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IMPACT OF ALEXITHYMIA ON AGGRESSION: THE SERIAL MEDIATION THROUGH IMPULSIVITY AND EMOTIONAL DYSREGULATION AMONG PRISONERS

ZAINAB ASLAM[1], SARWAT SULTAN[2*], MUHAMMAD AMIR[3], SEHRISH BATOOL[4], RIDA NOOR[5]

[1,2,3,4,5] BAHAUDDIN ZAKARIYA UNIVERSITY, MULTAN, PAKISTAN
CORRESPONDING AUTHOR: PROF. DR. SARWAT SULTAN drsarwat@bzu.edu.pk

ABSTRACT
This study aimed to examine the impact of alexithymia on aggression the chain mediating effect of impulsivity and emotional dysregulation among prisoners. The sample size of the present study consisted of 210 prisoners. The study was conducted in Central Jail Multan and Women Jail Multan. This study applied a survey research design. The convenient sampling technique was used in this research. Four scales were used, Perth Alexithymia -Questionnaire -Short Form (PAQ-S), Buss-Perry Aggression Questionnaire (AQ), Impulsive Behavior Short Scale-8 and, Brief Emotional Dysregulation Scale. The results reveal that there is a significant positive relationship between alexithymia and aggression. There is also the significant positive mediating effect of impulsivity and emotional dysregulation. Based on the findings of the study, it can be concluded that individuals with higher levels of alexithymia often leads more aggressive behaviors and difficulties in emotional regulation. Also, higher level of alexithymia often leads to impulsivity. The study has some future suggestions and implications, it is suggested to use a longitudinal research design and stratified random sampling. The implications of the study include intervention programmes and developing rehabilitation programs.
KEYWORDS: Alexithymia, Aggression, Impulsivity, Emotional dysregulation, Prisoners.

INTRODUCTION

Alexithymia, a stint originally utilized by Sifneos (1973), alludes to mental build described by trouble in comprehension, distinguishing, and communicating individual personal feelings (Nehemiah, 1977). Studies recommended such alexithymia relates to a great many mental circumstances, including melancholy (Honkalampi, 2000), tension (Berardis, 2006), psychosis (van der Velde, 2015), and liquor reliance (Thorberg, 2009). Alexithymic people are full of feeling dysregulation, the powerlessness to self-calm and deal with feelings because of an absence of consciousness of feelings. (Taylor, et al., 1997).

Alexithymia is a multi-layered trait, comprised of a group of feeling handling shortages: trouble distinguishing one's sentiments (DIF), trouble portraying sentiments (DDF), and a remotely orientated speculation style (EOT), whereby individuals keep an eye on not center consideration around their emotions (Preece et al., 2020). These shortfalls connect with ineffectively created feeling plans (Path & Schwartz, 1987) as well as incessant utilization of experiential aversion as a feeling guideline technique (Preece et al., 2017).

Aggression is a typical part of the human way of behaving. Huesman characterizes (as referred to in Khalid and Hussain, 2000), Human aggression and savagery are significant general medical issues. Hostility is for the most part viewed as not entirely settled. Inclining factors for hostility incorporate hereditary variables, the fetal climate, obstetric intricacies, the rising climate, biological elements, and mental problems like substance misuse, psychosis, wretchedness, and behavioral conditions (Volavka et al., 2012). Impulsivity alludes to the propensity to follow up spontaneously, ordinarily without truly pondering the reasonable outcomes. (Dehghani, et al., 2021).

Emotional dysregulation is likewise seen as a multi-layered development including (a) an absence of mindfulness, understanding, and acknowledgment of feelings; (b) a failure to control ways of behaving while encountering close to home pain; (c) an absence of admittance to versatile techniques for regulating the length as well as the power of aversive close to home encounters; and (d) a reluctance to encounter

profound trouble as a feature of chasing after significant exercises throughout everyday life (Gratz et al., 2004)

One trait of alexithymia is trouble handling feelings. Information presently accessible shows an association between it and vicious wrongdoings. In this way, programs for savage wrongdoers screen them for alexithymia and treat it if necessary. Be that as it may, no exploration has taken a gander at alexithymia levels in peaceful guilty parties, so it's muddled assuming this condition likewise plays a criminogenic job in this gathering. The motivation behind this study is to look at the degrees of alexithymia among peaceful, detained wrongdoers with a local area examination bunch. We looked at the alexithymia levels of 67 detained peaceful guilty parties with a local area examination gathering of 139 individuals utilizing the 20 item Toronto Alexithymia Scale. Discoveries there was no distinction in alexithymia levels between the gatherings. The general end it appears to be that evaluating for peaceful wrongdoers is superfluous and that alexithymia isn't a criminogenic factor for them. Our outcomes, which show no distinction in alexithymia evaluations between local area individuals and peaceful wrongdoers, are as opposed to studies led with rough guilty parties (Gillespie et al., 2018 Garofalo et al., 2017, as well as Strickland et al., subsequently, while alexithymia may add to the criminogenic hazard of brutal, incautious, or genuinely inspired guilty parties (Strickland et al., 2017), essentially founded on our information, it doesn't seem to hold that opportunities for peaceful wrongdoers. As indicated by our exploration, there is a compelling reason need to evaluate peaceful guilty parties for alexithymia before starting restoration programs. This disclosure ought to. (Parry et al., 2021)

The intention of this observation changed into researching the relationship between emotional deprivation and alexithymia in College of Jordan undergraduate craftsmanship students. 62 understudies made up the sample, 244 of whom were male and 418 of whom were female. We utilized the Close to Home Hardship Scale and the Toronto Scale (TAS-20). The outcomes showed that there was low close to home hardship and an elevated degree of alexithymia in the sample. The relationship between alexithymia and close to home hardship was additionally observed to be negative. Neither the degree of profound hardship nor the degree of alexithymia was altogether impacted by age, orientation, or their collaborations. As per the review's discoveries, close to home hardship is related to lower levels of alexithymia. (A. Abuhmaidan et al., 2023).

The objective of the ongoing review was to decide if impulsivity and emotional dysregulation measures could foresee marginal behavioral condition layered scores in two separate autonomous samples of nonclinical Italian young people utilizing the Character Analytic Poll 4+'s Marginal Behavioral condition Scale. The consequences of the progressive relapse examinations exhibited a huge relationship between BPD highlights in the two samples and three parts of feeling dysregulation: absence of close to home clearness, restricted admittance to viable profound guideline methodologies, and trouble controlling hasty ways of behaving when bothered. Besides, far over feeling dysregulation, impulsivity scores made sense of a sizable part of the additional difference in BPD highlights (Fossati, et al., 2013).

The corresponding qualities of animosity, fury, and antagonism have for quite some time been proposed as hazard factors for coronary illness (CHD). Impressive proof for this speculation as well as critical constraints that blocked firm ends were tracked down in our earlier survey of the writing (Smith, 1992). We address late examinations on the assessment of these attributes, their connection with life span and CHD, and likely fundamental systems for the relationship in the ongoing audit. Feature the significance of the relational practice in character brain science for general exploration of the impacts of feeling, character, and other Psychosocial qualities on actual well-being notwithstanding concentrates on the pessimistic well-being impacts of animosity, antagonism, and fury (Smith et al., 2004).

Analyzes the impact of alexithymia on the relational issues in Detainees. In this study, detainees of the focal jail of Kerman Iran were examined who had something like one relational issue against themselves other detainees or social specialists. The number of detainees was 384 and was chosen through purposive testing. By utilizing sizes of TAS-20 or relational issues. These polls anticipated the likelihood of relational issues. The discoveries showed a critically good relationship among's alexithymia and relational issues., The elements of alexithymia incorporate three subscales (I.e troubles in character sentiments, portraying sentiments, and externally oriented thinking) As per the discoveries of this study we proposed the Relational issues treatment to be trammed and utilized by friendly clinicians or decrease of communicational irregularities among the detainees in Kerman (Mohamadi, et al., 2016).

Based on a review of the literature, the present study focused on to examining the impact of alexithymia on aggression and investigated the serial mediation of two mediators (impulsivity and emotional dysregulation) between the relationship of alexithymia and aggression. The following hypotheses were tested in the present study.

H1: There is a significant positive relationship between alexithymia and aggression among prisoners.

H2: There is a significant positive relationship between alexithymia and impulsivity among prisoners.

H3: There is a significant positive relationship between alexithymia and emotional dysregulation among prisoners.

H4: There is a significant positive impact of alexithymia on aggression through impulsivity and emotional dysregulation among prisoners.

H5: There is a significant positive impact of impulsivity on aggression through emotional dyregulation among prisoners.
H6: Impulsivity and emotional dysregulation will play serial mediation between alexithymia and aggression among prisoners.

METHOD

Participants

To conduct this research, data were collected from 210 prisoners contacted in jails of district Multan after obtaining institutional permission. Convenient sampling technique was used to approach the participants of the study. Data of 132 male prisoners were collected from Central Jail Multan and the data of 78 females were taken from Women Jail Multan. Personal information was also obtained from the participants who participated in the research such as age, gender, and nature of crime.

Research Design

A quantitative survey research design was used to collect the information in this research from prisoners using questionnaires.

Instruments

Perth Alexithymia Questionnaire-Short Form:
Preece and his colleague constructed this scale in 2023. This scale is based on a personality construct on difficulties in identifying and describing emotions. This scale is a short version derived form a longer version of the alexithymia scale. This short structure comprises 6 items, and furthermore covers all center fundamental components for a substantial and dependable instrument. Scale is helpful in research or clinical settings; this instrument additionally gives helpful and important experiences into close to emotional processing deficits. This brief and assigned instrument survey work with a quick assessment of alexithymia, enabling ideal intercession and adding to a more significant understanding of near and dear working across various populations. (Preece, et al,. 2023).
Buss-Perry Aggression Questionnaire:
Bryant & Smith developed this scale in 2001. This scale contains 12 items. It is a short form of an aggression questionnaire. This scale has four sub-scales: physical aggression, verbal aggression, anger, and hostility. Respondents' reactions ranged from 1 to 5 Likert scale. A high score suggests a higher level of aggression. This scale is useful in both clinical and research settings. This instrument is reliable and valid. (Bryant & Smith, 2001).
Impulsive Behavior Short Scale-8
Katharina Groskurth and his colleague constructed 8 items version of impulsive behavior in 2022. This instrument measures the psychological construct of impulsivity with four sub-scales comprising two items each. Respondents rate every item on a 5-point Likert scale, which gives a quantitative proportion of conduct. This instrument is significant in all settings because of its straightforwardness of limit and association to give a quick yet complete assessment. (Groskurth et al,. 2022).
Brief Emotional Dysregulation Scale
Wycoff designed this scale in 2021 consisting of 12 items. Brief Emotional dysregulation scale incorporates responsiveness and liability sub-scales and a different outcomes scale to show related issues. BEDS is a brief trans-diagnostic screening device for emotion dysregulation and related outcomes. The construction of this scale was driven by the need for a brief yet comprehensive instrument that could be easily administrated across diverse settings. This scale has high reliability (Wycoff, et al,. 2024).
Procedure
Permission was first obtained from the Police Department to conduct this research. A booklet containing four instruments was used according to the research variables. For the data collection, the participants were first informed about the purpose of the research and then consent were obtained from those who showed willingness to participate in the present study. All the participants in the research were provided with the necessary information on how to complete their questionnaire. All participants were requested to provide correct information and were assured that the information being collected from them would be used only for research and that their information would not be shared with anyone else. This research followed ethical guidelines. After obtaining all the information, all the data were analyzed on SPSS-27.

RESULTS

Table 1:Demographic variables: (sample = 210)

Demographics Variables	Frequency	Percentage
Gender		
Male	132	62.9%
Female	78	37.1%

Age		
18years	4	1.9%
19years	7	3.3%
20years	4	1.9%
21years	10	4.8%
22years	10	4.8%
23years	8	3.8%
24years	11	5.2%
25years	11	5.2%
26years	5	2.4%
27years	11	5.2%
28years	16	7.6%
29years	8	3.8%
30years	5	2.4%
31years	6	2.9%
Social Class		
Upper Class	12	5.7%
Middle Class	91	43.3%
Lower Class	107	51.0%
Nature of Crime		
Crime against person	41	19.5%
Crime against property	38	18.1%
Organized crime	32	15.2%
White collar crime	25	11.9%
Victimless crime	74	35.2%

Demographics analysis revealed a skewed composition sample (N = 210) with ages ranging from 18 to 31 years. 1.9% to 2.9%. In a sample of 210 participants, 62.9% were male while 37.1% were female. Socioeconomic status the sample exhibited most participants belong to the middle 43.3% or lower 51.0%c class and a smaller portion 5.7% indicating the upper class. Regarding the nature of the crime, Crime against persons is 19.5%, crime against property is 18.1% organized crime is 15.2% white collar crime is 11.9% victimless crime is 35.2%. This indicates that most of this sample commented on victimless crime.

Table 2: Correlation Analysis:

	Alexithymia	**Aggression**	**Impulsivity**	**Emotional Dysregulation**
Alexithymia	1			
Aggression	.664**	1		
Impulsivity	.372**	.455**	1	
Emotional Dysregulation	.502**	.577**	.483**	1

**p<0.01

The results show a positive correlation among all variables. All correlations are statistically significant at the 0.01 level, showing a high level of confidence in this relationship. The correlation coefficient between alexithymia and aggression is .664** which indicates a moderately strong positive relationship. The correlation coefficient between alexithymia and impulsivity is .372** which indicates a moderate positive relationship. The correlation coefficient between alexithymia and emotional dysregulation is .502** which indicates a moderately strong positive relationship. The correlation coefficient between aggression and impulsivity is .455** suggesting a strong positive relationship. The correlation coefficient between aggression and emotional dysregulation is .577** which shows a strong positive relationship. The correlation coefficient between impulsivity and emotional dysregulation is .483** indicating a moderately strong positive relationship.

Table 3: Linear Regression of Hypothesized Model Paths:

Path	**B**	**SE**	**t**	**p**	**LL**	**UL**
ALEX-> IMP	.190	.033	5.773	0.000	.125	.255
ALEX->ED	.243	.039	6.212	0.000	.167	.320
IMP->ED	.438	.076	5.725	0.000	.287	.588
ALEX-> AGG	.544	.063	8.539	0.000	.419	.670
IMP->AGG	.335	.122	2.729	0.007	.093	.577
ED->AGG	.469	.103	4.522	0.000	.264	.674

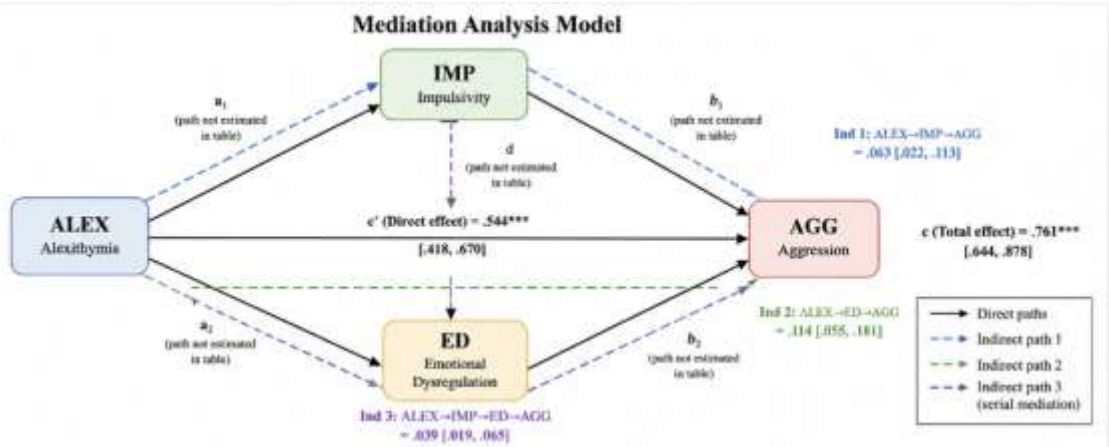
Note: ALEX= Alexithymia, IMP= Impulsivity, ED= Emotional dysregulation, AGG= Aggression.
In this model, in the path an impact of alexithymia on impulsivity is = .190 in path b impact of alexithymia on emotional dysregulation is = .243, in path c impact of impulsivity on emotional dysregulation is = .438, in path d impact of alexithymia on aggression is = .544, in path e impact of impulsivity on regression is = .335, and in path f impact of emotional dysregulation on aggression is = .469 and all the paths are significant.

Table 4: Mediation Analysis (outcome variables):

Predictors	**B**	**SE**	**t**	**p-value**	**95% CI**	
					LL	**UL**
Total effect Alex-Agg	.761	.059	12.815	0.000	.644	.878
Direct effect ALEX-AGG	.544	.063	8.538	0.000	.418	.670
Indirect effect ALEX-AGG	.217	.035	---	---	.153	.290
Ind 1: ALEX->IMP->AGG	.063	.023	---	---	.022	.113
Ind 2: ALEX->ED->AGG	.114	.321	---	---	.055	.181
Ind 3: ALEX->IMP->ED-> AGG	.039	.118	---	---	.019	.065

Note: ALEX= Alexithymia, IMP= Impulsivity, ED= Emotional dysregulation, AGG= Aggression.
In this table, the total effect of ALEX on AGG is 0761, $p < 0.0001$, indicating a strong total effect. This suggests that ALEX is an important variable that influences AGG and that any changes to ALEX will have a significant effect on AGG. Direct effect 0.0544 $p > 0.0001$, indicating a significant direct effect. It means that ALEX has a reliable impact on AGG. Total Indirect effect .217 (SE=.035, 95% CI: .153 to .290). The total indirect effect is .217, suggesting that the total mediating effects are significant. In, ind1 this pathway indicates that ALEX influences AGG through IMP. The modest value of .063 shows that there is an indirect effect although it is relatively small. This means that part of the ALEX effect on AGG is mediated by change in IMP. Second path effect .113 indicates that ALEX impacts AGG through ED and has a moderate indirect effect. The third pathway indicates that ALEX affects AGG through both IMP and ED. The smaller value of .039 shows that this indirect effect exists although it is weaker than the other paths. ALEX has significant direct and indirect effects on AGG, with mediation through IMP and ED contributing to the total effect.

Results Diagram:



DISCUSSION

This research aimed to examine impact of alexithymia on aggression and the chain mediating effect of impulsivity and emotional dysregulation among prisoners. This investigation aims to determine how alexithymia impact on aggression through impulsivity and emotional dysregulation. The research confirms or refutes the assumptions it has established. All the path coefficients are statistically significant. Research hypotheses are discussed in detail below.

H1: The findings indicate a significant positive correlation between alexithymia and aggression among prisoners. The results align with past research that has similarity found individuals with higher levels of alexithymia often lead more aggressive behaviors. Researchs (Teten et al., 2008) and (Zimmermann, 2005) stated that individuals with alexithymia tend to have difficulties in emotion regulation which can increase the level of aggression. (Zimmermann et al., 2005) Theoretical understood the relationship between alexithymia and aggression by the lens of emotional processing deficits. Taylor and Bagby in 2004 provide the theoretical framework which states that individuals with alexithymia may experience intense emotional arousal without the ability to process and articulate these emotions. The inability to understand emotional awareness and regulation can result in the externalization of negative emotions, such as frustration and anger manifesting as aggressive behaviour. (Taylor et al., 2004). The frustration-aggression hypothesis (Dollard et al., 1939) further supports this, suggesting that the inability to address and manage internal emotional states can lead to aggression as a form of expressing unresolved frustration. The GAM model also supports the relationship between alexithymia and aggression. The results are justified by considering the mechanisms through which alexithymia affects behaviour. Individuals with alexithymia may struggle with recognizing and understanding their own emotions, which can result in heightened emotional arousal and stress Without effective emotional coping strategies, these individuals are more likely to exhibit maladaptive behaviors, such as aggression as a means of dealing with their internal turmoil.

H2: The discoveries demonstrate a significant positive relationship between alexithymia and impulsivity among prisoners. Several studies support this positive relationship between both. A study by Dehghani stated that individuals with higher levels of alexithymia also have higher levels of impulsivity. (Dehghani & Falahi, 2021). Theoretically this relationship is supported by the Dual process model of impulsivity. This model states that impulsivity results from a lack of balance between two cognitive systems, the impulsive system which is speedy and programmed and the reflective system which is increasingly slow and intentional.(Strack et al., 2004). This logical relationship, between both alexithymia and impulsivity is rooted in the fundamental need for effective emotional regulation. Alexithymia impairs an individual ability to understand and manage their emotions, leading to increased impulsivity as a maladaptive coping mechanism. In the context of the prison environment, the inability to process emotions effectively becomes particularly problematic.

H3: The findings indicate that there is a significant positive correlation between alexithymia and emotional dysregulation among prisoners. Several studies support this relationship, a study by Mennin, Heimberg, and Turk states that individuals with high levels of alexithymia exhibit significant difficulties in regulating their emotions. (Turk et al., 2005). Research (Parker et al., 1998) states that prisoners with a high levels of alexithymia had high levels of emotional dysregulation. Another study by (Zlotnick et al., 2001) on prisoners revealed that alexithymic traits were strongly associated with emotional dysregulation, particularly in the context of managing stress and interpersonal relationships. All these findings indicate that there is a strong link between alexithymia and emotional dysregulation. Theoretically this relationship is supported by the Affect Regulation Model, which suggests that effective emotional regulation requires the ability to understand and process emotional experiences. Alexithymic individuals lack this ability, leading to significant difficulties in managing their emotions (Gross et al., 1999). The logical relationship between alexithymia and emotional dysregulation is grounded in the fundamental processes of emotional awareness and regulation. Alexithymia impairs an individual ability to recognize, understand, and describe their emotions which is crucial for effective emotional regulation. In the context of a prison environment, this impairment becomes particularly problematic.

H4: The findings suggest that alexithymia has a significant positive impact on aggression through impulsivity and emotional dysregulation. Several studies supports this hypothesis findings, a study by Dehghani (2021) found that individuals with higher levels of alexithymia exhibited higher levels of impulsivity which in turn was linked to increased aggression behaviour. (Dehghani et al., 2021). Parker, et al. (2001) states that alexithymic individuals tend to have poor emotional regulation skills, leading to higher aggression levels, especially in high stress environments such as prisons. Kockler (2008) states that emotional dysregulation is a significant predictor of aggression among prisoners, particularly when combined with high impulsivity. All these studies collectively indicate that alexithymia influences aggression through its impact on impulsivity and emotional dysregulation.
Theoretically, this relationship can be explained through the GAM, (Allen et al., 2018) general aggression model and Dual process model. (Leshem et al., 2016). The logical relationship between alexithymia impulsivity emotional dysregulation and aggression is grounded in the interconnected nature of these psychological constructs. Alexithymia impairs an individuals ability to recognize and process emotions leading to increased emotional dysregulation. This dysregulation manifests as heightened emotional arousal and difficulty in managing emotional responses. In the prison environment where

stress and conflict are prevalent the inability to regulate emotions effectively can lead to impulsive reactions.

H5: The findings suggest that impulsivity has a significant positive impact on aggression through emotional dysregulation. Previous studies support this relationship. (Garofalo et al., 2018) suggest that high impulsivity is strongly correlated with increased aggression, particularly in individuals who also exhibit poor emotional regulation. This relationship is even more pronounced in an incarcerated population. (Roberton et al., 2012) suggest that prisoners with high impulsivity and emotional dysregulation showed a significantly higher levels of aggressive behaviour. Theoretically, this relationship is also supported by the General Aggression Model and Dual Process Model. Prisoners with high levels of impulsivity show more aggressive behaviour because of a lack of ability to regulate their emotions.

H6: The findings suggested that impulsivity and emotional dysregulation mediated between alexithymia and aggression. There are several studies that supports this mediation differently on different populations. Theoretically, Emotional Cascade Model posits that emotional dysregulation leads to a cascade of negative emotions, which individuals attempt to manage through impulsive behaviour, including aggression. (Selby et al., 2008). The model highlights the role of emotional dysregulation as a mediator that exacerbates the impact of impulsivity on aggression, supporting the serial mediation hypothesis. The interaction between these factors creates a feedback loop that reinforces aggressive behaviour. Emotional dysregulation and impulsivity often in negative outcomes, such as conflicts or disciplinary actions, which increase stress and further impair emotional processing. This creates a cycle where alexithymia continually exacerbates impulsivity and emotional dysregulation, leading to sustained or escalating aggression.

CONCLUSION

The present study revealed a strong positive relationship between alexithymia and aggression among prisoners mediated by impulsivity and emotional dysregulation. These findings highlighted the critical role that emotional and behavioral dysregulation play fostering to aggressive behavior within in prison environment. By uncovering the pathways through which alexithymia influences aggression this study provides valuable insights that can inform the field by highlighting potential targets for therapeutic interventions and correlational policy. The practical implications suggest a need for targeted programs to enhance awareness and regulation as well as to improve impulse control to reduce aggressive behaviors.

Limitations:
There are several limitations of this study first this is Cross-sectional research. This quantitative research design uses a survey method and a convenient sampling technique. The use of convenient sampling can introduce selection bias, slanting the outcomes and restricting the generalizability.

Suggestions
In future research on the impact of alexithymia on aggression and the chain mediating effect of impulsivity and emotional dysregulation among prisoners, it is suggested to use a longitudinal research design in the future to unravel the temporal dynamics and establish causal relationships. Uses a stratified random sampling technique instead of convenient sampling can reduce selection bias and provide a more accurate reflection of the target population.

Implications
Practical implications of this study have two implications one is intervention programs, which include emotion regulation training and psychological assessments. Implementing emotion regulation training programs for prisoners with high levels of alexithymia could reduce aggression and impulsivity. Techniques such as cognitive behavioral therapy could be effective. Regular psychological assessments to identify individuals with high levels of alexithymia can help in tailoring specific interventions amid at reducing aggressive behaviors. Second is developing rehabilitation programs that focus on improving emotional processing and awareness among prisoners could lead to better emotional regulation and reduce aggression. Anger management programs are also helpful for managing and reducing high levels of aggression. Empirical implications for future research, longitudinal studies conducted to track the changes in impulsivity aggression emotional dysregulation over time among prisoners with high levels of alexithymia can provide deeper insights into the causal relationship. To enhance the generalizability, examine this relationship on cross population. Policy implications include prison policies enhancing mental health services within prisons to include specialized programs for individuals with alexithymia that can address the root causes of aggressive behaviors. Training prison staff also can improve the overall environment and reduce incidents of aggression.

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