

Investigating a Relationship between Perceived Stress, Religious Coping, and Religiosity in Migrant Muslim Women

Nana-Fatima Ozeto* and Thérèse Allan†

Previous research has identified the heightened amount of perceived stress experienced by migrants in the West. Muslim women specifically may be at a greater exposure to perceived stress, easily being identified as different from others due to the observance of the hijab (Ahmed, 1992). However, Muslims in the UK generally have one of the lowest rates of accessing mental health services (Joint Commissioning Panel for Mental Health, 2014). Current research shows the positive role religion plays in managing perceived stress and the potential development of mental health difficulties. Few studies have been conducted on migrant populations and even fewer with female Muslim migrants. The current study aimed to investigate religiosity as a mediator of the relationship between religious coping and perceived stress in migrant Muslim women. It also aimed to investigate the relationship between perceived stress and migration. The results found religiosity to mediate the relationship between religious coping and perceived stress, that is, individuals with higher religiosity used religious coping and had lower perceived stress. However, there was no significant relationship between experiences of migration and perceived stress. These findings provide possible directions for mental health practitioners when working with clients from such backgrounds.

Keywords

Islam • migrants • Muslim women • perceived stress • religiosity • religious coping

Introduction

The last decade has seen the greatest increase in international migration across the globe (Triandafyllidou, 2018). The United Kingdom (UK) hosts the fifth largest migrant community globally, with over 9 million foreign-born residents (United Nations, 2017). The majority of the UK's migrant community are from non-EU countries, the highest being from Pakistan, Nigeria, Bangladesh, and South Africa (Migration Observatory, 2015). Muslims make up the second largest group of migrants based on religion (Apostolova & Hawkins, 2017).

*University of Southampton, nfto1u17@southamptonalumni.ac.uk

 <https://orcid.org/0000-0002-3173-7537>

†University of Southampton, t.allan@soton.ac.uk

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Migration in the context of this research is considered as the permanent or semi-permanent move of individuals from one place of residence to another (Bhugra & Ayonrinde, 2004). Previous research highlights the development of stress in the life of a migrant and the potential risk it plays in the development of mental health difficulties (Teodorescu, Heir, Hauff, Wentzel-Larsen, & Lien, 2012). According to the World Health Organisation (WHO; 2013), migrants are often exposed to displacement, difficulties in transit, dangerous travel, immigration uncertainty, and potential hostility which have great effects on stress levels. These stresses can occur at three stages of migration identified by Bhugra and Ayonrinde (2004), pre-migration, migration, and post-migration (also known as, settlement). Each of these stages may constitute factors that could lead to significant perceived stress in the life of a migrant.

The experience of perceived stress may differ depending on the reason for migration. In pre-migration stages, forced migrants may have been exposed to psychological trauma, physical torture, and adverse life events, which increase stress (Bhugra & Ayonrinde, 2004). Voluntary migrants may find the potential loss of social support, higher incidence of crime, and limited availability of employment in the potential host country to be stressful (Yijala, 2012; Tabor, 2010). During the process of migration, voluntary migrants have the advantage of planning to migrate which may significantly reduce potential stress (Ventriglio & Bhugra, 2015). However, for forced migrants, the process is often unplanned and many experience significant psychological trauma as they embark on a journey to safety in a foreign land. Some lose their lives or loved ones and others are scarred emotionally (Foster, 2001).

Settling into the host country could further expose a migrant to perceived stress; for some migrants, this may be a direct impact of the post-migration stage such as discrimination, culture shock/aculturative stress, immigration status, and lack of social and economic support (Li, 2015; George & Jetner, 2014; van der Ham, Ujano-Batangan, Ignacio, & Wolffers 2014; Yijala, 2012). For others, it may be due to trauma experienced during pre-migration and/or migration processes (Li, 2015). Constant exposure to stress leads to chronic perceived stress which is a risk factor for other mental health conditions such as depression and anxiety (Michl, McLaughlin, Shepherd, & Nolen-Hoeksema, 2013). Considering that most migrants leave their home countries to escape war, political instability, and generally to seek a better life, this stress can be counterproductive as it may mitigate the purpose of migration.

Discrimination may lead to increased perceived stress in migrants (Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). Muslims in the UK currently face the greatest social mobility restrictions, which have been attributed to discrimination (Stevenson, Demack, Stiell, Abdi, Clarkson, Ghaffar, & Hassan, 2017). Nearly half of the Muslim population in the UK (46%) live in Britain's most deprived areas; an increase from 33% in 2001. These areas offer poorer choices for education and health care and have higher crime rates. In England, such areas have been found to have a lower life expectancy with some areas as much as 10 years difference (Smith, Noble, Noble, Wright, McLennan, & Plunkett, 2015). Following the UK's EU referendum, 31 police forces across the UK found religious and racial aggravated crimes increased by 41%, when compared to the previous year (from 3,886 to 5,568; Corcoran & Smith, 2016). Goodwin and Milazzo (2017) found some individuals who voted to leave the EU were largely considered to be motivated by anti-immigration sentiment. This may lead to the perception of increased hostility toward migration. The Muslim community in Britain have also experienced an increase in religious aggravated attacks in the last decade (Mend, 2014). According to Tell MAMA (2018), a project that records anti-Muslim attacks across England, there were 1,201 reports of verified Islamophobic attacks between January and December 2017 with 61% of victims being women, 75% of those women wearing hijab.

The focus of this study is on the experience of migrant Muslim women. Chandra (2011) suggested female migrants have higher stress levels, which were attributed to being less likely

to assimilate in the host country. Migrant women are often viewed by their communities as the carriers of culture and traditions and are often expected to adhere to the gender roles expected of them in their home countries (AbdurRaqib, 2006). The migration of Muslim women to the West has been associated with family reunification, as in most cases, Muslim men are the first to migrate before their families join them abroad (Ferrero, 2018). Muslim women in the UK are more likely than all other women in the UK to be economically non-active. Muslim women disproportionately are full-time homemakers; 18% of Muslim women are recorded as looking after the home and family, compared to only 6% in the general population (Muslim Council of Britain, 2015). Low socioeconomic status (SES) has been demonstrated in the literature to have a significant effect on perceived stress levels (Algren, Ekhlom, Nielsen, Ersboll, Bak, & Anderson, 2018) and many migrant Muslim women fall into a low SES group. There is also a struggle with language, as the 2011 census, reported that 22% of Muslim women said they spoke English “not well” or “not at all” (Stokes, 2013). This may affect their ability to access health services, education, and work. Sullivan and Kasubeck-West (2015) found that difficulty with language was linked to higher stress. The challenges faced by female Muslim migrants may lead to increased stress and a greater increase in perceived stress. Perceived stress is the level at which an individual deems situations in their life to be stressful (Lazarus & Folkman, 1984). Perceived stress refers to the degree to which one identifies one’s life situation as stressful (Cohen, Kamarck, & Mermelstein, 1983).

Muslim women in Britain appear to be exposed to various risk factors that may lead to increased perceived stress. However, Muslims in the UK have one of the lowest rates of accessing mental health services (Joint Commissioning Panel for Mental Health, 2014). The reason why appears to be inconsistent across current research. Various studies have explored the role of stigma in preventing Britain’s Muslim community from accessing services (REACH Community Health, 2008; Knifton, 2012). However, the results of these studies are not representative of the diversity of Britain’s Muslim population. Other studies (Laird, Amer, Barnett, & Barnes, 2007) have tackled the disparities in health care systems and suggest Muslims do not necessarily have access to health care services. Such studies have also looked at discrimination within the health care system.

There is growing research on the role of religion in preserving good mental health. Ellison and Levin (1998) proposed the Religion-Health Connection theory which suggests that behavioral and psychosocial constructs of religion lead to positive mental and physical health outcomes. When exposed to stress, individuals often adapt means or strategies which could reduce how stress is perceived, known as ‘coping’ (Cohen, Kessler & Gordon, 1997). The research on coping and its positive effects on perceived stress is increasing, with investigation into methods of coping including meditation and mindfulness (Biegel, Brown, Shapiro, & Schubert, 2009). Recent research has explored the role religion plays in reducing perceived stress. It is possible that the use of religious coping may be a preventive measure used by female Muslims to reduce perceived stress. Further consideration of religious coping would be productive.

Lambert and Dolhaite (2006) define religiosity as “a person’s spiritual beliefs, religious practices, and involvement with a faith community”. Religious coping on the other hand, is defined by Pargament, Smith, Koenig and Perez (2000) as responses to stress that are spiritually and religiously based and, can be cognitive, behavioral, and interpersonal. Religious coping could be positive or negative. Positive religious coping is the expression of spirituality with self and others, connection with God, and the belief that there is a meaning to life. It may include benevolent religious appraisals, collaborative religious coping, seeking help from God, religious forgiveness, and support from clergy and members (Pargament et al., 2000). Negative religious coping, on the other hand, is described as the expression of a less secure attachment with God, an ominous view of the world, and a struggle in the search for

significance. Negative religious coping strategies often include passive religious deferral, spiritual discontent, appraisal of punishment from God, self-directing religious coping (seeking control through personal initiative), interpersonal religious discontent, and pleading for direct intercession (Pargament et al., 2000). Pargament and colleagues (2000) found positive religious coping to be associated with lower symptoms of psychological distress and higher levels of stress-related growth, while negative religious coping was associated with higher levels of depression and lower quality of life.

Eliassen, Taylor, and Lloyd (2005) found higher levels of stress in individuals with moderate religiosity compared to those who were highly religious. They attributed higher stress to individuals having difficulty in their understanding of, commitment to, and contentment with religion, possibly leading them to adopt negative religious coping strategies. Research has shown that for many people of faith, religion acts as a source of comfort in stressful times (Van Dyke & Elias, 2007; Pargament, 2002). Many studies have been conducted looking at the role of religious coping in managing or coping with stressful events. A meta-analysis of 49 studies with a total of 13,512 participants by Ano and Vasconcelles (2004) found that positive religious coping was significantly related to positive adjustment to stress. However, their analysis was based on a predominantly Christian population. Only 15% of the samples were from non-Christian faiths. Gardner, Kragehloh, and Henning (2013) explored religious coping, quality of life, and perceived stress in Muslim international students and local students in New Zealand and found that international Muslim students used more positive religious coping and had less perceived stress than local students.

Barhem, Younies, and Muhamad (2009) describe Islam as being a complete way of life. Many Muslims adopt the continuous remembrance of Allah, to deal with stressful life events (Mujahid, 2006). This is known as *'dhikr'* and constitutes supplication, recitation of the Qur'an, and praising God which are prescribed as methods to deal with stressful times. As stated in Qur'an 13: 28 (Oxford World's Classics edition) "truly it is in the remembrance of God that hearts find peace" and Qur'an 2: 286 (Oxford World's Classics edition), "God does not burden any soul with more than it can bear". It is evident that Islam aims to provide direction for its followers in dealing with distress and reducing perceived stress.

Although previous studies have explored the relationship between religiosity, religious coping, and stress, few have explored a relationship with 'perceived stress' or its impact on migrant Muslims. There appears to be a gap in the literature when looking toward the role religious coping and religiosity play in the perceived stress of migrant Muslims. Considering the growing hostility toward migrants, and Muslim migrant women specifically, who may be exposed to heightened stressful events. Thus, based on previous findings and the Religion-Health Connection theory by Ellison and Levin (1998), the current research investigates the relationship between migration and perceived stress. It further explores the mediating effect of religiosity on the relationship between religious coping and perceived stress in migrant Muslim women. The following are predicted:

1. There will be an association between migration and perceived stress.
2. Participants with higher religious coping will have lower levels of perceived stress.
3. Religiosity will mediate the relationship between religious coping and perceived stress.

Method

Participants were recruited for the study through a non-profit community organization, which provides support and advice to minority ethnic groups in an English city (population 250,000). The charity provides support to approximately 500 people through its community outreach

projects and 251 people through its support and advice center. Around 70% of center participants are women, two-thirds of whom are Muslim women (A. Sanneh, personal communication, May 11, 2018). Through the center, the researcher was able to recruit an ethnically diverse sample. Participants could only take part in the survey if they identified as Muslim women, were over the age of 18, and had been born outside the United Kingdom (UK). In return for completing the study, participants had a choice to enter a draw to win one of five £10 Amazon vouchers.

Participants

Forty-one women aged 18 to 57 years ($M=30.44$, $SD = 8.99$, $Mode =33$ years) were recruited. The majority of participants ($n=31$) had indefinite leave to remain (ILR) in the UK or were British citizens by naturalization; ten were temporary residents in the UK. The sample is a diverse representation of participants who accessed the charity for support with over half being of South Asian descent ($n=22$), Middle Eastern ($n=6$), West-African ($n=6$), East African ($n=6$), and North African ($n=1$). The majority of participants were married ($n=28$), eleven were single, one was divorced, and one was widowed. Most participants had received at least a secondary-school education ($n=30$), and many had children ($n=26$).

Only sixteen participants had previously lived in a different country other than their home country prior to migrating to the UK. Two had lived in other Western countries, twelve in non-Western countries, and two had lived in both other Western and non-Western countries. Over half of participants ($n=23$) had lived in the UK for at least five years, while eighteen had lived in the UK for fewer than five years.

Materials

Perceived Stress Scale

To measure the perceived stress of respondents, the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) was used. The Perceived Stress Scale measures the degree to which an individual views a certain situation as stressful. The scale is widely used and has demonstrated satisfactory reliability and validity in non-Western samples ($\alpha = .80$; $\alpha = .89$) (Almadi, Cathers, Mansour, & Chow, 2011; Mimura & Griffiths, 2008). The original scale is a 14-item questionnaire on a 5-point Likert scale (0- never through 4- very often). The ten-item shortened version (PSS-10) was used in the current study, with the total scores achievable on the perceived stress scale range from a minimum of 0 to a maximum of 40. Scores 0-13 indicate low perceived stress, 14-26 indicates moderate perceived stress, and 27-40 indicate high perceived stress.

The COPE Inventory

The COPE inventory (Carver, Scheier, & Weintraub, 1989) is a multidimensional scale assessing people's responses to stress. The COPE Inventory consist of fifteen subscales; the current study used the 'Religion' and 'Emotional Support' subscales. The religion sub-scale has had good reliability and validity when used for non-Western samples ($\alpha = .81$) (Yusoff, Low, & Yip, 2010). These subscales assessed the use of religion as a means of coping with distress. Each scale consisted of 11 items on a 4-point Likert scale (1- 'I usually don't do this at all' to 4- 'I usually do this a lot'). For the Religious subscale participants could score a minimum of 4 and a maximum of 16. For Emotional Support, participants could score a minimum of 7 and a maximum of 28. Overall, participants could have a minimum score of 11 and maximum score of 44. Scores on

all items are summed to give a total COPE score, which if high, indicates high religious coping and if low, indicates low religious coping.

The Centrality of Religiosity Scale

Religiosity was measured using the Centrality of Religiosity Scale (Huber & Huber, 2012). The scale measures the centrality and importance of religion to participants by measuring religious practices and engagement. The scale measures intellect, ideology, public practice, private practice, and experience of religion. It has been modified for use on the major world religions. It was developed in German and the scale has been translated into 19 different languages. This study made use of the 15-item English scale as it allows for the measurement of core dimensions of religiosity and has an excellent reliability when used in cross-cultural contexts ($\alpha = .96$; Huber & Huber, 2012). Responses are on a 5-point Likert scale (1- 'Not at all' to 5- 'very much'). To calculate centrality of religiosity, participants responses on each question is summed to produce a total score. Participants scores can range from a minimum of 15 to a maximum of 75. Higher scores indicate higher central religiosity, and lower scores indicate a lower central religiosity. If using grouping methods, each participant's total score is divided by number of questions on the scale to achieve an average score. Participants who score between 1.0-2.0 are considered 'not religious', 2.1-3.9 are considered 'religious', and 4.0-5.0 are considered 'highly-religious'. The centrality of religiosity is simply referred to as 'religiosity' throughout this paper.

To check reliability of the scales used with the current sample, the Cronbach's alpha of each scale was analyzed. For Religious coping, internal reliability was good ($\alpha = .86$), for Centrality of Religiosity reliability was excellent ($\alpha = .95$), and the Perceived Stress Scale also had an excellent reliability ($\alpha = .94$).

Procedure

The current study was granted ethical approval from the University of Southampton's Ethics and Governance Committee (ERGO). Data collection was conducted over the course of three months. Permission was granted by the community center for the study to be advertised to its service users. The researcher attended services provided by the charity where the study was verbally advertised to center participants. Those who wished to take part were provided with a participant information sheet, a consent form, and a four-part questionnaire (demographics, centrality of religiosity, perceived stress scale, and COPE inventory - a total of 48 questions), which were all paper-based. Five participants required assistance filling in questionnaires due to difficulty understanding the wording of some questions and, this assistance was provided by volunteers at the center. After completion of the questionnaire, participants were provided with a debrief sheet.

Statistical Analysis

Descriptive statistics were conducted on all measures. Cronbach's alpha was used to test reliability and validity of all scales. A one-way ANOVA was used to test for the effect of migration on perceived stress. This was calculated individually for time spent in the UK, migration status, and whether participants had lived in another country other than the UK and their home country.

To test the main hypothesis of whether the relationship between religious coping and perceived stress was mediated by religiosity, a mediation analysis was used. The mediation model proposed was done using PROCESS Macro.

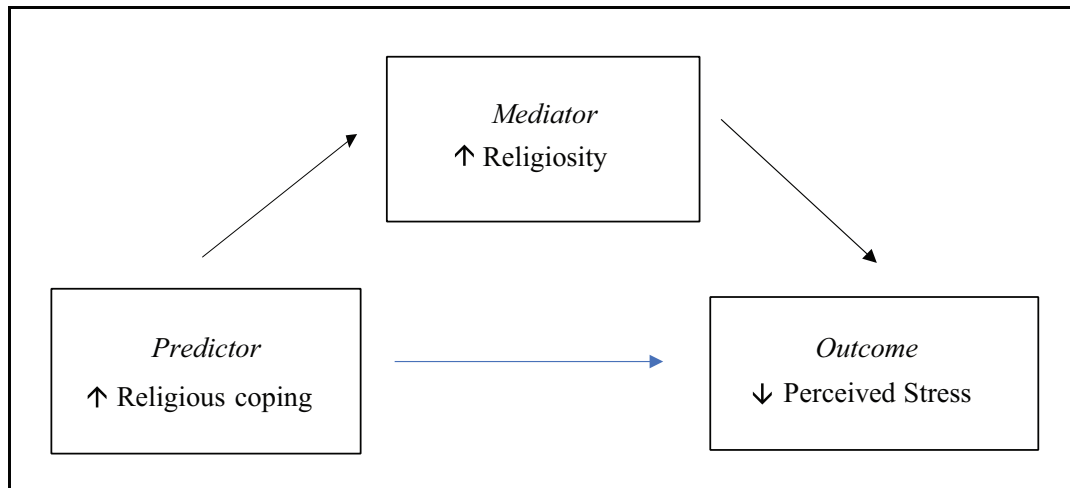


Figure 1. The proposed mediation model

Note. Figure 1 shows the proposed mediation model. It is predicted that there will be an indirect effect between religious coping and perceived stress when mediated by religiosity. The colored line indicates direct effect. Black lines indicate indirect effect as a result of mediation.

Mediation

The proposed mediation model was analyzed using PROCESS with bootstrapping.

Results

Migration and Stress

Tests of differences were used to investigate the relationship between participants' migration and total Perceived Stress scores. The assumption of independence was met and data was at the interval level. Due to having a small sample size, the Levene's test for homogeneity of variance was adopted and assumption of variance was met. Through the visual inspection of box plots, there were no outliers in the data and perceived stress scores across the groups seemed to slightly deviate from normality. However, the Shapiro-Wilks test was not significant, and as the deviations did not seem extreme from visual inspection, normality was assumed. Therefore, a one-way ANOVA was used.

Time in the UK and Perceived Stress

A one-way ANOVA was used to compare the effect of (IV) 'time in the UK' on (DV) 'perceived stress' in women who had lived in the UK for fewer than 5 years, and women who had lived in the UK for more than 5 years. There was no significant effect of time in the UK on perceived stress, $F(1, 39) = .017, p = .898$. This suggests that participants perceived stress did not differ based on the time they had spent in the UK.

Migration Status and Perceived Stress

A one-way ANOVA was conducted to compare the effect of (IV) 'migration status' on (DV) 'perceived stress' in women who had acquired British citizenship or indefinite leave to remain (ILR), and women who were in the UK on a temporary visa. There was no significant effect

Table 1. Mean and standard deviation of total perceived stress scores across migration groups.

Time in UK	Perceived Stress	
	Mean	Standard Deviation
Fewer than 5 Years	24.67	4.53
More than 5 years	22.11	5.99
<i>Lived in Other Countries</i>		
Yes	24.92	5.78
No	22.82	5.16
<i>Immigration Status</i>		
ILR/Citizenship	23.38	5.99
Temporary Visa	23.57	4.18

Note. The table above indicates the mean scores and standard deviation for perceived stress in participants migration groups.

of migration status on perceived stress, $F(1, 39) = 1.177, p = .285$, suggesting that participants perceived stress did not differ based on their migration status.

Previous Migration and Perceived Stress

A one-way ANOVA was conducted to compare the effect of previous migration on 'perceived stress' in women who had previously lived in a country other than their home country and the UK, and women who had only lived in their home country and the UK. There was no significant effect of previous migration on perceived stress, $F(1, 39) = .567, p = .456$. This suggests that participants perceived stress did not differ based on whether they had previously lived in a country other than their home country and the UK.

When comparing the type of countries participants had previously migrated to, there was no significant difference between total perceived stress of participants who had previously lived in Western, non-Western countries, or those who had previously lived in both, $F(2, 13) = 2.384, p = .131$. In general, perceived stress scores did not differ across participants' migration status, time in the UK, or previously migrating to other countries before the UK.

Religious Coping, Perceived Stress and Religiosity

Data was explored to check if it met assumptions for correlational analysis. Visual inspections of scatterplot indicated a linear relationship between variables. There were no univariate outliers and the plots showed absence of bivariate outliers as assessed using Mahalanobis distance. Measures in the study were assumed to be independent. Histograms showed that religiosity, perceived stress, and religious coping scores were not distributed normally across participants. The Shapiro-Wilks tests for all variables were significant further suggesting deviations from normality. However, further analysis involved bootstrapping which is robust to problems with normality.

Mediation Analysis

A mediation analysis was carried out using PROCESS Macro v3.1 (Model 4; Hayes 2013) to test whether religiosity mediated the effect of religious coping on perceived stress. The total

Table 2. The mean and standard deviations of perceived stress, religious coping, and religiosity.

Religiosity Groups	Perceived Stress		Religious Coping	
	Mean	Standard Deviation	Mean	Standard Deviation
Religious	30.85	6.64	32.23	6.56
Highly Religious	14.04	7.42	39.18	3.93

Note. The table above shows means and standard deviations of participants’ perceived stress and religious coping scores based on religiosity groups.

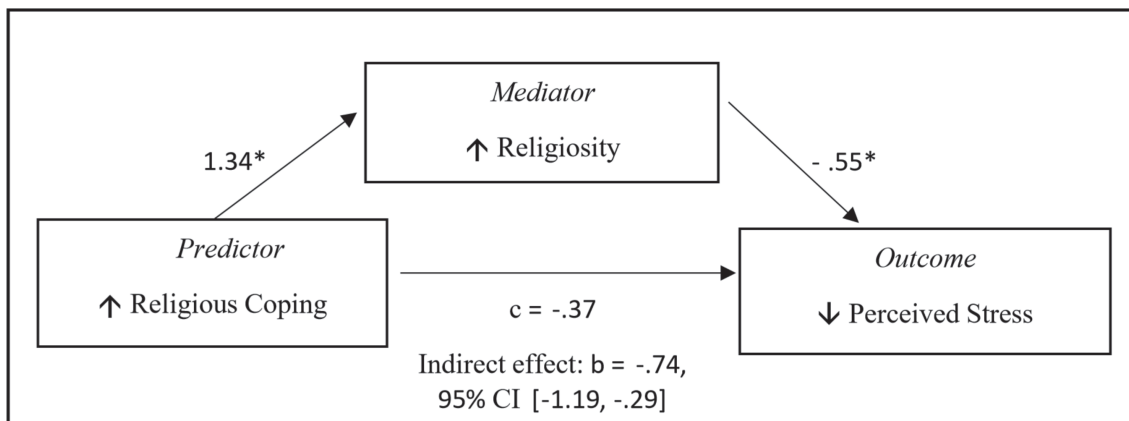


Figure 2. The mediation model

Note. Figure 2 shows the relationship between religiosity and perceived stress, showing unstandardized regression coefficients. * $p < .001$. 95% confidence interval are bootstrapped based on 1000 resamples. C stands for of the direct effect mediator.

effect of religious coping on perceived stress was negative and significant, $F(1, 39) = 22.73$, $p < .001$, $R^2 = .37$, $b = -1.11$, $SE = 0.23$, 95% CI $[-1.58, -.64]$; the higher religious coping participants reported, the lower the perceived stress. There was a significant positive relationship between religious coping and religiosity, $F(1, 39) = 34.02$, $P < .001$, $R^2 = .47$, $b = 1.33$, $SE = .23$, 95% CI $[.87, 1.80]$. This suggests that the higher religious coping participants reported, the higher degrees of religiosity. The relationship between religiosity and perceived stress was negative and significant, $b = -0.55$, $SE = .14$, 95% CI $[-0.83, -0.27]$, suggesting that higher religiosity rates reported lower perceived stress. There remained a significant negative relationship between religious coping and perceived stress, $F(2, 38) = 23.64$, $p < .001$, $R^2 = .55$, $b = -.55$, $SE = 0.14$, 95% CI $[-.83, -0.27]$, when controlling for the mediator, religiosity. However, when the effect of religiosity was removed, the relationship between religious coping and perceived stress was no longer significant, $b = -.37$, $SE = .27$, 95% CI $[-.92, .18]$. This suggests that the effect of religious coping was fully mediated by religiosity. To check if the indirect effect was significant, bootstrapping estimation with 1000 samples was used. As the confidence intervals did not cross 0, the results showed significant indirect effect, suggesting that use of religious coping may affect levels of perceived stress via religiosity, $b = -.74$, $\beta = 0.40$, bootstrapped $SE = .23$, bootstrapped 95% CI $[-1.19, -0.29]$. Overall, religious coping and religiosity explained 55% of the variance in perceived stress.

Discussion

The current study aimed to examine religiosity as a mediating factor between religious coping and stress. It also aimed to investigate the relationship between migration and perceived stress. The findings suggest that there was no significant association between migration and perceived stress in migrant Muslim women. There was no significant difference between participants' migration status, participants time in the UK, or participants' migration history and their level of perceived stress. These findings did not support the hypotheses regarding these relationships. However, the findings do support the prediction that religiosity will mediate the relationship between religious coping and perceived stress. The results show that higher levels of religious coping were associated with lower levels of perceived stress, and this relationship was mediated by religiosity.

The non-significant effect of migration on perceived stress is interesting as this differs from previous findings (Li, 2016). However, these non-significant findings could be attributed to various factors such as, the migration status of participants. The majority of participants (n=31) had acquired British citizenship by naturalization or had indefinite leave to remain, while others had a valid visa that permitted them to reside in the UK. This may have contributed to lower levels of perceived stress, as research highlights an increase in distress in migrants who have uncertainty over their immigration status (George & Jettner, 2014).

Individuals from South and Central -Asian backgrounds specifically, Afghanistan and Pakistan – are among the top five nationalities seeking asylum in the UK (Home Office, 2017) and over half the present sample (n=22) were from those two countries. Porter and Haslam (2005) found that refugees generally have significantly reduced distress compared to voluntary migrants after arrival in their host country. According to George and Jettner (2014), this is especially true for those who migrate to Western countries, where they are provided with avenues to gain permanent residence over time. This may account for lower levels of perceived stress in the present sample. However, this is only speculation as the current research did not address this issue.

The government of the United Kingdom may appear to be more accepting toward Muslims compared to other countries where face coverings and hijab have been banned or travel restrictions imposed on individuals from Muslim countries (Foster, 2016; Siddique, 2017). Most of the Muslim population in the UK (73.3%), have British citizenship and consider being British their national identity (Muslim Council of Britain, 2015). Advocacy for the protection of Muslims from Islamophobic crimes in the UK is emphasized by organizations such as MEND and TellMAMA. Police in various cities in the UK urge Muslims to report any form of Islamophobic attacks (Milman, 2014). Although Muslims are exposed to various risk factors, it appears the Muslim population in Britain receives higher levels of support when compared to other Western countries and this may help reduce the perception of stress.

A complete mediation effect of religiosity on the relationship between religious coping and perceived stress was found. With higher religious coping, participants had lower perceived stress, which was mediated by participants religiosity. These findings are consistent with previous findings (Carpenter, Laney, & Mezulis, 2012; Gardner, Krageloh, & Henning, 2013). According to Eliassen, Taylor, and Lloyd (2005), the role religiosity plays in religious coping and stress may occur as a result of people who are more committed to religion, having a better understanding on how to positively use religious coping strategies. This may be true, as in the current study, when the effect of religiosity was removed, there was no longer a relationship between religious coping and perceived stress. This may indicate that participants generally adopt religious coping to deal with perceived stress, but only those who had higher religiosity had significantly lowered perceived stress.

The current findings lend support to the Religion-Health Connection theory (Ellison & Levin, 1998) as there appears to be an association between religiosity and low levels of perceived

stress. However, the study does not show whether participants' lower perceived stress was an effect of higher religiosity in migrant Muslim women. It only highlights an association between religious coping, religiosity, and perceived stress.

Although this research has achieved its aims, there were certain limitations experienced. First, the time limit did not allow for the adequate recruitment of a larger sample size. In addition to this, the researcher faced extreme difficulty recruiting participants, as many women did not fully understand the concept of research. This may have resulted from a language barrier, as although some women could understand and communicate in English, they struggled with understanding some of the questions on the scales and required assistance to complete them. Although the scales have been shown to have cross-cultural validity, such studies were from Japanese and Arab populations. The immigration background of participants is also unknown and this is a key limitation. The majority of participants had acquired permanent residency in the UK. Consideration of their initial status may further shed light on the role migration status has on perceived stress. Future research may also consider investigating post-traumatic growth in British Muslims with permanent residence who are from refugee and asylum-seeking backgrounds.

To address these limitations future research should consider the role of religious coping in mental health by adopting scales related to a broad range of mental health disorders, which may help address the link between perceived stress and mental health. It may be useful for future research to investigate differences in levels of perceived stress between male and female migrants. Although research suggests women are more prone to higher levels of stress, there is research suggesting men may also experience high levels of stress but are less likely to report it (Antonucci & Akiyama, 1987). Future research may also compare perceived stress between migrants and non-migrants.

This study showed no association between migration and stress, but it is also important to note that we cannot say levels of stress have improved as there is no data from participants prior to migration. Although it may be very difficult to conduct, a longitudinal study may best help ascertain the experience of stress at each stage of migration. A qualitative study may also help acquire more information on the experiences of the migration process in migrant Muslim women.

Religion appears to play a role in perceived stress and may be used in the action stages of therapy and a means to support service users. Meer and Mir (2014) found when behavioral activation was religiously adapted to meet the needs of Muslims with depression, there was improved therapy outcomes. The study's participants were able to better understand their difficulties and were able to adapt ways of dealing with difficulties based on their values. Work is also being done by various mental health organizations in the UK, such as Mind and Inspired Minds to raise awareness and provide access to faith-based mental health support for Britain's Muslim population (Mind Charity, 2013; "Inspired Minds", n.d). The current findings have important implications; apart from expanding the current understanding of stress and religion, they further provides additional knowledge to mental health practitioners when working with Muslim migrants.

References

- AbdurRaqib, S. (2006). Hijab scenes: Muslim women, migration, and hijab in immigrant Muslim literature. *Multi-Ethnic Literature of the United States*. 31(4), 55–70. <https://doi.org/10.1093/melus/31.4.55>
- Algren, M., Ekholm, O., Nielsen, L., Ersbøll, A., Bak, C., & Andersen, P. (2018). Associations between perceived stress, socioeconomic status, and health-risk behaviour in deprived neighbourhoods

- in Denmark: A cross-sectional study. *BMC Public Health*, 18(1):250. doi:10.1186/s12889-018-5170-x
- Almadi, T., Cathers, I., Hamdan Mansour, A., & Chow, C. (2011). An Arabic version of the Perceived Stress Scale: Translation and validation study. *International Journal of Nursing Studies*, 49(1), 84–89. doi:10.1016/j.ijnurstu.2011.07.012
- Ahmed, L. (1992). *Women and gender in Islam: Historical roots of a modern debate*. New Haven: Yale University Press.
- Ano, G., & Vasconcelles, E. (2004). Religious coping and psychological adjustment to stress: A meta-analysis. *Journal of Clinical Psychology*, 61(4), 461–480. doi:10.1002/jclp.20049
- Antonucci, T., & Akiyama, H. (1987). An examination of sex differences in social support among older men and women. *Sex Roles*, 17, 737–749. doi:10.1007/bf00287685
- Apostolova, V., & Hawkins, O. (2017). *Migrant population of the UK* (Commons Library Briefing No. CBP8070). London: House of Commons Library.
- Barhem, B., Younies, H., & Muhamad, R. (2009). Religiosity and work stress coping behavior of Muslim employees. *Education, Business and Society: Contemporary Middle Eastern Issues*, 2(2), 123–137. doi:10.1108/17537980910960690
- Bhugra, D., & Ayonrinde, O. (2004). Depression in migrants and ethnic minorities. *Advances in Psychiatric Treatment*, 10(1), 13–17. doi:10.1192/apt.10.1.13
- Biegel, G., Brown, K., Shapiro, S., & Schubert, C. (2009). Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial. *Journal of Consulting and Clinical Psychology*, 77(5), 855–866. doi:10.1037/a0016241
- Carpenter, T., Laney, T., & Mezulis, A. (2012). Religious coping, stress, and depressive symptoms among adolescents: A prospective study. *Psychology of Religion and Spirituality*, 4(1), 19–30. doi:10.1037/a0023155
- Carver, C., Scheier, M., & Weintraub, J. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267–283. doi:10.1037//0022-3514.56.2.267
- Chandra, P. (2011). Mental health issues related to migration in women. In D. Bhugra & S. Gupta (Eds.), *Migration and mental health* (pp. 209–219). Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511760990.018>
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A Global measure of perceived stress. *Journal of Health and Social Behaviour*, 24(4), 385. doi:10.2307/2136404
- Cohen, S., Kessler, R., & Gordon, L. (1997). *Measuring stress: a guide for health and social scientists*. New York: Oxford University Press.
- Corcoran, H., & Smith, K. (2016). *Hate crime, England and Wales, 2015/16*. London: Home Office.
- Eliassen, A., Taylor, J., & Lloyd, D. (2005). Subjective religiosity and depression in the transition to adulthood. *Journal for The Scientific Study of Religion*, 44(2), 187–199. doi:10.1111/j.14685906.2005.00275.x
- Ellison, C., & Levin, J. (1998). The religion-health connection: Evidence, theory, and future directions. *Health Education & Behavior*, 25(6), 700–720. doi:10.1177/109019819802500603
- Ferrero, L. (2018). Gendering Islam through migration: Egyptian women's gatherings in a mosque in Turin (Italy). *Contemporary Levant*, 3(1), 20–31. doi:10.1080/20581831.2018.1455350

- Foster, A. (2016, December 7). Where in the world are the burka and niqab banned? *Express*. Retrieved from <https://www.express.co.uk/news/world/652842/Burka-Niqab-Islamic-Face-veil-Ban-UK-Fine-France-Belgium-Netherlands-Europe-Muslim-dress>
- Foster, R. (2001). When immigration is trauma: Guidelines for the individual and family clinician. *American Journal of Orthopsychiatry*, 71(2), 153–170. doi:10.1037/0002-9432.71.2.153.
- Gardner, T., Krägeloh, C., & Henning, M. (2013). Religious coping, stress, and quality of life of Muslim university students in New Zealand. *Mental Health, Religion & Culture*, 17(4), 327–338. doi:10.1080/13674676.2013.804044
- George, M., & Jettner, J. (2014). Migration stressors, psychological distress, and family—a Sri Lankan Tamil refugee analysis. *Journal of International Migration and Integration*, 17(2), 341–353. doi:10.1007/s12134-014-0404-y
- Goodwin, M., & Milazzo, C. (2017). Taking back control? Investigating the role of immigration in the 2016 vote for Brexit. *The British Journal of Politics and International Relations*, 19(3), 450–464. doi:10.1177/1369148117710799
- Hayes, A. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis*. New York: Guildford Press.
- Home Office. (2017). *Statistical news release: Immigration Statistics*. Home Office. Retrieved from <https://www.gov.uk/government/statistics/immigration-statistics-july-to-september-2017>
- Huber, S., & Huber, O. (2012). The Centrality of Religiosity Scale (CRS). *Religions*, 3(3), 710–724. doi:10.3390/rel3030710
- Inspired Minds. (n.d). *Who we are?* Inspired Minds. Retrieved from: <https://inspiredminds.org.uk/about-us/who-we-are/>
- Joint Commissioning Panel for Mental Health. (2014). *Guidance for commissioners of Mental health services for people from black and minority ethnic communities* [PDF]. Retrieved from <http://wcn.co.uk/wp-content/uploads/2016/11/JCP-BME-guide-May-20141.pdf>
- Knifton, L. (2012). Understanding and addressing the stigma of mental illness with ethnic minority communities. *Health Sociology Review*, 21(3)287–298. doi:10.5172/hesr.2012.21.3.287
- Laird, L., Amer, M., Barnett, E., & Barnes, L. (2007). Muslim patients and health disparities in the UK and the US. *Archives of Disease in Childhood*, 92(10), 922–926. doi:10.1136/adc.2006.104364
- Lambert, N., & Dollahite, D. (2006). How religiosity helps couples prevent, resolve, and overcome marital conflict. *Family Relations*, 55(4), 439–449. doi:10.1111/j.1741-3729.2006.00413.x
- Lazarus, R., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Li, M. (2015). Pre-migration trauma and post-migration stressors for Asian and Latino American immigrants: Transnational stress proliferation. *Social Indicators Research*, 129(1), 47–59. doi:10.1007/s11205-015-1090-7
- Meer, S., & Mir, G. (2014). Muslims and depression: The role of religious beliefs in therapy. *Journal of Integrative Psychology and Therapeutics*, 2(2). doi:10.7243/2054-4723-2-2
- Mend. (2014). *In Focus: EU Fundamental Rights Agency and anti-Muslim hate crimes (2014)* [eBook]. Muslim Engagement and Development. Retrieved from https://www.mend.org.uk/wp-content/uploads/2017/03/Infocus_FRA110414_report.pdf
- Michl, L., McLaughlin, K., Shepherd, K., & Nolen-Hoeksema, S. (2013) Rumination as a mechanism linking stressful life events to symptoms of depression and anxiety: Longitudinal evidence

- in early adolescents and adults. *Journal of Abnormal Psychology*. 122(2):339–352. doi:10.1037/a0031994
- Migration Observatory. (2018). *Migrants in the UK: An Overview – Migration Observatory*. Retrieved September 1, 2018, from <https://migrationobservatory.ox.ac.uk/resources/briefings/migrants-in-the-uk-anoverview/#kp1>
- Milman, O. (2014, September, 26). Muslims urged to report Islamophobic attacks to police amid growing tension. *The Guardian*. Retrieved from <https://www.theguardian.com/world/2014/sep/26/muslims-urged-to-report-islamophobic-attacks-police>
- Mind. (2013). *Our work with Muslim communities*. Retrieved from <https://www.mind.org.uk/about-us/our-policy-work/equality-and-human-rights/our-work-with-muslim-communities/>
- Mujahid, A. (2006). *25 Ways to Deal with Stress and Anxiety*. Retrieved from <http://www.everymuslim.co.za/25-ways-to-deal-with-stress-and-anxiety/>
- Muslim Council of Britain. (2015). *British Muslims in Numbers*. London: The Muslim Council of Britain. Retrieved from http://www.mcb.org.uk/wpcontent/uploads/2015/02/MCBCensusReport_2015.pdf
- REACH Community Health Project. (2008). *Mental health issues amongst Muslim women residing in South East Glasgow community health and care partnership boundary: A study of their beliefs, knowledge and service access issues*. Glasgow: REACH Community Health Project. Retrieved from <https://www.reachhealth.org.uk/elibrary/1465283925BME%20mental%20health%20research.pdf>
- Pargament, K. (2002). The Bitter and the Sweet: An Evaluation of the Costs and Benefits of Religiousness. *Psychological Inquiry*, 13(3), 168–181. doi:10.1207/s15327965pli1303_02
- Pargament, K., Koenig, H., & Perez, L. (2000). The many methods of religious coping: Development and initial validation of the RCOPE. *Journal of Clinical Psychology*, 56(4), 519–543. doi:10.1002/(sici)1097-4679(200004)56:4<519::aid-jclp6>3.3.co;2-t
- Porter, M., & Haslam, N. (2005). Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons. *JAMA*, 294(5), 602–612. doi:10.1001/jama.294.5.602
- Sellers, R., Caldwell, C., Schmeelk-Cone, K., & Zimmerman, M. (2003). Racial Identity, Racial Discrimination, Perceived Stress, and Psychological Distress among African American Young Adults. *Journal of Health and Social Behavior*, 43(3), 302–317. doi:10.2307/1519781
- Siddiqui, S. (2017). Trump signs 'extreme vetting' executive order for people entering the US. *The Guardian*. Retrieved from <https://www.theguardian.com/us-news/2017/jan/27/donald-trump-muslim-refugee-ban-executive-action>
- Smith, T., Noble, M., Noble, S., Wright, G., McLennan, D., & Plunkett, E. (2015). *English indices of deprivation 2015*. Department for Communities and Local Government. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/464597/English_Indices_of_Deprivation_2015_-_Research_Report.pdf#:~:text=The%20English%20Indices%20of%20Deprivation%202015%20is%20the,methodology%2C%20domains%20and%20indicators%20as%20the%20earlier%20Indices
- Stevenson, J., Demack, S., Stiell, B., Abdi, M., Clarkson, L., Ghaffar, F., & Hassan, S. (2017). *The Social Mobility Challenges Faced by Young Muslims*. London: The Social Mobility Commission.
- Stokes, P. (2013). 2011 Census: *Detailed analysis – English language proficiency in England and Wales: Main language and general health characteristics*. Office of National Statistics. Retrieved from

<https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/language/articles/detailedanalysisenglishlanguageproficiencyinenglandandwales/2013-08-30>

- Sullivan, C., & Kashubeck-West, S. (2015). The interplay of international students' acculturative stress, social support and acculturation modes. *Journal of International Students*, 5(1), 1–11.
- Tabor, A. (2010). *A framework for voluntary migration: Understanding modern British migration to New Zealand*. (Accession No. 10063/4500) [Master's thesis, Victoria University of Wellington]. Core.
- TellMAMA, (2018). *Tell MAMA's Annual Report for 2017 Shows Highest Number of Anti-Muslim Incidents*. TellMAMA. Retrieved from <https://tellmamauk.org/tell-mamas-annual-report-for-2017-shows-highest-number-of-anti-muslim-incidents/>
- Teodorescu, S., Heir, T., Hauff, E., Wentzel-Larsen, T., & Lien, L. (2012) Mental health problems and post-migration stress among multi-traumatized refugees attending outpatient clinics upon resettlement to Norway. *Scandinavian Journal of Psychology*, 53(4), 316–332. doi:10.1111/j.14679450.2012.00954.x
- Triandafyllidou, A. (2018). *Handbook of migration and globalization*. Northampton: Edward Elgar Publishing Limited.
- United Nations. (2017). *International migration report 2017: Highlights*. New York: United Nations. Retrieved from https://www.un.org/en/development/desa/population/migration/publications/migrationreport/docs/MigrationReport2017_Highlights.pdf
- van der Ham, A., Ujano-Batangan, M., Ignacio, R., & Wolffers, I. (2014). The dynamics of migration-related stress and coping of female domestic workers from the Philippines: An exploratory study. *Community Mental Health Journal*, 51(1), 14–20. doi:10.1007/s10597-014-9777-9.
- Van Dyke, C., & Elias, M. (2007). How forgiveness, purpose, and religiosity are related to the mental health and well-being of youth: A review of the literature. *Mental Health, Religion & Culture*, 10(4), 395–415. doi:10.1080/13674670600841793
- Ventriglio, A., & Bhugra, D. (2015). Migration, trauma, and resilience. In M. Schouler-Ocak (Ed.), *Trauma and Migration: Cultural factors in the diagnosis and treatment of traumatised immigrants*. Switzerland: Springer.
- World Health Organization. (2013). *Sustaining mental health care after emergencies*. Retrieved from http://www.who.int/features/2013/sustaining_mental_health/en/
- Yijälä, A. (2012). *Pre-acculturation among voluntary migrants*. [Unpublished doctoral dissertation]. University of Helsinki.
- Yusoff, N., Low, W., & Yip, C. (2010). Reliability and Validity of the Brief COPE Scale (English version) among women with breast cancer undergoing treatment of adjuvant chemotherapy: A Malaysian study. *Medical Journal Malaysia*, 65(1), 41–44.