Chapter 8

Religious coping and depression

Religious coping and depression in multicultural Amsterdam: A comparison between native and Dutch citizens and Turkish, Moroccan and Surinamese/Antillean migrants


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ABSTRACT

Background
Depressive patients can derive consolation as well as struggle from their religion. Outside the Western-Christian cultures these phenomena have not received much empirical exploration. The current study aims to describe how positive and negative religious coping strategies relate to depressive symptoms in different ethnic groups in The Netherlands.

Methods
Interview data were derived from the second phase of the Amsterdam Health Monitor, a population based survey, with stratification for ethnicity (native Dutch N = 309, Moroccan 180, Turkish 202, Surinamese/Antillean 85). Religious coping was assessed using a 10-item version of Pargament's Brief RCOPE; depression assessment included the SCL-90-R and the Composite International Diagnostic Interview.

Results
The positive religious coping items constituted a sub-scale, but the five negative religious coping items had to be examined as representing separate coping strategies. Across the ethnic groups, negative religious coping strategies had several associations with depressive symptoms, subthreshold depression, and major depressive disorder: the most robust association was found for the item ‘wondered whether God has abandoned me’. Other significant associations were found for interpreting situations as punishment by God, questioning whether God exists, and expressing anger to God.

Limitations
Due to the two-phase design and low participation in this urban sample, the non-response was substantial. Therefore, the study focused on associations, not on prevalences.

Conclusion
The more or less universal finding about ‘feeling abandoned by God’ may suggest how depression represents an existential void, irrespective of the religious background.
INTRODUCTION

Religion as a potential resource for consolation and adaptation in times of adversity has received increasing attention in the social sciences and epidemiology in the past two decades. Two recent meta-analyses succeeded in identifying the main result patterns in the available empirical studies, and also addressed different dimensions of religiousness. Hackney and Sanders (2003) showed in their meta-analysis that especially measures of personal devotion (e.g. intrinsic religious motivation) were associated with lower levels of mental distress. Following a different strategy, with 147 studies and focusing on depressive symptoms, Smith et al. (2003) arrived at more detailed findings. Again, intrinsic religious motivation was associated with lower levels of depressive symptoms, and this association was paralleled by that for religious behaviour (e.g. church-attendance) and depressive symptoms. However, Smith and colleagues identified a stress-buffer effect, which indicates that religion is deployed by people under high levels of stress to reduce depressive symptoms. This phenomenon points to a relatively new concept in the empirical research on religion and mental health: religious coping.

Pargament (1997) provided a comprehensive theoretical framework for a better understanding of religious coping. Abridging several definitions, Pargament defined religion as a process, a search for significance in ways related to the sacred. In similar terms, he defines coping as a search for significance in times of stress. Religion and coping are therefore assumed to be phenomena that often relate to each other.

Pargament developed an elaborate questionnaire on types of religious coping (RCOPE, Pargament et al., 2000). Brief versions of this instrument (Brief RCOPE; Pargament, 1999) are now finding their way to empirical studies. The Brief RCOPE contains several ways of coping in which religion offers supportive elements, termed positive religious coping, such as finding meaning in stressful circumstances or gaining comfort and closeness to God. The Brief RCOPE also contains ways of negative coping, or religious struggle (Fitchett et al., 2004), in which religion is used to discharge negative feelings such as anger or doubt or where it is connected with interpretations in terms of receiving punishment by God or being abandoned by God. Ano and Vasconcelles (2005) did a first meta-analysis on the associations between the facets of religious coping and measures of positive and negative adjustment to stress. The main pattern of results in the 49 studies included in their meta-analysis was that positive religious coping (such as the experience of spiritual connection or seeking support from clergy members) was related to positive psychological adjustment. Negative religious coping strategies (such as spiritual discontent: expressing confusing about and dissatisfaction with God) were related to negative psychological adjustment.

The vast majority of empirical studies on religion and mental health has been carried out in the United States. As inhabitants from the United States tend to be somewhat more overt in their religious orientation and are more religiously involved in general than inhabitants of Western European countries (Halman and De Moor, 1994), findings cannot be extrapolated without caution to other western societies. Moreover, whether research findings can be applied to non-Western populations is even more uncertain. Nevertheless, the few existing studies on religion and mental
health in Muslim populations seem to confirm the patterns of associations such as have been described in Western populations. Results from Turkey (Bekaroğlu et al., 1991), Algeria (Abdel-Khalek and Naceur, 2007) and Pakistan (Suhail and Chaudhry, 2004; Khan and Watson, 2006) showed associations between endorsement of Islamic beliefs and practices and higher levels of mental well-being. The study by Khan and Watson (2006) employed the positive and negative religious coping subscales of the Brief RCOPE, and these authors also developed a Pakistani religious coping questionnaire, based on Islamic religious practices, which correlated positively with both RCOPE sub-scales.

A special development in Western Europe pertains to the immigration of people from North Africa and Turkey in the past forty years – labour-migrants that tend to maintain their religious beliefs and behaviours, which are, in general, closely tied to Islamic culture. Therefore, several very different traditions coexist in Western society, and segregation of ethnic and cultural subgroups has turned out to be a point of concern in many Western European countries. In the Netherlands, the following main non-Western immigrant groups can be distinguished: Muslim labour-migrants from Morocco and Turkey, and people from Surinam (Dutch Guyana) and the Netherlands Antilles. The sizeable group of people with origins in Indonesia has been largely integrated into Dutch society (Garsen et al., 2005).

The Moroccan and Turkish migrant groups tend to foster their ethnic identity and to emphasize traditional aspects of Islam, with relatively high rates of weekly mosque attendance of about 35% (given the low attendance rates among females; Buijs and Rath, 2003). In both groups, there are high rates of unemployment, and income levels are low.

The ethnic composition of migrants from the former Dutch colony Surinam is variegated, with the largest proportions for AfroSurinamese people and for so called ‘Hindustans’ (descendants from labour-migrants from British India; Choeni and Harmsen, 2007). The Surinamese ethnic composition is paralleled by a range of religious traditions, with about 40% Christians (half Roman Catholic, half Protestant congregations), 20% Hindu, and 14% Muslim. Migrants from the Netherlands Antilles are generally from African descent; the majority is Roman Catholic.

As a consequence of these immigration patterns, the mental health situation among ethnic minorities in Western European countries represents an area of scientific interest (van der Wurff et al., 2004; Levecque et al., 2007; Veling et al., 2008; Burger et al., 2009). Among mental health care professionals, there often exists uncertainty about how to understand the cultural and religious background of immigrant groups. In the Netherlands, this pertains to Muslims in particular. Mental health care professionals may for example hesitate whether it is convenient, or provoking, to inquire after religious issues such as prayer in times of despair.

So far, there are few quantitative empirical studies of how the religious tradition of immigrants in Western countries relates to their adaptation and mental health. For Muslim Arab immigrants in the US, Amer and Hovey (2007) described an association between intrinsic religiousness and lower levels of depression. Ai et al. (2003) studied patterns of religious coping among refugees from Bosnia and Kosovo living in the US. Positive religious coping was positively related to optimism, whereas negative religious coping was negatively associated with hope. In the UK, as part of a
study among adherents of several traditions, Loewenthal and colleagues (2001) described a higher perceived effectiveness of religious coping among Muslims compared to other groups (Christians, Hindus and Jews). Finally, among participants in an Arab Muslim Women’s Educational Centre in Germany, high rates of mental distress were described (Irfaeya et al., 2008). One fifth of the women used religious coping methods such as praying or reading the Q’ran, but religious and moral issues were also frequently indicated as generating stress.

The first aim of the current explorative study is to examine the psychometric characteristics of the 10-item version of the Brief RCOPE in four ethnic groups in Amsterdam: native Dutch people, people with origins in Morocco and Turkey, and people from Surinam or the Netherlands Antilles. It will be verified whether positive and negative religious coping sub-scales can be distinguished within the ethnic groups, especially in the Muslim subgroups for which the RCOPE was not originally developed. The second aim is to examine the cross-sectional associations between the religious coping strategies and depressive symptoms, subthreshold depression and depressive disorder in the different ethnic groups. It will be evaluated whether the coping strategies dispose of universal characteristics across the ethnic groups, or, in contrast, whether the religious coping strategies reflect cultural diversity.

METHODS

Sample
The current study is part of the second phase of the Amsterdam Health Monitor 2004, a population based study on the general health situation of the Amsterdam population. The Monitor is performed among a random sample of the adult population, stratified by age and ethnicity. A respondent was considered to be Turkish, Moroccan or Surinamese/Antillean if he or she was born in Turkey, Morocco or Surinam/The Netherlands Antilles (SNA) respectively or if at least one parent was born there. Respondents were considered native Dutch if both the respondent and both parents were born in The Netherlands.

In 2005, the second phase was carried out to examine the mental health status. De Wit et al. (2008) provided details on the procedure and response. Summarizing, this second approach consisted of a structured interview conducted by trained bilingual interviewers. Interviews could be held in Dutch, Turkish, Moroccan Arabic, or Berber/Tamazight (a non-written language in Western North Africa). The interviews took place in the period from February to June 2005, to avoid summer holidays, Christmas and Ramadan. The ethical commission of the Amsterdam Academic Medical Centre approved the study procedures. Overall, 1449 respondents from the four ethnic groups were included in the first phase (response 44.5%), and 812 of these (56.0%) participated in the second phase (net-response 26.5%, excluding those who moved or who were deceased). The net-response was 20.8% among Moroccans, 24.4% among Turkish, 29.4% among SNA respondents and 30.2% among the native Dutch. As described by De Wit et al. (2008), selection bias cannot entirely be ruled out, although indicators on income, employment status and mental health did not significantly differ for respondents and non-respondents. Due to some item non-response, data are complete for 776 respondents for the current study.
Instruments

Depressive symptoms

Depressive symptoms were assessed using the Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1994). Items are scored on a five-point scale, range from 0 ('not at all') to 4 ('extremely'). In the Dutch adapted edition (Arindell and Ettema, 2003), sixteen items pertain to depressive symptoms (scale range 0-64). The internal consistency of the depression sub-scale in the currently used sample was high (Cronbach α =.93 in the total sample and ranging between .87 and .93 in the ethnic groups). The internal consistency was also sufficient in the Moroccan groups, interviewed either in Dutch (n = 56, α =.96), Moroccan Arabic (n = 65, α = .91) or Berber or mixed Berber/Arabic/Dutch (n = 48, α =.91).

Depression

Major depressive disorder (MDD) was diagnosed by using the depression section (E) of the Composite International Diagnostic Interview (CIDI), version 2.1 (WHO, 1997). To optimize accuracy, only diagnoses pertaining to the past month were used for the current study. The group without MDD includes respondents with high levels of depressive symptoms, at risk for developing MDD. This group, denoted as the subthreshold depression group, is likely to be quite similar to the major depression group with respect to possible associations with religious coping. Therefore, a subthreshold group is defined, as having the highest quartile of SCL depression scores (SCL ≥ 12), but without MDD in the past month.

Religious coping

Religious coping has been assessed using the Brief RCOPE (Pargament et al., 2000). Two Brief RCOPE versions exist in the literature. For the current study, the 10-item version (Pargament, 1999) was selected, as it seemed slightly less culture-sensitive than the other, 14-item version (Pargament et al., 1998). The Brief RCOPE includes a positive and a negative religious coping sub-scale, both of five items. In Table 1, the items are listed in the original, American version, along with the translations in Dutch and Turkish, and with some key words in Arabic for the Moroccan Arabic/Berber interviewers who further had the Dutch version at their disposal. Response categories range between 0 ('never') and 3 ('very often'). In a recent pilot-study among older Dutch people (Braam et al., 2008), the internal consistence for the Dutch version of the positive coping sub-scale was sufficient (Cronbach α = .89). The internal consistency of the negative coping sub-scale was insufficient in that Dutch version among older people (Cronbach α =.27) but became more acceptable (.57) after deleting the item on punishment reappraisal, which was therefore considered as a separate coping strategy.

Religious behaviour

Frequency of prayer and frequency of attendance of religious services were each assessed with the question how many times a week the respondent practiced these behaviours. Habits of praying differ between the Christian and Muslim religion, especially because praying five times a day (Salah) is an obligation for Muslims. Assuming that praying daily or more may represent similar levels of devotion, the measure was used as a dichotomous variable: praying daily or more (1) versus less (0). Church/mosque/temple attendance was categorized as once a week or more (1), versus less (0).
Table 1 | Positive (1-5) and negative (6-10) religious coping items of the Brief RCOPE (Pargament, 1999) used in the Amsterdam Health Monitor.

<table>
<thead>
<tr>
<th>Original, American version</th>
<th>Dutch</th>
<th>Turkish</th>
<th>Moroccan [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>How do you understand and deal with problems in your life?</em></td>
<td><em>Wat doet u in tijden van problemen</em></td>
<td><em>Problemlerin olduğu zamanlarda ne yapıyorsunuz</em></td>
<td>ننسيي – أعلى – أكثر شمولية</td>
</tr>
<tr>
<td>1. I think about how my life is part of a larger religious force [4].</td>
<td>Ik denk er over na hoe mijn leven deel uitmaakt van een hoger, alomvattend geheel.</td>
<td>Hayatımın her şeyi içeren daha yüksek bir bütünün bir kısmını teşkil ettiğini düşünüyorum.</td>
<td>بننسيي - أعلى - أكثر شمولية</td>
</tr>
<tr>
<td>2. I work together with God as partners to get through hard times.</td>
<td>Om moeilijke tijden door te komen werken God en ik als partners samen voor kracht, steun en leiding.</td>
<td>Zor zamanları aşmak için Allah ve ben birlikte çalışıyoruz.</td>
<td>أعلاه سادته</td>
</tr>
<tr>
<td>3. I look to God for strength, support, and guidance in crises.</td>
<td>In crisissituaties richt ik me tot God voor kracht, steun en leiding.</td>
<td>Kriz durumlarında kuvvet, destek ve rehberlik için Allaha yöneliyorum.</td>
<td>أعلاه سادته</td>
</tr>
<tr>
<td>4. I try to find the lesson from God in crises.</td>
<td>Wanneer ik me in moeilijkheden bevind, probeer ik daarin Gods les te vinden.</td>
<td>Kendimi zor bir durumda hissettiğimde Allahın bilgisisini bulmaya çalışıyorum.</td>
<td>أعلاه سادته</td>
</tr>
<tr>
<td>5. I confess my sins and ask for God's forgiveness.</td>
<td>Ik beken mijn zonden en vraag om Gods vergeving.</td>
<td>Günahtarımı itiraf ediyorum ve Allahın affını istiyorum.</td>
<td>أعلها سادته</td>
</tr>
<tr>
<td>6. I feel that stressful situations are God's way of punishing me for my sins or a lack of spirituality.</td>
<td>Ik voel dat moeilijke situaties Gods manier zijn om mij te straffen voor mijn zonden of voor mijn tekort aan geestelijk leven.</td>
<td>Zor durumlardaki günahlarımı veya ruhsal yaşantımdaki noksattığın için Allahın beni cezalandırma yöntimidir.</td>
<td>أعلها سادته</td>
</tr>
<tr>
<td>7. I wonder whether God has abandoned me.</td>
<td>Ik vraag me af of God mij in de steek heeft gelaten.</td>
<td>Allahın beni ortada bırakıp bırakmadığını merak ediyorum.</td>
<td>أعلها سادته</td>
</tr>
<tr>
<td>8. I try to make sense of the situation and decide what to do without relying on God.</td>
<td>Ik probeer de betekenis en bedoeling van de situatie te bepalen en besluit wat ik moet doen, zonder God daarin te betrekken.</td>
<td>Allahı buna karıştırmadan durumun mana ve amacını tespit etmeye çalışıyor ve ne yapmam gerektiğine karar veriyorum.</td>
<td>أعلها سادته</td>
</tr>
<tr>
<td>10. I express anger at God for letting terrible things happen.</td>
<td>Ik uit boosheid naar God omdat God verschrikkelijke dingen laat gebeuren.</td>
<td>Korkunç şeylerin olmasını sağladığından Allahı kızgınlığımı ifade ediyorum.</td>
<td>أعلها سادته</td>
</tr>
</tbody>
</table>

[1] Moroccan-Arabic and Berber translations were directly done by the bilingual interviewers, using key-words in Arabic where desired by the instructors.

[2] Dutch: 1 (‘nooit’) 2 (‘soms’), 3 (‘regelmatic’), 4 (‘heel vaak’).

[3] Turkish: 1 (‘hiç’), 2 (‘bazen’), 3 (‘düzenli’), 4 (‘çok sık’).

[4] In the translated versions, the expression ‘religious force’ has been substituted by ‘higher all-embracing entity’. 

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Covariates
The following sociodemographic variables were selected for the current study: age, gender, level of education and family income. Levels of education were used as an ordinary scale with values between 0 (‘no education’) and 8 (‘academic’). Gross family income was categorized as 0 (€1.350/month), 1 (≥ € 1.350/month), or 2 (unknown), because of substantial non-response.

Analyses
First, psychometric characteristics of the Brief RCOPE were computed for each of the four groups (native Dutch, Turkish, Moroccan and SNA respondents). The five positive and the five negative RCOPE items were subjected to principal component analyses. When items loaded sufficiently on a dimension (with an Eigenvalue above 1 for the dimension and factor loadings of the contributing items above .40), sub-scales were constructed. In turn, the internal consistency of the emerging sub-scale was analyzed: Cronbach alpha values approaching .70 or higher were considered to be sufficient. When a sub-scale could not be constructed in one or more of the ethnic groups, its validity was considered to be insufficient from a cross-cultural point of view. Items that did not contribute to a scale were analysed as separate religious coping strategies. Prayer and church/mosque attendance were also analysed separately.

Next, mean scores on the religious coping sub-scales and items were computed for each ethnic group. To compare the levels of endorsement between the coping strategies (including one or up to five items), scores were divided by the number of items they were based on. The scores were compared between the groups using analysis of variance (ANOVA, testing the F statistic, and with post-hoc Bonferroni testing between groups).

Third, associations between the religious coping strategies and depressive symptoms were computed using linear regression analysis. The average levels of depressive symptoms are known to differ between the ethnic groups (Fassaert et al., 2009). To obtain an impression for the strength of net-associations in the complete sample, the depression scores were Z-scored within each ethnic group. As preliminary analyses showed that the main pattern of associations followed a linear course, full scores were used for each religious coping variable, instead of trichotomised scores. The associations were adjusted for effects by the sociodemographic variables and also for ethnicity, with ‘ethnic Dutch’ as reference group. In addition, product terms between ethnic group and each religious coping variable were included in the model. To avoid multi-collinearity between first-order terms and product terms, the product terms were formed by multiplying the centred (deviation from the mean) scores of both components (Aikin and West, 1991). Stratified analyses were carried out for the associations between the religious coping items and depressive symptoms within each ethnic group (also when no significant interaction was found). The level for statistical significance was determined to .05.

Finally, the associations between the religious coping items and either subthreshold depression or MDD were analysed using multinomial logistic regression analyses, with ‘no depression’ as the reference category. Odds ratios and 95% confidence intervals were computed for each religious coping variable. Again, results were adjusted for the effects of demographics and ethnic group. Interactions with ethnic group were not tested, as several cells contained too few respondents.
RESULTS

Sample characteristics
The characteristics of the sample are summarised in Table 2. In most ethnic groups, females participated more often than males. The Moroccan and the Turkish group were younger and had considerably lower levels of education than the other groups. Similarly, the income situation was worse for these groups (the Moroccans in particular) compared to the native Dutch, with people from SNA in between. As has been described elsewhere (Fassaert et al., 2009), the levels of depressive symptoms were higher among people from Morocco, and much higher among people from Turkey, compared to ethnic Dutch respondents. The Turkish respondents had by far the highest rate of MDD (de Wit et al., 2008).

With respect to religious denomination, the respondents of Dutch descent consisted of two groups: those without affiliation (two thirds, \( N = 202 \)), and those with a Christian affiliation (49 Roman Catholics, 29 Calvinist/Reformed, and 22 other denominations, mainly Calvinist). The majority of the Moroccan (\( N = 183, 96\% \)) and Turkish (\( N = 195, 92\% \)) respondents were Muslims. Most Muslims in the study belonged to the Sunnite tradition, although about one quarter of the Turkish respondents belonged to the Alevite and Hanefi traditions. In the SNA group, the majority of the respondents had a Christian religious denomination (\( N = 51, \) half Roman Catholic, half Protestant denominations), 9 were Muslim and 9 were Hindu (counted together as ‘Hindustans’), 9 had no affiliation, and 8 had other denominations.

Brief RCOPE psychometric characteristics in the ethnic subgroups
The internal consistency of the positive Brief RCOPE subscale (items 1-5) was good for native Dutch (Cronbach \( \alpha = .90 \)), Turkish (\( \alpha = .86 \)) and SNA respondents (\( \alpha = .89 \)), and sufficient among the Moroccans (\( \alpha = .71 \)). Within the ethnic groups, the validity of the positive Brief RCOPE may vary for each of the languages. Among the Moroccans, interviews were held in Dutch (\( n = 56 \)), Moroccan Arabic (\( n = 65 \)) or in Berber or mixed Berber/Arabic/Dutch (\( n = 52 \)). The internal consistencies of the positive Brief RCOPE subscale were lower in the Arabic translation (\( \alpha = .65 \)) and in the Berber or mixed translation (\( \alpha = .56 \)), compared to the application in Dutch (\( \alpha = .84 \)). Among the Turkish respondents, the majority was interviewed in Turkish (\( n = 166 \)), with an adequate internal consistency (\( \alpha = .83 \)).

The psychometric properties of the negative Brief RCOPE subscale were inconsistent across the ethnic groups. In exploratory principal component analyses, item 6 (punishment reappraisal) did not load on the negative religious coping dimension in any of the ethnic groups. For the remaining items (7-10), the internal consistency was insufficient in all groups (native Dutch \( \alpha = .29 \); Moroccans \( \alpha = .28 \); Turkish \( \alpha = .56 \), and SNA \( \alpha = .28 \)). Omitting other items did not improve the scale characteristics. Therefore, it was decided to treat items 6 to 10 as independent negative coping strategies.
Table 2 | Sample characteristics

<table>
<thead>
<tr>
<th>Variable [range]</th>
<th>Total sample Mean / rate (sd)</th>
<th>Dutch</th>
<th>Moroccan</th>
<th>Turkish</th>
<th>Surinamese/Antillean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>57%</td>
<td>59%</td>
<td>46%</td>
<td>59%</td>
<td>72%</td>
</tr>
<tr>
<td>Age (mean) [range 19-82]</td>
<td>51 (14.8)</td>
<td>54</td>
<td>49</td>
<td>47</td>
<td>52</td>
</tr>
<tr>
<td>Education (mean) [0-8]</td>
<td>3.8 (2.5)</td>
<td>4.8</td>
<td>2.5</td>
<td>3.0</td>
<td>4.7</td>
</tr>
<tr>
<td>Gross family income &gt; € 1350</td>
<td>60%</td>
<td>84%</td>
<td>32%</td>
<td>49%</td>
<td>65%</td>
</tr>
<tr>
<td>Depression score SCL-90 [0-64]</td>
<td>8.8 (11.5)</td>
<td>5.0</td>
<td>9.9</td>
<td>14.4</td>
<td>7.2</td>
</tr>
<tr>
<td>Standardised SCL-90 score [-1.0–5.4]</td>
<td>0.0 (1.00)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

No depression\(^b\) 72% 84% 70% 53% 77%
Subthreshold depression\(^b\) 20% 11% 24% 29% 21%
Major depressive disorder (CIDI)\(^b\) 8% 5% 6% 18% 2%

\(^a\) Variable coded as ‘family income > € 1350’ (shown), ‘≤ € 1350’, and ‘unknown’, pertaining to the non-response, which was 29% among Moroccans, against 10-14% in other ethnic groups.

\(^b\) Composite International Diagnostic Interview; N = 755; subthreshold depression defined as highest quartile of SCL depression scores (≥ 12) and no CIDI depression.
Positive and negative Brief RCOPE scores in the ethnic subgroups

As shown in Table 3, the mean scores on the positive religious coping subscale were considerably lower for the native Dutch compared to the three other groups. Diverse patterns were found for the distribution of the five negative religious coping strategies. Interpreting an event as a punishment by God (punishment reappraisal) was most prevalent among the Turkish respondents, directly followed by the Moroccans, whereas the native Dutch had very low scores. Turkish respondents also had higher scores for feeling abandoned by God (abandonment interpretation), compared to the native Dutch and the Moroccans, although the scores were generally low. The item scores on coping without God were highest among the native Dutch and lowest among the Moroccans. Scores on questioning whether God exists and expressing anger to God were somewhat higher for the ethnic Dutch, whereas the scores in both Muslim groups were very low. All ANOVA tests were significant, as well as most post-hoc testing. The rates of daily prayer and weekly religious attendance were very low among the native Dutch in Amsterdam, compared to the other ethnic groups, whereas Moroccans had the highest rates (Table 3).

Associations between religious coping and depressive symptoms

In the total sample, positive religious coping was not associated with depressive symptoms (Table 4). There was a significant product term with ethnicity: among the SNA respondents, positive religious coping was positively associated with depressive symptoms.

Most associations between the negative religious coping items and depressive symptoms were significant. Punishment reappraisal was positively associated with depressive symptoms, which pertained, as was clear from the product terms, in particular to the Moroccan and the SNA group. The abandonment interpretation showed the most consistent, positive association with depressive symptoms – the product terms with ethnicity were not significant. Within the native Dutch group, a significant interaction term was found for Roman Catholic affiliation (versus Protestant and non-affiliated) for the abandonment interpretation in the association with depressive symptoms ($\beta = -.13, P=.036$). Among non-church members, the association between punishment reappraisal and depressive symptoms was significant ($\beta = .28, P<.001$), as was the case among Protestants ($\beta = .50, P = .007$, adjusted for sex and age), but no association was found among Roman Catholics ($\beta = .04, P= .765$).

Coping without God was not associated with depressive symptoms in the total group, but there was a significant product term with ethnicity: coping without God was negatively associated with depressive symptoms in the SNA group. Questioning whether God exists and expressing anger at God both had modest, positive associations with depressive symptoms. There were no significant product terms with these two negative coping items.

As was demonstrated by significant product terms, daily prayer and weekly religious attendance were clearly negatively associated with depressive symptoms in the Moroccan group. Following a significant product term, there was a positive association between weekly religious attendance and depressive symptoms in the SNA group at trend level. However, it reached significance among those characterised as ‘Hindustan’ (either Muslim or Hindu, $N = 18$; $\beta = .56, P = .031$, adjusted for education).
Table 3 | Scores on religious coping (Brief RCOPE) and religious behaviour by ethnicity.

<table>
<thead>
<tr>
<th></th>
<th>Total sample</th>
<th>Dutch</th>
<th>Moroccan</th>
<th>Turkish</th>
<th>Surinamese/Antillean</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>F=231 (&lt;.001) bc</td>
</tr>
<tr>
<td>Brief RCOPE [range 0–3]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive coping scale a</td>
<td>1.4 (1.1)</td>
<td>.4 (.7) MTS</td>
<td>2.0 (.7) D</td>
<td>2.1 (.8) DS</td>
<td>1.8 (1.0) DT</td>
<td></td>
</tr>
<tr>
<td>Negative coping separate items:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punishment reappraisal</td>
<td>.7 (1.0)</td>
<td>.1 (.2) MTS</td>
<td>1.0 (1.0) DT</td>
<td>1.4 (1.2) MDS</td>
<td>.7 (1.0) DT</td>
<td>F=110 (&lt;.001)</td>
</tr>
<tr>
<td>Abandonment interpretation</td>
<td>.3 (.7)</td>
<td>.1 (.4) T</td>
<td>.1 (.4) T</td>
<td>.7 (1.1) MDS</td>
<td>.3 (.8) T</td>
<td>F=30 (&lt;.001)</td>
</tr>
<tr>
<td>Coping without God</td>
<td>1.3 (1.2)</td>
<td>1.9 (1.2) MTS</td>
<td>.7 (1.0) DTS</td>
<td>1.0 (1.1) DM</td>
<td>1.2 (1.1) DM</td>
<td>F=49 (&lt;.001)</td>
</tr>
<tr>
<td>Question whether God exists</td>
<td>.5 (.9)</td>
<td>.8 (1.0) MT</td>
<td>.1 (.6) DS</td>
<td>.2 (.7) DS</td>
<td>.7 (1.1) MT</td>
<td>F=31 (&lt;.001)</td>
</tr>
<tr>
<td>Express anger at God</td>
<td>.2 (.6)</td>
<td>.3 (.7) M</td>
<td>.1 (.4) D</td>
<td>.2 (.6)</td>
<td>.3 (.6)</td>
<td>F=5 (=.001)</td>
</tr>
<tr>
<td>Daily prayer</td>
<td>50%</td>
<td>15% MTS</td>
<td>86% DTS</td>
<td>62% DM</td>
<td>60% DM</td>
<td>χ²=236, df 3(&lt;.001)d</td>
</tr>
<tr>
<td>Weekly religious attendance</td>
<td>32%</td>
<td>9% MTS</td>
<td>56% DTS</td>
<td>41% DM</td>
<td>35% DM</td>
<td>χ²=114, df 3 (&lt;.001)</td>
</tr>
</tbody>
</table>

a Divided by 5, i.e. number of items of positive coping scale, for comparison of mean scores on positive and negative religious coping strategies.

b Degrees of freedom: 3; 772.

c Post-hoc Bonferroni testing shows significant differences with: D - native Dutch; M - Moroccan; T - Turkish; S - Surinamese/Antillean.

d Paired χ² tests shows significant differences with: D - native Dutch; M - Moroccan; T - Turkish; S - Surinamese/Antillean.
Table 4 | Depressive symptoms on the SCL-90-R (Z-scores within ethnic groups): associations with religious coping (adjusted for age, gender, level of education, family income, and ethnic group) for the total sample and within each ethnic group.

<table>
<thead>
<tr>
<th>Brief RCOPE</th>
<th>Total sample</th>
<th>Interaction with ethnic group</th>
<th>Dutch</th>
<th>Moroccan</th>
<th>Turkish</th>
<th>Surinamese/Antillean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β (P)</td>
<td>(x = significant)</td>
<td>β (P)</td>
<td>β (P)</td>
<td>β (P)</td>
<td>β (P)</td>
</tr>
<tr>
<td>Positive coping scale</td>
<td>.04 (.387)</td>
<td>x</td>
<td>− .01 (.869)</td>
<td>.11 (.152)</td>
<td>.07 (.424)</td>
<td>.27 (.016) x</td>
</tr>
<tr>
<td>Punishment reappraisal</td>
<td>.14 (.001)</td>
<td>x</td>
<td>.10 (.076)</td>
<td>.26 (.001) x</td>
<td>.15 (.062)</td>
<td>.30 (.007) x</td>
</tr>
<tr>
<td>Abandonment interpretation</td>
<td>.20 (.000)</td>
<td>-</td>
<td>.19 (.001)</td>
<td>.31 (.000)</td>
<td>.27 (.000)</td>
<td>.09 (.430)</td>
</tr>
<tr>
<td>Coping without God</td>
<td>.01 (.884)</td>
<td>x</td>
<td>.06 (.326)</td>
<td>− .12 (.129)</td>
<td>.05 (.501)</td>
<td>− .30 (.006) x</td>
</tr>
<tr>
<td>Question whether God exists</td>
<td>.10 (.008)</td>
<td>-</td>
<td>.12 (.032)</td>
<td>.02 (.794)</td>
<td>.07 (.381)</td>
<td>− .04 (.705)</td>
</tr>
<tr>
<td>Express anger at God</td>
<td>.12 (.001)</td>
<td>-</td>
<td>.12 (.054)</td>
<td>.10 (.219)</td>
<td>.16 (.029)</td>
<td>.08 (.453)</td>
</tr>
<tr>
<td>Daily prayer</td>
<td>− .04 (.355)</td>
<td>x</td>
<td>.04 (.552)</td>
<td>− .22 (.008) x</td>
<td>− .04 (.632)</td>
<td>.10 (.390)</td>
</tr>
<tr>
<td>Weekly religious attendance</td>
<td>− .10 (.017)</td>
<td>x</td>
<td>− .06 (.315)</td>
<td>− .33 (.001) x</td>
<td>− .06 (.523)</td>
<td>.22 (.054) x</td>
</tr>
</tbody>
</table>

Results in bold: P < .050.

x: significant product term between religious coping variable and the ethnic group marked by ‘x’ (compared to the other three groups) in the same line; details on request.
Associations between religious coping, subthreshold depression and major depressive disorder

The results of the multinomial analyses are shown in Table 5. Positive religious coping was associated with a higher rate of subthreshold depression, but not with MDD. Punishment reappraisal and the abandonment interpretation were significantly associated with higher rates of subthreshold depression and MDD. Questioning whether God exists was associated with a higher rate of MDD, whereas expressing anger to God was associated with a higher rate on subthreshold depression. No significant associations could be demonstrated for coping without God, prayer, or religious attendance.

Table 5 | Associations between religious coping strategies (Brief RCOPE) and subthreshold depression (highest quartile SCL depression score, ≥ 12) and major depressive disorder (CIDI diagnosis MDD, one-month recency); results from multinomial logistic regression in the complete sample, adjusted for age, gender, level of education, family income and ethnic origins (Dutch, Moroccan or Surinamese/Antillean versus Turkish).

<table>
<thead>
<tr>
<th>Brief RCOPE</th>
<th>Subthreshold depression:</th>
<th>Major depressive disorder:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR (95% CI)</td>
<td>Wald (P)</td>
</tr>
<tr>
<td>Positive coping scale (range 0-3)</td>
<td>1.42 (1.10-1.83)</td>
<td>7.4 (.006)</td>
</tr>
<tr>
<td>Negative coping items (range 0-3):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punishment reappraisal</td>
<td>1.29 (1.05-1.59)</td>
<td>5.9 (.015)</td>
</tr>
<tr>
<td>Abandonment interpretation</td>
<td>1.54 (1.20-1.97)</td>
<td>11.6 (.001)</td>
</tr>
<tr>
<td>Coping without God</td>
<td>0.86 (0.72-1.03)</td>
<td>2.9 (.091)</td>
</tr>
<tr>
<td>Question whether God exists</td>
<td>1.00 (0.79-1.28)</td>
<td>0.0 (.983)</td>
</tr>
<tr>
<td>Express anger at God</td>
<td>1.37 (1.01-1.86)</td>
<td>4.1 (.042)</td>
</tr>
<tr>
<td>Daily prayer</td>
<td>1.36 (0.81-2.28)</td>
<td>1.4 (.241)</td>
</tr>
<tr>
<td>Weekly religious attendance</td>
<td>0.66 (0.40-1.11)</td>
<td>2.4 (.120)</td>
</tr>
</tbody>
</table>

Results in bold: P<.050.

* Reference group: SCL-90-R depression scores < 12 and no CIDI diagnosis on depression in the past month.

DISCUSSION

The current contribution focussed on types of religious coping and depression in four ethnic groups of inhabitants of Amsterdam: native Dutch, Moroccan, Turkish, and Surinamese/Antillean. Religious coping was assessed with a ten item version of Pargament’s Brief RCOPE. The psychometric properties of the positive RCOPE subscale, which assesses supportive aspects of religious faith in times of adversity, proved to be good in all the ethnic subsamples. The five items on negative religious coping, however, did not constitute one clear dimension across the subsamples and were therefore considered as to represent separate religious coping strategies. Whereas the 7-item negative Brief RCOPE disposes of a good internal consistency in several studies (e.g. Pargament et
al., 1998; Fitchett et al., 2004, and Ai et al., 2003 in a Muslim sample) and sufficient consistency in a Pakistani sample (Khan and Watson, 2006), the shorter versions show less consistency (Braam et al., 2008; Bosworth et al., 2003; Abu Raiya et al., 2008, in US Muslims). It remains a subject for further study whether the construct of negative religious coping should be replaced by, for example, those of punishment appraisal and religious struggle (Abu Raiya et al., 2008).

When comparing the mean scores on the religious coping strategies across the ethnic groups, a main feature is that positive coping was more often endorsed than the negative coping strategies in all ethnic groups, except in the native Dutch. Punishment reappraisal turned out to be the most prevalent negative religious coping strategy, especially among Turkish and Moroccan respondents. Feeling abandoned by God, which can be considered as a fairly critical state of mood towards God, was highest among Turkish respondents, and was therefore not denied by the Turkish Muslim respondents. Historically, Turkey is known to have gone through a larger degree of secularisation and modernisation than Morocco. This may explain a tendency among the Turkish respondents towards more openness about critical religious feelings. The scores for doubting the existence of God and expressing anger to God were however minimal among both Turkish and Moroccan Muslims. These critical expressions towards Allah possibly evoked the fear that the interviewer would regard the respondent as a non-true Muslim. With generally very low scores for negative religious coping among the Moroccan respondents (accustomed to a ‘we-culture’), this type of responses may have occurred. With respect to the native Dutch, it should be emphasized that Amsterdam is by and large a secularised city. The rates of church-attendance and daily prayer were about twice as low as compared to national figures in the Netherlands (Bernts et al., 2007). This may also explain that the component of doubt seems to be particularly pronounced among the native Dutch in the current Amsterdam sample. Additional analyses showed that these rates of doubt did not differ between the native Dutch who were church members and those who were not affiliated to a church.

Positive religious coping was only associated with depression at the subthreshold level, but not with depressive symptoms or with MDD. This finding is in contrast with the literature (Smith et al., 2003; Ano and Vasconcelles, 2005), by and large covering studies from the US. One explanation for a positive, cross-sectional association between positive religious coping and depression may be sought in the process of coping over time. People intensify their religious coping behaviour in times of adversity, which is when depressive symptoms and other signs of distress develop as well. Resolution of the symptoms of distress may follow over time, and may possibly be facilitated by positive religious coping. In a study on prayer, Ai et al. (1998) described such a pattern among patients following cardiac surgery. The frequency prayer is closely related to positive religious coping: in the current study, the correlation between prayer and positive religious coping amounted to .66.

Four of the five negative coping strategies showed significant associations with depressive symptoms and depression in the total sample: punishment reappraisal, the abandonment interpretation, questioning the existence of God, and expressing anger to God. The most consistent finding, across all ethnic and demographic groups, pertained to the abandonment interpretation.
Substantial strength of associations between negative religious coping strategies and depressive symptoms are known from the literature (e.g. Koenig et al., 1998), although abandonment-by-God has not received so much emphasis. Normally, this item belongs to the religious coping dimension of religious or spiritual discontent, religious struggle, or religious alienation (Pargament et al., 2004). Because the current findings about the association between the abandonment interpretation and depressive symptoms pertain to largely secularised Dutch people as well as to fairly orthodox Muslims, the impression arises that this relationship reflects a universal trait.

Intuitively, the close association between the abandonment interpretation and depressive symptoms may be obvious. The strength of the association was sufficiently high in some subgroups to consider the abandonment interpretation even as a symptom of depression.

In clinical settings, patients do not often divulge religious feelings. Only in melancholic states, or states of profound anhedonia, patients incidentally refer to their feelings of religious or spiritual desolation (e.g. as has been noticed by William James, 1902; p. 146). According to Karl Jaspers (1959) who offered a major contribution to the clinical practice of examining signs of psychopathology, one of the abnormal feeling-states is the ‘feelings of having lost feeling’. This state can present with complaints of feeling empty, devastated, dead or estranged, or a subjectively felt void (p. 111). Jaspers also postulates that a state of being bereft of symbols (such as the perception of God’s will and love, which Jaspers considers as symbolic, p. 331) - leads to an impoverished psyche, freezing into nothing (p. 335).

The findings with respect to punishment reappraisal, questioning whether God exists and expressing anger to God were less consistent across groups than those pertaining to the abandonment interpretation. At least, one may conclude that awareness of personal insufficiency and expectations about punishment do not exclusively occur among Christians, but also among Muslims. The cultural diversity may be affected by styles and habits of expressing emotions. Showing feelings of hostility, for example, may be acceptable in one culture, whereas more reservation may be required in another culture.

Among the Moroccan respondents, there was a pronounced association between prayer and mosque attendance (especially among the males) and lower levels of depressive symptoms. This may relate to a belief among Moroccans that ‘mental health problems do not occur in good Muslims’, as has been recorded by Smits et al. (2005) in a qualitative study in Amsterdam. As with all other associations in the current cross-sectional study, the question of causality cannot be clearly addressed. Nevertheless, there is a chance that Moroccan people who experience depressive symptoms tend to refrain from prayer and mosque-attendance because of the subsequent hesitation whether to be a good Muslim. The opposite pattern was found among the Muslims and Hindus from Surinam (from Asian Indian or Pakistan descent), among whom mosque or temple attendance was associated with higher levels of depressive symptoms. Apparently, in this cultural sub-group, religious attendance may serve as an attempt of religious coping.

One limitation of the current study is that the response rates in the various groups were low. Although selective non-response has been sorted out for some relevant characteristics, the
question remains whether the results of the current study can be generalised to the entire ethnic sub-populations of Amsterdam. Nevertheless, in the study of religion and mental health in immigrant groups or in Muslim populations, population based samples are exceptional (Suhail and Chaudhry, 2004). More often, convenience samples have been used, or samples of respondents recruited on the Internet. The high dropout rate makes it uncertain whether figures on the prevalence of phenomena, e.g. religious coping strategies, can be extrapolated to the general population. It is however still possible to describe scale characteristics and patterns of associations among the phenomena observed, which are the major aims of the current study. Another limitation pertains to the sample size of the Surinam/Antillean group, which was relatively small compared to the other groups, so that relevant associations in this group had less chance to reach statistical significance. In several aspects, this group differed from the other groups in its pattern of associations, and this has been pointed out in the results, but the small size of the sample has lead to caution in the interpretation.

Furthermore, a limitation pertains to the translated items of the Brief RCOPE. The interviewers for the Moroccan respondents were bilangual or trilangual for Berber, Moroccan Arabic and Dutch, but were not always very fluently in reading Arabic. Therefore, the application of the RCOPE in Moroccan Arabic and Berber should be considered as provisional. Indeed, the internal consistency of the positive Brief RCOPE subscale was clearly lower for those who were interviewed in Arabic or Berber or both, than for those who were interviewed in the Dutch language. This point relates to the concern that the content validity of the brief RCOPE items may not be entirely sufficient to assess Islamic religious coping. The results of the Pakistan study by Khan and Watson (2006) reassure to a certain degree, but other religious coping strategies, derived from the Islamic ways of experiencing and practicing faith, may still have been missed using the current brief religious coping instrument, which was primarily designed for US citizens with a Christian or Jewish background. Recently, a new instrument for Islamic religiousness has been developed, including positive and negative religious coping scales (Abu Raiya et al., 2008), which offer opportunities for future research.

Although the current did not specify to users of mental health care, a possible implication for mental health care practice may be suggested. First, the frank response of the Muslims in the current study reveals that it is by and large feasible to discuss both the supportive aspects of religiousness and aspects of religious distress with Muslims, especially among Turkish Muslims. Second, the results show at least one pattern related to the experience of depressive symptoms seems to transcend cultural diversity, namely the notion of an existential void. Possibly, discussing the existential context of a depressive episode with patients who adhere to their religious life may facilitate the mutual understanding in the clinical relationship.

Acknowledgements

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