


# Religious coping or coping with religion? Religious belief and practice during incarceration in German youth prisons

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## ABSTRACT

Prisoners' religiosity can be a helpful resource for a successful reintegration into society. Yet, the Christian-focused institutional concepts do not meet the religious needs of Muslims. We assumed that Muslim inmates would find strategies to deal with this lack of religious opportunity structure and postulated that the association between religious practice and belief would change over time. We chose a multi-method approach and collected data of 766 Christian and Muslim inmates from four different youth prisons on religious belief and practice via questionnaires and interviews. Qualitative data illustrates how Muslim inmates experience inequality when it comes to practicing their religion. Religious practice and time served was found to predict religious belief. Time served moderated the association between religious belief and practice. Steeper slopes for Muslims with longer time spent in prison indicated two different coping styles: 'engage' and 'retreat'. However, inmates favored 'retreat' over 'engage'. Further research on Muslims' religious coping mechanisms is needed to build an understanding of religiosity as a resource during and after incarceration.

## KEYWORDS

opportunity structures;  
strain; religiosity; Muslim;  
youth prison

## Introduction

Despite the secularization of the Western world and the declining influence of the Christian church, a considerable part of society still finds support in religion and religious communities. This is particularly true for young Muslims in Europe whose religiosity surpasses that of Christians (Albert et al., 2019; Brettfeld & Wetzels, 2007; Schweitzer et al., 2018; Connor, 2010; Drouhot, 2021; Foner & Alba, 2008; Leszczensky et al., 2020). The underlying mechanisms are manifold. For one, the disadvantages that

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come with a migration background culminate in frequent experiences of discrimination (Drouhot, 2021; Foner & Alba, 2008). A heightened significance of religion can act as a compensatory mechanism and enhance self-esteem (Drouhot, 2021). Also, Islam is intertwined with Muslims' culture (Şahinöz, 2018). Muslims with a migration background are used to a high degree of religiosity from their home countries. Christians in Western Europe on the other hand live in a secular society that demonstrates skepticism toward religion (Foner & Alba, 2008). In sum, religion is a crucial source of social identification in Muslim adolescence in Western Europe (Leszczensky et al., 2020). Although it entails a certain vulnerability, a strong religious attitude can above all be an asset. In challenging times, it can provide comfort, unconditional acceptance, and hope for the future (e.g., Jang et al., 2018). Being in prison can be such a challenge. According to General Strain Theory (Agnew, 1992), the experience of strain can lead to negative emotions which one has to cope with, sometimes with illegitimate (e.g., violence) but more often with legitimate means (Jang, 2020). Reflecting on one's religion can be a helpful coping strategy, while coping is defined as 'cognitive and behavioral efforts to manage demands that are exceeding the resources of a person' (Lazarus & Folkman, 1984, p. 141). Ample evidence suggests that higher levels of religiosity decrease the probability of further delinquency in Muslim youths (Abu-Rayya et al., 2016; Beller et al., 2019; Bhutta & Wormith, 2016). A possible reason for this is that religious persons successfully deal with negative experiences by using positive religious coping mechanisms (e.g., seeking spiritual support from a counselor or other members of the religious community; Pargament et al., 2000). Religious coping is understood as the 'religiously framed cognitive, emotional, or behavioral response to stress, encompassing multiple methods and purposes' (Wortmann, 2013, p. 1647). However, religious coping in prison requires adequate structural premises and should not give additional reason to be or feel excluded. The German Prison Act as well as the federal juvenile detention laws state the right to exercise religion in prison. It is the cornerstone for adequate religious opportunity structures, understood as the provision of structures enabling individuals to practice religion (Diehl & Koenig, 2013). Today, incarcerated Muslims are no longer a minority. This is particularly true for juvenile prisoners (Stelly & Thomas, 2021). However, their religious needs do not fit the Christian-focused prison environment. Hence, Muslims find themselves in a disadvantaged position (Lutz et al., 2021). We assume the lack of opportunity structures and the resulting feeling of discrimination causes additional strain besides adjusting to prison life. With this paper, we examine prisoners' religious devotion over time and explore how Muslims cope with the lack of religious opportunity structures.

## Religious opportunity structures for Muslim prisoners

Between 2007 and 2019, there was an 47% increase in the Muslim prison population in England and Wales (Sturge, 2019); in one German youth prison the proportion of inmates with an Islamic affiliation rose from 27% in 2009 to 47% in 2019 (Stelly & Thomas, 2021). Similar developments have occurred in other European countries (Martínez-Ariño & Zwilling, 2020). However, religious opportunity structures for Muslims in juvenile prison are underdeveloped. To practice one's religion is a fundamental right that must also be granted in the prison context. Regardless of religious affiliation it is often misjudged as a free-time activity that can be offered if the inmates behave. Moreover, the structures of every 'new' religion introduced to the prison context would have to adapt to the structures of the Christian religion and must fit into the daily routine of prison life (Becci, 2015; Beckford, 2011). This can be quite difficult for certain practices (e. g., the fasting period during Ramadan or the changing times of the Friday prayer). In Belgium and the Netherlands, Muslim chaplains have been installed since the 2000s (Ajouaou & Bernts, 2015); in the UK, religious care for Muslims in prison has developed greatly since 2001 (Wilkinson et al., 2021). In Austria, the *Islamgesetz* in 2015 guaranteed religious care for Muslims (Reiss, 2020). Despite general possibilities for religious practice in Denmark, with Muslims representing 20% of the prison population, sufficient facilities (e.g., praying rooms) are missing (Christensen et al., 2020). Although the integration of Islam in prison varies across European countries, the institutions face similar challenges in providing adequate religious offers, such as implementing adequately trained Muslim chaplains (Martínez-Ariño & Zwilling, 2020).

A pilot study focusing on prisons in one federal state of Germany revealed a gross imbalance in chaplaincy personnel for Muslim and Christian inmates. Despite Muslims constituting up to 50% of the incarcerated population, Christian chaplains mainly carried out their spiritual counseling (Bartsch et al., 2017, 2018). In a study by Stelly et al. (2021), prison management from four different German youth prisons reported on the prisoners' opportunities for religious practice and counsel during incarceration. Religious artifacts such as prayer rugs and Korans were usually approved and provided by institutions or religious chaplains. However, in only one institution was the Friday prayer possible at the actual time given by Islamic rules. Halal food was only available through prisoner purchasing; otherwise, there was vegetarian or so-called 'Muslim food', a meal without pork. Generally, fasting during Ramadan was possible, although breaking the fast at night (*iftar*) happened alone in the cell. Religious festivals such as Eid ('Sugar Feast') only took place when organized by the Muslim community from outside. Only one institution offered a prayer

room; more common was the shared use of Christian church rooms. There was a clear discrepancy between Muslim and Christian chaplaincy. In the prison with the highest total number of Muslim prisoners, only one Muslim chaplain was present for eight hours per week. This was in contrast to usually two Christian chaplains who worked full-time at the prisons. Accordingly, Muslims felt less supported and more discriminated against in terms of practicing their religion (Lutz et al., 2021).

### **General strain theory and the lack of religious opportunity structures**

In his General Strain Theory (GST), Agnew explains delinquency as a reaction to negative emotions caused by strain. The strains come from relationships in which ‘the individual is not treated how he or she wants to be treated [...] preventing the individual from achieving positively valued goals’ (1992, pp. 48–49). Agnew’s GST was built on Merton’s anomie-and-opportunity-structures theory (Merton, 1995). The latter describes how structural constraints respectively a lack of opportunity structures can promote deviant behavior. In the following we understand opportunity structures as a provision of probabilities for individuals to attain desired objects according to Merton (1995) but on an individual level in line with Agnew’s GST approach. If opportunity structures are blocked for certain individuals, it reduces their chance of achieving positive valued goals causing structural strain and negative emotions. Those negative emotions ‘create pressure for corrective action, with crime being one method of coping’ (Agnew, 2013, p. 654). Agnew postulates different coping styles on a cognitive (rationalize and/or neutralize the strain), behavioral (seeking out positive stimuli or escape negative stimuli) and emotional level (mitigate the negative feeling, not the source of the feeling). All three coping styles can but do not necessarily lead to criminal action. Individuals would rather choose legitimate over illegitimate coping strategies if present and effective (Agnew, 2007) and if certain conditional factors are in place (e.g., self-esteem, social resources; Broidy, 2001).

### **Objectives**

Firstly, prior research indicates a higher importance of religion for Muslims than for Christians. It is yet unknown how this finding replicates in a prison environment. Secondly, religious opportunity structures for Muslim prisoners not only in Germany but in many European countries are underdeveloped. According to Diehl and Koenig (2013), religious opportunity structures support an individual’s need to practice one’s religion. In case these structures are available one can build and maintain a religious identity to achieve positively valued goals (e.g., ‘being a good Muslim’). A lack

of religious opportunity structures can however pose a strain that causes negative emotions. Impressions of being disadvantaged can produce frustration and anger (e.g., if Muslim chaplains visit only sporadically, while Christian chaplains are always at hand). To date there is little insight on how Muslims cope with this disadvantage and how it eventually affects their religious belief. According to Agnew (2013) and Wortmann (2013), Muslim prisoners would have different coping styles available to deal with their negative emotions. This study focuses on the behavioral coping style determined by religious practice during incarceration. In terms of religious coping mechanisms we mainly focus on seeking spiritual support, engaging in religious activities to shift focus from the stressor (e.g., praying) and spiritual connection (e.g., strengthening a spiritual connection with others; Pargament et al., 2000). Based on the well-established avoidance-approach distinction of coping (Roth & Cohen, 1986) we further assumed that Muslims could either avoid situations that are linked to the negative feelings (e.g., avoid joint prayers) which possibly leads to a decrease of religious belief over time ('retreat'). Or they embrace the opportunities they have to cope with the given strains through religious practice which most likely results in an increase of religious belief over time ('engage'). We postulate that religious practice positively predicts religious belief. However, because of the coping process the impact on religious belief through religious practice may differ across time served. Thus, we assume that the link between religious practice and belief is moderated by time served in prison. We want to use qualitative data from interviews with imprisoned young Muslims to illustrate how religious opportunity structures affect their everyday life.

## Hypotheses

The level of religious belief has been found to be higher for Muslims than for Christians in European countries outside of prison. We aimed to replicate those previous findings in an intramural sample.

Hypothesis 1: The level of religious belief is higher in the group of Muslims than in the group of Christians or people with no religious affiliation.

We assumed that for Muslims different dimensions of religiosity would be linked to one another as such as they reinforce each other positively.

Hypothesis 2: Muslims' religious practice is positively associated with religious belief.

The lack of religious opportunity structures poses a potential strain to Muslim inmates and can lead to negative emotions. Theory suggests different behavioral coping styles to deal with these emotions. We will test for a

‘avoid’ and ‘approach’ coping strategy and postulate two contradicting hypotheses:

Hypothesis 3a: Time served in prison is negatively associated with religious belief.

Hypothesis 3b: Time served in prison is positively associated with religious belief.

We further assume that if we incorporated *time served in prison* as a moderator, prediction of religious belief through religious practice will improve.

Hypothesis 4: Time served moderates the link between religious practice and belief.

## Method

### Measures

In a mixed-method design, we used paper-pencil questionnaires and conducted semi-structured interviews of the sample to obtain quantitative as well as qualitative data. The questionnaire contained 33 questions covering demographics, religious beliefs, religious practice, and religious counseling experience. Because of the language diversity in the sample, questionnaires were made available in German, Arabic, and English. Professional translators provided the translation, all three versions were double checked by personnel of the Center for Islamic Theology of the University of Tuebingen, with which we cooperated. The interview questions covered the same subjects as the questionnaire but gave the interviewer the opportunity to further explore certain responses. Definitions of religiosity can vary depending on the dimensions that are put in focus (Holdcraft, 2006). Glock and Stark (1965) offered a common definition with five dimensions, though Clayton and Gladden (1974) showed that 80% of the variance was accounted for by the ideological commitment – also known as ‘belief’. The authors defined it as ‘the degree of acceptance or nonacceptance of the traditional – and/or nontraditional – belief indigenous to the Ideology and the salience of those beliefs to his or her world view’ (p. 142). In our study, we operationalized two dimensions of religiosity: religious belief and religious practice.

### Dependent variable

#### Religious belief

The variable *religious belief* represents the mean of 10 items rated on a seven-point scale, with higher scores indicating greater importance. The items were taken from the scale ‘belief in God’ (Schweitzer et al., 2018). Authors confirmed a single-factor structure and high reliability (Cronbachs  $\alpha = .949$ ). The items were: ‘The belief in a God does not matter to me’,

'I believe in God', 'My connection to God is important to me', 'What I believe is for me to decide', 'Faith does not play a role in my everyday life', 'I try to follow the rules of my religion', 'In difficult situations, my faith in God helps me', 'I only believe what is scientifically proven', 'I stand by my faith' and 'I believe what I was taught as a child'. After omitting one item internal consistency was very good ( $\alpha = 0.91$ ).<sup>1</sup> Item discrimination was  $\geq .5$  for all items.

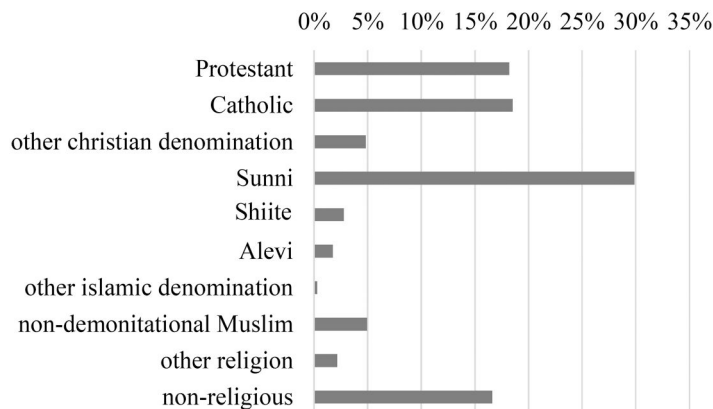
### **Independent variables**

#### **Religious affiliation**

The participants who provided information about their religious group were mostly Christian ( $N = 312$ , 41%) or Muslim ( $N = 312$ , 41%). Around 15% ( $N = 114$ ) stated they had no religious affiliation, and 2% ( $N = 16$ ) were from other religious groups (e.g., Yazidism). 686 participants provided information about their denomination (Figure 1). Most participants were Sunnis (29%), followed by Catholics (19%) and Protestants (18%).

#### **Religious practice during incarceration**

We measured the ritualistic dimension of religion, according to Glock and Stark (1965), which incorporates someone's religious practice. We used five items to measure religious practice during incarceration on a three-point scale. Participants rated according to their level of agreement: 'I meet with a priest/imam/other religious counselor', 'For religious reasons, I follow certain dietary or fasting rules', 'I celebrate the important religious holidays', 'I read the Koran/Bible/other holy scripture', 'I talk with my fellow inmates about religion and faith'. An additional item asked about the amount of prayer before and during incarceration ('How often do you



**Figure 1.** Distribution of the found denominational groups including no denomination and other religions ( $N = 686$ ).



pray?') on an eight-point scale (from 'never/almost never' to 'multiple times a day'). To incorporate all items into a single scale we normalized the data using a z-score transformation. To test the factorial structure of the scale we conducted a Principal Component Analysis.

### ***Time served in prison***

Participants provided information on the time they had already served within their current prison sentence (in months) at the time of data collection.

### ***Covariates***

We included several covariates into the analysis: age, education (1 = graduated from school; 0 = did not graduate), native country (1 = born in Germany, 0 = not born in Germany) and dummy variables to control for the prison institutions (Prison 1 to 3).

### ***Sample***

A total of 790 male prisoners from four different youth prisons in Germany participated in the study. 24 questionnaires did not meet the inclusion criteria. In the sample of  $N = 766$ , age ranged from 15 to 25 years ( $M = 20.0$ ;  $SD = 1.99$ ). Overall, the sample represents about one-fourth of all youth prisoners incarcerated in Germany at the time of data collection (28%). The sample included a total of 56 nationalities, with German (61%), Turkish (6%), Syrian (4%), and Afghan (3%) being the most common. Around 16% of the participants had dual citizenship; this usually meant participants held a second citizenship in addition to their German citizenship (71%). The group of 217 (25%) who were not born in Germany had a mean length of stay of  $M = 7.11$  years; of these, 123 (55%) had immigrated within the last five years, mostly from Syria, Afghanistan, Morocco, and Libya. We conducted interviews with 22 Muslim inmates who were selected by prison personnel, predominantly religious chaplains. The primary criterion for their inclusion revolved around the extent to which the inmates identified with Islam and the role religion played in their daily (prison) lives.

### ***Analytical approach***

To address our research objective we adopted a Mixed-Method approach including qualitative as well as quantitative data. Prior research indicates a lack of religious opportunity structures for Muslim inmates in German



youth prisons. With data drawn from qualitative interviews we aimed to illustrate how the absence of religious opportunity structures manifests among Muslims and the possible impact it has on their religiosity.

We then used a quasi-experimental *ex post facto* design, meaning certain qualities within the sample determined the independent variables (i.e., religious practice and time already served in prison). Preliminary analyses consisted of a) descriptive statistics and b) factor analysis of the complete sample. To test our hypotheses 2 and 3 we used the subsample of Muslim inmates. To test for differences between the means of the three religious groups we used ANOVA including the religious group membership as independent and religious belief as dependent variable. We conducted a multiple linear regression with ‘religious practice’ and ‘time served’ as predictors and ‘religious belief’ as criterion. We used hierarchical regression to estimate if adding the interaction term of the two predictors (‘religious practice’  $\times$  ‘time served’) would significantly improve the regression model. A moderation analysis using Hayes’s (2018) PROCESS macro in SPSS (29.0.0.) gave insight into the different slopes of the assumed interaction. We included demographic variables as covariates to rule out any confounding effects.

### Procedure

The survey took place inside the prisons, either by gathering groups of 15–20 people consecutively in a room or by going into the units where prisoners lived in groups of 7–10. All participants provided written informed consent prior to enrollment in the study. In one of the prisons, some participants answered the questionnaire by themselves in their cells. Questionnaires were mostly filled out in the presence of an investigator and/or student research assistant to help with comprehension problems or other questions. Student research assistants fluent in English, Arabic, Turkish, Farsi, French, or Romanian helped participants who were illiterate or could not speak German. As a result, we could achieve almost full participation (Table 1). Most participants were able to fill out the German version of the questionnaire (91%). The Arabic and English versions were used in 5% and 4% of the cases, respectively. Participants were given a bag of sweets worth 2.50€ as a compensation for their time and effort.

**Table 1.** Sample sizes in each of the participating prisons; percentage refers to total number of prisoners.

	Prison1	Prison 2	Prison 3	Prison 4	Total
Total number of prisoners	313	132	259	235	939
participants	284 (91%)	119 (90%)	191 (74%)	196 (83%)	790 (84%)
Valid questionnaires	279 (89%)	112 (85%)	190 (73%)	185 (78%)	766 (82%)

## Results

### *Qualitative findings on religious practice and chaplaincy*

From the qualitative interviews we drew how Muslim prisoners perceived the lack of religious opportunity structures. Furthermore, it showed which impact this had on their everyday life in prison. The qualitative interview data underlines the importance of religion for Muslim inmates. The interviewees generally reported that religion was crucial in their lives, which was also true before imprisonment. The time they spent in the cell by themselves made them think about their pasts and what led them to the current situation. They felt they must face their wrongdoings and mistakes from the past. The belief in a higher power, religion, and rituals helped them to keep themselves sane. They described faith as a helpful means for learning patience and accepting imprisonment as a temporary situation, after which they could return to society to begin a new phase of life. Religion, with its concept of a forgiving God who offers a safe harbor for life after prison. Furthermore, they saw a connection between practicing their faith and desistance.<sup>2</sup>

I noticed that, in the past, when I used to go to the mosque with my father and my family, and I was in Koran lessons and all kinds of things, I didn't mess up. And when I stopped doing those things, I always messed up. And now that I'm here again, now that I've come here, I've started to pray, and I've noticed that I'm getting on a straight path again. (Prison 4, juvenile #1)

Most of them reported that they were basically allowed to practice their religion in prison. However, they often remarked that they lacked a room in which they could practice communal prayer. In the institutions where a location is provided for communal services, they often saw it as unsuitable (e.g., a prayer room with glass doors).

So, we are given, frankly, a junk room where one prays. Not even on holy days. They say that in the church, prayer on Sundays is sacred, and it is offered on Sundays. And, of course, the offer is not much greater for Christians, but it is a bit greater than for us. (Prison 2, juvenile #3)

They also saw a lack of personnel providing religious counsel.

The imam too, for example, if he can't come or is absent, then we don't have a replacement. Do you understand what I mean? And some people, for example, need this, they must ask their questions, they don't have anyone. (Prison 2, juvenile #1)

The inmates stated that religion helped them to deal with the problems of everyday life in prison and gave meaning to it in the process of desistance. Yet, they saw the support from the employees and the conditions of the institutions as lacking, even expressing direct feelings of unequal treatment.

Yes, it definitely helps, religion. Well, it does help, but they don't give us a chance to practice it properly. And I don't think they like it either. (Prison 2, juvenile #1)

This lack of opportunity structures and deficient support for their religion seems to have a direct impact on the religious practice of Muslims.

I used to pray five times a day when I was new here in prison. And since I was sentenced, it's become less (...). Of course, I pray, for example, once a week, and I still try to pray more. But here, unfortunately, in prison, you can't. You have employment and there are also certain times for praying. I have to wake up tomorrow morning at 5:30 or 6:00, I have to get ready for work, (...) I don't have the opportunity to pray in the early mornings. (Prison 2, juvenile #2)

**Descriptive analyses**

Descriptive statistics and correlations among key variables are shown in Table 2. Religious practice and religious belief are highly correlated in both religious groups. For Muslim inmates' religious belief negatively correlates with time served in prison which is not the case for Christian inmates. Muslims show the highest level of religious belief.

**Factor analysis**

We performed two separate Principal Component Analyses (PCA) to examine the factorial structure of the multi-item scales 'religious practice' and 'religious belief'. For each of the scales analyses revealed a single principal component. For 'religious practice' and 'religious belief' Kaiser-Meyer-Olkin measure of sampling adequacy was 0.778 and 0.909 respectively. Bartlett's test for sphericity was significant with  $\chi^2(15) = 647.33$  ( $p < 0.001$ ) and  $\chi^2(36) = 3677.93$  ( $p < 0.001$ ), indicating that correlations between items were sufficiently large for performing a PCA. Only factors with eigenvalues  $\geq 1$  were considered (Guttman, 1954; Kaiser, 1960). Examination of Kaiser's criteria and the scree-plot yielded empirical justification for retaining a one factor solution for 'religious practice' as well as for 'religious belief' which accounted for 41.35 and 57.23 of the total variance respectively. All factor loadings were above 0.50. The internal

**Table 2.** Descriptive statistics and Pearson correlations of all key variables for Muslims, Christians and inmates with no religion.

	Muslim				Christian				No Religion			
	2	3	M (SD)	N	2	3	M (SD)	N	2	3	M (SD)	N
1.	0.01	-0.14*	15.8 (10.8)	307	0.10	0.00	14.0 (12.4)	310	-0.02	-0.09	12.8 (10.9)	114
2.	1	0.41**	0.3 (0.6)	310	1	0.57**	-0.3 (0.6)	311	1	0.64**	-0.6 (0.5)	114
3.		1	6.2 (0.8)	310		1	5.2 (1.4)	310		1	3.2 (1.5)	112

1. Time served in prison [months].

2. Religious practice (z-score).

3. Religious belief.

\* $p < .05$ .

\*\* $p < .01$ .

consistency of religious practice was  $\alpha = 0.71$  which is considered an acceptable level (Nunnally & Bernstein, 1994). Item discrimination was  $\geq .3$  for all items.

### **Comparison of religious belief (H1)**

Comparing Muslims (min  $N = 311$ ), Christians (min  $N = 311$ ), and participants with no religion ( $N = 114$ ) using an ANOVA revealed significant differences (Welch's  $F(2, 270) = 224.32$ ;  $p < 0.00$ ; partial  $\eta^2 = 0.40$ ). Games-Howell post-hoc tests showed that Muslims ( $M = 6.21$ ,  $SD = 0.84$ ) scored significantly higher than Christians ( $M = 5.22$ ,  $SD = 1.42$ ) and participants with no religion ( $M = 3.21$ ,  $SD = 1.5$ ).

### **The interplay of Muslims' religious practice, religious belief and time served in prison (H2–H4)**

We assumed that religious practice would be positively linked to religious belief (H2). We also postulated that time served in prison would be associated with religious belief (H3a, b). We tested whether the interaction of religious practice and time served in prison would further improve the regression model (H4). To test our hypotheses, a hierarchical multiple regression was conducted, with three blocks of variables<sup>3</sup> (Table 3). The first block included all covariates, *religious practice* and *time served in prison*<sup>4</sup> as predictors with *religious belief* as the dependent variable. In block two we added the interaction term of *religious practice* and *time served in prison*. The first model was significant,  $F(8, 293) = 9.31$ ,  $p < 0.001$ ,  $R^2 = 0.203$ . Religious practice was positively associated with religious belief

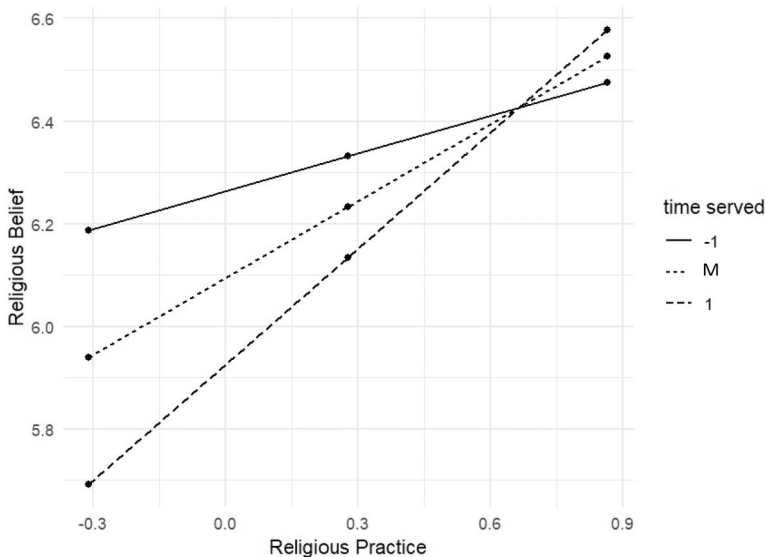
**Table 3.** Results of hierarchical regression analysis ( $N = 302$ ).

	Model 1			Model 2		
	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$
Intercept	6.71	0.46		6.93	0.45	
Religious practice	0.50	0.07	0.36**	−0.19	0.22	−0.14
Time served in prison	−0.09	0.03	−0.15*	−0.12	0.03	−0.21**
<i>Covariates</i>						
Age	−0.02	0.02	−0.05	−0.03	0.02	−0.06
Education	−0.09	0.09	−0.05	−0.08	0.09	−0.05
Country of origin	0.17	0.09	0.10	0.17	0.09	0.10
Prison 1 (dummy)	0.01	0.14	0.01	0.06	0.13	0.03
Prison 2 (dummy)	0.28	0.12	0.13	0.28	0.12	0.13
Prison 3 (dummy)	0.13	0.11	0.07	0.1	0.11	0.05
<i>Interaction</i>						
Religious practice $\times$ time served in prison				0.19	0.06	0.53**
$R^2$	0.203**			0.232**		
$R^2_{Adj}$	0.181**			0.208**		
$\Delta R^2$				0.03**		

\* $p < 0.05$ , \*\* $p < 0.01$ .

( $\beta = 0.36$ ,  $t = 6.68$ ,  $p < 0.001$ ). Time served in prison was negatively associated with religious belief ( $\beta = -0.154$ ,  $t = -2.85$ ,  $p < 0.005$ ). The second model ( $F(9, 292) = 9.80$ ,  $p < 0.001$ ,  $R^2 = 0.232$ ) showed significant improvement from the first model ( $\Delta F(1, 292) = 11.16$ ,  $p < 0.001$ ,  $\Delta R^2 = 0.03$ ). The interaction term of religious practice and time served in prison significantly predicted religious belief ( $\beta = 0.55$ ,  $t = 3.34$ ,  $p < 0.001$ ).

The effect size related to variance explained for the overall model was  $f^2 = 0.30$  which can be considered a medium to large effect (Cohen, 1992). A moderation analysis was performed using the PROCESS macro by Hayes (2018) which uses ordinary least squares regression, yielding unstandardized coefficients for all effects. Bootstrapping with 5000 samples together with heteroscedasticity consistent standard errors (HC3; Davidson & MacKinnon, 1993) were employed to compute the confidence intervals. We were particularly interested in the conditional effects (simple-slopes) which were generated for one standard deviation above the mean ( $b1 = 0.25$ ,  $t = 2.35$ ,  $p = 0.02$ , CI [0.03, 0.45]), the mean itself ( $b2 = 0.5$ ,  $t = 6.8$ ,  $p < 0.001$ , CI [0.35, 0.64]) and one standard deviation below the mean ( $b3 = 0.75$ ,  $t = 7.1$ ,  $p < 0.001$ , CI [0.54, .96]). Figure 2 shows the increasing effects by increasing values of the moderator, indicated by steeper slopes for longer time served in prison. Due to continuous data of our moderating variable, we also calculated the Johnson and Neyman (1936) interval and found a significant moderation above a value of 2.21 for time served in prison - meaning above 4.9 months.



**Figure 2.** Simple-slopes for the mean ( $M = 3.74$ ), and one standard deviation above ( $1 = 5.11$ ) and below ( $-1 = 2.37$ ) the mean.

## Discussion

In this article, we examined how the association between prisoners' religious practice and belief would change over time. We focused on Muslim inmates whose religious opportunity structures are deficient compared to the institutional structures implemented for Christians. In line with General Strain Theory we assumed that the lack of opportunity structures would impose a strain on Muslims causing negative emotions which need corrective action. We aimed to investigate how Muslim inmates cope with the lack of religious opportunity structures. In accordance with our hypothesis we found that Muslims' religious belief was significantly associated with religious practice and time served in prison. More specifically, religious belief increased with higher levels of practice and decreased with longer time served in prison. Also, time served in prison moderated the association between religious practice and belief. Looking at the simple-slopes we see an upward turn with longer time served in prison. This means the impact of religious practice on religious belief becomes stronger with longer time served in prison. As time in prison increases, lower values of religious practice are associated with ever lower values of religious belief, which could be an indicator of a 'retreat' coping style. At the same time were higher levels of religious practice associated with ever higher values of religious belief. This could again indicate an 'engage' coping style. Data from a study by Mohino et al. (2004) suggests that the time spent in prison could indeed generate different uses of coping strategies.

Torreken and Jacobs (2016) postulate that a hostile environment can reinforce Muslims' religiosity. They describe it as 'reactive religiosity' following Diehl and Schnell's idea of 'reactive ethnicity' (2006) since religion is strongly linked to ethnic heritage. Findings that support this assumption show a positive association between perceived discrimination and religiosity (Fleischmann & Phalet, 2011). Amidst such experiences of discrimination, religion often emerges as a key element of identity, providing a space for cultivating a sense of belonging (Drouhot, 2021). Religiosity can offer a sense of social identity, through community involvement and joint religious practice (Karlsen & Nazroo, 2013).

Considering the overall decrease of religious belief over time served, we assume, however, that the 'retreat' coping style outweighs the 'engage' coping style. Data from the study by Wilkinson et al. (2021) corroborate our findings which lean to an association of missing opportunity structures and a general decline of religious belief. The highest percentage of 'reducers' were found in French (32%) and the lowest percentage in the English sample (4%). Whereas English inmates received weekly visits from a Muslim chaplain and attended Islamic studies as well as regular Friday prayers, inmates from the French prisons were only allowed to attend study circles

once a month and tended to avoid religious activities so as not to be branded as ‘radical’.

An apparent reason for favoring the ‘retreat’ coping style instead of engaging in religious behavior to deal with negative emotions is rooted in the given opportunities itself. The resources needed to increase the joint religious commitment (e.g., Friday prayer) are limited by the lack of opportunity structures. Instead, Muslims choose to actively avoid any situation which could steer up feelings of frustration or other negative emotions due to discrimination (e.g., not being able to follow their dietary rules).

An additional explanation which makes the ‘retreat’ coping style more likely is the desire to adapt to one’s surroundings. The prison environment represents a generally secularized institution and is influenced by Christian inmates who are typically less occupied with practicing their religion. Muslims might assimilate to the prison community in a way that their ethnic distinction declines or disappears as well as the social and cultural differences that express it, like their religious identification (Alba & Nee, 1997). Although this effect can also appear outside of prison (Diehl & Schnell, 2006), it has gained particular importance inside of prison, described as ‘prisonization’. Clemmer (1940) first introduced the concept as ‘the taking on, in greater or lesser degree, the folkways, mores, customs, and general culture of the penitentiary’ (p. 270). Despite the apparent decline, Muslims still showed a higher overall level of religious belief than Christians and inmates not associated with a religion. This is in line with results found outside of prison. Muslim adolescents see their religious upbringing as very intense and formative, unlike Christians (Schweitzer et al., 2018). Since it serves as a connection to the traditions and region of their family’s origin, religion is a crucial part of the identity of European Muslims (Leszczensky et al., 2020).

### Study limitations

Christian and Islamic religious rules and rituals differ greatly from each other. This is why we refrained from comparing Christians’ and Muslims’ religious practice and its changing association with religious belief. Thus, we cannot draw any conclusions about how Christian prisoners religiously cope with the strains of prison compared to Muslims. However, a study on coping strategies of young Christian prisoners in Spain identifies an ‘approach’- style as dominant, which is contrary to our findings in the Muslim sample (Mohino et al., 2004). We only used cross-sectional data to map the development of religious attitudes and behavior. Longitudinal data would help to validate the presented findings and further illuminate the process of intrapersonal changes in religiosity and religious practice.



Unfortunately, we did not have access to data concerning the inmates' sentence term and could not eliminate it as a confound. Since 95% of our sample of Muslim inmates had a migration background, the data did not allow a comparison with Muslims without a migration background. Further research should explore if and how a migration background affects religious attitude and behavioral change during imprisonment. We believe research on religiosity as a meaningful part of the rehabilitation process or any other process (e.g., desistance or radicalization) can benefit from a multidimensional approach to measuring religiosity (see Beller et al., 2019; Hall et al., 2008). For our research question, it made sense to differentiate between religious attitudes and religious behavior, as we were interested in if and how they were intertwined over the course of incarceration. However, to further explore how religious commitment shifts over time it would be worthwhile to not only measure different dimensions of religiosity but also look at religious coping mechanisms to really understand how and why religious commitment affects a person's emotional state and behavior.

## Conclusion

Our findings support the idea that Muslim prisoners withdraw from religion and gradually shift away from their religious belief. Seeing others (i.e., Christians) being able to practice their religion properly and having easier access to religious counsel might lead to feelings of frustration and discrimination, as reflected in the qualitative interviews. One way to avoid such feelings is to disengage from religion altogether. Hence, Muslim inmates seem to distance themselves from their religion, and thus, an important part of their identity. Some prisons take promising approaches to meet the needs of the growing number of Muslim prisoners. Nevertheless, the measures taken are insufficient or not adapted enough to provide adequate religious care. There are still problems with qualification requirements for Muslim chaplains, an appropriate time budget, and their institutional integration. It also may be that new inmates are not always aware of how they can practice their religion when they start their prison sentences. Islam is an essential part of Muslim culture and everyday life, yet it has not been systematically used for resocialization purposes. For example, it may be helpful to involve local mosque congregations in transition management. All in all, there is still much room for improvement in terms of making it possible for Muslims to foster a spiritual way of coping with the strains of prison and prepare for life after prison. As Jahn notes, the legal framework of the German penal system is, in principle, friendly to religion and allows prisoners to practice their religion in prison (2020). However, the extent to

which the integration of rather new religious communities, such as Islam, is supported mostly depends on how the individual institution sees the possible contribution to rehabilitation (Jahn, 2014). Thus, more research on Muslims' religiosity in prison and its meaning for successful reintegration into society could highlight the value of meeting their equally important religious needs.

## Notes

1. We omitted the item 'What I believe is for me to decide' due to low discriminatory power ( $<0.3$ ).
2. We have translated all following quotations from German into English.
3. Prerequisites for a hierarchical regression analysis were fulfilled. There were no indications of autocorrelation (Durbin Watson statistics = 1.8) or multicollinearity (VIF = 0.932).
4. *time served in prison* was transformed using  $\sqrt{x}$  due to a skewed distribution.

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The authors report that there are no competing interests to declare.

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## References

- Abu-Rayya, H., Almoty, S., White, F., & Abu-Rayya, M. (2016). The interconnection between Islamic religiosity and deviancy among Australian Muslim Youth: A partial mediation role of life satisfaction. *The International Journal for the Psychology of Religion*, 26(4), 337–347. <https://doi.org/10.1080/10508619.2016.1157720>
- Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology*, 30(1), 47–88. <https://doi.org/10.1111/j.1745-9125.1992.tb01093.x>
- Agnew, R. S. (2007). Strain theory and violent behavior. In D. J. Flannery, A. T. Vazsonyi, & I. D. Waldman (Eds.), *The Cambridge handbook of violent behavior and aggression* (pp. 519–529). Cambridge University Press.
- Agnew, R. (2013). When criminal coping is likely: An extension of general strain theory. *Deviant Behavior*, 34(8), 653–670. <https://doi.org/10.1080/01639625.2013.766529>
- Alba, R. D., & Nee, V. (1997). Rethinking assimilation theory for a new era of immigration. *International Migration Review*, 31(4), 826–874. <https://doi.org/10.1177/019791839703100403>

- Albert, M., Quenzel, G., Hurrelmann, K., & Kantar, P. (2019). *Jugend 2019. 18. Shell Jugendstudie [Youth 2019. 18. Shell Youth Study]*. Beltz.
- Ajouaou, M., & Bernts, T. (2015). The effects of religious diversity and spiritual care: Reflections from the Dutch correction facilities. In I. Becci & O. Roy (Eds.), *Religious diversity in European prisons: Challenges and implications for rehabilitation* (pp. 31–45). Springer.
- Bartsch, T., Bergmann, B., Stelly, W., Kinzig, J., Hibaoui, A., Schaffer, B., & Stelzel, K. (2017). Muslime im baden-württembergischen Justizvollzug. Ergebnisse einer Pilotstudie – Teil 1 [Muslim prisoners in the federal state of Baden-Wuerttemberg – Part I]. *Forum Strafvollzug*, 5, 316–321.
- Bartsch, T., Bergmann, B., Stelly, W., Kinzig, J., Hibaoui, A., Schaffer, B., & Stelzel, K. (2018). Muslime im baden-württembergischen Justizvollzug. Ergebnisse einer Pilotstudie – Teil 2 [Muslim prisoners in the federal state of Baden-Wuerttemberg – Part II]. *Forum Strafvollzug*, 1, 52–57.
- Becci, I. (2015). Institutional resistance to religious diversity in prisons: Comparative reflections based on studies in eastern Germany, Italy and Switzerland. *International Journal of Politics, Culture, and Society*, 28(1), 5–19. <https://doi.org/10.1007/s100767-014-9179-6>
- Beckford, J. A. (2011). Prisons et religions en Europe. Les aumôneries de prison: Une introduction au dossier [Prisons and religions in Europe. Prison chaplaincies: An introduction to the dossier]. *Archives de Sciences Sociales Des Religions*, 153, 11–21.
- Beller, J., Kröger, C., & Hosser, D. (2019). Prädiktoren der Delinquenz bei adoleszenten Muslimen: Religiosität, religiöser Fundamentalismus und wahrgenommene religiöse Diskriminierung [Predictors of delinquency among adolescent Muslims: Religiosity, religious fundamentalism, and perceived religious discrimination]. *Forensische Psychiatrie, Psychologie, Kriminologie*, 13(2), 188–198. <https://doi.org/10.1007/s11757-019-00523-w>
- Bhutta, M. H., & Wormith, J. S. (2016). An examination of a risk/needs assessment instrument and its relation to religiosity and recidivism among probationers in a Muslim culture. *Criminal Justice and Behavior*, 43(2), 204–229. <https://doi.org/10.1177/0093854815604011>
- Brettfeld, K., & Wetzels, P. (2007). *Muslime in Deutschland: Integration, Integrationsbarrieren, Religion sowie Einstellungen zu Demokratie, Rechtsstaat und politisch-religiös motivierter Gewalt [Muslims in Germany: Integration, integration barriers, religion and attitudes towards democracy, the rule of law and politically and religiously motivated violence]*. Bundesministerium des Innern.
- Broidy, L. M. (2001). A test of general strain theory. *Criminology*, 39(1), 9–36. <https://doi.org/10.1111/j.1745-9125.2001.tb00915.x>
- Christensen, H., Kühle, L., & Vinding, N. (2020). Denmark: Christianity and Islam in prisons: A case of secular professionalization of chaplaincy. In J. Martínez-Ariño & A.-L. Zwillling (Eds.), *Religion and prison: An overview of contemporary Europe* (pp. 113–134). Springer Nature.
- Clayton, R. R., & Gladden, J. W. (1974). The five dimensions of religiosity: Toward demythologizing a sacred artifact. *Journal for the Scientific Study of Religion*, 13(2), 135–143. <https://doi.org/10.2307/1384375>
- Clemmer, D. (1940). *The prison community*. Holt, Rinehart and Winston.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155–159. <https://doi.org/10.1037//0033-2909.112.1.155>
- Connor, P. (2010). Context of immigrant receptivity and immigrant religious outcomes: The case of Muslims in Western Europe. *Ethnic and Racial Studies*, 33(3), 376–403. <https://doi.org/10.1080/01419870902935963>

- Davidson, R., & MacKinnon, J. G. (1993). *Estimation and inference in econometrics*. Oxford University Press.
- Diehl, C., & Schnell, R. (2006). 'Reactive ethnicity' or 'assimilation'? Statements, arguments, and first empirical evidence for labor migrants in Germany. *International Migration Review*, 40(4), 786–816. <https://doi.org/10.1111/j.1747-7379.2006.00044.x>
- Diehl, C., & Koenig, M. (2013). God can wait – new migrants in Germany between early adaptation and religious reorganization. *International Migration*, 51(3), 8–22. <https://doi.org/10.1111/imig.12093>
- Drouhot, L. G. (2021). Cracks in the melting pot? Religiosity & assimilation among the diverse Muslim population in France. *American Journal of Sociology*, 126(4), 795–851. <https://doi.org/10.1086/712804>
- Fleischmann, F., & Phalet, K. (2011). Integration and religiosity among the Turkish second generation in Europe: A comparative analysis across four capital cities. *Ethnic and Racial Studies*, 35(2), 1–22. <https://doi.org/10.1080/01419870.2011.579138>
- Foner, N., & Alba, R. (2008). Immigrant religion in the U.S. and Western Europe: Bridge or barrier to inclusion? *International Migration Review*, 42(2), 360–392. <https://doi.org/10.1111/j.1747-7379.2008.00128.x>
- Glock, C. Y., & Stark, R. (1965). *Religion and society in tension*. Rand McNally.
- Guttman, L. (1954). Some necessary conditions for common-factor analysis. *Psychometrika*, 19(2), 149–161. <https://doi.org/10.1007/BF02289162>
- Hall, D. E., Meador, K. G., & Koenig, H. G. (2008). Measuring religiousness in health research: Review and critique. *Journal of Religion and Health*, 47(2), 134–163. <https://doi.org/10.1007/s10943-008-9165-2>
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis, second edition (methodology in the social sciences)*. Guilford Press.
- Holdcraft, B. (2006). What is religiosity? Catholic Education: A *Journal of Inquiry and Practice*, 10(1), 89–103.
- Jahn, S. J. (2014). Zur (Un-)Möglichkeit 'islamischer Seelsorge' im deutschen Justizvollzug [On the (Im)Possibility of 'Islamic Pastoral Care' in the German Prison System]. *CIBEDO-Beiträge*, 1, 20–25.
- Jahn, S. J. (2020). Germany: Inequality in legal practice: Managing religion in Prisons. In J. Martínez-Ariño & A.-L. Zwilling (Eds.), *Religion and prison: An overview of contemporary Europe* (pp. 193–217). Springer Nature.
- Jang, S. J. (2020). Prison strains, negative emotions, and deviance among prisoners in South Korea: A latent-variable modeling test of general strain theory. *International Journal of Offender Therapy and Comparative Criminology*, 64(15), 1607–1636.
- Jang, S., Johnson, B., Hays, J., Hallett, M., & Duwe, G. (2018). Existential and virtuous effects of religiosity on mental health and aggressiveness among offenders. *Religions*, 9(6), 182. <https://doi.org/10.3390/rel9060182>
- Johnson, P. O., & Neyman, J. (1936). Tests of certain linear hypotheses and their application to some educational problems. *Statistical Research Memoirs*, 1, 57–39.
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20(1), 141–151. <https://doi.org/10.1177/001316446002000116>
- Karlsen, S., & Nazroo, J. Y. (2013). Influences on forms of national identity and feeling 'at home' among Muslim groups in Britain, Germany and Spain. *Ethnicities*, 13(6), 689–708. <https://doi.org/10.1177/1468796812470795>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. Springer.
- Leszczensky, L., Flache, A., & Sauter, L. (2020). Does the share of religious ingroup members affect how important religion is to adolescents? Applying optimal distinctiveness

- theory to four European countries. *Journal of Ethnic and Migration Studies*, 46(17), 3703–3721. <https://doi.org/10.1080/1369183X.2019.1620419>
- Lutz, P., Stelly, W., Bartsch, T., Thomas, J., & Bergmann, B. (2021). Islamische Seelsorge im Jugendstrafvollzug [Islamic chaplaincy in the juvenile penal system]. *Criminology-The Online Journal*, 3, 228–248.
- Martínez-Ariño, J., & Zwilling, A.-L. (2020). Religion in prison: An introduction. In J. Martínez-Ariño & A.-L. Zwilling (Eds.), *Religion and prison: An overview of contemporary Europe* (pp. 1–9). Springer Nature.
- Merton, R. K. (1995). Opportunity structure: The emergence, diffusion, and differentiation of a sociological concept. In F. Adler & W. S. Laufer (Eds.), *The legacy of anomie theory. Advances in criminological research* (Vol. 6, pp. 3–78). Transaction.
- Mohino, S., Kirchner, T., & Forns, M. (2004). Coping strategies in young male offenders. *Journal of Youth and Adolescence*, 33(1), 41–49. <https://doi.org/10.1023/A:1027382229951>
- Nunnally, J. C., & Bernstein, I. H. (1994). The assessment of reliability. *Psychometric Theory*, 3, 248–292.
- 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. [https://doi.org/10.1002/\(SICI\)1097-4679\(200004\)56:4<519::AID-JCLP6>3.0.CO;2-1](https://doi.org/10.1002/(SICI)1097-4679(200004)56:4<519::AID-JCLP6>3.0.CO;2-1)
- Reiss, W. (2020). Austria: Management of religious diversity in prisons. In J. Martínez-Ariño & A.-L. Zwilling (Eds.), *Religion and prison: An overview of contemporary Europe* (pp. 11–35). Springer Nature.
- Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *The American Psychologist*, 41(7), 813–819. <https://doi.org/10.1037//0003-066x.41.7.813>
- Şahinöz, C. (2018). *Seelsorge im Islam. Theorie und Praxis in Deutschland [Pastoral care in Islam. Theory and practice in Germany]*. Springer VS.
- Schweitzer, R., Wissner, G., Böhner, A., Nowack, R., Gronover, M., & Boschki, R. (2018). *Jugend - Glaube - Religion: Eine Repräsentativstudie zu Jugendlichen im Religions- und Ethikunterricht [Youth - Faith - Religion: A representative study of young people in religious and ethics education]*. Waxmann.
- Stelly, W., Lutz, P., Thomas, J., Bergmann, B., & Bartsch, T. (2021). Glaube und religiöse Praxis von (muslimischen) Jugendstrafgefangenen [Beliefs and religious practices of (Muslim) juvenile prisoners]. *Forum Strafvollzug*, 3, 200–206.
- Stelly, W., & Thomas, J. (2021). *Daten aus dem Jugendstrafvollzug [Data from the juvenile penal system]*.
- Sturge, G. (2019). *UK prison population statistics*. House of Commons Library.
- Torreken, C., & Jacobs, D. (2016). Muslims' religiosity and views on religion in six Western European countries: Does national context matter? *Journal of Ethnic and Migration Studies*, 42(2), 325–340. <https://doi.org/10.1080/1369183X.2015.1103032>
- Wilkinson, M., Irfan, L., Quraishi, M., & Purdie, M. S. (2021). Prison as a site of intense religious change: The example of conversion to Islam. *Religions*, 12(3), 162. <https://doi.org/10.3390/rel12030162>
- Wortmann, J. (2013). Religious coping. In Gellman, M. D., & Turner, J. R. (Eds.), *Encyclopedia of behavioral medicine*. Springer.