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The Impact of Mindfulness Meditation and Self-Compassion on Criminal Impulsivity in a Prisoner Sample

Richard H. Morley[1]

Abstract Previous studies indicate a link between mindfulness practice and improvements in self-compassion Neff (Self and identity 2(2):85–101, 2003b), self-regulation Baer (Clinical psychology: Science and practice 10(2):125–143, 2003), and a reduction in criminality Rainforth (Journal of Offender Rehabilitation 36(1–4):181–203, 2003). Similarly, self-compassion has been linked to greater self-control among criminals Morley (Journal of Aggression, Maltreatment & Trauma 1–15, 2016). The focus of this study was to investigate the impact of mindfulness meditation and self-compassion on criminal impulsivity. To accomplish this investigation, a survey was conducted examining self-compassion as a mediator for the practice of mindfulness-based meditation and criminal impulsivity among jail inmates interested in meditation. The analysis showed that self-compassion, criminal impulsivity, and length of practicing mindfulness meditation were correlated. The results also showed that the relationship between practicing mindfulness meditation and self-reported criminal impulsivity was mediated by self-compassion. The results and limitations of this study were discussed.

Keywords Mindfulness · Meditation · Criminal · Impulsivity · Self-compassion

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Introduction

Investigating the potential of self-compassion-based interventions in connection with predictors of criminality among prisoners has great value (Morley 2015). Mindfulness meditation is a practice that has been shown to be a successful intervention for treating prisoners (Dafoe and Stermac 2013; Rainforth et al. 2003; Shonin et al. 2013) as well as an efficient method to generally improve self-compassion (Neff 2003b), self-awareness (Shonin et al. 2013), and self-regulation (Baer 2003). Meditation involves practices targeting increases in mindfulness, which has been described as an intentional, non-judgmental awareness of personal thoughts and actions in the present moment (Kabat-Zinn 1990). While meditation is typically described as a "second wave" cognitive behavioral intervention, its origins are tied to spiritual practices from the East, most notably Buddhism (Kabat-Zinn 1990). As a therapeutic intervention, mindfulness was listed as part of the "What Works" in offender rehabilitation (Howells et al. 2010; Shonin et al. 2013). More importantly, evidence has linked the practice of meditation to decreasing recidivism rates (Andrews and Bonta 2010; Rainforth et al. 2003).

While research findings have not specifically addressed how meditation reduces recidivism, researchers hypothesize that meditation improves emotional regulation and self-regulation (Baer 2003; Bishop et al. 2004; Dafoe and Stermac 2013). While evidence has not directly linked meditation to self-regulation, research findings do suggest that meditation may improve self-regulation in offenders by sustaining objective self-awareness (Adams and Leary 2007; Baer 2003; Jang et al. 2011; Shonin et al. 2013; Web and Forman 2013; Stosny 1995). Specifically, studies on inmates indicate a link between the practice of meditation and correlates of objective self-awareness, including negative affect and self-esteem (Shonin et al. 2013). Among non-inmates,

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meditation has been shown to increase self-regulation by improving emotional regulation (Baer 2003). Meditation has also been shown to increase gray matter in brain regions associated with self-regulation and emotional control (Luders et al. 2009), in addition to contributing to greater connectivity in the default mode network (DMN) (Jang et al. 2011) which is an important brain network associated with self-awareness (Andrews-Hanna et al. 2010), self-concept (Gusnard et al. 2001), and emotional processing (Maddock et al. 2003). This finding could suggest that meditation increases the neurological capacity to self-regulate, promotes greater self-awareness, helps process emotions more effectively, and reduces impulsive behavior.

One possible mechanism that may explain the link between mindfulness practices and improved self-regulation relates to the concept self-compassion. Self-compassion is a non-judgmental, internal state of awareness of one's suffering and a feeling of positive effect towards one's pain that is distinct from self-esteem (Neff and Vonk 2009). Self-compassion is distinct from mindfulness in that self-compassion is a state of awareness that applies positive effect to a negative experience, while mindfulness is a non-judgmental awareness that is used at any moment (Neff and Dahm 2014). Self-Compassion has three components, including the application of kindness to the self when faced with a negative experience, mindful awareness of that experience, and a sense that negative experiences are part of a collective human experience (Neff 2003a). Like mindfulness, self-compassion can be increased with meditation (Neff 2003b). When a person fails to live up to their ideal self, self-compassion alleviates negative effect associated with a loss in self-esteem and improves self-regulation (Adams and Leary 2007, Web and Forman 2013). Moreover, research studies indicate self-compassion reduces negative emotion and impulsivity among people with eating disorders (Adams and Leary 2007; Web and Forman 2013) and among smokers (Kelly et al. 2010).

While little research has investigated the utility of self-compassion in the disciplines of forensic psychology or criminology, research that has been conducted so far does show promise. Self-compassion is associated with many psychological predictors of criminality, including the ability to form social bonds (Neff 2003b; Neff et al. 2007; Sampson and Laub 1993), self-control (Morley et al. 2016), and concern for others (Daugherty et al. 2001; Neff 2003a). A study focusing on perpetrators of crime have found that self-compassion negatively predicts shame among sex offenders (Lo 2007). Additionally, applying self-compassion as an intervention to reduce feelings of inferiority among violent offenders was demonstrated to increase traits related to high self-awareness, including self-esteem and compassion, and decreased aggression (Murphy et al. 2005; Stosny 1995).

In conclusion, evidence suggests that meditation may engender a reduction in impulsive behavior. Specifically, meditation has been shown to decrease criminal behavior and associated traits. Meditation has also been shown to improve self-regulation and to facilitate changes in the brain related to emotional regulation, self-regulation, and self-awareness among non-criminals. Meditation also improves self-compassion. Self-compassion is negatively correlated with psychological and neurological traits associated with criminal behavior. Research on self-compassion has been shown to reduce the unpleasantness associated with objective self-awareness, which decreases impulsive behavior among non-criminals. Considering these previous research findings, one could hypothesize that meditation reduces the unpleasant feelings associated with self-awareness and impulsivity by increasing self-compassion.

In this study, 74 male prisoners interested in meditation completed the Self-Compassion Scale (Neff 2003a) and a scale measuring criminal impulse control, specifically the Impulsivity subscale of Grasmik's Criminal Self-control Scale (Grasmick et al. 1993). Through the use of regression analysis and Sobel's test for mediation, this study investigated a model, which consisted of self-compassion as a mediator between the number of mindfulness meditations participants completed and their self-reported criminal impulsivity score.

Methods

Participants Participants in this study included a convenience sample of 74 male inmates, between the ages 18 and 54, incarcerated at a county jail in a metropolitan area in the southwest USA, either practicing or on the waiting list to practice mindfulness meditation. The demographics of this group were composed of 47% white non-Hispanic, 19% white Hispanic, 19% African-American, and 6% other (consisting of multiracial, Asian, and Native American). These demographics are comparable to the demographics of other jails in the urban areas in the region (Watson 2004).

Procedure Prior to collecting data, this study underwent a full IRB review. A copy of each participant's consent form was obtained. Participants were recruited through the special programs department at the jail, based on their enrollment in weekly mindfulness meditation program. The principle investigator and research assistants were allowed to speak with inmates in their unit or prior to engagement in classes to invite them to participate in this study. Interested participants were placed on a list and asked to report to rooms designed for educational purposes. The researcher provided written consent forms to the participants prior to providing any measures. Participants were allowed to ask questions concerning the study prior to completing any measures. The researchers instructed them that they could choose not to participate at any time. After the written consents were signed, the consent

forms were collected. Then, the participants were presented a packet containing the instruments.

Measures A demographic form was included with the research measures. This demographic questionnaire included questions about age, race, and ethnicity in addition to a question inquiring about the number of weeks they participated in the meditation program.

Self-Compassion The Self-Compassion Scale is a 26-item self-report instrument scale that was developed by Neff (2003a). The self-compassion scale contains three positive scales and three negative scales. The positive subscales including a Self-kindness subscale (e.g., I try to be loving towards myself when I am feeling emotional pain), a Common Humanity subscale (e.g., When I am down and out, I remind myself that there are lots of other people in the world feeling like I feel), and a Mindfulness subscale (e.g., When something upsets me, I try to keep my emotions in balance). Further, the self-compassion scale also includes three negative subscales including a self-judgment subscale (e.g., I am disapproving and judgmental about my own flaws and inadequacies), an isolation subscale (e.g., When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world), and an over-identification subscale (e.g., When I am feeling down, I tend to obsess and fixate on everything that is wrong). Negative items (self-judgment, isolation, and over-identification) are reverse scored. Validation studies (Neff 2003a) have demonstrated good internal consistency (0.92) with subscales varying from 0.75 to 0.81, as well as good test-retest reliability with scores ranging from 0.80 to 0.88. This scale also was shown to predict social functioning among convicted sex offenders (Lo 2007). Cronbach's alpha in this study was 0.92.

Criminal Impulsivity Grasmick et al.'s (1993) Self-Control Scale is the most widely used measure of self-control in the criminological literature (Gibson 2005). This scale was designed to measure the personality trait of self-control as defined by Gotfredson and Hirschi (1990), who described a lack of self-control as having six components. One of these component subscales, the impulsivity subscale, measures impulsive behavior (e.g., I often act on the spur of the moment without thinking). This subscale includes four items. These items are rated on a five-point Likert scale: never (0), rarely (1), sometimes (2), often (3), and almost always (4). Higher scores on this scale indicate more impulsivity. This scale was shown to have high reliability (0.87) for incarcerated men (Gibson 2005). Moreover, this scale has been shown to predict criminal offending (Grasmick et al. 1993) and reoffending (Nagin and Paternoster 1993). Cronbach's alpha in this study was 66.

Results

To investigate self-compassion as a mediator of the relationship of meditation and criminal impulsivity, a variety of analyses was conducted. These analyses included descriptive statistics, correlations, regression analysis, and finally Sobel's Test for meditation. Specifically, regression analyses were used to measure the relationships among weeks of meditation, self-compassion, and criminal impulsivity. Following regression analyses, Sobel's test was conducted to examine self-compassion as a potential mediator. Table 1 lists the descriptive statistics including means and standard deviations, and Table 2 presents the correlation coefficients of the psychological variables.

As indicated by Table 2, all three variables were correlated with each other including weeks of meditation and self-compassion ($R = .26$ $p < .05$), weeks of meditation and criminal impulsivity ($R = -.29$ $p < .05$), and self-compassion and criminal impulsivity ($-.47$ $p < .05$). A bootstrapping method for testing mediation (Preacher and Hayes 2008) was conducted to confirm that self-compassion mediates the relationship between weeks of meditation and impulsivity. As indicated by Preacher and Hayes (2008), the analysis was performed using 5000 samples. Simple regression was conducted to investigate the extent to which weeks of meditation predicts self-compassion ($T = 2.18$ $p < .05$ adjusted $R^2 = 0.05$) and criminal impulsivity ($T = -2.45$ $p < .05$ adjusted $R^2 = 0.08$). The multiple regression model was significant ($F(2, 70) = 13.40$ $p < .05$ adjusted $R^2 = 0.26$). Moreover, weeks of meditation ($T = -1.69$ $p < .05$) and self-compassion ($T = -4.31$ $p < .05$) were both significant predictors of impulsivity. The analysis also revealed a significant indirect effect ($Z = -1.95$ $p < .05$), which suggest that self-compassion is a partial mediator in this model.

General Discussion

The goal of the study was to determine if self-compassion mediated the relationship between mindfulness meditation and criminal impulsivity among offenders. These findings did indeed support the research goal. Specifically, weeks of meditation and self-compassion are both negative predictors of criminal impulsivity. Bootstrapping mediation analysis revealed that self-compassion partially mediates the relationship between the practice of meditation and criminal impulsivity.

Table 1 Descriptive statistics second study

	Mean	SD
Weeks of meditation	1.67	4.67
Self-compassion	85.94	17.06
Impulsivity	9.06	2.23

Table 2 Correlation

	Weeks of meditation	Self-compassion	Impulsivity
Weeks of meditation	1		
Self-compassion	0.26*	1	
Impulsivity	−.29*	−.47**	1

*$p < .05$; **$p < .01$

These findings do suggest that self-compassion is associated with criminality and that self-compassion may be the mechanism by which mindfulness meditation improves self-regulation among criminals. Specifically, previous research indicates that impulsivity is one of the strongest predictors of crime (Pratt and Cullen 2000) and that meditation reduces the likelihood of recidivism (Rainforth et al. 2003). Similarly, in this study, self-compassion partially mediated the relationship between meditation and criminal impulsivity. These previous findings together with the findings of this study imply (1) a link between self-compassion and criminal impulsivity and (2) that mindfulness interventions have been shown to both increase self-compassion and reduce crime. The remaining evidence necessary to connect self-compassion to crime would include connecting self-compassion to actual criminal behavior using a control group. Future studies should investigate this link further.

This study does have important implication for the literature discussing self-awareness theory. Specifically, previous studies have examined self-awareness theory (Heatherton and Baumeister 1991) as it relates to criminals, but this study, to the best of the author's knowledge, is the first study to demonstrate this theory directly in a sample of prisoners. Given previous evidence connecting self-compassion (Longe et al. 2010), self-awareness Andrews-Hanna et al. 2010), meditation (Jang et al. 2011), and impulsive violence (Fahim et al. 2011; Hyatt et al. 2012; Thijssen et al. 2015; Wallace et al., 2014) to the same brain networks, these findings suggest a link between self-awareness theory and crime. Future studies are required to explore the speculation that self-compassion improves self-awareness with the criminal population. Another interesting research direction would be to investigate the effects of meditation and self-compassion on an offender's identity, especially among offenders with impaired empathy, such as psychopathic criminals.

Limitations

This study has some relevant limitations that need to be addressed, including the use of self-report scales and the inability to directly identify a causal link among the variables involved in this study. All of the variables in this study were measured by self-report. Self-report is often susceptible to fabrication and bias (Howard and Dailey 1979; Podsakoff et al. 2003). Although there were not any obvious reasons to suspect false participant reporting, these risks are still present. Another limitation of this study is that it relies on correlation information. More specifically, this study design does not determine if variables display any causal influence on each other. Future studies should consider observed behavior rather than self-report to minimize bias and should use more rigorous experimental design to capture causality. One limitation that is important to mention relates to the sample size present in this study ($n = 74$). Due to the relatively small sample size, the findings in this study should be interpreted with caution. Future studies should consider attempting to replicate these findings with a larger sample.

Conclusion

This paper tested a mediational model to explore the junction of mindfulness meditation, self-compassion, and criminal impulsivity among a sample of prisoners using the bootstrapping mediation technique recommended by Preacher and Hayes (2008). The results of this study suggest that self-compassion partially mediates the relationship between mindfulness meditation and criminal impulsivity. The findings presented in this article are important because this study is the first to investigate the intersection of these variables in a sample of prisoners. These findings are also noteworthy because they open the door for a variety of future research directions such as conducting experiments to (1) explore whether mindfulness and self-compassion can be used as an intervention to reduce crime; (2) investigate the junction of this mediation model, crime, and self-awareness theory; and (3) study the impact of mindfulness meditation among offenders with impaired empathy.

Compliance with Ethical Standards

Funding The author does not have a funding source to acknowledge.

Conflict of Interest The author declares that there is no conflict of interest.

Informed Consent Inform consent was obtained from all participants prior to data collection.

All data collection had prior approval from the University Institutional Review Board.

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