirmatory factor analysis (CFA) was run through SPSS AMOS 29.

Discussion

The results suggest that religious and spiritual measures branch into **4 factors** — **connection or commitment to a Higher Power, integration of religious practices into one's life, faith rigidity, and spiritual openness.** In order to better understand how these factors manifest in a given context, we analyzed how these factors appear in the realm of marriage:

Broadly, a strong *connection to / belief in God* may increase one's overall sense of religiosity and/or spirituality (Bonhag & Upenieks, 2024)

More specifically, one's *level of religiosity*, or the extent to which they engage in religious practices or beliefs, have been shown to have a substantial impact on healthy and lasting marital commitments (Aman et al., 2021), though it will be important to examine how commitment within specific religions may be impactful in the marital context. Meanwhile, a sense of *spiritual openness* has been shown to be a strength within interfaith marriages (Shoaf et al., 2022).

Other studies have looked at how *faith rigidity*, or interpretation of sacred texts in a rigid manner by clergy members or churchgoers, about household or gender-related issues can contribute to issues like domestic violence (Istratii & Ali, 2022).

While sophisticated analytic measures such as factor analysis have been used to validate measures like the Religious Commitment Inventory (RCI; Worthington et al., 2003) and the RCOPE (Pargament et al., 2000), **additional psychometric work is needed** to better refine the broader religious and spiritual constructs that such measures are tapping into, and to understand their effects on important interpersonal variables such as relationship satisfaction, gender role beliefs, and political or other ideological beliefs. *Additional validation* would furthermore be warranted to better understand the underlying factors of several other existing measures in this realm.