# Age and Educational Level and Their Relationship with Religious Orientation

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## Abstract

*This study explored whether the administration of an enlarged 33-item religious orientation scale (ROS) to grade three high school (G3HS) students will result in the extraction of the same underlying latent variables obtained from university students. To this end, the Persian ROS validated with the latter in Iran by Khodadady and Bagheri (2012) was administered to 780 G3HS students in the same city and country. The results showed that instead of seven, six factors, i.e., Social, Concessional, Humanitarian, Inspirational, Theo-pacific, and Sacrificial, underlie G3HS students' religious indicators. Not only do the factors extracted from the G3HS and university students' responses on the ROS differ in terms of their number and order, but also the Social factor as the first religious orientation of G3HS students refines itself into two by having four of its items load acceptably on Intrinsic factor unique to university students. These findings thus show as humans become more mature developmentally and educationally, they derive more orientations from religion. Furthermore, as more religious principles are compromised in order to become Concessional, the less Social both the G3HS and university students become. The Concessional G3HS students also become less Humanitarian. Suggestions are made for future research.*

**Keywords**: Religion, secondary and higher education, principal axis factoring, factors

## *I. Introduction*

Studies on religious orientations have all been either directly or indirectly influenced by Allport (1959, 1966), Allport and Kramer (1946), and Allport and Ross (1967) [henceforth A&R] who explored the relationship between religion and prejudice. Allport and his colleagues first set the relationship within the frequency of church attendance assuming that the more regular the attendance is, the more prejudiced the attenders would become. However, scholars such as Struening (1963) found that regular attenders were less prejudiced than seldom or often attenders. Although these findings were based on empirical data and proved to be valuable by themselves they lacked explanatory power.

In order to render the relationship between religion and prejudice explanatorily more powerful, A&R decided to "pass from external behavioral evidence into the realm of experience and motivation" (p. 434). For this purpose, they developed the 20-item "religious orientation" scale (ROS). Surprisingly, however, they approached religion from a dichotomous or "ideal" perspective, i.e., intrinsically and extrinsically. They argued that "the extrinsically motivated person *uses* his religion, whereas the intrinsically motivated *lives* his religion" (p. 434). According to A&R, "most people, if they profess religion at all, fall upon a continuum between these two poles" (p. 434).

A&R's two-dimensional view of religion has dominated the literature since 1967 (e.g., Ghorbani et al., 2000; Hunsberger & Platonow, 1986; Hunt & King, 1971; Pargament, 1997; Spilka, Kojetin & Mcintosh, 1985).

As Masters *et al*. (2005) stated "although Allport and Ross's formulation is less than 40 years old, the basic concept that religious involvement may be fueled by intrinsic or extrinsic motives is prominent throughout history" (p. 223).

Brewczynski and MacDonald (2006), however, extracted three factors when they administered the ROS containing A&R's twenty items and the one item added by Feagin (1964) to 303 Catholic Polish university students by utilizing six maximum likelihood factor analysis via Varimax with Kaiser Normalization (VKN) as the base of their structural equation modeling software. Brewczynski and MacDonald concluded that "the factorial structure of the ROS is complex and suggests that the constructs purportedly assessed by the instrument may not be invariant across cultures" (p. 63).

In order to find out whether the factorial structure of the 21-item ROS will change in an Islamic culture, Khodadady and Golparvar (2011) [henceforth K&G] translated it into Persian and administered it to 329 undergraduate Muslim students majoring in agriculture, English language and literature, theology, and architecture at Ferdowsi University of Mashhad, Iran. They applied Maximum Likelihood, Principal Axis Factoring and Principal Component Analysis to their data and found that each of the three methods yielded four factors when they were rotated via the VKN. The extraction of four factors by K&G, therefore, supported Brewczynski and MacDonald's (2006) suggestion that religious orientation is a complex construct whose factors vary from culture to culture.

Khodadady and Bagheri (2012) [henceforth K&B] added 12 new religious indicators to the Persian version of 21-item ROS in order to find out whether the inclusion of the most common religious indicators such as *I consider visiting patients as a religious duty* will result in the extraction of more factors. They administered the 33-item ROS to 536 undergraduate university students majoring in agriculture, architecture, engineering, English language and literature, psychology, Russian, science and theology in two universities in Mashhad, Iran.

Table 1 presents the K&B's correlation coefficients obtained between the 32-item ROSS and its underlying factors, i.e., *Inspirational*, *Intrinsic*, *Social*, *Concessional*, *Theo-pacific*, *Humanitarian* and *Sacrificial*. (Among the 33 items, one did not load acceptably, i.e., .30 and higher, on any of the seven factors.). As can be seen, *Concessional* is the only factor which shows no significant relationship with the ROS and two of its factors, i.e., *Theo-pacific* and *Humanitarian*. Since A&R did not provide any correlations between their 20-item ROS with its logically established *Intrinsic* and *Extrinsic* factors, no comparisons could be made between the two studies.

**Table 1: Correlations among the 32-item ROSS and its seven factors (K&B, p. 244)**

| Scale and its Factors | ROS | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| ROS | 1 | .833* | .711* | .737* | -.030 | .713* | .700* | .690* |
| 1 Inspirational | .833* | 1 | .594* | .559* | -.254* | .457* | .555* | .614* |
| 2 Intrinsic | .711* | .594* | 1 | .561* | -.395* | .498* | .369* | .440* |
| 3 Social | .737* | .559* | .561* | 1 | -.207* | .398* | .348* | .445* |
| 4 Concessional | -.030 | -.254* | -.395* | -.207* | 1 | .006 | -.059 | -.142* |
| 5 Theo-pacific | .713* | .457* | .498* | .398* | .006 | 1 | .385* | .349* |
| 6 Humanitarian | .700* | .555* | .369* | .348* | -.059 | .385* | 1 | .513* |
| 7 Sacrificial | .690* | .614* | .440* | .445* | -.142* | .349* | .513* | 1 |

* Correlation is significant at the 0.01 level (2-tailed)

The four items loading acceptably on the *Concessional* factor are the same as those contributing to the A&R's *Extrinsic* orientation. Following K&B, the term *Concessional* is preferred over *Extrinsic* because it reflects the nature of its constituting indicators. If a businessman, for example, used a given religion to attract more customers, then that religion would serve an *Extrinsic* purpose. However, similar to other indicators, the highest loading indicator of this factor, i.e., *Although I am a religious person, I refuse to let religious considerations influence my everyday affairs* (.57), show the opposite. Although consuming alcohol is forbidden in Islam, if a Muslim businessman drinks wine as an instrumental part of a beneficial sale contract, then his action will be *Concessional*. In other words, persons having this orientation **do not** "use" their religion as A&R claimed. On the contrary, they compromise some or most of their religious principles if circumstances require them to do so.

If they face a conflict between their religious beliefs and economic, political, social and other benefits, they concede to the benefits by resorting to morality as their justification.

The *Inspirational* orientation, however, reveals itself or stems in persons' participation in certain activities such as offering prayers on certain religious occasions including the Night of Qadr at which the *Noble Quran* was revealed to the prophet. The day on which the Prophet Mohammad chose his cousin Ali as his successor, i.e., Qadir, and the day the pilgrims of Hajj sacrifice animals in Mecca provide further examples which are celebrated both privately and publically in Iran. The belief in and celebration of these events contribute to the *Inspirational* orientation.

Following the *Inspirational* orientation in order, the *Intrinsic* factor motivates persons to spend time on thinking and seeking answers to philosophical questions and leading a religious life by following its principles. As can be seen in Table 1, it shows the highest negative correlation with the *Concessional* orientation ($r = -.40$, $p < .01$) providing empirical support to approach conceding persons as partially, in not completely, irreligious. Intrinsically motivated persons, however, actively take part in religious ceremonies to inspire themselves and thus show a much higher and positive correlation with the *Inspirational* orientation ($r = .59$, $p < .01$).

As the third factor, *Social* orientation takes its roots from reading religious texts to gain the background knowledge related to religious principles and joining groups in which the *Noble Quran* and other religious texts are discussed. These activities help persons establish good social relationships with the other members of their community. It shows the highest significant relationship with the *Inspirational* orientation ($r = .56$, $p < .01$), indicating that religion plays a significant social role, particularly among university students, in Iran.

The fifth factor, *Theo-pacific*, derives its strength from being aware of God's presence under all circumstances, accepting the indispensible role of religion not only in balancing and leading a peaceful life but also in providing relief and protection when sorrows and misfortune strike people. It correlates the highest with the *Intrinsic* orientation ($r = .50$, $p < .01$) but reveals no significant relationship only with the *Concessional* orientation.

As the sixth factor, *Humanitarian* orientation shows itself in visiting people living in slums, donating to charitable institutions, especially on religious occasions, supporting orphans and visiting parents as a religious duty. It correlates the highest with the *Inspirational* orientation ($r = .56$, $p < .01$), highlighting the indispensible role of religion in having the members of a community respect their parents and help the needy.

The seventh and last factor, *Sacrificial* orientation rests on the actions prescribed in chapter 22 (Al-Hajj: 36) of the *Noble Quran* encouraging believers to sacrifice animals, eat of their flesh and feed the poor …" (translated by Asad, 1980, p. 655). Similar to *Social* and *Humanitarian* orientations, *Sacrificial* correlates the highest with the *Inspirational* orientation. However, the magnitude of correlation between the two is noticeably higher ($r = .61$, $p < .01$), indicating that sacrificing animals and eating their flesh inspire people to help fellow humans and lead a more social life.

The *Inspirational*, *Intrinsic*, *Social*, *Concessional*, *Theo-pacific*, *Humanitarian* and *Sacrificial* factors have, nonetheless, been extracted from the responses of university students whose age ranged between 17 and 38 (Mean = 20.57, SD = 2.30). To the best knowledge of present researchers, no study has so far explored whether religion provides the same number of orientations for younger people. King (2008), however, cited Chessick (1996), Damon, Menon, and Bronk (2003), Ellsworth (1999) Fitzgerald (2005), Fry (1998) and Hacker (1994) who argued that the individualistic aspect of religion, i.e., spirituality, is encountered by adolescents. The present study has, therefore, been designed to find out whether the same factors constitute the religious orientation of G3HS students in Mashahd, Iran.

## *II. Methodology*

### 2.1 Participants

Eight hundred female high school students took part in the study voluntarily. However, twenty did not answer most of the items comprising the questionnaires and were therefore excluded from statistical analyses. The age of the remaining seven hundred eighty participants ranged between 17 and 19 (Mean = 16.99, SD = .43).

Forty five (5.6%), 133 (16.6%), and 622 (77.8%) were studying at one gifted, five private and ten state high schools in the educational districts of two, three and seven of Mashhad, Iran. The participants spoke Arabic (n = 348, 44.6%) and Persian (n = 432, 55.6%) as their mother language.

### 2.2 Instruments

The instrument employed in this study consisted of two sections.

#### 2.2.1 Demographic Questionnaire

The demographic questionnaire contained five short answer questions dealing with the participants' age, school names, their educational districts and types, i.e., private or public, and their mother language.

### 2.2 Religious Orientation Scale

K&B's (2012) Persian religious orientation scale (ROS) validated with five hundred thirty six undergraduate university students was employed in this study. The 33-items comprising the ROS were presented as indicators with which the G3HS participants of this study were to completely disagree, disagree, have no idea, agree or completely agree. The values of 5, 4, 3, 2 and 1 were assigned to these five choices, respectively, to run reliability and factor analyses. Furthermore, points five and four were later collapsed to form a single point indicating agreement as were values one and two to indicate participants' disagreement with indicators. Value three was kept intact to have a scale of three values for the ease of presentation, i.e., agree, no idea and disagree. (The percentage of times with which agree, no idea and disagree points were chosen by participants is given in Appendix)

Table 1 presents the descriptive statistics of the ROS and its seven factors extracted by K&B. As can be seen, with the exception of one, all items have loaded on seven factors which explain 48.11 percent of variance in the scale. While the ROS and its *Inspirational* factor have the highest reliability coefficient (α = .89), it ranges from .85 to .69 for the remaining six latent variables.

**Table 1: Descriptive statistics of ROSS and its factors**

| Factor | # of items | Mean | SD | Alpha | Rotation sums of squared loadings | | |
|---|---|---|---|---|---|---|---|
| | | | | | Total | % of Variance | Cumulative % |
| Inspirational | 5 | 17.34 | 5.516 | .89 | 3.111 | 9.426 | 9.426 |
| Intrinsic | 4 | 14.50 | 3.872 | .85 | 2.570 | 7.787 | 17.213 |
| Social | 6 | 16.54 | 4.762 | .79 | 2.515 | 7.622 | 24.835 |
| Concessional | 5 | 12.46 | 3.907 | .69 | 2.188 | 6.631 | 31.466 |
| Theo-pacific | 5 | 18.66 | 4.077 | .75 | 2.185 | 6.621 | 38.086 |
| Humanitarian | 5 | 16.58 | 3.900 | .73 | 2.093 | 6.342 | 44.428 |
| Sacrificial | 2 | 5.99 | 2.323 | .81 | 1.215 | 3.683 | 48.111 |
| ROSS | 32 | 102.04 | 17.994 | .89 | | | |

### 2.3 Procedure

The researchers talked to their own G3HS students and obtained their oral approval to take part in the project. They also contacted their colleagues in a number of schools in the specified educational districts and secured their students' voluntary participation. Based on previously arranged sessions, the researchers attended the cooperating classes and administered the ROS in person. The administration and collection of the ROS took around fifteen minutes. As the participants answered the items, the researchers moved around the class, answered questions and wrote down their comments.

### 2.4 Data analysis

Similar to King (2008), the reliability analysis of the ROS was done by employing Cronbach's alpha. However, instead of employing the Principal Component Analysis (PCA), Principal Axis Factoring (PAF) was employed for four reasons. First, the number of items which loads on the first component of the PCA is more than the items loading on the first factor of the PAF. Secondly, i.e. the magnitudes of loading on the first component are significantly higher than those of the PAF. Thirdly, the items which load acceptably, i.e., .30 and higher, on the first factor are logically more homogeneous than those loading on the first component.

And finally, "rotating the loadings does not affect the variances explained by the PCA and thus renders it questionable as a method of factorial analysis" (K&G, p. 227). Pearson Bivariate Correlations between the ROS and its factors were also estimated to explore their relationships. The factors were also rotated via VKN as the most common choice "to simplify and clarify the factor structure" (Costello & Osborne 2005, p.3). All descriptive and inferential statistical tests were conducted by utilizing the IBM SPSS statistics 19.0 to address the two questions below.

1. Is the ROS a reliable measure of religious orientation among G3HS students?
2. What factors underlie the religious orientation of G3HS students?

## *3. Results and Discussion*

Since the factorial validity of the ROS was the main objective of this study, the KMO and Bartlett's Test were run to find out whether employing factor analysis was appropriate. Table 2 presents the KMO and Bartlett's Test of the data in K&B's study and the present. As can be seen, the KMO value obtained for G3HS students (.89) is slightly lower than the one reported for university students by K&B (.92), indicating that the ROS is a "marvelous" measure of religious orientation for university student but "meritorious" (Kaiser, 1974 cited in DiLalla & Dollinger 2006, p. 250) for G3HS students. The significant Bartlett's Test of Sphericity, i.e., $X^2$ =6372.861, df = 528, p < .001, indicated that the correlation matrix was not an identity matrix for grade three high school students as it was the case for university students as well.

**Table 2: KMO and Bartlett's Test**

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | | University (K&B) | High School |
|---|---|---|---|
| | | .915 | .890 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 7399.012 | 6372.861 |
| | df | 528 | 528 |
| | Sig. | .000 | .000 |

Table 3 presents the initial and extraction communalities obtained via the PAF in this and K&B's study. As can be seen, the extraction communalities (ECs) of this study range from .08 to .64. The lowest EC belongs to item 3, *the prayers I say when I am alone carry as much meaning and personal emotion as those said by me in the presence of people*, as it was the case in this, K&G and K&B's studies. These results show that praying in private or in the presence of others does not share any acceptable communality with other religious indicators and thus proves its irrelevance to the samples selected in the three studies.

**Table 3: Initial communalities (ICs) and extraction communalities (ECs) of items comprising the ROS**

| Item | G3HS Ss | | University Ss (K&B) | | Item | G3HS Ss | | University Ss (K&B) | |
|---|---|---|---|---|---|---|---|---|---|
| | ICs | ECs | ICs | ECs | | ICs | ECs | ICs | ECs |
| I01 | .357 | .381 | .619 | .663 | I18 | .233 | .329 | .315 | .377 |
| I02 | .139 | .165 | .439 | .410 | I19 | .262 | .352 | .313 | .409 |
| I03 | .087 | .078 | .137 | .080 | I20 | .170 | .226 | .396 | .407 |
| I04 | .342 | .356 | .479 | .527 | I21 | .297 | .324 | .316 | .380 |
| I05 | .353 | .378 | .513 | .551 | I22 | .297 | .416 | .362 | .435 |
| I06 | .444 | .506 | .642 | .674 | I23 | .262 | .314 | .397 | .325 |
| I07 | .452 | .487 | .487 | .497 | I24 | .371 | .404 | .456 | .439 |
| I08 | .420 | .473 | .424 | .407 | I25 | .331 | .463 | .428 | .496 |
| I09 | .337 | .371 | .485 | .492 | I26 | .276 | .329 | .416 | .490 |
| I10 | .299 | .357 | .434 | .473 | I27 | .287 | .319 | .455 | .447 |
| I11 | .239 | .334 | .408 | .478 | I28 | .361 | .410 | .616 | .739 |
| I12 | .222 | .341 | .447 | .521 | I29 | .390 | .644 | .562 | .691 |
| I13 | .164 | .177 | .324 | .339 | I30 | .412 | .463 | .693 | .735 |
| I14 | .277 | .349 | .307 | .338 | I31 | .333 | .356 | .567 | .586 |
| I15 | .285 | .313 | .260 | .272 | I32 | .485 | .564 | .736 | .810 |
| I16 | .280 | .341 | .285 | .343 | I33 | .396 | .521 | .643 | .689 |
| I17 | .282 | .310 | .316 | .355 | | | | | |

Table 4 presents the six rotated factors extracted from the 33-item ROS developed by K&B. As can be seen, similar to K&G and K&B's findings, item 3, *the prayers I say when I am alone carry as much meaning and personal emotion as those said by me in the presence of people*, contributes to the religious orientation of neither university nor G3HS students. Thirty two items, however, load acceptably on six factors among which five (16%), i.e., 6, 7, 16, 24, 28, have loaded on two factors. Following K&B the higher acceptable loadings of these items on a factor were considered as its main contribution to a given religious orientation and the lower as well as negative loadings were considered noncontributory and excluded from all statistical analyses.

**Table 4: Items having acceptable loadings and cross loadings on the 33-item ROS**

| Item | Factors | | | | | | Item | Factors | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | | 1 | 2 | 3 | 4 | 5 | 6 |
| I01 | .433 | * | * | * | * | * | I18 | * | * | * | * | .439 | * |
| I02 | * | * | * | * | .312 | * | I19 | * | .524 | * | * | | * |
| I03 | * | * | * | * | * | * | I20 | * | * | * | * | .359 | * |
| I04 | .365 | * | * | * | * | * | I21 | .449 | * | * | * | * | * |
| I05 | .436 | * | * | * | * | * | I22 | * | * | .631 | * | * | * |
| I06 | .484 | -.359 | * | * | * | * | I23 | * | * | .409 | * | * | * |
| I07 | .574 | -.303 | * | * | * | * | I24 | .337 | * | .469 | * | * | * |
| I08 | .594 | * | * | * | * | * | I25 | * | * | .640 | * | * | * |
| I09 | .534 | * | * | * | * | * | I26 | * | * | .518 | * | * | * |
| I10 | .505 | * | * | * | * | * | I27 | * | * | * | .454 | * | * |
| I11 | * | * | * | * | .536 | * | I28 | * | * | .301 | * | * | .480 |
| I12 | * | * | * | * | .512 | * | I29 | * | * | * | * | * | .710 |
| I13 | * | .403 | * | * | * | * | I30 | * | * | * | .531 | * | * |
| I14 | * | .570 | * | * | * | * | I31 | .367 | * | * | * | * | * |
| I15 | * | .521 | * | * | * | * | I32 | * | * | * | .622 | * | * |
| I16 | .315 | .442 | * | * | * | * | I33 | * | * | * | .660 | * | * |
| I17 | * | .521 | * | * | * | * | | | | | | | |

* Loadings less than .30

Table 5 presents the descriptive statistics and the alpha reliability coefficients as well as the variances (V) and cumulative variances (CV) explained by the six factors extracted in this study. (The descriptive statistics of individual items are given in Appendix.) As can be seen, the reliability coefficient (RC) of the 32-item ROS is .82, indicating that it is a highly reliable measure of G3HS students' religious orientation. (Item 3 is excluded because of not loading acceptably on any factor.) The RCs of its six factors range from .82 to .56. The lowest RC belongs to *Theo-pacific* factor whose RC for university students was .75 in K&B's study, indicating that it is a less reliable orientation among G3HS students.

**Table 5: Descriptive statistics of ROSS and its factors**

| Factor | # of items | Mean | SD | Alpha | Rotation sums of squared loadings | | |
|---|---|---|---|---|---|---|---|
| | | | | | Total | % of V | % of CV |
| Social | 10 | 35.57 | 6.830 | .82 | 2.969 | 8.996 | 8.996 |
| Concessional | 6 | 15.39 | 4.482 | .66 | 2.257 | 6.841 | 15.837 |
| Humanitarian | 5 | 17.99 | 3.789 | .71 | 1.980 | 6.001 | 21.837 |
| Inspirational | 4 | 16.73 | 2.933 | .74 | 1.975 | 5.983 | 27.821 |
| Theo-pacific | 5 | 20.14 | 3.114 | .56 | 1.461 | 4.426 | 32.247 |
| Sacrificial | 2 | 6.98 | 2.006 | .68 | 1.124 | 3.407 | 35.654 |
| ROS | 32 | 112.80 | 13.919 | .82 | - | - | - |

Table 6 presents ten items loading acceptably on the first factor called *Social* in this study. In sharp contrast to K&B's findings, the items loading on their *Intrinsic* factor, i.e., I01

I04, I05, and I06 have loaded on the *Social* factor in this study upon which the indicators having the first and third highest loadings, i.e., I08 (.59) and I09 (.53), deal with groups and mosques where prayers are usually offered collectively. These findings may indicate that religion provides the social context in which some G3HS students develop their intrinsic motivation over years. In other words, G3HS students first practice Islam for socialization purposes whereas university students differentiate between *Intrinsic* and *Social* indicators of religion and derive two orientations from them supporting Helminiak's (1987) five-stage model of spiritual development cited in King (2008). Similar to spiritual development, religious orientations start with social activities and "conformist meaning-making in adolescence" (King, 2008, p. 94).

**Table 6: Items loading acceptably on the first factor called *Social***

| Item | Loading | Indicator |
|---|---|---|
| I08 | **.594** | If I were to join a mosque group, I would prefer to join (1) a Quran Study group, or (2) a religious group. |
| I07 | .574 | I read literature about faith (or mosque). |
| I09 | .534 | If not prevented by unavoidable circumstances, I attend mosque. |
| I10 | .505 | The mosque is most important as a place to formulate good social relationships. |
| I06 | .484 | Religion is especially important to me because it answers many questions about the meaning of life. |
| I21 | .449 | One reason for my being a mosque member is that such membership helps to establish a person in the community. |
| I05 | .436 | My religious beliefs are what really lie behind my whole approach to life. |
| I01 | .433 | I try hard to carry my religion over into all my other dealings in life. |
| I31 | .367 | I participate in Qadir and Qorban Salats. |
| I04 | .365 | It is important to me to spend periods of time in private religious thought and meditation. |

Table 7 presents six items loading acceptably on the second factor called *Concessional*, i.e., I13, I14, I15, I16, I17 and I19. With the exception of item 16, the other five items comprising the *Concessional* factor are the same as those in K&B's study in which it occupies the fourth position among the seven factors extracted. As a representative indicator having the highest loading, i.e., 57, the responses given to item 14 indicate that while 27% of G3HS students agree although they are religious, they refuse to let religious considerations influence their everyday affairs (see Appendix). When 27% is added to 32% who have not yet made up their mind, it can be seen that more than half the students who are *Concessional* in orientation give a peripheral role to their religion.

**Table 7: Items loading acceptably on the second factor called Concessional**

| Item | Loading | Indicator |
|---|---|---|
| I14 | .570 | Although I am a religious person, I refuse to let religious considerations influence my everyday affairs. |
| I19 | .524 | Although I believe in my religion, I feel there are many more important things in my life. |
| I15 | .521 | I pray chiefly because I have been taught to pray. |
| I17 | .521 | Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being. |
| I16 | .442 | A primary reason for my interest in religion is that my mosque is a congenial social activity. |
| I13 | .403 | It doesn't matter so much what I believe so long as I lead a moral life. |

Table 8 presents the five items, i.e., I22, I23, I24, I25, and I26, which have loaded acceptably on the third factor called *Humanitarian*. It explains 6 out of 36 percent of variance in the scale. Although this orientation comprises the same indicators for both G3HS and university students, it occupies the sixth position among the latter and explains 6 out of 48 percent of variance in the scale, indicating that G3HS students are more motivated than university students to help the members of their society for religious purposes.

**Table 8: Items loading acceptably on the third factor called *Humanitarian***

| Item | Loading | Indicator |
|---|---|---|
| I25 | .640 | I visit the deprived areas to help the settlers. |
| I22 | .631 | I do charitable work like supporting orphans. |
| I26 | .518 | I devote some money to help charitable institutes. |
| I24 | .469 | I consider visiting patients as a religious duty. |
| I23 | .409 | I donate on religious occasions. |

Table 9 presents four items, i.e., I27, I30, I32, and I33, which have loaded acceptably on *Inspirational* as the fourth factor, explaining 6 out of 36 percent of variance in the scale. The position and the percentage of variance explained by *Inspirational* orientation are in sharp contrast to those of university students. For these students it takes the first position and explains the highest amount of variance in the scale, i.e., 9 out of 48%. Furthermore while item 31, *I participate in Qadir and Qorban Salats*, contributes to the *Inspirational* orientation of university students, it serves a *Social* objective for G3HS students.

**Table 9: Items loading acceptably on the fourth factor called *Inspirational***

| Item | Loading | Indicator |
|---|---|---|
| I33 | .660 | I attend the ceremony of the Night of Qadr. |
| I32 | .622 | I actively attend the Imams' mourning ceremonies. |
| I30 | .531 | I participate in ceremonies celebrating the birthdays of the Innocent Imams. |
| I27 | .454 | I visit the Prophet's or Imams' descendents on Eid Qadir. |

Table 10 presents the five items, i.e., I02, I11, I12, I18, and I20, which have loaded on *Theo-pacific* factor, explaining 4 out of 36 percent of variance in the scale. Since the same items load acceptably on the fifth factor for university students, it can be concluded that the *Theo-pacific* role of religion stays pretty stable over age and education.

**Table 10: Items loading acceptably on the fifth factor called *Theo-pacific***

| Item | Loading | Indicator |
|---|---|---|
| I11 | .536 | The purpose of prayer is to secure a happy and peaceful life. |
| I12 | .512 | What religion offers me most is comfort when sorrows and misfortune strike. |
| I18 | .439 | The primary purpose of prayer is to gain relief and protection. |
| I20 | .359 | Religion helps to keep my life balanced and steady in exactly the same way as my citizenship, friendships, and other memberships do. |
| I02 | .312 | Quite often I have been keenly aware of the presence of God or the Divine Being. |

Table 11 presents the two items, i.e., I28 and I29, which have loaded acceptably on *Sacrificial* factor. Similar to the *Theo-pacific* factor, the same items loaded acceptably on the last factor extracted from the ROS administered to both G3HS and university students, indicating that *Sacrificial* factor also stays stable over age and education. However, there is a noticeable difference in the magnitude of loadings for item 28, indicating that university students gain financial independence to purchase and sacrifice animals on Eid Qorban.

**Table 11; Items loading acceptably on the sixth factor called *Sacrificial***

| Item | Loading G3HS | Loading University | Indicator |
|---|---|---|---|
| I29 | .710 | .665 | I love eating the meat of scarified animals a lot. |
| I28 | .480 | .656 | I love to sacrifice an animal on Eid Qorban. |

Table 12 presents the correlation coefficients obtained among the six factors underlying the 32-item ROS. As can be seen, the *Social* factor correlates significantly with the other five factors. It correlates the highest with the *Humanitarian* factor ($r = .55$, $p < .01$), explaining 30.25% of variance in each other. In K&B's study, however, these two factors showed a much lower though significant relationships with each other, i.e., ($r = .35$, $p < .05$), dropping their common variance to 12.25%. These findings may indicate that age and education decreases the social and humanitarian roles of religion in Mashhad, Iran.

**Table 12: Correlations among the factors extracted from the ROS**

| Scale and its factors | Social | Concessional | Inspirational | Humanitarian | Theo-pacific | Sacrificial |
|---|---|---|---|---|---|---|
| ROS 32 | .81** | .21** | .67** | .66** | .56** | .61** |
| Social | 1 | -.18** | .44** | .55** | .33** | .44** |
| Concessional | -.18** | 1 | -.04 | -.18** | .08* | .05 |
| Inspirational | .44** | -.04 | 1 | .41** | .23** | .40** |
| Humanitarian | .55** | -.18** | .41** | 1 | .28** | .43** |
| Theo-pacific | .33** | .08* | .23** | .28** | 1 | .18** |
| Sacrificial | .44** | .05 | .40** | .43** | .18** | 1 |

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Among the six factors underlying the G3HS students' religious orientation, *Concessional* correlates positively only with the *Theo-pacific* factor ($r = .08$, $p < .05$). Though the amount of variance the *Concessional* and *Theo-pacific* factors explain in each other is negligible (0.64%), they do not reveal any type of significant relationships with each with university students, indicating that compromising religious principles from secondary education results in looking for sources other than religion to pacify oneself in tertiary education.

*Concessional* factor is the only latent variable which correlates significantly but *negatively* with both *Social* and *Humanitarian* factors ($r = -.18$, $p < .01$), indicating that the more the G3HS students compromise their religious principles, the less social they become in terms of attending mosques and joining social groups and the less they help the members of their community. The negatively significant relationship between the *Concessional* and *Social* factors increases for university students ($r = -.21$, $p < .01$), indicating that age and tertiary education have negative effect on social commitment of religiously compromising members of community.

## *4. Conclusion*

The 33-item religious orientation scale (ROS) enlarged by K&B was administered to Eight hundred female grade three high school (G3HS) students to study the factor structure of the ROS by employing principal axis factoring and rotating the latent variables via Varimax with Kaiser Normalization. The results showed that six factors, i.e., *Social*, *Concessional*, *Humanitarian*, *Inspirational*, *Theo-pacific*, and *Sacrificial*, underlie the G3HS students' religious indicators. The comparison of the seven factors underlying five hundred thirty six female and male undergraduate university students' religiosity, i.e., *Inspirational*, *Intrinsic*, *Social*, *Concessional*, *Theo-pacific*, *Humanitarian* and *Sacrificial*, showed that religion seems to serve several orientations differently over age and education.

First, along with university students' religious indicators more than two orientations were extracted from G3HS' responses in this study and thus provided further support for K&G's finding that religion is not a bipolar construct as conceived by Allport and Ross (1967). Secondly, the order and role of orientations in terms of the variances they explain change over age and education in that first and foremost a *Social* orientation is derived from religion by female G3HS. However, the loadings of certain religious indicators on the *Inspirational* factor as the first latent variable for both female and male undergraduate university students indicate that as Mashhady students develop physiologically and educationally they resort to religion primarily to inspire themselves.

The third finding reveals the importance of environment in terms of shaping G3HS students' religious beliefs and principles in Mashhad, Iran. While the first and second factors of these students are environmental in nature, i.e., *Social* and *Concessional*, they become personal for university students, i.e., *Inspirational* and *Intrinsic*. As a matter of fact, the religious indicators which load distinctly on the *Intrinsic* dimension of university students' religiosity, contribute first to the G3HS students' *Social* orientation, indicating that experiences gained over years and higher education help university students believe and practice religion for *Intrinsic* purposes.

The extraction of two distinct orientations, i.e., *Social* and *Concessional*, from the religious indicators support K&B's results and serve as the fourth finding of this study. Although they differ in terms of their order among other factors, both G3HS and university students approach religion for *Social* purposes first.

However, they become either *Intrinsic* or *Concessional* when they realize that some of their religious beliefs and principles are not compatible with the irreligious norms recognized and followed in their society albeit implicitly. While the *Intrinsic* university students follow their religion both in action and principle, the *Concessional* ones follow what the social norms dictate. The very adoption of *Concessional* approach to religion results in becoming significantly less active in the *Social* activities endorsed by religion for both G3HS and university students as the fifth finding.

In addition to becoming less socially active in religion, the sixth finding shows that the *Concessional* G3HS students become significantly less active in *Humanitarian* activities endorsed by religion. The significantly negative correlation between the *Social* and *Humanitarian* orientations, however, disappear for *Concessional* university students as found in K&B's study, indicating that conceding to irreligious social norms results in becoming indifferent towards *Humanitarian* aspect of religion over age and education.

In spite of being *Concessional* in orientation, some G3HS students still employ religion for *Theo-pacific* purposes. While the seventh finding reveals a positive and significant relationship between the *Concessional* and *Theo-pacific* factors for G3HS students, such a relationship disappears for university students as found by K&B, indicating that age and higher education help *Concessional* university students look for sources other than religion to overcome their every day and psychological problems such as misfortunes, stress and extreme anxiety.

The last finding of this study shows that *Concessional* G3HS students do not resort to *Sacrificial* orientation of religion to motivate themselves because these two factors do not relate to each other significantly. K&B's finding, however, shows a significant but negative relationship between *Concessional* and *Sacrificial* orientations for university students, implying that age and higher education increases disbelief in religion among *Concessional* university students in that sacrificing and consuming sacrificed animals is a purely religious practice which shows the highest significant correlation with the *Social* and *Inspirational* orientation of G3HS and university students, respectively.

The extraction of six and seven factors from the thirty two religious indicators presented to G3HS and university students, respectively, emphasizes the fact that religion is a multidimensional construct in need of further empirical research. No single scale can and should be used for all religions because they differ in their indicators. The findings of this study as well as those obtained by K&G and K&B showed, for example, an indicator such as *the prayers I say when I am alone carry as much meaning and personal emotion as those said by me during services* does not load on any factor even when its Christian context, i.e., *during services*, is changed to an Islamic one, i.e., *in the presence of people*.

Furthermore, while the indicator specified above is among the nine comprising the A&R's *Intrinsic* orientation, the findings of the present study show that out of the remaining eight, seven, i.e., I01, I04, I05, I06, I07, I08 and I09, load on the *Social* and one, i.e., I02, on the *Theo-pacific* factors extracted in this study, indicating that adding more religious indicators to the ROS provides a better picture of the latent variables underlying the religiosity of humans in their various ages and educational levels. It is, therefore, suggested that more indicators be added to the ROS and their contribution to a host of variables such as school achievement and language proficiency be explored as comprehensively as possible.

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## Appendix

Descriptive statistics of the 33 indicators comprising ROS

| Item | N | Mean | SD | Skewness | Kurtosis | Disagree % | No Idea % | Agree % |
|---|---|---|---|---|---|---|---|---|
| I01 | 780 | 4.1 | 1.004 | -1.317 | 2.048 | 6 | 17 | 78 |
| I02 | 780 | 4.51 | 0.723 | -2.163 | 8.047 | 1 | 6 | 93 |
| I03 | 780 | 2.92 | 1.311 | 0.145 | -1.116 | 46 | 17 | 37 |
| I04 | 780 | 3.86 | 0.947 | -0.593 | 0.132 | 8 | 26 | 67 |
| I05 | 780 | 3.68 | 1.111 | -1.024 | 1.421 | 9 | 29 | 62 |
| I06 | 780 | 4.11 | 1 | -1.446 | 2.705 | 5 | 15 | 79 |
| I07 | 780 | 3.23 | 1.113 | -0.364 | -0.396 | 23 | 33 | 44 |
| I08 | 780 | 3.48 | 1.155 | -0.604 | 0.097 | 15 | 33 | 52 |
| I09 | 780 | 3.52 | 1.206 | -0.685 | 0.04 | 17 | 28 | 55 |
| I10 | 780 | 3.1 | 1.187 | -0.342 | -0.193 | 24 | 39 | 36 |
| I11 | 780 | 3.97 | 1.109 | -1.208 | 1.207 | 11 | 14 | 75 |
| I12 | 780 | 4.0 | 1.072 | -1.028 | 0.589 | 11 | 16 | 74 |
| I13 | 780 | 2.62 | 1.271 | 0.153 | -0.562 | 44 | 32 | 23 |
| I14 | 780 | 2.76 | 1.17 | 0.071 | -0.586 | 41 | 32 | 27 |
| I15 | 780 | 2.3 | 1.24 | 0.623 | -0.629 | 64 | 14 | 21 |
| I16 | 780 | 2.68 | 1.174 | 0.063 | -0.633 | 43 | 33 | 25 |
| I17 | 780 | 2.18 | 1.164 | 0.675 | -0.329 | 65 | 20 | 15 |
| I18 | 780 | 3.79 | 1.187 | -1.014 | 0.562 | 14 | 16 | 69 |
| I19 | 780 | 2.85 | 1.308 | -0.087 | -0.824 | 37 | 29 | 34 |
| I20 | 780 | 3.87 | 1.018 | -1.365 | 2.9 | 5 | 23 | 72 |
| I21 | 780 | 2.76 | 1.18 | -0.066 | -0.513 | 37 | 37 | 26 |
| I22 | 780 | 3.7 | 1.167 | -1.074 | 1.242 | 9 | 28 | 63 |
| I23 | 780 | 3.63 | 1.06 | -0.9 | 1.021 | 11 | 28 | 61 |
| I24 | 780 | 3.71 | 1.076 | -0.927 | 1.073 | 9 | 28 | 63 |
| I25 | 780 | 3.3 | 1.14 | -0.39 | -0.058 | 19 | 38 | 43 |
| I26 | 780 | 3.65 | 1.105 | -0.83 | 0.781 | 11 | 30 | 59 |
| I27 | 780 | 4.08 | 1.083 | -1.394 | 2.083 | 6 | 18 | 76 |
| I28 | 780 | 3.6 | 1.201 | -0.729 | 0.162 | 14 | 30 | 56 |
| I29 | 780 | 3.38 | 1.106 | -0.283 | -0.105 | 16 | 43 | 42 |
| I30 | 780 | 4.09 | 1.002 | -1.432 | 2.643 | 6 | 15 | 79 |
| I31 | 780 | 3.72 | 1.147 | -0.862 | 0.518 | 11 | 26 | 62 |
| I32 | 780 | 4.02 | 0.995 | -1.226 | 1.965 | 6 | 18 | 76 |
| I33 | 780 | 4.53 | 0.811 | -2.386 | 7.301 | 2 | 6 | 92 |