

Posttraumatic growth in prisoners and its association with the quality of staff-prisoner relationships.

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Abstract

Background: Being sentenced to prison can be a traumatic experience for many people that leads to negative effects, including reoffending or disorders of mental health. Emerging research, however, has suggested that traumatic events can at times also lead to posttraumatic growth, leading us to question whether it is possible that prisoners could experience posttraumatic growth.

Aims: Our aims were to explore the prevalence of posttraumatic growth in prisoners, and the association between posttraumatic growth and prisoners' perceptions of the quality of their relationships with staff members. Our primary hypothesis was that there would be a positive association between perceptions of the quality of relationships with staff members and posttraumatic growth. We also hypothesised an interaction between staff-prisoner relationships and the extent to which sentencing was experienced as traumatic.

Method: The Posttraumatic Growth Inventory (PGI) and the Barrett-Lennard Relationship Inventory were distributed to all 762 prisoners in a high-security adult male prison in England. One-tailed correlations were used to test for associations between variables. A hierarchical regression analysis was conducted to test for an interaction between staff-prisoner relationship ratings, trauma of sentencing and posttraumatic growth.

Results: Just over one fifth of the men ($n = 160$) returned questionnaires. 76 (48%) had scores indicative of moderate-to-high posttraumatic growth. There was a significant positive association between the perceptions of the relationships with staff members and the posttraumatic growth reported. There was no significant interaction between the staff-prisoner relationships and the experienced trauma of imprisonment.

Conclusions and implications for clinical practice: The current study extends the prisoner based literature through finding that higher perceived levels of posttraumatic growth were associated with experiencing empathy, positive regard, acceptance and genuineness from prison staff. The findings highlight the need for quality relationships to be adopted in all aspects of the prison setting and culture. Future applied research into these relationship-based factors and their role in promoting positive psychological outcomes in prisoners is needed.

Introduction

Prisoners are reported to experience trauma and life-event stressors at much higher rates than the general population (e.g., Goff, Rose, Rose, & Purves, 2007). Research has suggested that up to 75% of prisoners have experienced lifetime traumatic experiences (Pettus-Davis, 2014). In addition to this high prevalence of trauma experience before incarceration, imprisonment itself is commonly experienced as traumatic. Van Ginneken (2014) reported that imprisonment disrupts lives through restricting liberty and providing prisoners with new obstacles that challenge their self-identity and their assumptions about themselves, others and the world. Being separated from family and friends can be especially traumatic for prisoners, particularly at the beginning of their sentence (Richards, 1978). Existentially, imprisonment can also lead to a loss of meaning in life (Vanhooren, Leijssen, & Dezutter, 2015a; Guse & Hudson, 2014; Pettus-Davis, 2014). The accumulated effects of trauma from before and during incarceration are associated with increasing vulnerability to mental distress and other negative outcomes (e.g., Goff et al., 2007; Maruna, Wilson, & Curran, 2006).

There is, however, a growing body of literature that has also identified positive psychological changes following challenging life events (Linley & Joseph, 2004). Posttraumatic growth is a term used to refer to the positive psychological changes that can occur after struggling with and working through a traumatic or life distressing event (Tedeschi & Calhoun, 2004). Such changes include identifying new perspectives and meaning in life, identifying new strengths within oneself, and a deepening of interpersonal connections with others (Joseph, 2011). Posttraumatic growth has been identified, for example, in survivors of war, natural disasters, rape and sexual assault and those who have experienced bereavement, HIV infection and

chronic illness (e.g., Cryder, Kilmer, Tedeschi, & Calhoun, 2006; Frazier, Tashino, Berman, Steger, & Long, 2004; Maguen, Vogt, King, King, & Litz, 2006). Research on posttraumatic growth among prisoners is, however, limited. This is surprising given the high incidence of trauma related problems among them.

To date, only four qualitative studies have explored posttraumatic growth in prisoners. Van Ginneken (2014) used a narrative approach to explore it among six first-time female prisoners in a medium-security prison in England. Three themes emerged. The first theme, ‘the initial shock of incarceration’, described the participants’ struggle coming to terms with their sentencing, loss of freedom, separation from loved ones and loss of control over their lives. The second theme, ‘a silver lining’, referred to the participants reporting some sort of meaning or growth from their experiences, where they were able to break away from their previous lifestyles that were characterized by drugs, alcohol, crime and destruction and gain an opportunity to turn their lives around through support and therapy and skills building. The third theme, ‘personal development’, referred to the participants coming to terms with their traumatic experiences, improving their coping skills, and rebuilding their self-efficacy and confidence. The participants in Van Ginneken’s (2014) study were selected from a larger sample due to their already reporting posttraumatic growth using survey based tools. Therefore, these positive findings reflect only those who experienced growth and not all prisoners. In addition, whilst the study provides valuable initial findings among women serving short-term prison sentences, suggesting the potential for posttraumatic growth, conclusions cannot be drawn about prisoners more generally, including men in prison and anyone serving longer sentences.

In another study, Vanhooren, Leijssen and Dezutter, (2015b) used a mixed method design to explore posttraumatic growth and distress in a sample of 30 individuals from a post-prison treatment programme for those who have committed sexual offences. They found higher levels of posttraumatic growth were significantly related to lower levels of psychological distress. In their phenomenological analysis, a similar theme emerged as in Van Ginneken's (2014) study, with regard to prisoners experiencing difficulties in their early prison days. The sample reported changes in their lives throughout prison, which mirrors posttraumatic growth, such as a deeper appreciation of relationships and of life and a shift in purpose and meaning in life. The support of staff members was also noted as a catalyst towards growth.

Vanhooren, Leijssen and Dezutter, (2017) explored posttraumatic growth in 10 prisoners from a Belgian prison. They described a theme relating to the guilt and despair the prisoners experienced following their sentencing. Subsequently, the participants reported experiencing growth, such as finding ways of coping with a loss of meaning and seeking support from family, friends and staff members. Participants also reported developing their motivation to make positive changes, such as gaining personal insight, experiencing higher levels of self-worth, having newfound strengths and skills and a changed meaning in life.

Further support for the presence of posttraumatic growth comes from ex-prisoners. Guse and Hudson (2014) studied just three ex-prisoners, who indicated experiencing posttraumatic growth in custody. For these participants, that included gaining increased capacity to engage with people, a positive shift in self-perception, increased wisdom and a changed philosophy of life. The participants viewed this growth as crucial to their reintegration into society, and likely desistance from offending. This fits with a finding that, in general, people who experience

posttraumatic growth are more resilient and better equipped to deal with future adversities and stressful life events in a pro-social manner (Calhoun & Tedeschi, 2006),

The aforementioned studies provide valuable insight into the posttraumatic growth prisoners can develop following the trauma they experienced as a result of being sentenced to prison. A common theme (e.g. Van Ginneken, 2014; Vanhooren et al., 2015b; Vanhooren et al., 2017) is the need for a safe environment if posttraumatic growth is to take place. Personal and professional support were suggested as key to the transition from despair towards growth. This in itself is little different for people generally (Liebling, 2011). A main source of such support for prisoners is likely to be from prison staff. Indeed, Williams et al., (2013) found that prisoners in the early stages of their sentencing reported a wide range of experiences, with at least a fifth voicing a positive experience with regard to prison providing an opportunity for personal development and change. The study found that getting along with staff members was an environmental factor that had a positive impact on the prisoners.

The importance of quality relationships in facilitating growth has been documented theoretically for many years. According to Humanistic psychology theory (e.g. Maslow, 1987; Rogers, 1959, 1962) humans are intrinsically motivated toward personal growth and strive towards reaching their potential, and in doing so have a large capacity to self-heal, overcome hardship, pain and despair. Interpersonal relationships are thought to be fundamental in this process (Rogers, 1959). As Vanhooren, Leijssen and Dezutter (2015a) noted, staff showing empathy and positive regard towards prisoners should not be confused with the approval of criminal behaviour, but rather communicating to the individual that they are not a lost cause and that there is hope for change and a better life in the future. In the UK, Her

Majesty's Prison and Probation Service strive to create a rehabilitative culture in establishments; staff-prisoner relationships are a key part of this.

While staff-prisoner relationships may be important in the development of posttraumatic growth, it is noted that the extant studies have relied on small samples, and with only prisoners who have reported experiencing growth. As such, they are far from representative of the general prisoner population limiting their generalizability. While we can be confident that some prisoners will experience posttraumatic growth, it is not yet clear how common the experience of posttraumatic growth actually is.

Aims of this study

Our aims were to explore the prevalence of posttraumatic growth in prisoners following their incarceration and to test whether reports of growth are associated with prisoner's perceptions of the quality of their relationships with staff members. Specifically, we had the following two hypotheses: 1.) there will be a positive relationship between the prisoner's perceptions of the quality of their relationships with staff members and posttraumatic growth; 2.) the association between staff-prisoner relationships and posttraumatic growth will be moderated by the degree of trauma the prisoners experienced which they attribute to their sentencing.

Method

Ethics

Ethical approval was sought and permission to publish gained from HMPPS .

Participants

Participants were prisoners recruited from a high-security prison for adult men in England. It is a main centre for life sentenced prisoners and typically holds men that have been given a sentence of imprisonment of between 5 years and whole life. The measures were distributed to all of the prisoners within the establishment.

Assessment scales

The Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) is a 21-item self-report scale that measures the positive outcomes reported by individuals who have experienced a traumatic event. An example item is 'I have discovered that I am stronger than I thought I was'. Participants were asked to rate each item in relation to their time in prison, on a six-point Likert Scale ranging from 0 – 5 (e.g. 'I did not experience this change as a result of my crisis' to 'a very great degree as a result of my crisis'). Internal consistency in the original study was high (Cronbach's $\alpha = 0.90$; Tedeschi & Calhoun, 1996).

The Barrett-Lennard Relationship Inventory (BLRI; Barrett-Lennard, 2015) was used to measure prisoners' perceptions of the quality of their relationships with staff. This is a 24-item measure of a person's perception of the quality of their relationship with another specific person. It contains four components, empathic understanding (i.e., capacity to communicate an understanding of the person's inner world and how the person feels and experiences it), level of positive regard (i.e., a warm, positive, attitude toward the person), unconditionality (i.e., accepting the person as they are and with their faults) and congruence. (i.e., the professional behaving in a genuine way towards the person, without putting on a 'front' or façade). An example item is 'staff respect me'. Each of the 24 items was rated on a five-point Likert Scale (ranging from 'strongly disagree' to 'strongly agree'). Participants were asked to respond to each statement with regard to their current relationship with staff members generally who

work at the prison, that is to try and avoid focussing on any one staff member, but rather to rate staff as a group. Barrett-Lennard (2015) reported high internal consistency (Cronbach's $\alpha > 0.80$).

The trauma of imprisonment was assessed using a single item 'think about when you came to prison on this sentence, how traumatic did you find this experience'? The participants were asked to rate this question on a 5-point Likert Scale (1) not at all, (2) a little, (3) some, (4) a lot and (5) very much.

Design and Analytical Plan

The research is cross sectional. All measures were distributed to the participants at the same time. The prevalence of any posttraumatic growth was calculated in two ways; first by examining the percentage of participants who scored at least one item of the Posttraumatic Growth Inventory at 3 or higher indicating at least a minimal level of growth; and second by calculating the percentage with a mean score of 3 or higher on the Posttraumatic Growth Inventory, which would corresponds with a 'moderate' overall level of growth. To test the first of our hypothesis, one-tailed person correlations were conducted on the associations between the Posttraumatic Growth Inventory, Barrett-Lennard Relationship Inventory, and the trauma of imprisonment item. To test the second hypothesis, a 2-step hierarchical multiple regression was performed on the data, with the Posttraumatic Growth Inventory as the dependent variable and Barrett-Lennard Relationship Inventory and trauma of imprisonment item as the independent variables. In the first step, staff-prisoner relationships and trauma were entered together. In the second step, an interaction term with the Barrett-Lennard Relationship Inventory and trauma of imprisonment item was computed.

Procedure

The questionnaires were distributed to all of the prisoners in the establishment through posting them under each of the prisoner's cell door. Prior to the questionnaire distribution, all of the prisoners received an explanatory notice outlining the nature of the study, when the questionnaires would be posted, the anonymity of the research and that it is voluntary. There were no incentives given to the participants to engage in the research. The participants were informed of the 10-day time frame to complete the questionnaires and return them (by internal post) to the lead researcher in an addressed envelope that was provided. In order to protect anonymity of the research, the participants were informed that by returning their questionnaires, they were giving their consent to their responses being used in the research. They were also asked *not* to provide their name or prison number. They were, however, asked to state age, ethnic group, religion and length of sentence.

Although the researcher collecting the data was employed by the prison service to work in the establishment where the research was conducted, as all questionnaire returns were completely anonymous, it was considered that no prisoner could be construed as coerced into participation, indeed the low response rate (21%) indicates that this was so.

Results

One hundred and sixty participants returned their questionnaires, a 21% response rate. Participants' ages were within the range 22 to 90 years (mean = 50.42, SD = 14.30). Twenty-two participants decided not to report their age. Sentence length ranged from 3 years to 99 years (mean = 20.83, SD = 21.53). Thirty-four participants did not report their sentence length.

The majority of the participants (83%) described themselves as White British, with fewer participants identifying their ethnic origin as White Irish, British Asian, Mixed Race, Black Caribbean and Black African. Eight participants did not report their ethnic origin and 3 reported that they preferred not to say. Over half of the participants identified their religion as Christian, with fewer identifying themselves as Atheist, Muslim and 'Other' religion. Eight participants did not report their religious identity.

Data Screening

All variables within the data set were examined to check for missing values, the occurrence of univariate and multivariate outliers and normality. With the exception of the demographic variables, there were 10 missing data values. Little's MCAR test revealed that the data were missing at random ($\chi^2(6) = 5.78, p = 0.449$). There were no multivariate or univariate outliers. Normality was assessed for each variable through inspection of plots, descriptives and the skewness and kurtosis values. The relationships and growth scales were normally distributed. The trauma scale was skewed towards the right, however this was expected with regard to the nature of the question and the sample.

Posttraumatic Growth

Almost all participants ($n = 157, 98\%$) reported at least a minimal degree of posttraumatic growth, as indicated by scoring at least one of the 24 items on the Posttraumatic Growth Inventory at 3 or above. Nearly half ($n = 76, 48\%$) reported at

least a moderate degree of growth, as indicated by a mean score of 3 or above on all 24 items of the Posttraumatic Growth Inventory. Internal consistency reliability was assessed for each scale and found to be good. This is presented in Table 1, along with the descriptive statistics for each scale.

<Insert Table 1 here>

Main Analyses

In testing for a relationship between staff-prisoner relationships and posttraumatic growth, a one-tailed significance test was used to limit the chance of a type 1 error. Table 2 shows the correlations between these variables. As hypothesised, there was a significant association found between higher scores on the participant's perceptions of the quality of their relationships with staff members as assessed using the Barrett-Lennard Relationship Inventory and the Posttraumatic Growth Inventory.

<Insert Table 2 here>

In testing possible moderation of the relationship between post traumatic growth and relationship quality by degree of experience of trauma in the index sentencing, a hierarchical regression was performed, with Posttraumatic Growth Inventory scores as the dependent variable and quality of staff-prisoner relationship entered as the only independent variable in the first step of the model. In the second step, an interaction term with the single trauma of imprisonment item and Barrett-Lennard Relationship Inventory was entered into the model.

To avoid potentially problematic high multicollinearity between the product term (relationships x trauma) and trauma, all variables were centred, and centred product terms created, as recommended by Aiken and West (1991). Furthermore, a centred interaction term was created and entered into the model. The model coefficients are presented in Table 3.

<Insert Table 3 here>

The hierarchical regression revealed that the prisoners perceptions of the quality of their relationships with staff members and the trauma of imprisonment were each significantly and independently associated with posttraumatic growth (in step 1, $F(2, 147) = 24.89$, $p < 0.001$, explaining 24.3% of the variance. The quality of relationships scores had a stronger association with posttraumatic growth scores ($\beta = 0.49$) than sentencing trauma ($\beta = 0.20$). When the 2-way interaction was entered in step 2, the model explained 25.4% of the variance in posttraumatic growth and remained statistically significant, $F(3, 146) = 17.93$, $p = < 0.001$. The interaction term, however, did not show evidence of a statistically significant moderation effect between staff-prisoner relationships and intensity of trauma scores ($F \text{ change}(1, 146) = 3.23$, $p = 0.074$).

Discussion

In this study, we found that nearly all of our sample of longer-term high security prisoners reported at least a minimal degree of posttraumatic growth and nearly half

reported a moderate to high level of growth since their incarceration. The fact that these men were long-term prisoners, and the average length of stay in this prison at the time of the ratings was 240 months, could help to explain the high levels of posttraumatic growth reported, as previous research has suggested length of time spent in prison to be related to higher levels of posttraumatic growth (Vanhooren et al., 2017). It may be that with longer sentences there is a stronger motivation toward finding a sense of meaning and personal development, as a way of coping, and a greater need to accept the situation and move on with ones' life as best as possible, than those with shorter sentences.

It should also be noted that while it is encouraging to find that around half of our sample did report posttraumatic growth, we are not making a case that imprisonment is in some way beneficial to people's mental health. Our results do not imply that our participants experienced an absence of mental distress. In the longer term it may be that posttraumatic growth does give rise to better mental health functioning, but in the shorter term it is thought that mental distress and posttraumatic growth most likely co-exist (Joseph, 2011). In this way, it is likely that those who experienced posttraumatic growth were also the most traumatised.

As hypothesised, prisoners who reported experiencing more empathy from staff, being regarded well, and sensing genuineness and acceptance from staff members were more likely to report posttraumatic growth. The results are in line with existing research showing the importance of support from others in the development of posttraumatic growth (Barskova & Oesterreich, 2009; Cieslak et al., 2009; Kamen et al., 2016). It also supports Rogers' (1959) assertion that it is the quality of the 'helping' relationships that facilitates growth, and specifically his hypothesis that constructive personal growth occurs when the person seeking help perceives

genuineness, acceptance and empathy from the professional consulted. Previous research has shown that group therapy clients who experience the group climate as accepting, empathic, and genuine, as assessed using the Barrett-Lennard Relationship Inventory, are more likely to report posttraumatic growth (Payne, Liebling-Kalifani, & Joseph, 2007).

It is important to note that although Rogers' (1959) theory is often applied to therapeutic relationships, he was in fact hypothesising that the attitudes of empathy, genuineness and positive regard apply to *all* helping relationships. In our study, participants were asked to rate the questionnaires in relation to all staff members generally and not only in relation to therapists that they may have had contact with. Our aim was to assess participants' overall experience of feeling accepted, understood, and in genuine relationships while in prison, as Rogers' (1959) hypothesis would suggest that what is important is the person's subjective experience of these qualities. While the Barrett-Lennard Relationship Inventory is often used to assess the quality of one-to-one relationships, it can also be used to assess the social-environmental climate a person experiences themselves in (Payne, Liebling-Kalifani, & Joseph, 2007). Therefore, our findings suggest that all prisoner facing staff members, not just therapists, who demonstrate acceptance, empathy and genuineness are providing the conditions for constructive growth. However, it may be that particular relationships are experienced as more or less important to the prisoner, and our data do not allow us to explore this in any greater detail. As such, for future studies, it will be helpful to assess the different relationships separately in order to test for any unique effects for different staff groupings.

The findings are also consistent with Calhoun and Tedeschi (2006) who suggested that empathy and support from others assists posttraumatic growth. But as a

cross-sectional correlational study we cannot conclude that such relationships lead to posttraumatic growth. Further prospective and experimental evidence would be needed to provide direct support for a causal relationship. It is also recognised that support can come in many forms and the current study only assessed associations between perceptions of acceptance, empathy, positive regard and genuineness, and posttraumatic growth. While we think that these factors, as assessed using the Barrett-Lennard Relationship Inventory and based on Rogers' (1959) theory of helping relationships, are likely important in assisting the processes of posttraumatic growth, other specific relationship factors may also play a role. For example, the degree to which prisoners' receive practical aspects of help should not be overlooked, or the degree to which there is a sense of alliance between the prisoner and the staff member in their commitment to recovery and rehabilitation.

Indeed, other research has indeed shown that the way in which a therapist interacts with prisoners is related to effective rehabilitation (Andrews et al., 1990; Marshall et al., 2002). The current research suggests that this extends beyond therapists alone and is relevant to all professionals who work in a prison rehabilitative setting. It may be that to create a climate conducive to growth, that this needs to be understood as the responsibility of all staff, not only those specifically tasked with looking after the mental health needs of prisoners.

Previous research has found the severity of trauma to be associated with higher levels of posttraumatic growth (e.g. Zhou et al., 2016). We found that the level of trauma was associated with posttraumatic growth. This was expected and supports Tedeschi and Calhoun's (2004) concept of post traumatic growth in that growth does not happen without that initial personal crises and the subsequent period of trying to make sense of what has happened. When, however, we tested a possible moderating

effect of the degree of trauma on the association between the quality of the relationship the prisoners experienced and posttraumatic growth, we found no evidence of an interaction. This means that the level at which the prisoners found their imprisonment traumatic does not affect the association between staff-prisoner relationships and posttraumatic growth. This suggests that the quality of the relationships between staff members and prisoners is associated with posttraumatic growth, despite the intensity of the trauma experienced. However, our measure of trauma experienced was a single item and as such future research could apply a more robust test of the hypothesis using a more sophisticated and established measure of trauma. We were limited, by practical concerns that necessitated keeping our battery of measures to a minimum.

The findings have implications for the management, supervision, and rehabilitation of those residing in prisons. It also has implications in terms of the characteristics of the staff members working in prisons. The research supports Her Majesty's Prison and Probation Service's drive to develop a Rehabilitative Culture in prisons, which places fundamental importance on the quality of the relationships between staff members and prisoners. The strategy aims to ensure a safe and decent environment where prisoners are supported to make positive changes in their lives. The underlying ethos of this strategy places importance on all who work with prisoners understanding and sharing a clear sense of purpose in relation to rehabilitation and progression, with a need for all staff members to consistently demonstrate behaviours and attitudes that support rehabilitation, personal change and growth. The findings are also important particularly within the current sample as

support, empathy and collaboration have been found to increase motivation for behavioural change and rehabilitation in offenders (Ross et al., 2008).

Limitations

Our findings should be interpreted in light of several limitations. Firstly, only a minority of prisoners chose to take part. Because of the nature of the study we cannot know if the non-participants were similar in this respect or not, but we suspect that if they had taken part that we would have found that a substantial number had not reached any stage of posttraumatic growth. Secondly, we did not ask for any details of prior trauma, except for the sentencing itself, nor attempt to quantify it nor assess whether any of these men had posttraumatic stress disorder or some possibly related condition. The participants were required to identify how traumatic they found their imprisonment, this could be subject to recall bias, affecting the accuracy of the data. Indeed, we relied entirely on self-report measures that are subject to respondent bias, so level of perceived posttraumatic growth by the sample, may not fully reflect actual growth. Equally, observer measures of growth may be meaningless without being balanced by self-rating, so ideally for future studies both sets of measures should be made. Thirdly, the research adopted a cross sectional design. Therefore, it was not possible to identify causal relationships and for effects of the variables over time. Finally, we recruited only prisoners from one high security prison for men, so experiences of the current sample cannot be generalised to all prisoners. However, despite these limitations, the current study extends the literature on this topic given that prior studies have all been confined to either small sample sizes, female prisoners, and qualitative investigations.

Directions for Future Research

While positive relationships with staff members have been found to be associated with posttraumatic growth in prisoners. More research is needed in identifying what other factors promote posttraumatic growth in this population and whether relationship factors are equally important for all prisoners, or if the association between relationship factors and posttraumatic growth is moderated by the presence of other factors. Furthermore, we are still lacking prospective research which can examine how growth arises over time and what factors influence its causal development. Little is known about the relationship between posttraumatic growth in prisoners and desistance from crime. Some qualitative studies have suggested a positive relationship (Guse & Hudson, 2014; Mapham & Hefferon, 2012), so, together with the encouraging findings from our study, longitudinal studies are indicated to find out more about how staff-prisoner relationships are associated with such growth and, in turn, how any such growth affects wider change, including desistance from further offending.

Conclusion

It is clear that imprisonment can be a very traumatic experience for prisoners, disrupting their foundations in life. This study found that the quality of the relationships between staff members and prisoners are likely to be vital, as relationships that include genuineness, empathic understanding and acceptance are strongly associated with posttraumatic growth in prisoners. Our research extends such findings to include all prison staff-prisoner relationships, and not only those with a designated therapist, reinforcing the importance of embedding good interpersonal relationship practice into the culture of prisons. More research is needed to establish what other factors may affect likely staff-prisoner relationship impact on growth, for

example other within prisoner characteristics. Such knowledge has important implications for the management and supervision of prisoners throughout their journey towards personal change and rehabilitation, and their safe reintegration into society.

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Table 1. Descriptive Statistics of the Study Variables.

Measure	Mean	SD	Min	Max	Cronbach's alpha
PTGI	56.83	27.00	0	105	0.96
BLRI	64.42	13.64	32	100	0.90
Trauma	2.90	1.29	0	4	–

Table 2. Correlations between posttraumatic growth, relationships and trauma.

	PTGI	BLRI	Trauma
PTGI		0.48***	0.13
BLRI			-0.12

***p<0.001, **p<0.01, *p<0.05 (One-Tailed)

Table 3. Regression analysis to test for the moderating effect of trauma on the association between staff-prisoner relationships and posttraumatic growth.

	Unstandardized		Standardized		95% CI for β	
	Coefficients		Coefficients			
Model	B	SE B	β	t	Lower	Upper
<u>Step 1</u>						
(Constant)	57.10	1.92		29.74	53.31	60.90
BLRI	0.97	0.14	0.49	6.79***	0.69	1.25
Trauma	3.87	1.42	0.20	2.72**	1.06	6.68
<u>Step 2</u>						
(Constant)	57.47	1.92		29.99	53.68	61.26
BLRI	0.99	0.14	0.50	6.95***	0.71	1.27
Trauma	3.52	1.43	0.18	2.47*	0.70	6.34
BLRI x Trauma	0.17	0.10	0.13	1.80	-0.02	0.37

$R^2=0.25$, Adjusted $R^2=0.24$, R^2 change=0.25 (Block 1); $R^2=0.27$, Adjusted $R^2=0.25$, R^2 change= 0.02 (Block 2). *** $p<0.001$, ** $p<0.01$, * $p<0.05$.