Moderating role of decentering in the relationship between mindfulness and post-traumatic symptoms among individuals with history of sexual abuse

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Abstract

The study investigated mindfulness and decentering among individuals with at least one trauma history of sexual abuse. Data were collected from 223 victims with ~~of~~trauma history of sexual abuse, selected with the aid of different civil society organizations across South-east Nigeria. The participants were chosen through the snowball sampling technique. Multiple linear regression was used for data analysis. The result showed a negative relationship between mindfulness and post-traumatic symptoms and a negative relationship between decentering and post-traumatic symptoms. The result also showed that decentering moderated the relationship between mindfulness and post-traumatic symptoms. The findings from the study contribute to knowledge, as they expanded the mindfulness to meaning theory, which holds that different perspectives are formed in the appraisal of events with the help of mindfulness, thus limiting the effect of such events on the individual's behaviour. The results of this study suggest that psychotherapists may benefit from incorporating mindfulness-based treatment methods and decentering mechanisms into their therapeutic approach. This is particularly relevant when working with individuals who have experienced trauma, as the moderating effect of decentering on the relationship between mindfulness and trauma should be taken into consideration. which includes conducting randomized control trial to firmly determine the relationship among variables, focusing on different trauma history, including data from participants' significant others in order to avoid the inflation or deflation of result due to common method variance.

***Keywords*:** Mindfulness, Decentering, Trauma history, Sexual abuse, Mental health

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Introduction

Exposure to events requires an emotional response to help avert negative consequences that may harm individual's health. Sometimes, these events leave lingering emotional responses, and the individual who experienced them bears their effect. The lingering emotional response is at the foundation of trauma. Trauma is a dynamic process that involves the interaction between an event or series of events and the individual level of vulnerability and protective factors (Kimberg, 2016)

McLaughlin et al. (2013) reported that an estimate of about 62-68% of young people at the age of 11 tend to be exposed to at least one traumatic event. Dückers et al. (2016) reported that the prevalence of potential traumatic exposure is about 67%, which was evident from studies conducted across 16 countries. In the English population, Lewis et al. (2019) reported that 31.1% is exposed to traumatic experiences. In the Australian people, it was reported that about 57-75% of them are bound to experience a traumatic event at some point in their lives (Mills et al., 2011). However, in line with the trauma in focus, which is sexual abuse, the Rape, Abuse and Incest National Network (2015) reported that sexual assault in America happens every 107 seconds.

In the Nigerian population, the United Nations, in their 2020 report by Tolu-Kolawole (2021), affirmed that 11,200 Nigerian women and children were raped in 2020. Also, David et al. (2018) reported that child sexual abuse prevalence in Nigeria is about 25.7%. In addition, the United Nations International Children's Emergency Fund (UNICEF) in their 2015 study, reported that one in four girls and one in 10 boys have experienced sexual violence before the age of 18 in Nigeria (UNICEF, 2015). This shows that not only is the prevalence of sexual abuse high in Nigeria, but a more significant percentage have also had histories of sexual abuse, and these histories if not managed, may lead to the development of post-traumatic stress disorder. Specifically, Kawu (2013) reported that about 31% of girls had rape and forced sex as their first sexual encounter thus, indicating the incidence of sexual abuse among the Nigerian population.

Mindfulness and posttraumatic sexual abuse

How the mind is structured after a traumatic event makes the individual either vulnerable or free from post-traumatic stress. This forms the need to positively train the mind through mindfulness, because mindfulness training benefits mental health (McClintock et al., 2019) and its effectiveness stands the test of time (Solhaug et al., 2019). Mindfulness refers to being consciously aware of the present moment through paying attention to purpose and having a neutral view of experiences (Kabat-Zinn, 2003). Through regular mindfulness practice, the internal mindfulness state of an individual increases (Carmody & Baer, 2008) as well as theirability to control their attention, regulate their emotions, and be aware of their internal state (Tang et al., 2015). This is the implication of Horowitz's Stress Response Theory (Horowitz, 1986), which explains the cognitive processes involved in processing traumatic information and survival (Mitch Medical Healthcare, 2021). Mindfulness to meaning theory similarly posits that mindfulness helps an individual to decenter from the appraisal of stress, which allows the individual to embrace the meta-cognitive state of awareness, which results in the broadened attention to novel information that houses the reappraisal of life (Garland et al., 2015).

Significantly, Earley et al. (2014) found that a mindfulness-based stress reduction programme was effective in managing adults who experienced sexual abuse as a child. In addition, Kimbrough et al. (2010) found that mindfulness-based stress reduction helped in improving emotional well-being and the removal of distress among individuals with experiences of childhood sexual abuse. Further, being trained in mindfulness among women with childhood sexual abuse brought about a decrease in symptoms of anxiety, depression, post-traumatic stress disorder, psychological distress, as well as sexual dysfunction (Brotto et al., 2012). However, with the efficacy of mindfulness and mindfulness-based treatment in reducing trauma effects, specifically about trauma history of sexual abuse, the role of decentering in mindfulness cannot be undermined as they share related characteristics with decentering projected to relate with mindfulness (Bernstein et al., 2015).

Decentering and mindfulness in sexual abuse trauma

Naragon-Gainey and Demarree (2017) defined decentering as "a present-moment awareness of one's mental experience marked by a detached observed perspective" (p.935). It refers to the cognitive ability to distance the self from information the mind cultivates through awareness and the formation of different perspectives on the event (Fresco et al., 2007). Decentering cuts across an awareness of present experience, dis-identification from internal experience, and reduced reactivity to thought contents (Bernstein et al., 2015; Bernstein et al., 2019). Decentering and mindfulness share relationships (Bernstein et al., 2015). Carmody et al. (2009) reported that dispositional and state mindfulness increased in line with disidentification, a decentering component. This improves with the cultivation of mindfulness, which leads to a shift in focus and perspective about thought and emotions being the core of decentering (Shapiro et al., 2006).

Having different perspectives on events will help in the non-judging aspect of mindfulness to bring about good mental health. Shapiro et al. (2006) stated that an increase in decentering practices during the mindfulness-based intervention led to an increase in mindfulness. This interrelationship between decentering and mindfulness alters the ability to regulate self, changes values, and increases flexibility and exposure (Shapiro et al., 2006). Also, establishing mindfulness is projected to open decentering practices (Bieling et al., 2012; Farb et al., 2017; Hoge et al., 2015; Segal et al., 2018). Mindfulness practices increase conscious awareness, which occurs when one descends from one's thoughts and emotions (Bieling et al., 2012). Decentering and mindfulness have also been jointly effective in improving quality of life during mindfulness-based intervention, as well as mindfulness-enriched cognitive behavioural therapy (Fresco et al., 2017; Mennis et al., 2018); specifically, in the lasting management of distress disorders (Bieling et al., 2012; Farb et al., 2017; Hoge et al., 2015; Segal et al., 2018). Wells (2005) who introduced "detached mindfulness" as a construct, revealed another link between decentering and mindfulness. Detached mindfulness is a practice made from the combination of attention detachment of mindfulness and a deep understanding of thoughts and events of decentering (Wells, 2005).

Furthermore, decentering mindfulness has also been effective in mental health management. Hyes-Skelton and Graham (2013) reported that decentering is a critical factor through which mindfulness positively affects mental health. Decentering helps the individual not to monitor internal experiences closely and perceive such experiences as dynamic representations of the self which can be altered (Fresco et al., 2008). Decentering perspective in mindfulness practice reduced deep thinking, leading to depression, which reduced the risk of relapse among individuals with major depression (Ramel et al., 2004).

Similarly, Hargus et al. (2010) revealed that mindfulness gives room for decentering. Also, the presence of decentering in mindfulness-based cognitive therapy served as a protective factor against suicidal thoughts and the manifestation of depressive symptoms in a six-month follow-up study (Hargus et al., 2010). This highlights that notwithstanding the tendency of decentering to increase the impact of mindfulness in managing mental health problems, mindfulness can increase decentering in an individual, which is done through mindfulness training (Bieling et al., 2012). In addition, Hayes-Skelton and Graham (2013) reported that decentering mediated the effect of mindfulness on social anxiety. Also, Hoge et al. (2015) pointed out that a change in decentering posed a mediation on the relationship between mindfulness-based stress reduction and anxiety. In addition, Lee (2021) reported that decentering mediated the relationship between mindfulness and stress and anxiety. Wang et al. (2022) reported that the possession of trait mindfulness protects symptoms of post-traumatic stress and an individual's ability to deal with negative emotional states. Similarly, Hopwood and Schutte (2017) revealed the significant impact of mindfulness and its symptoms on the reduction of traumatic experiences. Again, Bremner et al. (2017) showed that mindfulness-based stress reduction was an effective treatment modality for reducing the symptoms of post-traumatic stress.

Moderating the role of decentering in the relationship between mindfulness and posttraumatic symptoms

With the mediating effect of decentering on the relationship between mindfulness and mental health benefits highlighted, decentering may play a moderating role in determining the direction of decentering in the relationship between mindfulness and mental health constructs like post-traumatic symptoms, specifically among individuals with a sexual abuse history. In a study, higher levels of decentering in an individual brought about higher life satisfaction, an increase in positive affect, and a reduction in negative affect (Milosch, 2019). The author also found that higher decentering in an individual brought about a reduction in negative emotions, depression, anxiety and stress. In addition, Moore et al. (2022) found that higher levels of decentering brought about a decrease in depression in pre-post treatment for mindfulness-based cognitive therapy. With these, it is possible that higher decentering in individuals will moderate the relationship between mindfulness and post-traumatic symptoms.

The projected moderating effect rests on the findings that higher levels of decentering help individuals form different perspectives by understanding that the view held can be changed to better understand the situation (Kessel et al., 2016). This process involves attention and conscious awareness, thereby not judging the outcome of the experience, which is at the core of mindfulness (Kabat-Zinn, 2003). Post-traumatic symptoms originate from a negative evaluation of events experienced, meaning that a biased perspective is formed about the event. However, the individual may be bound to re-evaluate the experiences of trauma; this time, creating different perspectives to understand the situation through conscious awareness and not judging the experience. Influencing this new perspective is a higher level of decentering in such individuals. When new perspectives are formed, the event ceases to be processed due to the diminished value of the previous perception, thereby discarding such perception and developing a more positive perception (Keesman et al., 2017). Formation of these new perspectives triggers appropriate emotional responses due to positive thought processes, which limits the tendency to project negative beliefs and attitudes towards the self (Ong et al., 2012). Milosch (2019) found that decentering was a significant predictor of all forms of psychological well-being. Kessel et al. (2016) reported that decentering correlated with the concept of mental health. Hayes-Skelton et al. (2015) found that an increase in decentering resulted in decreased worry symptoms, while Hayes-Skelton and Lee (2020) reported that decentering was associated with changes in self-reported anxiety and willingness.

The present Study

The high rate of sexual abuses that result in post-traumatic symptoms and demands for psychological management in Nigeria calls for the attention of researchers (David et al., 2018). Mindfulness is a suitable mechanism for preventing the onset of post-traumatic stress disorder (Bremner et al., 2017; Hanley et al., 2014; Hopwood & Schutte, 2017; Thompson et al., 2011). However, how decentering moderated the relationships between mindfulness and post-traumatic symptoms is lacking in the Nigerian context; hence, the need for the present Study. With the effects of trauma, which are not limited to the development of mental illness, impairment in functioning and risk of suicide (Rojas, 2017), it is essential to demonstrate effective coping mechanisms for those with a history of trauma. Mindfulness is a suitable coping mechanism associated with mental health benefits (McClintock et al., 2019), and it is practical, with its effect lasting over time (Solhaug et al., 2019). Mindfulness promotes response awareness after traumatic experiences; thus, it limits avoidance behaviour, as well as hyper-arousal reaction to the stimulus relating to the trauma experienced, thereby preventing the onset of post-traumatic stress disorder (Thompson et al., 2011). Scholars (e.g., Bremner et al., 2017; Hanley et al., 2014; Hopwood & Schutte, 2017) have reported the link between mindfulness and post-traumatic symptoms. Studies on the relationship between mindfulness and post-traumatic symptoms in the Nigerian context are few, e.g., Aliche et al. (2020) and Aliche et al. (2023). These previous studies focused on the relationship between mindfulness and depression after herders' attacks and cancer-related trauma, respectively. Given the prevalent rate of sexual abuse in Nigeria, which brings about trauma to the abused, it becomes essential to investigate the relationship between mindfulness and post-traumatic symptoms in people with a history of sexual abuse.

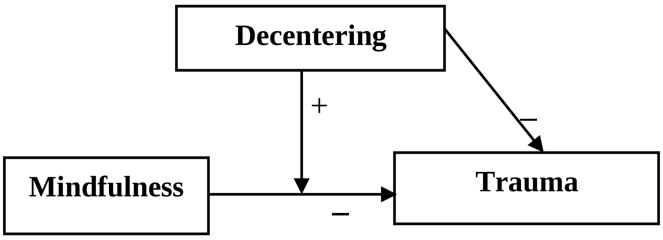
More so, cognitively exploring other explanations for events, which are at the core of decentering, may help people with trauma experiences cope better because decentering aids in the development of good mental health and healthy development, with its absence triggering psychological and social dysfunction (Fresco et al., 2007). When an individual adopts a decentered perspective, they cannot react negatively to stimulus cues due to the increased adaptive abilities to the negative signals (Gecht et al., 2014). Through adopting an objective view, the decrease in negative perception of events is influenced by higher decentering levels (Gillanders et al., 2014). Fresco et al. (2007) found that decentering helped de-escalate and reduce negative thinking. The author also found that decentering protected against relapse among individuals with depression (Fresco, 2007). More so, an increase in decentering brought about a reduction in symptoms of anxiety (Hayes-Skelton & Lee, 2019). With this, it is essential to understand the link between decentering and the removal of post-traumatic symptoms, with previous studies (e.g. Bennett et al., 2021; Duncan et al., 2021; Kessel et al., 2016) having found the link between decentering and other health-related variables; management of stress, anxiety and mental health in general. This investigation is anchored on the relationship between mindfulness and decentering as denoted by Wells (2005), who coined "detached mindfulness" to relate to mindfulness made from characteristics of mindfulness and decentering. As such, since mindfulness has been said to have a positive effect on post-traumatic symptoms, decentering may also pose an impact on post-traumatic problems. Hyes-Skelton and Graham (2013) found that decentering is a critical factor through which mindfulness positively affects mental health.

Similarly, Hargus et al. (2010) found that mindfulness-based cognitive therapy gives room for decentering, which, when in place, serves as a protective factor against suicidal ideation and the development of depressive symptoms during a six-month follow-up study. In addition, Hayes-Skelton and Graham (2013) reported that decentering served as an underlying mechanism between the effect of mindfulness and social anxiety. More so, Moore et al. (2022) found that higher decentering reduced depressive symptoms when participants were exposed to mindfulness-based cognitive therapy.

In addition to this, notwithstanding the positive effect of mindfulness on those with trauma experiences, there is still a high prevalence across the globe. In line with this, decentering, a mindful emotional regulation strategy (Chambers et al., 2009), is a solid platform through which mindfulness can bring about positive health outcomes (Hyes-Skelton & Graham, 2013). Higher levels of decentering have been found to bring about positive health outcomes, such as an increase in life satisfaction, positive emotions, a decrease in negative emotions, and a decrease in anxiety, depression and stress levels (Milosch, 2019). Also, Moore et al. (2022) found that higher decentering reduced depressive symptoms when participants were exposed to mindfulness-based cognitive therapy, thus projecting a moderating effect of decentering. However, in the research literature, the moderating effect of decentering on the relationship between mindfulness and post-traumatic symptoms is yet to be studied. Busch (2007) opined that higher levels of decentering are a core component upon which different psychological interventions bring positive mental health outcomes. Looking at the prevalence of sexual abuse-related trauma and the lack of moderating studies involving decentering on mindfulness and post-traumatic symptoms, it is essential to investigate the moderating effect of decentering on the relationship between mindfulness and post-traumatic symptoms. In line with these, this Study aims to answer the following questions:

1. Would mindfulness relate to post-traumatic symptoms among individuals with a trauma history of sexual abuse?
2. Would decentering relate to post-traumatic symptoms among individuals with a trauma history of sexual abuse?
3. Would decentering moderate the relationship between mindfulness and post-traumatic symptoms among individuals with a traumatic history of sexual abuse?

Figure 1
Theoretical Model explaining the moderating role of decentering on the relationship between mindfulness and trauma



The following hypotheses were tested in the study:

1. Mindfulness relates negatively and significantly to post-traumatic symptoms.
2. Decentering relates negatively and significantly to post-traumatic symptoms.
3. Decentering moderates the relationship between mindfulness and post-traumatic symptoms.

Method

Participants

A total of 223 individuals with at least a trauma history from sexual abuse participated in the study. The participants were 70 males and 153 females. Participants were sampled using snowball sampling. The snowball sampling technique was adopted because individuals with a trauma history of sexual abuse are not staying in civil society organizations (CSOs). They visit and go and for this reason a chain referral technique in snowballing provided a valid opportunity to access participants through participants present at the time of the visit. In snowball sampling, existing participants help the researcher get other participants for the study through a chain referral technique. Victims who regularly come to the CSOs for support were also sampled. Among the participants, 168 were single, 30 were married, and 25 were divorced. Also, 24 participants were first school leaving certificate holders, 102 were secondary school certificates, and 97 were university degree holders. Participants ages ranged from 17 to 45 years (*M* = 27.42, *SD* = 6.47).

Instruments

Participants responded to the Davidson Trauma Scale (DTS) (Davidson, 1996), the Experience Questionnaire Decentering Subscale (EQDS) (Soler et al., 2014), and the Toronto Mindfulness Scale (TMS) (Lau et al., 2006).

Post-traumatic Stress Disorder

It was assessed with a 17-item Davidson Trauma Scale (DTS) developed by Davidson (1996). This isdesigned to measure symptom severity and treatment outcome in post-traumatic stress disorder in four domains, which are intrusiveness, avoidance, amnesia and numbing, and hyper-arousal. Each participant responded on a 5-point Likert scale ranging from 0 – not at all, 1 – a little bit, 2 – moderately, 3 – quite a bit, and 4 – extremely. Some of the items in the scale include: "Have you been avoiding doing things or going into situations which remind you about the event?""Have you had painful images, memories or thoughts of the event?""Have you been physically upset by reminders of the events"? This scale was subjected to validity measures, with 55 individuals with a trauma history of sexual abuse selected with the help of different civil society organizations in Lagos, Nigeria (Mean age; 27.80, SD; 6.21). This scale's reliability (Internal consistency) is at Cronbach's alpha .87. The factor analysis measure of validity revealed the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy at .78, with Bartlett's test of sphericity at approx. Chi-square 439.24, df (136), $p<.001$. This scale yielded a 5-factor structure, denoted by eigenvalues greater than 1, and more marked with the scree plot report. The factors obtained yielded variance between 36.43% and 6.21%, respectively, for the highest and lowest variance. The five-factor structure found on this scale aligned with the 5-factor systems (severity, numbing, avoidance/insomnia, absence of intrusion and hyper-arousal) obtained by Davidson et al. (1997) during scale development, thus indicating the scale's validity for the present Study.

Decentering

It was assessed with an 11-item self-report Experience Questionnaire Decentering Subscale (EQDS), developed by Soler et al. (2014). This is designed to measure decentering or disidentification with contents of negative thinking, hypothesised to be a change process under two dimensions, rumination and broader perspective. Each participant responded on a 5-point Likert scale ranging from 1 – never to 5 – all the time. Some of the items in the ranking include "I am more capable of accepting myself as I am", "I can slow down my thinking in times of stress", and "I realize that I don't take difficulties so personally". This scale was subjected to validity measures, with 55 individuals with a trauma history of sexual abuse selected with the help of different civil society organizations in Lagos, Nigeria (Mean age; 27.80, SD; 6.21). This scale's reliability (Internal consistency) is at Cronbach's alpha .86. The factor analysis measure of validity revealed the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy at .83, with Bartlett's test of sphericity at approx. Chi-square 275.83, df (55), $p<.001$. This scale yielded a 3-factor structure, denoted by eigenvalues more significant than one and more marked with the scree plot report. The factors obtained yielded variance between 47.26% and 9.80%, respectively, for the highest and lowest variance. Fresco et al. (2007) demonstrated two factors on the experience questionnaire scale: rumination and decentering; however, the factor structure for the decentering subscale needed to be highlighted. The present Study yielded 3-factor structures with high loading values, highlighting the scale as a valid measure of decentering.

Mindfulness

It was assessed with a 13-item Toronto Mindfulness Scale (TMS) developed by Lau et al. (2006). This is designed to measure state-like experience during mediation. Each participant will respond to a 5-point Likert scale ranging from 0 – not at all to 4 – Very much. Some of the items in the scale include “I experienced myself as separate from my changing thoughts and feelings”, “I remained curious about the nature of each experience as it arose”, “I was more invested in just watching my experiences as they arose, than in figuring out what they could mean”. This scale was subjected to validity measures, with 55 individuals with a trauma history of sexual abuse selected with the help of different civil society organizations in Lagos, Nigeria (Mean age; 27.80, SD; 6.21). This scale's reliability (Internal consistency) is at Cronbach's alpha .87. The factor analysis measure of validity revealed the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy at .80, with Bartlett's test of sphericity at approx. Chi-square 323.39, df (78), p<.001. This scale yielded a 3-factor structure, denoted by eigenvalues greater than 1, and more marked with the scree plot report. The factors obtained lost variance between 44.53% and 8.37% for the highest and lowest variance, respectively. Lau et al. (2006) showed that in the first Study of factor loadings, the scale yielded 3-factor structures aligned with the structures generated by the present Study. However, in the second Study, Lau et al. (2006) found that the Toronto Mindfulness Scale produced only two factors: curiosity and decentering. The high loading values on the factor structures found on this scale indicate good scale validity, as it was similar to the factors.

Procedure

The Research and Ethics Committee of the Department of Psychology, Alex Ekwueme Federal University, Ndufu-Alike, Ebonyi State, Nigeria, approved the Study. The questionnaire copies were keyed online using Google Forms, an online tool that assists the development of an online survey while providing a link to the online survey. Upon determining the validity of the instruments through factor analysis, the researcher proceeded to different civil society organizations (CSOs) across South East Nigeria, namely Ebonyi, Enugu, Anambra, Imo and Abia State, in lookout for individuals with a history of sexual abuse. To get access to individuals with sexual abuse, the researcher reached out to the management of the different civil society organizations, seeking to make use of their clients for research purposes. In getting in contact with victims of sexual abuse from other civil society organizations, the researcher explained the nature and objectives of the research to the participants, and their contacts, WhatsApp numbers and email addresses were collected.

A WhatsApp group was created for the study, and participants whose WhatsApp contacts were not found were excluded from the study after attempts to reach them through email. Adding the few selected participants in the group, they were instructed to help make referrals to individuals with similar ordeal, that is, a history of sexual abuse, to be part of the research. The WhatsApp referral link was created and sent to the participants, and they shared the invite link with other individuals with a trauma history of sexual abuse. This process resulted in 278 individuals in the WhatsApp group created for the study. Participants were then informed about the nature and objective of the research and the confidentiality of the data collected from the study, which will only be used for research purposes. The created online survey link was sent to the WhatsApp group, which included the study consent form and the questionnaires. Participants were also encouraged to respond objectively to the survey and to report any difficulty encountered while responding to the study through an email provided on the survey. Out of the 278, only 223 gave their consent and proceeded with the research, 42 did not complete the questionnaire, while 13 questionnaire copies were randomly filled, as shown from the response data in the online survey output. This left the present study with 223 participants. At the end of the responses, participants were subjected to an 'online group therapy' using 'Zoom', a video conferencing platform. Through the online group therapy, participants were debriefed to do away with the effect of the Study on their well-being since it requires bringing up a repressed memory. Participants were instructed to pay attention to the present moment and not be judgmental about the past. Also, participants were made to form different perspectives on the event leading to their trauma experiences, which will remove self-blame and encourage healthy and positive living. The administration and collection of questionnaires lasted for six weeks.

Design/Statistics

Cross-sectional survey design was adopted for this study. Cross-sectional design is a type of design used when collecting data to make inference about a population of interest at one point in time (Thomas, 2020).Multiple linear regression was used to analyse the data for the study. Multiple linear regression analysis is a statistical tool that allows a researcher to examine how multiple independent variables are related to a dependent variable (Higgins, 2005).

Results

Table 1.

Mean, standard deviation and inter-correlation among variables (n = 223)

Variables	Mean	SD	1	2	3	4	5	6	7
1.Age	27.42	6.47	-	-	-	-	-	-	-
2.Gender	1.69	.47	-.07	-	-	-	-	-	-
3.Educational Level	2.33	.66	.02	.10	-	-	-	-	-
4.Marital Status	1.36	.68	.02	-.07	.54**	-	-	-	-
5.Mindfulness	37.96	6.08	-.10	.04	.19**	.10	-	-	-
6. Decentering	38.10	6.58	-.01	-.13*	.11	-.05	.15*	-	-
7.Trauma	38.17	15.11	.16*	.14*	-.04	-.06	-.19**	-.21**	-

Note: SD = Standard Deviation, * < .05; ** <.001

The result from the Pearson correlation analysis showed that mindfulness was negatively correlated with post-traumatic symptoms (r =-.19, p<.001), decentering was negatively correlated with post-traumatic symptoms (r = -.21, p<.001), and decentering was positively correlated with mindfulness (r = .15, p<.05). The result also showed that gender positively associated with post-traumatic symptoms (r = .14, p<.05), and gender negatively correlated with decentering (r = -.13, p<.05). Also, the result showed that age positively associated with post-traumatic symptoms (r = .16, p<.05), and educational level positively correlated with marital status (r = .54, p<.001)

Table 2.
Moderating role of decentering on the relationship between mindfulness and post-traumatic symptoms

Model	*B*	*SEB*	*t*	*p*	*95% CI*	R^2	*F*
Age	.38	.15	2.53	.012	[.08; .67]	.12	6.17 (5,217)**
Gender	4.86	2.10	2.31	.021	[.72; 8.99]		
Mindfulness (M)	-.41	.16	-2.53	.012	[-.72; -.09]		
Decentering(D)	-.40	.15	-2.65	.008	[-.69; -.10]		
M x D	-.04	.02	-1.97	.050	[-.08; .00]		

Note: B = Regression coefficient; SE = Standard Error; t = Population t value; p = Probability level; CI = Upper & Lower Confidence Interval.

In Table 2, predictor variables, mindfulness and decentering, significantly predicted post-traumatic symptoms, with significant Model fit $F(5,217) = 6.17$, $p<.001$, accounting for 12% of the variance in post-traumatic symptoms. Independently, age positively predicted post-traumatic symptoms (B = .38, t = 2.53, 95% *CI* [.08, .67], p <.05) and gender positively predicted post-traumatic symptoms (B = 4.86, t = 2.31, 95% *CI* [.72, 8.99], p <.05). Also, mindfulness negatively predicted post-traumatic symptoms (B = -.41, t = -2.53, 95% *CI* [-.72, -.09], p <.05), decentering negatively predicted post-traumatic symptoms (B = -.40, t = -2.65, 95% *CI* [-.69, -.10], p <.001). Decentering moderated the association between mindfulness and post-traumatic symptoms (B = -.04, t = -1.97, 95% *CI* [-.08, .00], p <.05), given that the interaction effect between mindfulness and decentering on post-traumatic symptoms was significant.

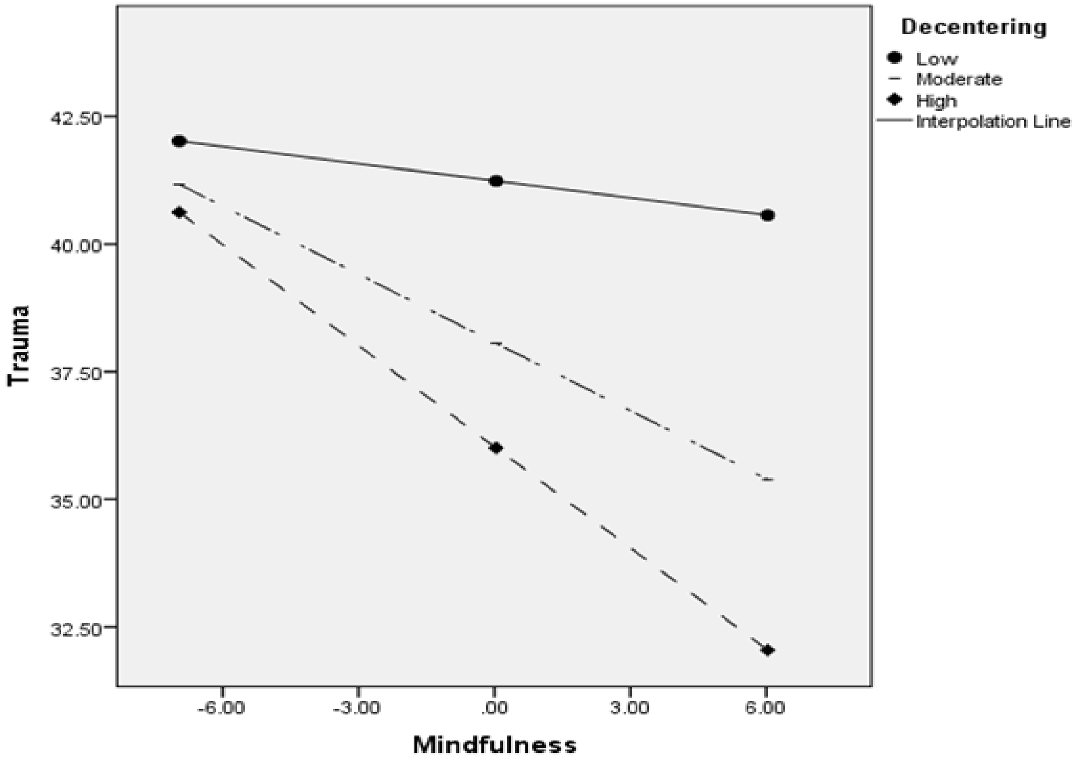


Figure 2. *The slope of an interaction effect between mindfulness and decentering on post-traumatic symptoms*

The slope of the conditional effect of mindfulness and post-traumatic symptoms showed that mindfulness was negatively associated with post-traumatic symptoms for participants with high decentering (B = -.66, t = -3.12, 95% CI [-1.08, -.24], p <.001). However, the association was not seen for participants with lower levels of decentering (B = -.11, t = -.52, 95% CI [.-.53, .31], p >.05).

Discussion

This present Study investigated mindfulness and decentering among individuals with a trauma history of sexual abuse. The essence was to explore how decentering will moderate the relationship between mindfulness and post-traumatic symptoms. The results from the Study showed that (1) mindfulness was negatively correlated with post-traumatic symptoms, decentering showed a negative relationship with post-traumatic symptoms, and decentering moderated the relationship between mindfulness and post-traumatic symptoms.

The result showed a negative relationship between mindfulness and post-traumatic symptoms, which indicated that higher levels of mindfulness approach would decrease levels of post-traumatic symptoms. The direction of the relationship supported the first study hypothesis, which stated that there would be a significant negative relationship between mindfulness and post-traumatic symptoms. The hypothesis proposed that an increase in mindfulness practice should lead to a decrease in post-traumatic symptoms. The outcome of this Study is in agreement with Wang et al. (2022), which stated that symptoms of post-traumatic stress were protected by the possession of trait mindfulness and an individual's ability to deal with negative emotional states. Similarly, Hopwood and Schutte (2017) revealed the significant impact of mindfulness and its symptoms on the reduction of traumatic experiences. Again, Bremner et al. (2017) reported that mindfulness-based stress reduction was an effective treatment modality for reducing the symptoms of post-traumatic stress. This finding aligned with the view of mindfulness to meaning theory, which posits that mindfulness helps an individual to decenter from the appraisal of stress, which allows the individual to embrace the metacognitive state of awareness, which results in the broadened attention to novel information that houses the reappraisal of life (Garland et al., 2015).

Furthermore, the findings from the Study showed a negative relationship between decentering and post-traumatic symptoms among individuals with a trauma history of sexual abuse, which posits that the higher the levels of decentering in persons with a trauma history, the lower the levels of post-traumatic symptoms. The significant relationship found here is in line with the second study hypothesis, which stated that there would be an essential negative relationship between decentering and post-traumatic symptoms. This finding is unique, as it is the first to explore the relationship between decentering and post-traumatic symptoms, which adds knowledge to the literature on trauma. This is fueled as decentering involves alteration in perspectives. Formation of these new perspectives triggers appropriate emotional responses due to positive thought processes, which limits the tendency to project negative beliefs and attitudes towards the self (Ong et al., 2012). This highlights its linkage with trauma, which the present Study has identified. However, despite not having a previous connection between decentering and trauma, it has been seen to be beneficial in other related psychological constructs. In addition, Milosch (2019) found that decentering was a significant predictor of all forms of psychological well-being. Kessel et al. (2016) reported that decentering correlated with the concept of mental health. Hayes-Skelton et al. (2015) found that an increase in decentering resulted in a decrease in worry symptoms, while Hayes-Skelton and Lee (2020) reported that decentering was associated with changes in self-reported anxiety and willingness.

In addition, the findings from the present Study showed that decentering moderated the relationship between mindfulness and post-traumatic symptoms. However, only higher levels of decentering significantly moderated the relationship between mindfulness and post-traumatic symptoms, with no significance found with lower levels of decentering in the moderating effect. This finding is consistent with the third study hypothesis, which posits that decentering will moderate the relationship between mindfulness and post-traumatic symptoms. The result agrees with Hyes-Skelton and Graham's (2013) view that decentering is a critical factor through which mindfulness positively affects mental health. Similarly, Hargus et al. (2010) found that mindfulness-based cognitive therapy gives room for decentering, which, when in place, serves as a protective factor against suicidal ideation and the development of depressive symptoms during a six-month follow-up study. In addition, Hayes-Skelton and Graham (2013) reported that decentering served as an underlying mechanism between the effect of mindfulness and social anxiety. Moore et al. (2022) found that higher decentering brought about a reduction in depressive symptoms when participants were exposed to mindfulness-based cognitive therapy.

Implications of findings

The findings from this study opens up the role of the individual in bringing about positive health outcomes through the cultivation of mindfulness and the embrace of decentering in the view of life, especially among persons with a trauma history. Mindfulness, which has roots in positive psychology, should be adopted by mental health practitioners to help protect individuals with sexual abuse trauma history early enough so as not to degenerate into core mental health issues. Positive psychology is about helping the sane mind thrive, avoiding issues degenerating into mental health cases, and not focusing on the reason which has been affected by mental health issues. Being consciously aware of the situation or events faced, without judging or reacting to it, will help the individual cope better with the situation, irrespective of the outcome of the problem. This becomes effective when an individual starts looking for different explanations for the event's work; thus, they come to see the event from various angles, limiting the effect the event will have on them. Also, this finding opens up the need for health practitioners to not only adopt mindfulness-based treatment modalities in their practice but also to adopt the mechanism of decentering in treatment approach, especially when dealing with individuals with a history of traumatic experiences considering the moderating effect of decentering on the relationship between mindfulness and trauma. Over the years, scholars have seen both decentering and mindfulness as one, but the recent finding calls for separating the constructs to blend them as treatment approaches. The moderating role of decentering the relationship between mindfulness and post-traumatic symptoms guides health practitioners in embracing both approaches as treatment mechanisms.

Limitations of the study

This study is limited on not including a significant other of the participant in the present study is a study limitation, which needs to be explored in subsequent research. The backbone of this is that such omission may lead to inflating or deflating research findings due to the presence of common method variance, associated with single method type of research. Also, the study was limited to people with sexual abuse trauma. In addition, getting to the participants was a difficult task, and getting the participants to respond to the questionnaires was also tricky, looking at the repressed memory such responses elicited, thereby affecting the number of participants available for the study. Notwithstanding the debriefing on the participants, the repressed memory brought to the conscious mind may affect the participants' health.

Suggestions for future studies

Further studies on this should consider conducting randomized control trial to firmly determine the relationship among variables, and the mediating role of decentering in the relationship between mindfulness and post-traumatic symptoms. This will open up on the causal relationship between variables among people with trauma history. Also, focusing on different trauma history types should be considered in future research, since the study aimed to investigate relationship between variables among persons with trauma history. In addition, future research on this should include data from participants’ significant others in order to avoid the inflation or deflation of result due to common method variance.

Conclusion

The study investigated moderating role of decentering on the relationship between mindfulness and post-traumatic symptoms among individuals with a trauma history of sexual abuse. The findings from the study revealed a negative relationship between mindfulness and post-traumatic symptoms, indicating that the higher the mindfulness, the lower the levels of post-traumatic symptoms. The findings also revealed a negative relationship between decentering and post-traumatic symptoms, indicating that the higher the levels of decentering, the lower the levels of post-traumatic symptoms. This finding is a new addition to the literature on trauma, as it was the first to identify such a relationship as individual constructs different from mindfulness. Finally, the findings revealed that decentering moderated the relationship between mindfulness and post-traumatic symptoms, which posits that the presence of decentering influences the role of mindfulness on post-traumatic symptoms.

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