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Moderating effect of religiosity as the coping strategy on the relationship between stressors and mental health

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ABSTRACT

The impact of COVID-19 pandemic on people's mental health is extremely concerning. However, there are research findings showing that religiosity is associated with better mental health. Therefore, this study is aimed to gain more understanding on the effects of religiosity as the coping style on the relationship between stressors and mental health of volunteers at the Klang Valley Vaccine Distribution Centers (PPV), Malaysia. This is quantitative research which involved 226 participants who were volunteers at the PPVs in Shah Alam and Kuala Lumpur. The findings showed that there are significant relationships between the stressors comprising workload & environment, organizer & colleagues, dealing with recipients and knowledge & skills and mental health of these volunteers. Religiosity, on the contrary, has negative significant relationship with all of these stressors, but positive significant relationship with mental health of these volunteers. This further endorses the other research findings that religiosity can be one of the coping strategies of these volunteers to maintain their overall mental health while working at the PPVs.

Keywords: Volunteer, workload & environment, knowledge & skills; religiosity; coping style; psychological distress; mental & physical illness; mental health; COVID-19.

1   Introduction

COVID-19 pandemic and the lockdown have taken the world by storm. The pandemic has enormously affected psychological, physical and mental health of people around the world resulting in millions of deaths and sufferings due to loss of income and family members. This in the end resulting in the economic recession which has negatively affected mental health (Baloch, et al., 2021; Sundarasen, et al., 2020) of the survivors.

According to Cullen, et al. (2020), during any outbreak of an infectious disease, the population's psychological reactions play a critical role in shaping both the spread of the disease and the occurrence of emotional distress and social disorder during and after the outbreak. Despite this fact, resources are typically insufficient to manage or weaken the pandemics' effects on mental health and well being (Lemieux-Cumberlege, & Taylor, 2019). While this might be understandable in the acute phase of an outbreak, and when health systems prioritize testing, reducing transmission and critical patient care, psychological and psychiatric needs should not be overlooked during any phase of pandemic management.

It is known that psychological factors play an important role in adherence to public health measures (such as vaccination) and in how people cope with the threat of infection and consequent losses which are clearly crucial issues to consider in the management of any infectious disease including COVID-19. Psychological reactions to pandemics include maladaptive behaviours, emotional distress and defensive responses (Lemieux-Cumberlege, &

Taylor, 2019). Therefore, people who are prone to psychological problems are especially vulnerable to the effect of the pandemic. Brooks et al. (2020) reported that the consequences of the types of quarantine measures like those enacted for the COVID-19 pandemic can have devastating effects on mental health, which include exhaustion, isolation, boredom, frustration, and symptoms of post-traumatic stress. However, the pervasiveness of religiosity has provided the opportunity for religious leaders to act as agents of change for better or worse during the COVID-19 pandemic. Furthermore, religious communities have been called upon to work with secular and political organizations to promote well being (Hallingberg, et al., 2021).

These psychological problems may be reduced by people's belief in religion as it gives them something to believe in, provides a sense of structure and typically offers them to connect with over similar beliefs. These facets can have a large positive impact on mental health, research suggests that religiosity reduces suicide rates, alcoholism and drug use. Here are some of religion's main mental well-being benefits (Behrend, 2022). From the communal perspectives, religions initiate social connection with other members thus forge an unofficial support group which creates a sense of belongingness and in the end offers trustworthy and safe social engagement the resonate the understanding that no one is actually alone facing the effects of the pandemic.

On the spiritual stand point the pandemic teaches humans to be more compassionate with others during this difficult time by showing respect and offering helping hands where necessary to those who needed help. This consequently creates structural perspectives in terms of help needed so much so the kind of helps needed are predictable and at times regularly. As humans go through this rough and torturous time, we began to learn certain guidelines to live by not only during this pandemic but also any disastrous situation. As a consequence, we can experience that people around us are more compassionate, forgiving and grateful. This is the lesson that religion can impact on us as the aftermath of this pandemic and shows how religiosity acts as one of the coping strategies in managing mental health during this testing period.

According to DeRossett, et al. (2021), religious coping is one potential strategy to manage stressors. Positive religious coping has been linked to better physical and mental health outcomes, while negative religious coping has been associated with increased stress and anxiety. Therefore, the present study intends to explore the type of stressors that influence the state of mental health of the volunteers at PPVs during the COVID-19 pandemic with religiosity as the coping strategy.
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2 Literature Review

2.1 Psychological Distress

The purpose of the study is to investigate factors that influence mental health among volunteers at the vaccine distribution centers. Mental health can be categorized into three; psychological distress, physical illness and mental illness. The first concern is on psychological distress as Folkman and Lazarus (1985) and Lazarus and Folkman (1984) suggested that "psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984).

Psychological distress is widely used as an indicator of mental health of the population in public health, in population surveys and in epidemiological studies and, as an outcome, in clinical trials and intervention studies. Yet, the concept of psychological distress is still vague. Indeed, a closer look at the scientific literature shows that the expression "psychological distress" is often applied to the undifferentiated combinations of symptoms ranging from depression and general anxiety symptoms to personality traits, functional disabilities and behavioural problems (Drapeau, et al., 2012; Marchand, et al., 2012).

2.2 Physical Illness

Stress is a feeling of emotional or physical tension. It can come from any event or thought that makes you feel frustrated, angry, or nervous. Stress is your body's reaction to a challenge or demand. In short bursts, stress can be positive, such as when it helps you avoid danger or meet a deadline. But when stress lasts for a long time, it may harm your health (U.S. National Library of Medicine, 2022).

Your body reacts to stress by releasing hormones. These hormones make your brain more alert, causing your muscles to tense, and increasing your pulse. In the short term, these reactions are good because they can help you handle the situation causing stress. This is your body's way of protecting itself. When you have chronic stress, your body stays alert, even though there is no danger. Over time, this puts you at risk for health problems, including high blood pressure; heart disease, diabetes, obesity (U.S. National Library of Medicine, 2022).

2.3 Mental Illness

Key actions on caring for volunteers in COVID-19 is a quick reference tool for National Societies in providing effective care and support to volunteers during the different phases of a COVID-19 response. Volunteers are impacted by COVID-19 like everyone else worldwide. They worry about being stigmatized by family and community members and may be afraid of contracting the virus. Like other people, they are very concerned about having to be in isolation or quarantine and dread losing colleagues and friends, as well as their family members. If not adequately supported, volunteers may experience stress responses that could have a long-term negative impact on their psychological well-being.

Their level of coping will depend on their personal resources and resilience, as well as on the supports available at home and from the community or society. Unfortunately, however, if not supported, it is likely that volunteers will become disillusioned and perform less well and subsequently the team will experience high turnover (Psychosocial Center, 2022). In addition, Jetten, et al. (2017) suggested that the core premise of this approach is that people's self-understanding and behavior are fundamentally intertwined with the social groups to which they belong or those group memberships and the social identities that people derive from them which have important consequences to their health and well-being (Haslam, et al., 2018).

The following discussion is on the predictors of volunteer mental health components that include psychological distress, physical illness and mental illness.

2.4 Workload & Environment

After reviewing past studies on mental health and well-being, several factors have been identified as stressors or predictors of mental health. One of them is workload & environment. Studies have suggested how the workload generates stress on both social and working life (Pace et al., 2021; Warm, et al., 2018). Indeed, several studies have underlined how an excessive perception of workload predicates difficulties such as stress and general uneasiness (Brady, 2020), and some other studies suggested that the first cause of individual stress is perceived workload, followed by a lack of support (Pace et al., 2021).

The relationship between workload & environment and mental health is even more evident in the era of COVID-19 pandemic when statistics show the increase in the mental health cases especially among health workers (Al-Hanawi, et al., 2020). Mental health of employees has been increasingly recognized as a crucial determinant in their overall health and that poor mental health and stressors at the workplace can be a contributory factor to a range of physical illnesses like hypertension, diabetes and cardiovascular conditions, amongst others. Poor mental health can also lead to burnout among employees which can seriously affect their ability to contribute meaningfully in both their personal and professional lives (López-Cabarcos, et al., 2020; Yang, & Hayes, 2020).

Based on the above discussion, the following hypotheses are developed:
H1a: Workload & environment significantly influence psychological distress.
H1b: Workload & environment significantly influence physical illness.
H1c: Workload & environment significantly influence mental illness.

2.5 Organizer & Colleagues

The health of people's body and mind is powerfully conditioned by social factors that affect their social identity. Consistent with this notion, there is a growing interest in the way that group memberships (and the social identities derived from belonging to these groups) affect health and well-being. To the extent that group memberships provide individuals with meaning, support, and agency (i.e., a positive sense of social identity), health is positively impacted, constituting a "social cure". However, when group membership is not associated with these positive psychological resources or when social identity is challenged in other ways (e.g., group membership is

devalued or stigmatised), social identities may become a curse, threatening and potentially harming health and well-being (Haslam et al., 2018; Jetten, et al., 2017).

Belongingness is the crucial piece of the puzzle, leading to psychological safety (Allen, 2020). Therefore, it is important for the vaccination distribution centre management to create a sense of belongingness and support between the organizer and colleagues as a team while working at these centers as to generate a more positive sense of social identify that may positively impact the volunteer's psychological health (Farmer, et al., 2015).

Based on the above discussion, the following hypotheses are developed:
H2a: Organizer & colleagues significantly influence psychological distress.
H2b: Organizer & colleagues significantly influence physical illness.
H2c: Organizer & colleagues significantly influence mental illness.

2.6 Dealing with Recipients

Dealing with the recipients of the vaccine is not an easy task as there are a plentiful of recipients PPV volunteers have to handle and manage, which can be tiring. However, with a strict SOP, it has lessened the burden of handling these recipients. New research suggests that volunteers are not just helping the community they serve, but also experience boost in their mental health (Bowe, et al., 2022).

Studies have found that those who volunteered reported being more satisfied with their lives and rated their overall health as better (Lawton, et al., 2021; Pfeffer, et al., 2022; Wood, et al., 2019). Respondents who volunteered reported having better mental health than those who did not volunteer. Among other benefits are feeling happy, experiencing reduced stress, being more confidence and finding purpose. Perhaps, this is due to the reason that they do not have to be in a close environment especially during the Movement Control Order (MCO).

Based on the above discussion, the following hypotheses are developed:
H3a: Dealing with recipients significantly influences psychological distress.
H3b: Dealing with recipients significantly influences physical illness.
H3c: Dealing with recipients significantly influences mental illness.

2.7 Knowledge & Skills

Volunteers give time and support, without expectation of payment, for the good of others, a community or organization which can take a range of forms which may cover (but is not limited to) assisting individuals in need, who are lonely, undertaking conservation work, or completing tasks, for instance, in a museum or library (Baines, 2004). A distinction is made between formal and informal volunteering. The former refers to participation in activities that take place within the context of an organization or group (Rutherford, et al., 2019; Strauss, 2021), which may be organization-related activities such as raising money, campaigning, sitting on a committee and administrative duties. While person-centered work includes befriending, educating and advising (Nazroo & Matthews, 2012).

Volunteering for a charity or group enables people to make connections with others and to be involved in interesting, worthwhile and/or enjoyable pursuits and can be formed as part of a social prescribing action plan developed between a patient and a worker. Greater understanding of the processes through which volunteering can improve people's well-being as part of social prescribing will help to support workers in executing their role (Tierney, et al., 2022; Tierney, et al., 2020). Therefore, volunteers need to have knowledge and skills to understand the processes involved in the work.

Based on the above discussion, the following hypotheses are developed:
H4a: Knowledge & skills significantly influence psychological distress.
H4b: Knowledge & skills significantly influence physical illness.
H4c: Knowledge & skills significantly influence mental illness.

2.8 Religiosity as a Moderator

Religiosity and spirituality have been found to be associated with a variety of mental health and illness parameters. In the last decades, there is an increasing number of publications with interesting results on the relationship between religiosity and mental health, both on a theoretical and a clinical level (Kioulos et al., 2015). Religion has been generally considered as a protective factor for the psychological health of people. Saleem and Saleem's (2017) findings revealed that religiosity is a strong predictor of psychological well-being. Extrinsic and intrinsic religiosity predicts psychological well-being among students.

Religion has also been considered as a potential source of existential meaning that has a significant impact on psychological well-being. It may contribute directly to people's well-being or indirectly by giving a sense of meaning and purposeful direction in life (Aflakseir, 2012). A number of theorists believe that a sense of meaningfulness in life is essential to ensuring mental health (Glaw, et al., 2017). Contemporary research has shown that religiosity is an important construct in preventing illnesses, promotion of wellness, and successful adaptation to life's changing circumstances (Myers, et al., 2000).

Most studies reported positive associations between religiosity or spirituality and aspects of mental health, while a small proportion of studies reported mixed or fully negative associations (Jokela, 2022; Malinakova et al., 2020). As the outcome of COVID-19 towards mental health and well-being has been labelled as a "second pandemic" (Summers, et al., 2021), the study will explore the volunteers' mental health as the outcome of these stressors.

Based on the above discussion, the following hypotheses are developed:
H5a: Religiosity significantly moderates the relationship between the stressors and psychological distress.
H5b: Religiosity significantly moderates the relationship between the stressors and physical illness.
H5c: Religiosity significantly moderates the relationship between the stressors and mental illness.

3 Methodology

This is a quantitative study conducted at more than 10 PPVs (vaccination centers in the Klang Valley, Malaysia). A set of specially designed questionnaire was given to the volunteers at those centers. The instrument used in this study consists of five (5) sections, which are; Section A for demographic variables that consists of seven (7) items, Section B is about general concerns about COVID-19, which consists of 21 items, Section C is about sources of stress perceived by the volunteers, which comprises four (4) parts that are "stress dealing with vaccine recipients", "stress from PPV organizer & colleagues", "stress from workload @ tasks", "stress from lack of knowledge & skills", and lastly "stress from the environment". In addition, Section D comprises items measuring different components of mental health consisting of "measurement of psychological distress" (5 items) and "symptoms of mental illness" which consists of 19 items. Lastly, Section E is about "coping strategies" which consists of 19 items.

The questions were taken from a study by Wu, et al. (2021) using a 5-point Likert scale (1-never, 5-always). Measuring the respondents' mental health, including psychological distress, physical illness, and mental illness were adapted from the Self-Reporting Questionnaire (SRQ) by Coffey, et al., (2021) and Beusenberg and Orley (1994) in Part D. Section E asked the respondents about coping strategies. Coping strategies refer to the techniques or actions taken when facing stressful situations. The coping styles, including rational, avoidant, detached, and emotional, were adapted from Folkman and Lazarus (1985), while religious and spiritual coping styles were adapted from Pargament, Feuille, and Burdzy (2011). The scale used for parts D and E was the 5-point Likert scale (1-strongly disagree, 5-strongly agree). The collected data were analyzed using the statistical software, i.e., SPSS Version 26. Both descriptive statistics (like mean and standard deviation) and inferential statistics (like a hierarchical regression analysis) were used in the study.

The questionnaire was distributed using google form via whats-app application to the person in-charged who would share the form with the respective volunteers. The questionnaire was adapted from the established questionnaire and the items were modified in order to get the required responses according to the research questions. Samples for these studies were chosen from those volunteers at the selected PPVs. The sampling technique used was convenience sampling since the volunteers were assumed to have the same characteristics and are having similar experience working at the PPVs.

Several analyses were performed on the collected data. Firstly, a descriptive analysis was performed on the demographic factors. Secondly, a factor analysis was done to determine the dimensionality of the factors, followed by a reliability test that was done to determine the Cronbach's Alpha values of the variables concerned. Since, the study is to determine the relationship between the stressors, i.e., workload & environment, organizer & colleague, dealing with recipients of vaccine, and knowledge & skills, and mental health components; psychological, physical and mental stress, a series of multiple regression analyses were performed. Lastly, moderated multiple regression analyses were conducted to examine the effect of the moderator on the relationship between PPV volunteers' stressors and their mental health.

4   Results and Findings

4.1 Respondents' Profile

Based on the result of the descriptive analysis of the respondents' profile, there were 224 respondents participated in this study where 48% were male volunteers whilst, 52% were female. Majority of them aged between 35 and 44 years old (46.5%), followed by those aged between 25 and 34 years old (22.1%). A total of 68.1% of respondents were married and most of them were non-academicians (65%). Next, 60% were part-time non-clinical employees, followed by full-time non-clinical volunteers (29.6%). Majority of the respondents were from PPV Dewan Berlian UiTM Puncak Alam (38.9%), Hospital Puncak Alam (35%), PPV AEON Bukit Raja (4.9%), PPV Hospital UiTM Shah Alam (4.4%), PPV IDCC (2.2%), PPV UCSI (2.2%), PPV KLCC (1.3%) and Hospital UiTM Sg. Buloh (.9%) and other various PPVs around Shah Alam (9.7%).

Looking at their personality traits, volunteers were mostly characterized as having agreeableness (37.2%), conscientiousness (29.6%), openness (15%) and lastly, neuroticism (.4%) as their dominant personality traits.

Table 1: Correlation and Reliability Analysis

No	Variables	Mean	SD	1	2	3	4	5	6	7	8
1	Workload & Environment	1.74	.73	(.888)							
2	Organizer & Colleague	2.10	.93	.643**	(.927)						
3	Dealing with Recipients	2.20	.72	.568**	.496**	(.877)					
4	Knowledge & Skills	1.85	.70	.654**	.457**	.626**	(.862)				
5	Religiosity	4.29	.71	-.173**	-.145*	-.161**	-.144*	(.889)			
6	Psychological Distress	1.70	.85	.478**	.406**	.479**	.399**	-.138*	(.915)		
7	Physical Illness	1.96	.69	.454**	.326**	.426**	.414**	-.164**	.719**	(.908)	
8	Mental Illness	1.88	.76	.413**	.393**	.377**	.321**	-.151*	.766**	.802**	(.915)

Notes: **. Correlation is significant at the 0.01 level (1-tailed); *. Correlation is significant at the 0.05 level (1-tailed); Cronbach's alphas are along the diagonal in the parentheses; N=226

Table 1 shows that all the independent variables have significant correlations with each other, indicating a convergent validity. The independent variables are also seen to have significant relationship with the dependent variables, confirming the concurrent validity of the constructs. Moreover, religiosity as the moderator has a negative significant correlation with all the independent variables. This proves that the higher the religious belief the lesser the stressors experienced by the volunteers. In addition, religiosity is also found to have a negative significant relationship with psychological distress, physical illness, and mental illness experienced by the respondents. Therefore, it can be said that religiosity has a potential role to moderate the effect of stressors on the mental health components of the volunteers.

Table 1 also shows that all the variables have Cronbach Alpha values of above .8 to .9, thus, indicating evidence that all the items measuring those variables are highly reliable.

After the correlation and reliability analyses had been conducted, the data were further analyzed using the moderated multiple regression analysis to prove whether religiosity moderates the relationship between the stressors

and mental health components that comprise psychological distress, physical illness and mental illness of the volunteers working at the PPVs.

Table 2: Moderated Multiple Regression Analysis (Psychological Distress as the Dependent Variable)

Independent Variables	Standardized Beta Coefficients		
	Model 1	Model 2	Model 3
Workload & Environment	.347**	.342**	1.046
Organizer & Colleague	.017	.016	.700
Dealing with Recipients	.304**	.301**	-1.049
Knowledge & Skills	.060	.058	.039
Moderator			
Religiosity		-.049	-.192
Interaction Terms			
Workload & Environment * Religiosity			-.723
Organizer & Colleague * Religiosity			-.695
Dealing with Recipients * Religiosity			1.424*
Knowledge & Skills * Religiosity			.030
R	.626	.628	.647
R^2	.392	.395	.419
Adjusted R^2	.381	.380	.393
R^2 Change	.392	.002	.024
F Change	33.739	.814	2.098
Sig. F Change	.000	.368	.082
Durbin Watson			1.937

Notes: ** Sig. at the 0.01 level, * Sig. at the 0.05 level

Table 2 shows the result of a moderated multiple regression analysis with psychological distress as the dependent variable. As shown in the table, it was found that in Model 1, R^2 value of .392 indicates that 39.2% of the variance in the model is explained by the independent variables. The model is significant. However, when the moderator is included, the increase in R^2 change is not significant (as shown in Model 2), denoting that the moderator cannot act as an independent variable. In Model 3, an increase of 2.4% of the explained variance is still insignificant, indicating that the inclusion of the interaction terms does not bring a significant effect to the explanation of variance in the regression model.

Referring to the regression coefficient findings, the independent variables; workload & environment (β=.347, p<0.01) and dealing with recipients (β=.304, p<0.01) have significant correlations with psychological distress. However, organizer & colleague, and knowledge & skills do not have any significant influence on psychological distress. As a moderator, religiosity does not have any significant influence on psychological distress as shown in Model 2. On the other hand, Model 3 does not show any significant relationship between all the interaction terms and psychological distress among the volunteers at PPVs.

Based on the findings, hypothesis 1a and hypothesis 3a are supported. However, hypothesis 2a, hypothesis 4a, and hypothesis 5a are not supported.

Table 3: Moderated Multiple Regression Analysis (Physical Illness as the Dependent Variable)

Independent Variables	Standardized Beta Coefficients		
	Model 1	Model 2	Model 3
Workload & Environment	.358**	.351**	.853
Organizer & Colleague	-.044	-.046	.340
Dealing with Recipients	.219**	.216**	-.472
Knowledge & Skills	.173*	.170*	-.806
Moderator			
Religiosity		-.074	-.500**
Interaction Terms			
Workload & Environment * Religiosity			-.499
Organizer & Colleague * Religiosity			-.422
Dealing with Recipients * Religiosity			.713
Knowledge & Skills * Religiosity			1.042
R	.617	.621	.642
R^2	.380	.385	.412
Adjusted R^2	.368	.371	.386
R^2 Change	.380	.005	.026
F Change	32.043	1.812	2.271
Sig. F Change	.000	.180	.063
Durbin Watson			1.878

Notes: ** Sig. at the 0.01 level, * Sig. at the 0.05 level

Table 3 shows the result of a moderated multiple regression analysis with physical illness as the independent variable. As indicated in Model 1 of the table, the R^2 value of .380 portrays that 38% of the variance in the model is explained by the independent variables and the regression model is significant. However, when religiosity was entered into the model (Model 2), the R^2 change is only 0.5%, which is not significant. In Model 3, the inclusion of the interaction terms in the regression model increases the explanation of variance by 2.6%, which is also not significant. Therefore, it can be said that religiosity does not moderate the relationship between the independent variables and physical illness.

Regarding the influence of the stressors on physical illness as shown in Model 1, all variables except organizer & colleagues do significantly influence physical illness; workload & environment (β=.358, p<.01), dealing with recipients (β=.219, p<.01) and knowledge & skills (β=.173, p<.05). In Model 2, religiosity is not significant to directly influence physical illness. Model 3 shows that there is no significant influence of the interaction terms on physical illness. Therefore, it can be concluded that religiosity does not act as a moderator to influence the relationship between the stressors and physical illness among volunteers at PPVs.

Based on the findings, hypothesis 1b, hypothesis 3b and hypothesis 4b are supported. However, hypothesis 2b and hypothesis 5b are not supported.

Table 4: Moderated Multiple Regression Analysis (Mental Illness as the Dependent Variable)

Independent Variables	Standardized Beta Coefficients		
	Model 1	Model 2	Model 3
Workload & Environment	.345**	.341**	.856
Organizer & Colleague	.106	.104	.977
Dealing with Recipients	.213**	.211**	-.320
Knowledge & Skills	.046	.044	-1.333*
Moderator			
Religiosity		-.053	-.388*
Interaction Terms			
Workload & Environment * Religiosity			-.503

Organizer & Colleague * Religiosity			-.945
Dealing with Recipients * Religiosity			.529
Knowledge & Skills * Religiosity			1.483*
R	.602	.605	.635
R²	.363	.366	.404
Adjusted R²	.351	.350	.378
R² Change	.363	.003	.038
F Change	29.755	.890	3.273
Sig. F Change	.000	.346	.013
Durbin Watson			2.043

Notes: ** Sig. at the 0.01 level, * Sig. at the 0.05 level

Table 4 shows the results of a moderated multiple regression analysis with mental illness as the dependent variable. Referring to Model 1 in the table, the R^2 value of .363 shows that a sum of 36.3% of the variance in the regression model is explained by the independent variables and the model is significant. Model 2 presents that the inclusion of religiosity as a moderator increases the explained variance by .03%, which is not significant. However, in Model 3, the inclusion of the interaction terms increases the explained variance by 3.8% and the model is significant. It shows that religiosity is a significant moderator when the stressors are regressed against mental illness.

In determining the influence of the stressors on mental illness, Model 1 shows that both workload & environment (β=.345, p<.01), dealing with recipients (β=.213, p<.01) are significant. However, organizer & colleagues and knowledge & skills do not act as significant predictors of mental illness. Model 2 also shows that religiosity is not significant to act as an independent variable. Model 3 presents that the inclusion of the interaction terms provides a significant result. Religiosity interacts with knowledge & skills to significantly influence mental illness (β=1.483, p<.05). The finding shows that religiosity significantly moderates the relationship between knowledge & skills and mental illness.

Based on the findings, hypothesis 1c and hypothesis 3c are supported while hypothesis 5c are partially supported. However, hypothesis 2c and hypothesis 4c are not supported.
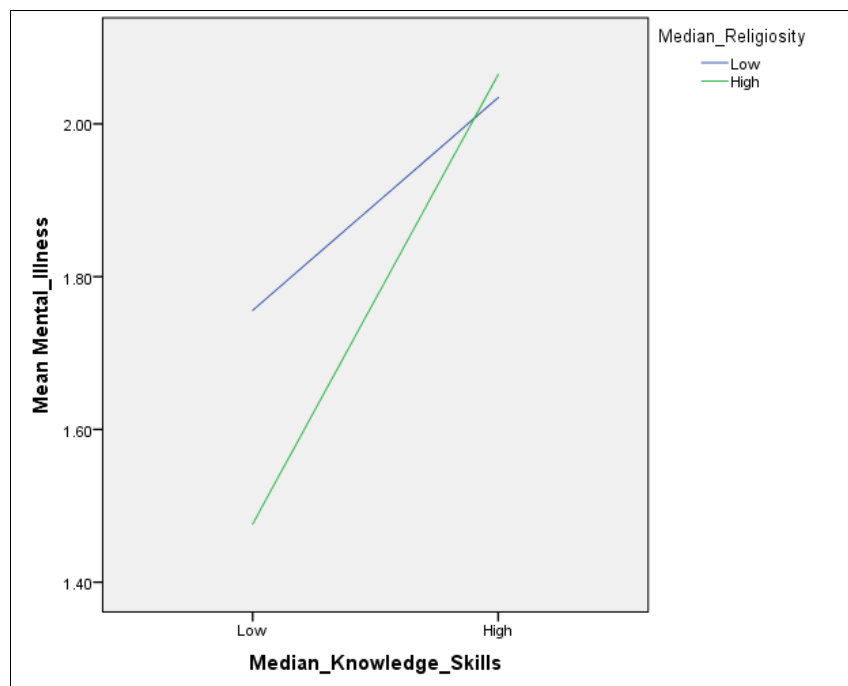

Figure 1: The moderating effect of religiosity on the relationship between knowledge & skills and mental illness

Figure 1 shows that there is a significant interaction between knowledge & skills and religiosity to influence mental illness. The graph also indicates that when the level of knowledge & skills of volunteers is low, the level of mental illness is also low for those with higher level if religiosity. However, the level of mental illness is higher for those with the lower level of religiosity. Therefore, it can be summed up that when volunteers' knowledge & skills are low, they need to be equipped with greater level of religiosity in order to avoid from experiencing mental illness.

When volunteers have higher level of knowledge & skills, the effect of religiosity is less apparent since both groups of volunteers (those with higher level of religiosity and those with lesser score on religiosity) recorded higher perception on mental illness. The most plausible reason for this occurrence is that when volunteers are knowledgeable pertaining to the seriousness of the disease, they become more concerned with the possibility of getting infected. At this point, having high level of religiosity does not help much. Volunteers need the other coping strategies to deal with their mental health issues.

4.2 Discussion, Limitation and Future Research

The study examined the relationship between the stressors, i.e., workload & environment, organizer & colleagues, dealing with recipients and knowledge & skills, and mental health of volunteers working at the PPVs in the Klang Valley. The results show that there is a significant influence of workload & environment and dealing with recipients on the three components of mental health, i.e., psychological distress, physical illness and mental illness. Knowledge & skills are only significant when regressed against physical illness. On the other hand, religiosity as the moderator has a significant effect on the relationship between knowledge & skills and mental health.

Working as a volunteer is stressful due to heavy workload and in a life-threatening environment. This definitely will negatively affect the mental health of the volunteers. The finding is well supported by the evidence of the past studies (e.g., Pace et al., 2021) that show that heavy workload will cause mental issue. Dealing with recipients is another cause of mental health issue among the volunteers. The reason behind it is that during the spike of COVID-19 cases, volunteers were working under pressure since they didn't know exactly the health status of the recipients. Some recipients faked their status in order to get the vaccination and this situation would put the life of volunteers at stake.

Knowledge & skills are also important to affect volunteers' mental health. Lack of knowledge and skills on the virus and how it spreads will create difficulties to volunteers to effectively carry out their duties. Therefore, volunteers need to be adequately taught and trained as these practices will boost their motivation and confidence in executing their role. Nazroo and Matthews (2012), Rutherford, et al. (2019) and Tierney et al. (2022) provided support for the statement. Another factor that is predicted to contribute to mental health is support from organizer & colleagues. However, this factor is not significant predictor of mental health. This is because everybody was highly occupied with his or her respective role. They worked according to the stringent SOPs set by the government and less support is required.

The present study also provides evidence on the importance of religiosity in moderating the effect of lack of knowledge and skills on volunteers' mental health or specifically mental illness. When volunteers had minimal amount of knowledge and skills, they would likely experience mental illness. In this case, religiosity is required to reduce the consequence of limited knowledge and skills on mental illness. Previous authors such as Malinakova et al. (2020), Saleem and Saleem (2017), Villani et al. (2019) and Kim-Prieto and Miller (2018) agreed that religiosity is the most appropriate mechanism to avoid individuals or in this case volunteers from experiencing mental illness. This is the main contribution of the present study.

The limitation of this study is that the results cannot be generalized to all types of volunteering work because this study was conducted on volunteers who worked at the Vaccine Distribution Center (PPV) during the COVID 19 pandemic only. Therefore, the findings cannot be generalized to volunteers working at the relief centers for disasters such as earthquake, flood or any other natural disaster or other kinds of disastrous situation or it can neither be generalized to volunteers who have medical knowledge background or healthcare workers. Therefore, it is recommended that further studies should be carried out to determine the type of stressors or moderating factors that may influence the mental health of volunteers working at relief centers or any other emergency centers.

5   Conclusion

The issue of mental health among volunteers during the COVID-19 pandemic has received a considerable attention. However, the empirical evidence is still scarce in finding the right solutions to the problem. The present study was undertaken to contribute to finding the potential solution that can be used to lessen the impact of the stressors on mental health of volunteers. Using the data collected from 226 volunteers at various PPVs in the Klang Valley, it is evident that religiosity can serve as a panacea to address the psychological, physical and mental illnesses among the volunteers working at vaccination centers not only in Malaysia but also in different parts of the world. The management of the PPVs should use religiosity as the strategic intervention to avoid volunteers from suffering the health-related issues when serving the public especially for those with low knowledge & skills in performing their duties. The findings enrich the existing body of knowledge with regard to the importance of religiosity in moderating the effect of stressors on mental health components, which are psychological distress, physical illness and mental illness. Future research is encouraged to replicate the study in different settings in order to confirm the present study's findings.

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