

ORIGINAL ARTICLE

Negative situation appraisal and mental well-being among refugees in Germany: Serial mediation by religious coping and sense of coherence

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Abstract

It has been widely demonstrated that pre- and post-migration experiences can be highly traumatic for refugees. The purpose of this study was to assess the mediating effects of religious coping and sense of coherence on the association of negative dysfunctional situation appraisal and mental well-being among refugees. Paper surveys were completed by 600 people representing various refugee groups (mostly from Mashreq Countries) in German Bavaria, aged 18–65. Mediation analysis revealed that negative religious coping and sense of coherence singly and serially mediated the relationship between negative dysfunctional situation appraisal and well-being, whereas positive religious coping did not have statistically significant relationships with these variables. The data obtained suggest that the negative religious coping style and sense of coherence are two important targets for future experimental studies, and interventions on them may bring the synergistic effect on improving mental well-being in refugees.

INTRODUCTION

Refugees are people who, for reasons beyond their control (e.g. war, persecution), leave their country of origin and seek a safe haven to continue living. Both leaving one's homeland and being displaced are highly traumatic and stress-

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ful events. Changing living conditions, socio-cultural differences and related adaptation problems are just some of the factors that may influence the long-term experience of stress (Malm et al., 2020). Settling in a new place generally does not reduce feelings of stress among refugees. Researchers distinguish four groups of post-migration stressors. The first group involves socio-economic factors related to financial and housing security (Porter & Haslam, 2005). These are largely related to barriers to employment due to limited language skills, as well as professional skills (i.e. non-recognition of professional qualifications) (Krahn et al., 2000). According to Kim (2015), unemployment is a strong predictor of the risk for depression and anxiety among refugees. The second group of factors is related to interpersonal problems resulting from separation from family. Research indicates that caring for family remaining in the country of origin can also be associated with anxiety (Schweitzer et al., 2006), while reuniting with them alleviates personal trauma (Rousseau et al., 2005). Nickerson et al. (2010) noted that concerns about family increase the risk of psychopathological behaviours—regardless of experienced pre-migration trauma or current living situation. The third group of factors is largely related to politics and social attitudes in the country of settlement. Researchers emphasize the significance of perceived discrimination by refugees and changing social roles. Social exclusion and discrimination negatively affect refugees' quality of life (Correa-Velez et al., 2010) and are strongly associated with depressive symptoms among refugees (Ellis et al., 2008). Changing the social role of male refugees by altering their status as breadwinners often leads to violent behaviour in refugee families (Fisher, 2013). The fourth group of factors negatively affecting refugees' mental and physical health is related to the procedure of obtaining asylum in the host country (Li et al., 2016). As per Crager et al. (2013), the process of seeking asylum contributes to an increase in mental health problems. According to the Refugee Council of Australia (2016), factors negatively affecting refugee health include period of detention, lack of access to lawyers, feeling helpless, not feeling in control of the asylum process, negative experiences of other refugees in the process and prolonged separation from family.

Previous reports have indicated high prevalence (up to ten times higher than in the general population) of post-traumatic stress disorder (PTSD) and depressive episodes among resettled refugees (Fazel et al., 2005; Keyes, 2000; Slewa-Younan et al., 2014). It is widely recognized that reducing the stress response and recovering psychologically from a displacement disaster requires long-term recovery, as well as a concerted effort by researchers and practitioners to develop appropriate therapeutic approaches. In such a situation, the study of acculturation strategies and ways of coping seems crucial from the perspective of social service providers who assist refugees on a daily basis. In considering the psychosocial functioning of migrants, attention should also be paid to cognitive situation appraisal, which according to psychological theories, may determine the occurrence of a stress response.

According to numerous conceptualizations, perceived stress occurs when a person judges a situation or stimulus as threatening (aggravating), regardless of its actual value. The general adaptation syndrome (GAS) (Selye, 1946), transactional theory of stress and coping (Lazarus & Folkman, 1984), and Cohen and Williamson's (1991) biological/behavioural model of stress and health describe the negative situation appraisal (i.e. feeling burdened) that initiates a stress response and negatively affects psychophysical health. Each of these models emphasizes that stress is perceived and dependent on individual perception or interpretation of the situation or stimulus. Perceiving a situation as a threat, regardless of whether it is an actual threat to the individual, can have a direct impact on mental and physical health. Hans Selye's GAS was the first to describe the relationship between perceived stress and psychophysical health (Selye, 1946). In line with GAS, chronically experienced stress results in prolonged physiological arousal that leads to decreased well-being, physical exhaustion and increased susceptibility to illness and disease. Lazarus and Folkman's stress and coping theory (Lazarus & Folkman, 1984) also describes the relationship between perceived stress and mental and physical health consequences. Experienced stress (distress) occurs when perceived resources are smaller than perceived demands, threats and challenges. The initial assessment of stress occurs during the initial perception of the stimulus, and the stress response occurs when the stimulus is perceived as threatening or stressful. The secondary assessment takes place after the primary assessment and is a judgement that determines how to cope with the perceived stress. According to Lazarus and Folkman, prolonged unmanaged perceived stress causes negative consequences for mental and physical health. Alternatively, perceived stress or coping may involve effective secondary assessment, which is the use of resources and results in the absence of stress-related health consequences.

Cohen and Williamson (1991) developed models to describe the potential ways in which perceived stress affects mental and physical health. According to these models, perceived stress can affect psychophysical health through biological and behavioural pathways. From a biological standpoint, experienced stress can result in a stimulated physiological state that alters the functioning of the central nervous system and, consequently, the immune system. From a behavioural perspective, perceived stress can affect health practices, coping in social situations, adherence to recommendations, and how one self-reports health. The association of negative dysfunctional situation appraisal with well-being and the occurrence of illness symptoms has also been demonstrated in numerous research studies (e.g. Caron et al., 2012; Tan et al., 2020).

It is believed that individuals may use religion to cope with perceived life stress, and meta-analyses indicate a significant effect of religious coping on well-being (Ano & Vasconcelles, 2005; Harrison et al., 2001). Conceptualizing religious coping draws attention to the role that religion can play in the complex process of adaptation, making it possible to understand and cope with life's difficulties. Pargament (1996) distinguished two types of religious coping, that is positive and negative. The first translates into a secure relationship with God and involves evaluating obstacles in light of God's providence (Pargament et al., 2000). The positive pattern is associated with adaptive adjustment, as well as with an individual's commitment to religion. Techniques for such coping include engaging in religious practices, seeking social support through religious leaders and congregations and reframing stressful events in reference to their relationship with God (Adam & Ward, 2016; Krägeloh et al., 2012). In contrast, negative religious coping is maladaptive and interprets challenges as the result of punishment and divine discord. The negative pattern of religious coping includes such forms as dissatisfaction with God and the religious relationship, negative reevaluations of a given event as divine punishment, manifestation of God's impotence or demonic activity. (Pargament et al., 2000). It is important to note that most of the research on religious coping with stress has focused on Christian populations, whereas contemporary refugee groups in Europe include mostly followers of Islam. However, in light of the available data, it seems likely that when confronted with a stressor, Muslims, like Christians, will consider religion as a way of coping with suffering (Raiya et al., 2008). Some studies even indicate that Muslims may be more likely to use religion as a coping mechanism for stress compared with other religious groups (Bhui et al., 2008). Recent data also suggest that religion may be a protective factor among Muslim immigrants who, in addition to the common difficulties of cultural transition, experience acculturation stress related to religious discrimination and barriers to practising their religion (Sheridan, 2006; Sirin & Fine, 2007). Research has also shown that religious coping may mediate the relationship between perceived stress and well-being (Aydin et al., 2010; Carpenter et al., 2012; Fernandez & Loukas, 2014). The resulting data are explained by two mechanisms through which coping can influence adaptation outcomes. The first describes coping as an independent resource that influences adaptation (main effect). The second mechanism captures coping as an intervention variable that functions to reduce the negative effects of stress on well-being (buffering) (Adam & Ward, 2016). In this vein, and in relation to the literature review, it appears that religious coping may mediate between negative dysfunctional situation appraisal (responsible for initiating the stress response) and well-being among refugees.

Recent research suggests that the relationship between coping vs. adapting to adversity and well-being may be further mediated by sense of coherence, which represents an individual's complex orientation to responding to stressful situations by understanding what is happening at a given moment (comprehensibility), perceptions of having the resourcefulness to cope with experiences (manageability) and the ability to find meaning in certain situations (meaningfulness) (Calandri et al., 2017; Korotkov, 1998). The sense of coherence theory proposed by Antonovsky (1987) was extended according to the concept of Generalized Resistance Resources (GRR). Thus, sense of coherence has been defined in terms of learned resourcefulness, which acts as resilience to stress (McCubbin et al., 1998). These assumptions have been validated in numerous research studies, where recovering sense of coherence after experiencing traumatic events improved individuals' quality of life and contributed to securing mental and physical health (Allart et al., 2012; Bonzanini et al., 2020; Kim et al., 2021; Tang et al., 2017). In another study, sense of coherence reduced the predictive power of external stressor effects (generalized resistance deficits) in models of psychological dysfunction (measured by depression, anxiety, and psychosocial dysfunction) among refugees (Ying et al., 1997). Merakou et al. (2016) showed that religiosity can enhance feelings of coherence. Cowlshaw et al. (2013) noted

that sense of coherence mediates the effect of spirituality on life satisfaction. Meanwhile, in studies by Zamanian et al. (2021) sense of coherence moderated the negative impact of dysfunctional coping strategies on individuals' health. Similar research has not yet been conducted on religious coping.

Consistent with the above literature review, we decided to test the hypothesis that the association of negative dysfunctional situation appraisal among refugees would be serially mediated by (M1) religious coping and (M2) sense of coherence. We conducted our project in Germany because it is the country hosting the largest number of refugees in Europe, according to the United Nations High Commissioner for Refugees (UNHCR, 2021).

MATERIALS AND METHODS

Participants and procedure

The study involved 600 refugees aged 18–65 ($M = 27.66$, $SD = 8.24$), including 29.20% females. The study received approval from the Ethics Committee of the Institute of Psychology, Polish Academy of Sciences. Data were collected in Germany between 2018 and 2021 through collaboration with refugee centres within Bavaria. The status of refugee was the recruiting requirement. Participation did not involve meeting additional recruitment criteria, was anonymous and voluntary. Illiterate education was characteristic for 10% of participants, primary for 24%, intermediate for 32.30%, secondary—12.80%, post-secondary—14.20%, while tertiary (university etc.) characterized 6.70%. Of the participants, 28.30% were married, 68.30% were single, while 3.40% were widowed. 8.40% of respondents were resettled with a partner, 4.80% with children, 63.80% alone, and 23% with a partner and children. The most common religion declared by the participants was Islam/Muslim and concerned 71.30%, 21% declared to be Christian, 2.20% Jeside, 0.20% Adventist, while 5.30% of individuals declared no religious affiliation. The main country of origin among the respondents was Syria (40.10%), Afghanistan (12.30%) and Morocco (6.80%). A detailed breakdown of the group by country of origin can be found in Appendix S1. Participants were out of their home country from 4 to 654 weeks ($M = 187.25$, $SD = 127.71$). The study procedure involved completing paper-and-pencil questionnaires to measure negative situation appraisal, religious coping, sense of coherence and well-being. Questionnaires were available in English, Arabic, Persian, German and French (the results were not affected by the language version; $F_{(5,342)} = 1.65$, $p = 0.147$, $\eta^2 = 0.02$). It took approximately 20 minutes to complete the set of surveys.

Measures

The tendency towards negative situation appraisal was measured using three items of the *Illness Interpretation Questionnaire (IIQ)* by Büssing and Fischer (2009). The participant's task is to respond to each statement on a five-point scale where 0 = "does not apply at all" and 4 = "applies very much." The tool refers to the cognitive evaluation of an event based on the theory by Lazarus and Folkman (1984). According to the developed statements, the experienced situation can be considered as (a) a punishment, (b) an adverse interruption of life, (c) a threat/enemy, which as per the transactional theory of stress initiates the occurrence of a stress reaction. In our study, exploratory factor analysis revealed a univariate structure for the above statements. The factor created was named "negative dysfunctional judgment" and its Cronbach's alpha (α) equalled 0.82, indicating good internal consistency of the scale.

Religious coping (RCOPE) was assessed using the *Brief RCOPE* by Pargament et al. (2011). The questionnaire is used to measure methods of coping with difficult life stressors. The tool consists of 14 statements arranged per 2 factors—positive ($\alpha = 0.0.92$) and negative ($\alpha = 0.0.81$) RCOPE. The participant's task is to rate each of them on a 4-point scale, from 0 = "not at all" to 3 = "a great deal." Positive religious coping refers to a positive relationship with a transcendent force, spiritual connection with others, and a benevolent attitude towards the world, while negative coping reflects spiritual tension and perceived difficulties in relationships with self, others and the transcendent

force (Pargament et al., 2011). Sample items: "Sought help from God in letting go of my anger" (positive RCOPE), "Wondered what I did for God to punish me" (negative RCOPE).

The *Sense of Coherence (SOC) 13-item Scale* by Antonovsky (1987) was used to measure coherence. SOC-13 is used to measure sense of coherence defined as "a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that the stimuli from one's internal and external environments in the course of living are structured, predictable, and explicable; the resources are available to meet one's demands posed by these stimuli; and these demands are challenging, worthy of investment and engagement" (Antonovsky, 1987). The scale involves 13 questions, The participant offers responses on a seven-point scale, where 1 = "very seldom or never" and 7 = "very often." The scale has good psychometric properties ($\alpha = 0.82$) (Antonovsky, 1987). Sample items: "Do you have the feeling that you don't really care about what goes on around you?", "Has it happened in the past that you were surprised by the behavior of people whom you thought you knew well?"

Well-being was measured using the *World Health Organization's 5-item Well-being Index (WHO-5)* by Topp et al. (2015). WHO-5 is a unidimensional questionnaire measuring positive well-being synonymous to mental health during the last 14 days. The scale consists of five self-descriptive statements. The participants express their attitude towards each of the statements on a 6-point scale, from 0 = "none of the time" to 5 = "all of the time." The scale is characterized by satisfactory psychometric properties ($\alpha = 0.89$) (Topp et al., 2015). Sample items: "I have felt active and vigorous," "I woke up feeling fresh and rested."

Statistical analyses

The analyses were performed using the IBM SPSS Statistics 27 software and the PROCESS 4.0 plug-in for mediation effects analysis. Assessment of normality was performed using the Kolmogorov–Smirnov test, whereas homoscedasticity of variance was assessed using Levene's test. The data allowed for applying parametric tests. The evaluation of links between variables was performed using Pearson's R correlation analysis. Per Cohen (1992), the absolute value of a correlation is equivalent to its effect size, with those under 0.10 being trivial, those between 0.10 and 0.30 being small/weak, between 0.30 and 0.50 medium and above 0.50 denoting a large effect. The analysis of the serial mediation effect (model 6) was conducted using the bootstrap method. The Bootstrap analysis sample size was 5000 and the mediation effect test is significant when it does not contain zero under the 95% confidence interval. Differences were evaluated using multivariate analysis of variance. The effect size was assessed on the basis of R^2 and partial η^2 . The significance level was determined at $p < 0.050$.

RESULTS

Mean values obtained in the study, as well as correlation coefficient values, are presented in Table 1. The analysis revealed that negative situation appraisal was statistically significantly associated with negative religious coping and sense of coherence. Negative religious coping was statistically significantly associated with positive religious coping,

TABLE 1 Descriptive statistics and correlations

	Min	Max	M (SD)	<i>r</i>			
				1.	2.	3.	4.
1. Negative situation appraisal	1	5	2.22 (0.94)	1			
2. Negative religious coping	1	4	1.75 (0.80)	0.53***	1		
3. Positive religious coping	1	5	2.73 (0.76)	-0.07	0.09*	1	
4. Sense of coherence	1	7	4.38 (0.98)	-0.42***	-0.47***	-0.06	1
5. Well-being	1	6	3.53 (1.08)	-0.05	-0.17***	-0.05	0.30***

Note: N = 600, *** $p < 0.001$, * $p < 0.05$.

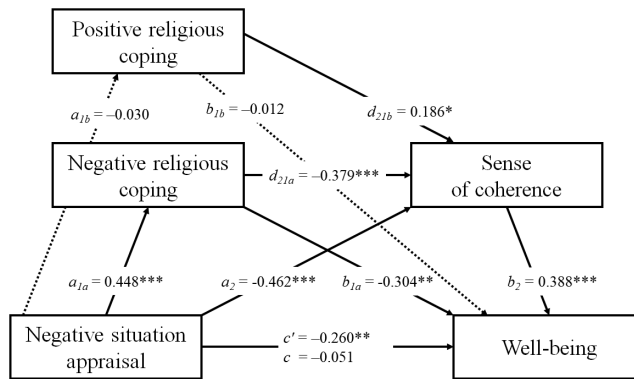


FIGURE 1 Results of serial multiple mediation model, $^{***}p < 0.001$, $^{**}p < 0.01$, $^*p < 0.05$.

sense of coherence and well-being. In addition, a statistically significant correlation was observed between the sense of coherence and well-being.

The mediation model (bootstrap sampling analysis) assessed the relationship of negative dysfunctional situation appraisal (X), negative religious coping (M1a), positive religious coping (M1b), sense of coherence (M2) and well-being (Y). A visualization of the mediation model is presented in Figure 1. The direct relationship between negative dysfunctional situation appraisal and well-being was not statistically significant (total effect; $p = 0.565$). When mediators of religious coping and sense of coherence were included in the analysis, the association coefficient was found to be statistically significant, indicating a standard suppression effect (direct effect; $B = -0.260$; $SE = 0.097$; $95\% CI = -0.452, -0.069$; R^2 for the whole model = 0.20). Negative dysfunctional situation appraisal also proved to be a statistically significant predictor of negative religious coping ($B = 0.448$; $SE = 0.052$; $95\% CI = 0.345, 0.552$; $R^2 = 0.34$) and sense of coherence ($B = -0.462$; $SE = 0.070$; $95\% CI = -0.601, -0.323$; $R^2 = 0.26$).

The analyses revealed a statistically significant indirect effect of dysfunctional situation appraisal on well-being through negative religious coping ($B = -0.137$; $Boot SE = 0.054$; $Boot 95\% CI = -0.232, -0.021$; $R^2 = 0.13$). The indirect effect of negative dysfunctional situation appraisal on well-being through sense of coherence was also found to be statistically significant ($B = -0.108$; $Boot SE = 0.041$; $Boot 95\% CI = -0.199, -0.041$; $R^2 = 0.18$). In the next step, the study assessed the indirect impact of negative dysfunctional situation appraisal on well-being through both negative religious coping and sense of coherence. The relationship was statistically significant with a point estimate of -0.066 (testing serial multiple mediation; $Boot SE = 0.024$, $Boot 95\% CI = -0.121, -0.027$).

Moreover, the predictive relationship of dysfunctional situation appraisal and positive religious coping was found to be statistically insignificant ($p = 0.573$). The indirect impact of negative dysfunctional situation appraisal on well-being through positive religious coping ($Boot 95\% CI = -0.010, 0.018$), and the impact of negative dysfunctional situation appraisal on well-being through both positive religious coping and sense of coherence ($Boot 95\% CI = -0.006, 0.014$) were also statistically insignificant.

The model was adjusted for the effects of age ($B = 0.022$; $SE = 0.012$; $95\% CI = 0.001, 0.044$) and time since emigration from one's home country ($B = -0.002$; $SE = 0.001$; $95\% CI = -0.003, -0.001$). Sex ($p = 0.063$), country of origin ($p = 0.391$), education ($p = 0.394$), marital status ($p = 0.424$) social support when coming to Germany (coming alone or with others; $p = 0.430$) and religion ($p = 0.746$) were not statistically significant co-variables in the model.

DISCUSSION

Numerous reports indicate that pre- and post-migration experiences are highly stressful and cause detrimental long-term consequences for refugees' mental and physical health (Fazel et al., 2005; Keyes, 2000; Sangalang

et al., 2018; Slewa-Younan et al., 2014). The purpose of this study was to assess the associations between negative dysfunctional situation appraisal (related to perceived stress), religious coping, sense of coherence and well-being among refugees in Germany.

As expected, negative religious coping and sense of coherence serially mediated the association of negative dysfunctional situation appraisal and well-being (significant effects were also obtained in single models). According to the data obtained, refugees who indicate a negative assessment of their situation are more likely to prefer a negative religious coping strategy, which in turn may reduce their sense of coherence and ultimately reduce their level of well-being (sense of coherence was positively related to well-being). In the serial mediation model tested, the inclusion of mediators increased the strength of the association between negative religious coping and well-being, indicating a suppression effect. In our analyses, negative dysfunctional situation appraisal had a near-zero correlation with well-being. When we included negative religious coping and sense of coherence in the regression equation, the validity of the entire model increased. It seems likely, then, that negative situation appraisal is necessary for individuals to consider the fact of resettlement as the result of divine retribution and to reveal dissatisfaction towards God and/or religious association, which in turn consequently lowers their sense of coherence and well-being. In other words, the measurement method introduced extraneous measurement error variance into the scores regarding the measures of negative religious coping and sense of coherence. That is, measurement artefact variance. Using the scores of negative dysfunctional situation appraisal, which was essentially unrelated to well-being, improved overall prediction by effectively removing measurement artefact variance from negative religious coping and sense of coherence, making them purer and thus more effective predictors of well-being.

The obtained data in terms of indirect effects correspond with the findings of Wu et al. (2021), where coping and resilience (a similar construct to the sense of coherence) serially mediated the relationship between perceived social support and posttraumatic growth in caregivers of people with schizophrenia, as well as with the study by Calandri et al. (2017), where sense of coherence mediated the relationship between coping and well-being in individuals with multiple sclerosis. The positive effects of sense of coherence have also been demonstrated in studies involving refugees. Han (2006) noted that this variable was a significant predictor of psychological adjustment as measured by happiness and demoralization among various refugee groups in the United States, while in a study by Ghazinour et al. (2004) high sense of coherence enabled good quality of life without psychopathological disorders among Iranian refugees in Sweden. In contrast, previous studies by Ai et al. (2006) and Leaman and Gee (2012) on negative coping found that this variable reduces optimism and hope, all the while promoting depression and symptoms of post-traumatic stress disorder among African refugees and European Kossov who were resettled in the United States.

Despite expectations, we did not observe a significant serial mediation using positive religious coping and sense of coherence in the relation between negative dysfunctional situation appraisal and refugee well-being. Thus, it appears that sense of coherence is primarily responsible for mitigating the negative effects of dysfunctional coping strategies on individuals' health, while remaining more neutral to the actions of adaptive strategies. These findings correspond indirectly with the findings of Zamanian et al. (2021), according to which sense of coherence reduced the negative impact of behavioural disengagement and self-blame in predicting health-related quality of life in cancer patients.

Single mediation using positive religious coping was also found to be insignificant in the relationship between negative dysfunctional situation appraisal and refugee well-being. Furthermore, positive religious coping showed questionable or insignificant associations with all other variables. Although some authors have observed higher levels of well-being and fewer psychiatric disorders in individuals who prefer positive religious coping (Aflakseir & Mahdiyar, 2016; Park et al., 2018), most studies regularly find no significant association between these variables (Abu-Raiya et al., 2020; Ai et al., 2007; Hebert et al., 2009; Hickman et al., 2013; Lee et al., 2019; Pargament et al., 2004). Our findings also correspond with those of McCleary-Gaddy and Miller (2019) and Ahles et al. (2016), according to which positive religious coping showed no buffering effects on the relationship between stress appraisal and well-being. Krok (2014), on the other hand, noted that religious coping, while not associated with an overall index of well-being, can foster particular dimensions of well-being, such as presence and search. Therefore, it seems

interesting in future research to use more sophisticated (multivariate) tools to assess well-being in refugees, which may allow for a more detailed determination of its relationship with positive religious coping. Finally, it should be noted that negative dysfunctional situation appraisal involved viewing events in terms of punishment or threat, which may have exacerbated the external attribution associated with considering the event as divine punishment, rather than promoting sense of providence and experiencing other positive spiritual feelings characteristic of positive religious coping.

Consistent with earlier findings, in our study, sense of coherence was predicted by negative religious coping. In contrast, some researchers point to the predictive role of sense of coherence relative to coping (e.g. Sarenmalm et al., 2013), indicating that these variables are coupled. Most commonly, however, sense of coherence predicts highly adaptive variables related to positive valence (Zamanian et al., 2021). Thus, it seems that, on the one hand, this variable may reduce the impact of dysfunctional coping strategies on well-being, and at the same time, a high sense of coherence allows one to find meaning in traumatic experiences, which promotes the use of coping strategies that lead to post-traumatic growth.

Age (positive relationship) and time since emigration from one's homeland (negative relationship) proved to be significant co-variables in the mediation models analysed. The association of age with well-being is a common observation and is primarily due to the higher frequency of experiencing positive emotions in people over the age of 50. Individuals in early and middle adulthood, on the other hand, tend to experience more anger and stress, for example for work reasons (Stephoe et al., 2015). The negative association of time since emigration from one's home country and well-being seems understandable, as it is associated with longer exposure to post-migration stress. Ryan et al. (2008) notes that resettled refugees may exhibit regular further losses of psychological resources associated with trying to function in new socio-cultural environments (e.g. role limitations), which appears to have a negative impact on health.

CONCLUSIONS

Our study demonstrated a single and serial mediating role of negative religious coping and sense of coherence in the link between negative dysfunctional situation appraisal and well-being among refugees. The two mediators provide the targets for developing and launching future intervention to improve psychological well-being in refugees. The finding of the serial mediation role of negative religious copings and sense of coherence further implies the possible synergistic effect of intervening these two mediators to enhance mental health. On the other hand, these outcomes point out that spirituality and religion play an important role in mental health and so show a significant impact on the integration of refugees in Germany by raising awareness that not only culturally sensitive work with refugees as a basis of communication but also their health resources are co-determined by spirituality and religion. In consultancy contexts, the findings could help generate support for healthcare providers and refugees who may be reluctant to discuss mental health issues due to shame to surpass religious privacy or other matters. It is a helpful understanding of preferred ways of understanding coping with severe problems among immigrants. Despite its strong aspects, our study is affected by certain limitations which need to be taken into consideration before broad generalization. First, the group of participants was not representative of the refugee population in Germany. In addition, the study was characterized by self-selection of participants. Although the interviewers assured complete anonymity and explained the procedure, some refugees refused to participate in the survey because of concerns about the extent of data use. Second, the study did not assess the presence of additional stress exposure, which may also influence individuals' beliefs. It cannot be excluded that the above limitations distort the true picture of the severity of individual phenomena. On the other hand, these limitations should not significantly impact the effects of associations between variables. Thirdly, the study was correlational in nature and cause and effect should not be conclusively inferred. In future research, it seems interesting to collect data from an experiment, diary method or longitudinal study to obtain more reliable data.

AUTHOR CONTRIBUTIONS

All authors contributed to the manuscript. SBS, KK, JM, KM and JS planned the study, collected data, conducted statistical analysis and interpretation of data. The first version of the manuscript was prepared by the SBS, KK and JM and then revised and accepted by all authors.

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CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

PEER REVIEW

The peer review history for this article is available at <https://publons.com/publon/10.1111/imig.13087>.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICAL APPROVAL

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This study was approved by the Ethics Committee of the Institute of Psychology, Polish Academy of Sciences.

CONSENT TO PARTICIPATE

Informed consent was obtained from all individual participants included in the study.

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