

(Research Article)

The Effect of Inmate Stress and the Cor-Rectional Environment on Behavioral Change Through Inmate Motivation in Class IIA Serang Correctional Institution

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Abstract: This study examines the effect of inmate stress and the correctional environment on behavioral change, with motivation as a mediating variable, at Class IIA Serang Correctional Institution in Indonesia. The research is motivated by persistent issues such as overcrowding and high levels of psychological stress, which potentially hinder the effectiveness of rehabilitation programs and reduce the likelihood of successful behavioral transformation among inmates. Therefore, this study aims to analyze the direct and indirect relationships between stress, correctional environment, motivation, and behavioral change. A quantitative research design was employed using a survey method involving 254 inmates selected through proportional sampling. Data were collected using structured questionnaires measured on a Likert scale and analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS). The results indicate that inmate stress has a significant negative effect on motivation, while the correctional environment has a significant positive effect on motivation. Furthermore, motivation significantly influences behavioral change and serves as a mediating variable that strengthens the relationship between the correctional environment and behavioral outcomes, while weakening the negative impact of stress. These findings suggest that behavioral change in correctional settings is influenced by both psychological and environmental factors. In conclusion, effective rehabilitation requires an integrated approach that focuses on reducing stress levels and improving institutional conditions to enhance inmates' intrinsic motivation and support sustainable behavioral change.

Keywords: Behavioral Change; Correctional Environment; Motivation; Rehabilitation; SEM-PLS.

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1. Introduction

The correctional system has undergone a paradigm shift from a punitive approach toward a rehabilitative model that emphasizes behavioral change and social reintegration. In Indonesia, this transformation is reinforced by contemporary correctional policies that position inmates not merely as subjects of punishment but as individuals to be guided toward positive behavioral transformation. However, the effectiveness of this rehabilitative approach remains challenged by structural and psychological constraints, particularly overcrowding and high levels of inmate stress within correctional institutions. These conditions create an environment that may hinder inmates' participation in rehabilitation programs and limit the achievement of sustainable behavioral change.

One of the key issues in correctional institutions is the high level of stress experienced by inmates due to factors such as limited personal space, lack of privacy, social pressure, and uncertainty about the future. Excessive stress can negatively affect psychological well-being and reduce motivation to engage in constructive activities. On the other hand, the correctional environment plays a crucial role in shaping inmates' experiences. A supportive, safe, and structured environment can foster positive interactions, enhance psychological stability, and encourage participation in rehabilitation programs.

Motivation is considered a central factor in the process of behavioral change, as it determines the extent to which inmates are willing to engage in and benefit from correctional interventions. Despite its importance, previous studies have often examined the effects of stress and environment on behavior separately, with limited attention to the mediating role of motivation, particularly in high-density prison settings in developing countries.

Therefore, this study aims to analyze the effect of inmate stress and the correctional environment on behavioral change, with motivation as a mediating variable. By integrating psychological and environmental perspectives, this research is expected to provide a more comprehensive understanding of the mechanisms underlying behavioral change in correctional institutions and contribute to the development of more effective rehabilitation strategies.

2. Preliminaries or Related Work or Literature Review

Behavioral change within correctional institutions is a central objective of the rehabilitative justice system, referring to the transformation of inmates' attitudes and behaviors from maladaptive to socially acceptable patterns. This process is complex and influenced by multiple internal and external factors, including psychological conditions and environmental support. One of the most influential internal factors is motivation, which determines the extent to which inmates are willing to engage in rehabilitation programs and adopt positive behavioral changes. According to Self-Determination Theory, motivation can be categorized into intrinsic and extrinsic forms, where intrinsic motivation is considered more sustainable and effective in promoting long-term behavioral transformation.

In the context of correctional institutions, inmate stress is a critical psychological factor that may hinder the rehabilitation process. High levels of stress are commonly associated with overcrowding, lack of privacy, limited access to resources, and uncertainty regarding legal status and future reintegration. Previous studies have shown that excessive stress can negatively affect cognitive functioning, emotional stability, and decision-making, ultimately reducing individuals' motivation to participate in constructive and rehabilitative activities. As a result, stress is often identified as a barrier to successful behavioral change in prison settings.

Conversely, the correctional environment plays a significant role in facilitating or constraining rehabilitation outcomes. A supportive environment characterized by safety, structured programs, positive social interactions, and adequate facilities can enhance inmates' psychological well-being and encourage active participation in rehabilitation programs. Empirical findings suggest that inmates who perceive their environment as fair, supportive, and humane are more likely to develop positive attitudes and demonstrate behavioral improvements.

Despite the growing body of literature on stress and environmental factors in correctional settings, limited research has examined the integrative role of motivation as a mediating variable that links these factors to behavioral change. Most previous studies tend to analyze direct relationships without fully exploring the underlying psychological mechanisms. Therefore, this study seeks to fill this gap by proposing a conceptual model that positions motivation as a key mediator in the relationship between inmate stress, correctional environment, and behavioral change. This approach is expected to provide a more comprehensive understanding of how internal and external factors interact to influence rehabilitation outcomes, particularly in high-density correctional institutions in developing countries.

3. Method

This study proposes a quantitative analytical framework to examine the relationships between inmate stress, correctional environment, motivation, and behavioral change using Structural Equation Modeling–Partial Least Squares (SEM-PLS). The method is designed to systematically evaluate both direct and indirect effects among variables through a structured sequence of data processing and statistical analysis.

The research process begins with model specification, where inmate stress and correctional environment are defined as exogenous variables, motivation as a mediating variable, and behavioral change as the endogenous variable. Next, data collection is conducted through a structured questionnaire distributed to 254 inmates using a Likert scale. The collected data are then processed and analyzed using SEM-PLS to evaluate the measurement model (outer model) and structural model (inner model). Finally, hypothesis testing and mediation analysis are performed to interpret the relationships between variables.

3.1. Algorithm/Pseudocode

To provide a clearer understanding of the research procedure, the SEM-PLS analysis steps are summarized in Algorithm 1.

Algorithm 1. SEM-PLS Analysis Procedure

INPUT: Questionnaire data ($n = 254$), variables (Stress, Environment, Motivation, Behavior)

OUTPUT: Path coefficients, R^2 values, hypothesis testing results

- 1: Define research model and variables
 - 2: Design questionnaire and collect data
 - 3: Preprocess data (cleaning and validation)
 - 4: Evaluate measurement model (validity and reliability)
 - 5: Evaluate structural model (R^2 and path coefficients)
 - 6: Perform bootstrapping for hypothesis testing
 - 7: Analyze mediation effect of motivation
 - 8: Interpret results and draw conclusions
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The procedure described above ensures a systematic and reliable analysis of the proposed research model.

3.1.1. Subsubsection

The relationships between variables in this study can be summarized as follows:

- Stress negatively affects motivation;
- Correctional environment positively affects motivation;
- Motivation influences behavioral change.

The research process consists of several main stages:

- a. Data collection stage;
- b. Data analysis stage;
- c. Interpretation stage

3.2 Mathematical Formulation

A sample is a subset of the population that represents its characteristics and overall composition. Considering the relatively large population size ($N = 695$) and the limitations in time and resources, this study employs a sample as a representation of the population.

The sample size (n) was determined using the Slovin formula with a margin of error of 5% ($e = 0.05$). A 5% error tolerance is commonly accepted in social science research as it provides a balance between minimizing bias and maintaining feasibility in data collection (Andrade, 2020).

The sample size in this study was determined using the following formula:

$$n = \frac{N}{1+N(e)^2}$$

Information:

n = Sampel size

N = Population size (695)

e = Error rate (5% atau 0,05)

Calculation:

$$n = \frac{N}{1+N(e)^2}$$

$$n = \frac{695}{1+695(0,05)^2}$$

$$n = \frac{695}{1+695(0,0025)}$$

$$n = \frac{695}{1+1,7375}$$

$$n = \frac{695}{2,7375}$$

$$n = 253,88 = 254$$

Based on the calculation above, the minimum sample size required for this study is rounded to 254 respondents. This sample size also meets the commonly accepted “rule of thumb” for multivariate analysis, particularly Partial Least Squares Structural Equation Modeling (PLS-SEM), which recommends a sample size ranging from 100 to 400 respondents to ensure stable and reliable model estimation (Memon et al., 2020).

The sampling technique used in this study is probability sampling with a stratified random sampling method. This method was selected because the inmate population at Class IIA Serang Correctional Institution is heterogeneous and can be clearly divided into strata based on the type of criminal offense (case category). The use of stratified sampling aims to ensure that each category—namely narcotics, general crimes, and corruption—is proportionally represented in the sample, thereby minimizing bias toward any dominant group (proportional stratification) (Taherdoost, 2022).

Based on the total sample size of 254 respondents, the allocation of samples for each stratum is calculated proportionally as follows:

- a. Narapidana Kasus Narkotika:

$$\frac{361}{695} \times 254 = 131,9 \approx 132 \text{ orang}$$

- b. Narapidana Kasus Pidana Umum:

$$\frac{305}{695} \times 254 = 111,4 \approx 111 \text{ orang}$$

- c. Narapidana Kasus Korupsi:

$$\frac{29}{695} \times 254 = 10,6 \approx 11 \text{ orang}$$

Total Sampel: $132 + 111 + 11 = 254$ Responden.

The structural relationships in this study are expressed mathematically. Eq. (1) is used to calculate the effect of stress and environment on motivation:

$$\text{Motivation} = \beta_1(\text{Stress}) + \beta_2(\text{Environment}) + \varepsilon_1 \quad (1)$$

The equation above indicates that motivation is influenced by both stress and environmental conditions. Furthermore, behavioral change is modeled as follows:

$$\text{Behavior} = \beta_3(\text{Motivation}) + \varepsilon_2 \quad (2)$$

The equations show that motivation acts as a predictor of behavioral change, while also serving as a mediating variable between stress, correctional environment, and behavioral outcomes.

4. Results and Discussion

This section presents the results of the data analysis along with a comprehensive discussion of the findings in relation to the proposed hypotheses. The analysis was conducted using SmartPLS 4.0 software to perform Structural Equation Modeling–Partial Least Squares (SEM-PLS), which is suitable for complex models and non-normal data distributions. The dataset consists of responses from 254 inmates collected through structured questionnaires using a Likert scale. 4.1. Figures and Tables

The initial analysis shows that the respondents exhibit varying levels of stress, perception of the correctional environment, and motivation. Descriptive statistics indicate that inmate stress tends to be relatively high, reflecting overcrowded conditions and psychological pressure. Meanwhile, perceptions of the correctional environment vary depending on access to facilities, social interaction, and institutional support. Motivation levels are moderately distributed, suggesting that not all inmates are equally engaged in rehabilitation programs.

The evaluation of the measurement model (outer model) confirms that all constructs meet the required validity and reliability criteria. The factor loadings of all indicators exceed 0.70, indicating strong convergent validity. The Average Variance Extracted (AVE) values are above 0.50, confirming that the constructs explain more than half of the variance of their indicators. Furthermore, Composite Reliability (CR) and Cronbach's Alpha values are above 0.70, indicating that the measurement instruments are reliable. Discriminant validity is also satisfied based on the Fornell-Larcker criterion.

The structural model (inner model) evaluation reveals significant relationships among variables. The coefficient of determination (R^2) for motivation indicates that it is substantially explained by stress and the correctional environment. Similarly, the R^2 value for behavioral change shows that motivation is a strong predictor.

The path coefficient results are summarized as follows:

- 1) Stress $\rightarrow$ Motivation ($\beta = -0.602$, significant)
- 2) Environment $\rightarrow$ Motivation ($\beta = 0.548$, significant)
- 3) Motivation $\rightarrow$ Behavioral Change ($\beta = 0.725$, significant)

These results indicate that stress negatively affects motivation, while the correctional environment has a positive effect. Motivation, in turn, strongly influences behavioral change.

The findings confirm the first hypothesis that inmate stress negatively affects motivation. This result aligns with psychological theories suggesting that excessive stress reduces cognitive capacity and emotional stability, thereby limiting individuals' willingness to engage in constructive activities. In the context of correctional institutions, high stress levels may discourage inmates from participating in rehabilitation programs.

The second finding shows that the correctional environment positively affects motivation. This indicates that a supportive and structured environment can enhance inmates' psychological well-being and encourage active participation in rehabilitation. This result supports previous studies emphasizing the importance of environmental factors in shaping behavioral outcomes.

Furthermore, motivation is found to be the strongest predictor of behavioral change, confirming its central role in the rehabilitation process. The mediation analysis reveals that motivation acts as a key mechanism linking environmental conditions and behavioral outcomes. This suggests that improving the correctional environment alone is not sufficient unless it leads to increased motivation among inmates.

Overall, these findings highlight that behavioral change is a multidimensional process influenced by both internal (psychological) and external (environmental) factors. The integration of these factors is essential for achieving effective and sustainable rehabilitation outcomes.

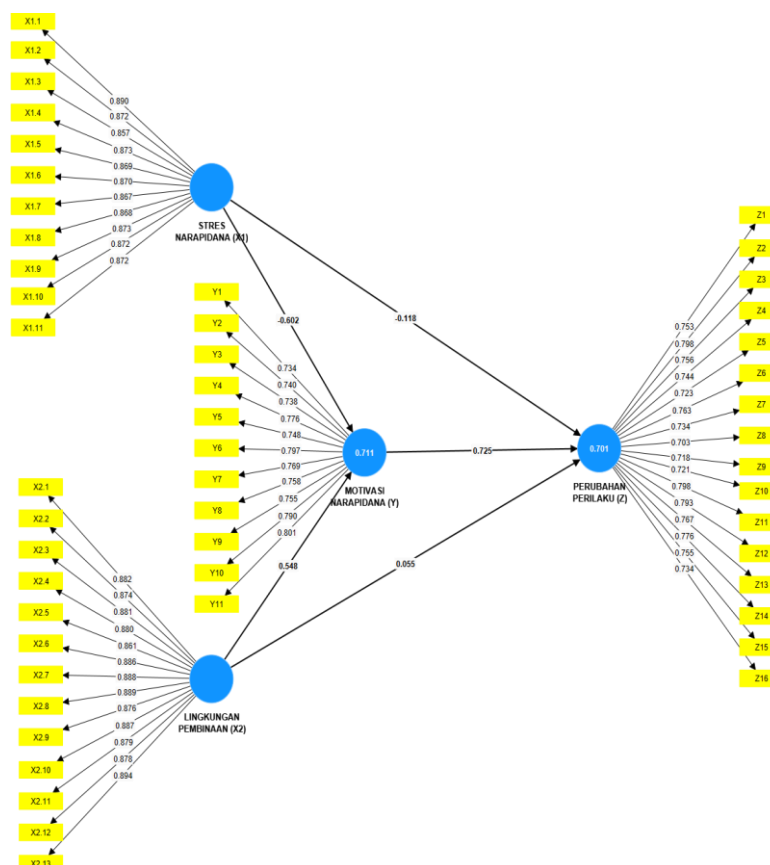


Figure 1. Structural Model Results (SmartPLS 4.0 Output).

Table 1. This is a table. Tables should be placed in the main text near to the first time they are cited.

Hipotesis	Jalur Hubungan	Koefisien Jalur	T-Hitung	P-Values	Keputusan	Status H0
H1	Stres Narapidana (X1) → Motivasi (Y)	-0,602	18,597	0,000	Diterima	Ditolak
	Lingkungan Pembinaan (X2) → Motivasi Narapidana (Y)	0,548	16,429	0,000	Diterima	Ditolak
H3	Stres Narapidana (X1) → Perubahan Perilaku (Z)	-0,118	2,182	0,029	Diterima	Ditolak
H4	Lingkungan Pembinaan (X2) → Perubahan Perilaku (Z)	0,055	1,127	0,260	Ditolak	Diterima

Hipotesis	Jalur Hubungan	Koefisien Jalur	T- Hitung	P- Values	Keputusan	Status H0
H5	Motivasi					
	Narapidana (Y)					
	→ Perubahan Perilaku (Z)	0,725	11,597	0,000	Diterima	Ditolak

5. Comparison

This study provides a more comprehensive understanding of behavioral change in correctional institutions compared to previous studies. Earlier research has generally examined the effects of psychological factors such as stress or environmental factors separately. However, this study integrates both inmate stress and the correctional environment into a single structural model, allowing for a more holistic analysis of their combined influence on behavioral outcomes.

In comparison with prior studies, the findings of this research confirm that stress has a negative effect on motivation, while the correctional environment has a positive effect. These results are consistent with existing literature, which suggests that high stress levels can reduce individuals' willingness to participate in constructive activities, whereas supportive environments can enhance engagement and psychological well-being. Nevertheless, the key contribution of this study lies in highlighting the mediating role of motivation, which has often been overlooked in previous research.

Unlike earlier studies that primarily focused on direct relationships, this research demonstrates that motivation plays a central role in linking both stress and environmental factors to behavioral change. The strong path coefficient between motivation and behavioral change indicates that motivation is a critical mechanism in the rehabilitation process. This finding provides a deeper insight into how internal and external factors interact to influence inmates' behavior.

Furthermore, this study contributes to the literature by providing empirical evidence from a high-density correctional setting in a developing country context, which is still limited in previous research. Therefore, the proposed model not only confirms existing theories but also extends them by offering a more integrated and context-specific framework for understanding behavioral change in correctional institutions.

6. Conclusion

This study aims to analyze the effect of inmate stress and the correctional environment on behavioral change, with motivation as a mediating variable. The results show that inmate stress has a significant negative effect on motivation, while the correctional environment has a significant positive effect on motivation. Furthermore, motivation is proven to have a strong positive influence on behavioral change. These findings indicate that motivation plays a central role in the rehabilitation process within correctional institutions.

The findings of this study support the proposed research objectives and hypotheses, demonstrating that both psychological and environmental factors significantly influence behavioral outcomes. The integration of stress and environmental variables with motivation as a mediating factor provides a more comprehensive understanding of behavioral change mechanisms among inmates.

This study contributes to the development of correctional science by emphasizing the importance of improving environmental conditions and reducing stress levels to enhance inmate motivation. Practically, the results suggest that correctional institutions should focus on creating a supportive and structured environment to maximize rehabilitation outcomes.

However, this study has several limitations. First, the data were collected from a single correctional institution, which may limit the generalizability of the findings. Second, the use of self-reported questionnaires may introduce response bias. Therefore, future research is recommended to include multiple institutions, larger sample sizes, and additional variables to further validate and expand the proposed model.

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