

# OCCUPATIONAL STRESS IN CRIMINAL POLICE: STUDY IN A PRISON UNIT IN MINAS GERAIS

## *ESTRESSE OCUPACIONAL EM POLICIAIS PENAIS: ESTUDO EM UMA UNIDADE PRISIONAL DE MINAS GERAIS*

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### ABSTRACT

**Purpose:** The objective of this work was to identify the levels of occupational stress in Criminal Police, as well as their generating factors (stressors), coping strategies and suggestions for improvement.

**Design/methodology/approach:** Based on a quantitative study carried out in a Prison Unit in Minas Gerais, data were collected through an electronic questionnaire, adapted from the Theoretical Model for Explanation of Occupational Stress (MTEG) developed and validated by Zille (2005). The results were analyzed using univariate and multivariate statistics and the discursive questions were treated from the Content Analysis

**Findings:** The main results indicate that 89% of those surveyed present stress ranging from mild to moderate to very intense and the main stressors are related to the insufficient number of staff, the biological risk of infectious diseases, overcrowding and high risk of prisoners, in addition to the relationship with colleagues and management. It is also worth mentioning improvement actions aimed at 3 categories: Public Power, Management and employees.

**Research limitations/implications (if applicable):** It is worth noting the fact that it was carried out only in a prison unit and the impossibility of interviews, in view of the restrictions imposed by the Covid 19 Pandemic.

**Practical implications:** The study highlights suggestive actions that involve the government, the direction of the Unit and also the Criminal Police in an attempt to collaborate to reduce the level of stress experienced by workers. In addition to the clamor for an increase in the number of employees, the valorization of work, dialogue, training are some of the practical actions to be taken.

**Social implications:** It is believed that the research draws attention to variables that influence the level of security, both of the agents and the community. Therefore, it is a matter of collective interest.

**Originality/value (mandatory):** We sought to contribute to the advancement of research on stress at work carried out by Criminal Police, pointing out the main stress-generating factors and indications of improvements, from the perspective of those involved. In this way, it contributes with information that can help the management of prisons, as well as justifying more solid public actions for the category.

**Keywords:** Occupational Stress; Criminal Police; stressors

## RESUMO

**Objetivo:** O objetivo deste trabalho foi identificar os níveis de estresse ocupacional em Policiais Penais, bem como seus fatores geradores (estressores), estratégias de enfrentamento e sugestões de melhoria.

**Metodologia:** A partir de um estudo quantitativo, realizado em uma Unidade Prisional de Minas Gerais, os dados foram coletados por meio de questionário eletrônico, adaptado a partir do Modelo Teórico de Explicação do Estresse Ocupacional (MTEG) desenvolvido e validado por Zille (2005). Os resultados foram analisados por meio da estatística univariada e multivariada e as questões discursivas tratadas a partir da Análise de Conteúdo.

**Resultados:** Os principais resultados indicam que 89% dos pesquisados apresentam estresse variando de leve a moderado a muito intenso e os principais estressores estão relacionados ao número de efetivo insuficiente, ao risco biológico de doenças infectocontagiosa, a superlotação e a alta periculosidade dos detentos, além do relacionamento com os próprios colegas e a direção. Ressalta-se também ações de melhoria voltadas à 3 categorias: *Poder Público, Direção e Servidores*.

**Limitações e implicações da pesquisa:** Destaca-se o fato de ter sido realizada apenas em uma unidade prisional e a impossibilidade de entrevistas, tendo em vista as restrições impostas pela Pandemia de Covid 19.

**Implicações práticas:** O estudo destaca ações sugestivas que envolvem o governo, a direção da Unidade e também os Policiais Penais na tentativa de colaborar para a redução do nível de estresse vivenciado pelos servidores. Além do clamor pelo aumento do número de efetivos, a valorização do trabalho, o diálogo, a capacitação são algumas das ações práticas a serem tomadas.

**Implicações sociais:** Acredita-se que a pesquisa chama a atenção para variáveis que influenciam o nível de segurança, tanto dos agentes quanto da comunidade. Portanto, trata-se de um assunto de interesse coletivo.

**Originalidade/valor:** Buscou-se contribuir para o avanço das pesquisas sobre estresse no trabalho realizado por Policiais Penais, apontando os principais fatores geradores de estresse e indicações de melhorias, a partir da visão dos envolvidos. Desta forma, contribui-se com informações que possam auxiliar a gestão das unidades prisionais, bem como justificar ações públicas mais sólidas para a categoria.

**Palavras-chave:** Estresse Ocupacional; Policiais Penais; Estressores

## 1 INTRODUCTION

Work represents an element of great importance to people's lives, since it goes beyond economic and survival issues, being directly linked to the physical and mental well-being of each individual ( Santos & Santos, 2011). According to Silva (2012) such action is understood as gratifying, especially by those who perform it, in addition to being associated with positive results in both the personal and social spheres. Therefore, work allows the individual to build their own identity, interact with the environment where they live, dedicate themselves to spending their time on something worthwhile, in addition to often overcoming challenges (Zanelli et al., 2010).

At the same time, work can also be understood as an ambivalent territory, since it can be both a source of health, euphoria and independence, as well as awakening alienation and even psychic imbalance (Tschiedel & Monteiro, 2013). Such effects can actually be observed, as working conditions can cause specific diseases of the profession and thus determine the general health status of the worker (Coleta & Coleta, 2008). According to Jaskowiak & Fontana, (2015, p.241) "... suffering and illness at work can become an obstacle to quality of life".

Evaluations related to the effects of work on the mental health of employees stand out, especially those who are inserted in high-risk environments (Joaquim et al., 2018; Nakao et al., 2007). Neste aspecto, salientam-se aqueles que buscaram compreender os desdobramentos do estresse ocupacional na saúde dos colaboradores (Duarte et al., 2022; Rocha et al., 2022; Theme Filha et al., 2013).

According to Zambon (2014, p. 17), occupational stress occurs "... in the interaction between working conditions and the characteristics of each person", especially through the existence



of situations in which the worker is threatened by physical or mental professional demand. This process negatively affects their relationship with other employees and influences the work environment (Mendoza et al., 2007). Therefore, “one must start from the premise that occupational stress is situational” (Maffia & Pereira, 2014), since some professions, by themselves, are more prone to developing it (Molina & Calvo, 2009).

Among the occupations that present a greater predisposition to the development of occupational stress, the Criminal Police stand out (Bezerra, 2018; Jaskowiak & Fontana, 2015; Lima, 2017; Lourenço, 2010; Santos, 2010; Scartazzini, 2014; Silva, 2012; Tschiedel & Monteiro, 2013). A longitudinal study developed by Ricciardelli et al. (2021) with prison officers in Canada, seeks to understand how prison work shapes the well-being of prison officers over time to identify forces that can compromise their occupational health and safety. Initial results of this study, which was carried out with prison officers in training before starting their career, indicate that these individuals have fewer mental health problems than the general public or prison officers already stable in their careers. The current results, together with the existing literature, indicate the work of these professionals as a likely causative factor for mental health challenges (Easterbrook et al., 2022).

For these professionals, work leave due to mental problems has been recurrent (Ricciardelli et al., 2021). Studies carried out with Prison Officers indicate that these professionals suffer from mental disorders, depression, post-traumatic stress and even suicidal ideation, and even so, they have received little attention from the literature in this and other countries (Ricciardelli et al., 2021).

The constant exposure to danger, the pressure generated by the intense state of alert, added to the dangerousness of the function and unsanitary work environment end up establishing abundant conditions for the emergence of symptoms of occupational stress. The workday of Prison Officers is permeated by concerns such as the possibility of rebellions, evasion or even armed resistance, which can be the result of flaws in the search procedures (Fernandes et al., 2002). Prison officers are therefore at greater risk of work-related stress than most other occupations (Johnson et al., 2005).

Working in the penitentiary system means maintaining direct contact with highly dangerous criminals, which often means taking responsibility for their confinement in prison. Such role ends up exposing the professional to rebellions, threats, intimidation and even aggression, putting their own lives at risk (Jaskowiak & Fontana, 2015). Criminal Officers need to be on constant alert in order to deal with potential threats, which pose a risk to their mental and physical health, their own well-being and the prisoner’s welfare (Fritz et al., 2018). Bonez et al. (2017) argument, in addition to the demands of the position, the criminal police officer also coexists with the precarious scenario of the Brazilian prison system, which, added to society’s indifference, end up contributing to the emergence of stress.

Among the challenges that prevent prison staff from achieving well-being includes heavy workload, lack of autonomy and support, few available resources, stressors, and exposure to aggression and violence (Finney et al., 2013). A study of 40 American institutions by Gordon & Baker (2017) demonstrated that low staffing levels, poor organization and a culture of cynicism-intensified fear among officers, while feelings of belonging and transformational leadership inhibited it.

According to the national survey of prison information released by the National Penitentiary Department (DEPEN), Brazil, at the end of 2019, had 442,349 vacancies for a prison population of 748,009 inmates. In Minas Gerais the numbers still surpassed this mark, with a demand 80% higher than the ideal capacity. In absolute numbers, it means having 41,573 vacancies for 74,712 people deprived of their liberty. In this context, it is clear how complex the daily life of those who work daily in these environments is, making them prone to causing tension and stress (SISDEPEN, 2021).

This work can be justified from the need for safety of the professionals involved, especially because, although the Prison Officers are subject to a high risk, they have little visibility and deal with a great lack of recognition by society (Bezerra et al., 2016). Brandão & Carvalho (2022) call at-



tention to the fact that in Brazil, psychosocial stressors and job satisfaction of prison officers need to be further explored. In addition, such approval can bring repercussions at the prison environment, disseminating good examples that can be copied by other Units and benefit more professionals and institutions (Corrêa et al., 2019). Therefore, knowing the agents that cause stress in the profession can collaborate with health and well-being policies for these professionals.

In this way, the objective of this work was to identify the levels of occupational stress in Criminal Police, as well as their generating factors (stressors), coping strategies and suggestions for improvement for the work environment. The research is subdivided into four parts: Theoretical framework, methodology used, presentation and discussion of results and conclusion.

## 2 THEORETICAL FOUNDATION

### 2.1 Stress

The term stress has been used in several fields, becoming a word in common use, constantly distorted, which ends up minimizing the seriousness that the subject requires. It is noteworthy that, sometimes, the media have favored such confusion, disseminating information in a disorderly way, which negatively influences the population, since it does not have the knowledge to face the stressors (Filgueiras & Hippert, 1999; Mota et al., 2008).

The word stress has a Latin origin, being addressed for the first time in 1926 by Hans Selye, considered the father of “stressology”. He introduced the term in the health area with the aim of reporting a state of tension capable of inducing the appearance of diseases in the body (Lipp, 2015). Stress is a “state manifested by a specific syndrome, consisting of all non-specific changes produced in a biological system” (Selye 1959, p. 64 apud, Maffia & Pereira, 2014, p. 665), that is, it is about an organism’s reaction to a situation that requires adaptations that go beyond its limit (Sadir et al., 2010).

Alchieri & Cruz (2004) conceptualize stress as a process, as it involves a series of reactions, whose function is to adapt the organism to circumstances that require instant decision-making, generally linked to survival or interpreted as such. Stress can be understood as a situation of tension that causes a violation of the internal balance of the organism, which can affect the health and life of the individual in society (Lipp, 2015). In this way, stress is a way the body finds to protect itself from internal and external agents (Moisés Evandro Bauer, 2002).

In order to better define the concept, Selye divides stress into two lines: First, distress, which reflects an undue amount of stress, leading the individual to respond poorly to a given situation, therefore, considered as bad stress. Second, the eustress or positive stress, since, unlike the former, it leads the individual to be more productive and creative in their adaptive responses (Filgueiras & Hippert, 1999).

In this way, Selye (1985) postulates the theory of stress as a General Adaptation Syndrome (GAS). Such a disease describes how stress manifests itself in the body, especially at the same time and admits the same alarm reaction, resistance and resistance: The alarm reaction is the first contact of stress with the individual, that is, when he feels uncomfortable and perceives menacing threat. The resistance phase is also the reduction of the initial symptoms, since the adjustment has already managed to adjust. The last phase, whether determined by effort, can be determined not to achieve this adaptation, or the continued effort exposed to adjustments. At this level, it is necessary external help; as such, this situation can even lead to death.

In this process, some scholars have dedicated to the construction of tools that help to measure the level of stress, especially within the organizational scope (Bianchi, 2009; M. Lipp, 2000; Paschoal & Tamayo, 2004; Puente-Palacios et al., 2013; Stacciarini & Tróccoli, 2001). Zille (2005)

proposed a model of stress analysis called MTEG, in which the diagnosis of stress is not divided into three as advocated by Selye, but into four orders: such absence of stress; mild to moderate stress; intense stress and very intense stress.

The absence of stress is observed when there is a good balance between the individual and the pressures that arising from situations such as work, family, social aspects and own characteristics. Mild/moderate stress indicates some manifestation of stress, however, in a compensated degree; therefore, it may not generate great impacts to the individual. It is important to point out, however, that if this state persists for a period longer than three or four weeks, there may be a worsening of the intensity and, consequently, a change in level (Zille, 2005).

Intense stress indicates that the individual is already living, in a persistent way, with some of the main symptoms, which can significantly affect their social relationships, especially work. At this level, the organic and psychic conditions present alterations and, in most cases, require treatment. Finally, the very intense level of stress represents an aggravated picture of the situation, when the individual loses almost all of his ability to work. At this stage, the need for clinical and psychological treatment is clear, however, it is also necessary to address the environment causes, since the work is heavily impacted, generating a significant drop in productivity or even the impossibility of carrying it out (Zille, 2005).

Initially, according to Selye's approach, stress is perceived from occurrences related to the individual's body and mind. However, over time, it was discovered that the impact of stress goes much further, also affecting the quality of life in society (Alchieri & Cruz, 2004; M. N. Lipp, 2015; Sadir et al., 2010).

The focus of this research, therefore, is dysfunctional stress, also called distress and understood as the wear and tear of the organism through some tension. This process has negative consequences for the health and well-being of individuals (Maffia & Pereira, 2014).

## 2.2 Occupational Stress

The role that work plays in the life of the individual is undeniable, however, we must emphasized that it can represent both a source of self-realization and illness. In this last circumstance, the presence of occupational stress is very common, which, according to Sadir et al. (2010), represents the incompatibility between the demands of work and the resources that the individual has. This kind of stress affects not only work, but also the family, personal and social environment (Mendoza et al., 2007).

Based on this finding, it becomes essential to understand the stressors, that is, those that lead to the emergence of this condition. Such factors, when related to the work environment, that is, to occupational stress, can be categorized into intrinsic factors, stressful roles, relationships at work, career stressors, organizational structure and work-home interface (Cooper, 1993, apud Stacciarini & Tróccoli, 2001).

Intrinsic factors are those related to inadequate working conditions, shifts, working hours, payment methods, travel, risks, technologies and routines. Stressor roles are the lack of clarity and precision for measuring job performance, in addition to the high degree of responsibility required. Relationships at work, in turn, represent the difficulty of relationships with bosses, colleagues or anyone inserted in the position environment.

The lack of possibility of career development, the appreciation of the worker and the insecurity caused by restructuring are stressors. Management style, especially one that about on weak communication and lack of employee participation represents the agent called organizational structure. The work-home interface portrays the difficulty found in the junction of these two elements.

According to Levi (1983, *apud* Mendes, 1988) the consequences resulting from occupational stress can be grouped into three classes: emotional reactions, behavioral and physiological. Emotional reactions are manifested by anxiety, depression, hysteria, and other problems arising from the emotional state, while behavioral reactions are demonstrated by alcoholism, smoking, drug addiction, and in extreme cases, even suicide. Finally, physiological reactions correspond to changes in the body that generate tachycardia, sweating, arterial hypertension and increase in blood lipids. It is important to point out a series of other manifestations or symptoms developed by the body in response to stress stimuli: gastritis, ulcer, anxiety attacks, anguish, discouragement, palpitations, fits of anger, depression, pain in the neck and shoulder muscles, bad mood. , depression, reduced or increased appetite, insomnia, and if no treatment is started, it can cause even more serious problems such as heart attack and stroke (Cerebral Vascular Accident) (Alchieri & Cruz, 2004; M. N. Lipp, 2015; Marques & Ferreira, 2020).

Pereira & Lanna (2014) also pointed out some consequences of occupational stress, such as lack of professional growth, absenteeism, difficulty concentrating, resistance to change, in addition to negative behaviors such as low cooperation and hostility. Such occurrences drop the productivity and quality in organizations (Ferreira et al., 2015).

It is noteworthy, however, that universal solutions are not capable of solving such problems (Hurrell & Murphy, 1996). Organizations need to recognize the level of stress of their employees, since there can be a negative correlation between this and organizational commitment (Ngirande, 2021). Organizations should also provide counseling for employees to learn stress management techniques to deal with stress issues. (Firman et al., 2022).

### 3 METHODOLOGY

This research has a quantitative approach. One of the major characteristic of this method is the principle of precision, since it avoids distortions of analysis and interpretation (Alyrio, 2009; Gressler, 2003).

As for the technical procedures, the work is a case study that, according to Yin (2015), is relevant when the questions seek to explain some present fact, for example, how or why some social phenomenon is happening. This method allows analyzing a circumstance in its real totality, either by qualitative or quantitative means (Meirinhos & Osório, 2010).

To meet the objective of this research, the data collection method chosen was the survey. Such an option can be justified, since this technique systematically describing characteristics and events present in a given population, seeking to identify problems and occurrences, used to compose future action plans and decisions (Gressler, 2003). The collection took place through a questionnaire made available in digital format, to each of the Criminal Police, through the team leaders.

To measure stress levels, we choose the MTEG instrument (Explanatory theoretical model of occupational stress in managers) Zille (2005).

Thus, the population studied involves the entirety of Criminal Police, which represents a universe of 150 workers who work in a prison unit located in the central-west region of Minas Gerais. The response rate obtained was 65.33% of the population, that is, 98 criminal officers, an index considered adequate, according to Marconi & Lakatos (2005).

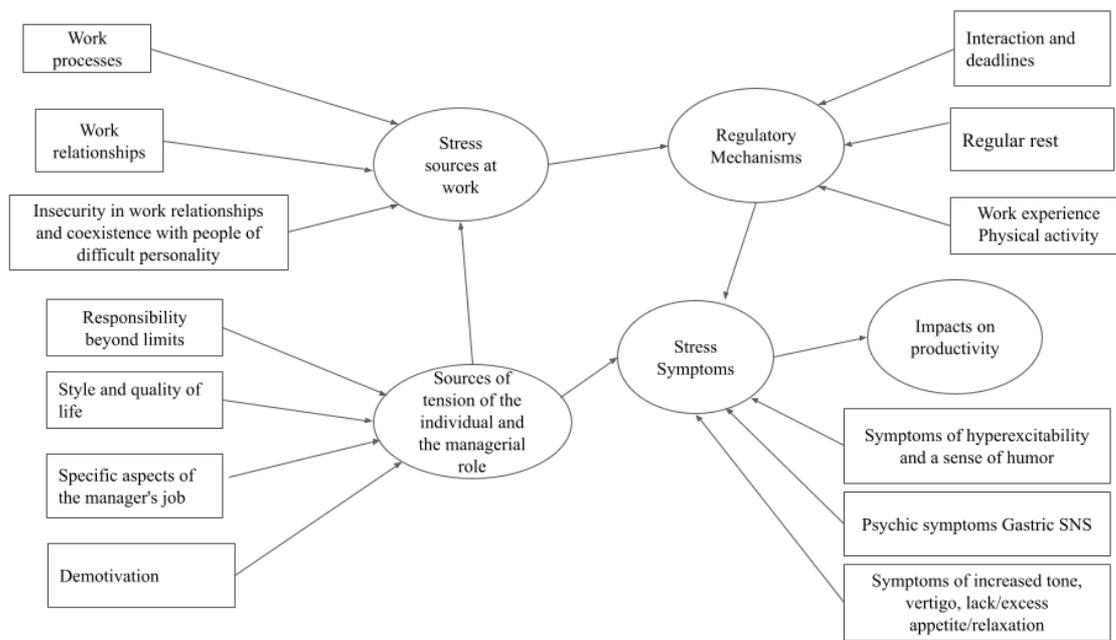
The Research Ethics Committee (CEP) of the Centro Universitário de Formiga – FUOM/UNI-FOR, approved the project under the opinion number 4,438,879.



### 3.1 Explanatory theoretical model of occupational stress in managers - MTEG

The MTEG, a model developed, tested and validated by Zille (2005), is considered an instrument for the diagnosis and identification of stress and its sources, as can be seen in Figure 1.

Figure 1: MTEG (Explanatory theoretical model of occupational stress in managers)



Source: Zille (2005)

In this, the author presents 5 first-order constructs, explained by second-order constructs. Thus, there are two sources of stress, one related to work and the other to the individual and his/her role as a manager. The regulatory mechanisms, however, seek to attenuate levels of pressure at work (MELO, 1999), that is, they contribute to its reduction. The existence of stress generates a series of symptoms, another construct evaluated in the model, which, consequently, can impact productivity at work.

To carry out this research, this instrument was adapted to the analyzed context. The questionnaire applied was structured in three parts: (a) demographic data of the respondents (b) symptoms of stress and tensions arising from the individual and (c) tensions arising from work and regulatory mechanisms. In addition, the instrument had open questions for respondents to express their perception of specific stressors in the work environment and suggestions for improvement.

### 3.1 Object of study, population and sample

The Brazilian prison system is one of the largest in the world, having its own particularities due to its extensive prison mass and the adoption of different forms of institutional design (Cruz, 2010). It is the result of the accumulation of many problems, with emphasis on the rapid growth of the prison population in disharmony with the state's ability to provide qualified resources (Cruz, 2010). It is the result of the accumulation of many problems, with emphasis on the rapid growth of the prison population in disharmony with the state's ability to provide qualified resources (Adorno, 2008).

According to a survey by the penitentiary department, the country ended 2020 with a

prison population of 678,506 inmates, for 446,738 places, which shows the overcrowding experienced in the Units. The data also reveal that the state of Minas Gerais has the second largest prison population in Brazil, distributed in 244 establishments of different types of origin (SISDEPEN, 2021).

The Criminal Police are in this context, performing functions assigned to their position, such as:

Escort, discipline and security of prisoners, inspection and inspection of the entry and exit of people and vehicles in prisons. Verification and inspection of the prisoner, control and daily checking of the prison population in all areas of the prison; supervision and inspection of prison work and the conduct of prisoners, observing the regulations and standards of the prison unit at all stages of criminal execution; taking minutes and procedures for disciplinary infractions (Jaskowiak & Fontana, 2015, p. 236).

It is important to point out that, although the law requires the public worker to work under adequate conditions of salubrity, the performance of the criminal police function often, in itself, implies a risk to their physical and mental integrity (Jaskowiak & Fontana, 2015).

### 3.2 Data analysis

Data were analyzed using descriptive, univariate and bivariate statistics. This technique aims to describe and synthesize the data in order to point to conclusions regarding the elements addressed (Neto, 2004). The calculation of mean frequency, standard deviation, minimum and maximum represents the univariate analysis. Assess the relationship between the study's demographic variables and the stress indices found compound the bivariate analysis. For this, we used Excel and SPSS software - Statistical Package for the Social Sciences.

The discursive questions were dealt with descriptively and by the technique of Content Analysis, which according to Cardoso et al. (2021, p. 112) can be understood as "an excellent option when the objective is to analyze data from communications, seeking to understand the meanings and senses of the messages, which go beyond a common reading".

### 3.3 Research Participants

By the analysis at the 98 valid questionnaires, it is possible to affirm that only five respondents do not live in the city where their work unit is located. Of the total responses, nine are female and 89 are male. This difference is explained by the fact that the Unit in question is a penitentiary for male offenders, and therefore, according to Penal Execution Law 7,210 of 1984, only prison officers of the same gender can assist the prisoners.

Respondents' age ranges from 23 to 57 years, with the age group with the highest percentage of responses being between 30 and 39 years (55.1%). As for marital status, 60.2% of police officers are married; 35.7% are single and only 4.1% say they are divorced or widowed. Regarding the level of education, 58.2% claim to have completed higher education and among these, 10% claim to be postgraduates. Another 20.4% of the respondents reveal that they are attending higher education, thus only 21.4%, that is, 24 prison officers have only secondary education.

When asked about performing frequent physical activity, 61 respondents (62.3%) stated that they often practice some physical exercise, unlike the rest of the sample (37.7%). Regarding the length of time in the profession, 37 prison officers (37.7%) claim to have been working for more than 6 years; another 37 (37.7%) claim that this time was 4 to 6 years. Already 24 officers reported having been in office for a short time (between 1 and 3 years). Thus, 75.6% of the participants have been in the profession for more than 4 years.



## 4 RESULTS AND DISCUSSIONS

### 4.1 Diagnosis of occupational stress

To measure the level of occupational stress found in the prison guards in the sample, the classification construct of the MTEG model was used, according to criteria proposed by (Zille, 2005). According to the same author, occupational stress has four levels of intensity. Table 1 describes the reference values:

**Table 1** – Level of occupational stress according to (Zille, 2005)

Stress level	Reference Values
Absence of stress	< 1,75
Mild to moderate stress	> = 1,75 e < 2,46
Intense stress	> = 2,46 e < 3,16
Very intense stress	> = 3,16

Source: Zille (2005, pp. 222-223).

From this categorization, it was possible to calculate the level of stress presented by the Criminal Police officers surveyed, as shown in Table 2.

**Table 2** – Descriptive analysis of the level of occupational stress in Criminal Police

Stress Level	Nº	%	Mean	Standard deviation	Mín.	Max.
Absence of stress	11	11%	1,49	0,18	1,11	1,72
Mild to moderate stress	34	35%	2,15	0,21	1,78	2,44
Intense stress	24	24%	2,80	0,20	2,50	3,11
Very intense stress	29	30%	3,64	0,34	3,17	4,56
<b>Total</b>	<b>98</b>	<b>100%</b>	<b>2,83</b>	<b>0,77</b>	<b>1,11</b>	<b>4,56</b>

Source: Research data, 2021.

To demonstrate the significance of the distribution found through the calculation of stress levels, the Kolmogorov-Smirnov test was performed. For Berger & Zhou (2014) such a test is used to demonstrate the fit of a given set of data to a theoretical distribution, as shown in Figure 2.

H0 – The data follow the same distribution

H1 – Data do not follow the same distribution

Picture 1: The Kolmogorov-Smirnov test for the Stress Levels

Tests of Normality			
	Kolmogorov-Smirnov <sup>a</sup>		
	Statistic	df	Sig.
nivestresse	,222	98	,000

a. Lilliefors Significance Correction

Source: Research data, 2021.

In this way, H0 is rejected, that is, the data related to the level of stress do not present the same pattern within the estimated levels of the sample.

Observing the information in Table 2, it is possible to affirm that 87 respondents, which is, 89% of the sample presented some level of stress: 34 (39.08%) from mild to moderate; 24 (27.59%)

intense stress and 29 (33.33%) very intense stress. On the other hand, 11 respondents (11.2% of the sample) seem to achieve a good balance between their structures and the psychological demands arising from work.

The minimum and maximum values found in the sample were 1.11 and 4.56, respectively. The highest standard deviation was 0.34 and it refers to a very intense stress level.

From a gender perspective, all women in the sample (9 responses) present some level of stress. It is important to note that six of them demonstrate that they are at an intense to very intense level of the problem. Regarding the male gender, 89 respondents demonstrated that they were at some level of stress, 60% of them at an intense or very intense level and 40% at a moderate level.

When asked about the use of cigarettes, 11 respondents claimed to have such a practice. Of these, 8 (73%) are in a very intense level of stress, in addition to having reported that in the last six months, they have been smoking more than usual, which corroborates the findings of Assis & Pereira (2022).

Regarding the use of alcoholic beverages, about 77 respondents who said they consume some type, only 8 (10.39%) have no stress and 44 respondents (57.14%) have an intense or very intense level. Of the latter, 23 or 52.27% said, they had consumed more drinks in recent months than usual. This observation was also made by Jaskowiak & Fontana (2015). The authors demonstrate that, according to one of the criminal agents, resisting prison without falling into any addiction, whether in the use of alcoholic beverages or legal and even illegal drugs has become almost impossible. The relationship between occupational stress and alcohol consumption in workers can also be observed in other professions (Tuchtenhagen, 2018).

When asked if, on their days off, the Criminal Police were able to completely disconnect from work, 65 of them (66%) said they did not disconnect. Among these, 70%, that is, 46 respondents have intense or very intense stress. According to those respondents, the main justification for this fact is that they need to be on constant alert, since there is a possibility of attacking the prison system. In addition, another factor is the possibility of being called by the Unit, even on rest days.

The relationship between work and personal life is crucial to predict the well-being of the employee, however, according to Clements et al. (2020) prison officers experience three types of conflict in this aspect: time (since their use precludes other possibilities); tension (reflection of negative emotional reactions) and behavior, especially when required in a certain role. The authors also complement breaks and rest are crucial elements for well-being, as shutdown (both physical and psychological) allows individuals to reset their functional systems to pre-stressful levels. There is evidence that recovery experiences moderate the impact of work demands on well-being, and the ability to detach from work is an important resource.

When asked about their own behavior, especially after becoming a criminal police officer, 93.9% said they had noticed some kind of change. Among the most cited are irritability, apprehension, constant alertness, difficulty concentrating, feeling of sadness and discouragement, anxiety, impatience, changes in mood, insomnia and even medication use. Such symptoms should not be omitted, as they represent the need for intervention in this context (Kinman & Wray, 2015; Clements et al., 2020).

Studies prior to the COVID-19 pandemic already associated anxiety, gastritis, high blood pressure, depression, mood swings, agitation, irritability, insomnia, headache, among other symptoms as consequences of occupational stress manifested in Criminal Police (Fernandes et al., 2016; Jaskowiak & Fontana, 2015; Tschiedel & Monteiro, 2013).



## 4.2 Occupational stressors and coping strategies

There are main stressors or factors that cause stress in the work of the criminal police officer, found in the literature, like physical structure, lack of human and material resources, overcrowding, biological risk, high danger. Besides these, direct contact with the convict, lack of communication between levels, as well as the imposition and authoritarianism of the management (Bezerra et al., 2016; CORRÊA et al., 2019; Fernandes et al., 2016; Fernandes et al., 2002; Santos, 2010; Santos & Santos, 2011)

Brandão & Carvalho (2022) analyzed the relationship between psychosocial stressors and job satisfaction of prison officers in traditional systems and in the APAC method in Minas Gerais, using the model by Cooper et al. 2001. The stressors that were most strongly related to job satisfaction were intrinsic aspects of work and lack of social support. The factor conflict and ambiguity of roles, in turn, also showed a significant association with almost all dimensions of satisfaction, indicating greater satisfaction among APAC workers, validating the notion of differences between prison systems in the assessment of job satisfaction.

From the list of the main factors found in the literature, the analysis of the data allowed the identification of those to which the Criminal Police officers surveyed are subject, as shown in Table 3:

**Table 3 - Stressors judged as a frequent cause of stress in the researched work environment**

Stress Factor	Frequency	%
Insufficient effective	89	90,8%
Biological risk of infectious diseases	73	74,5%
Over crowded	68	69,4%
High risk of detainees	63	64,3%
Lack of communication between levels	41	41,8%
Indiscipline of prisoners	38	38,8%
Imposition and authoritarianism of the direction	33	33,7%
Number of working hours	29	29,6%
Work-related decisions made without PP participation	27	27,6%
Physical structure of the Unit	24	24,5%
Wage	22	22,4%
Constant change in jobs	3	3,1%

Source: Survey data, 2021.

As illustrated, the principal stressor factor in the sample was the insufficient number of staff; more than 90% of the respondents point out it is an element that often causes stress and tension in the exercise of work. In second place, there is the biological risk of infectious diseases, a fact that can be justified by the moment of pandemic caused by Covid-19 experienced during the period of this research. Overcrowding proved to be the third most registered cause, followed by the high risk of detainees and the lack of communication between the levels of the Unit, which characterizes the five most relevant stressors. Such results are in agreement with the findings made by Bezerra et al. (2021).

Jung & Han (2021) states that greater knowledge about covid 19 favors the reduction of stress in the work of prison guards in South Korea. Thus, these authors point out that to improve work performance, ways must be found to improve employee knowledge about COVID-19 as well as create a work environment that can improve knowledge in special circumstances, such as the outbreak of infectious diseases.

It is also necessary to state that most sources of tension typically reflect the work performed by Criminal Police. The occurrence of major conflicts; physical and mental risks; the slowness of judicial decisions and the high tension and intensification of work during the pandemic, end up generating physical and mental exhaustion. Such a process allows the loss of control over life events (work, family, relationships, among others) and excessive distress on interpersonal relationships, at work and outside of it (Assis & Pereira, 2022). In addition to the Criminal Police, especially those in Minas Gerais, being vulnerable to stress (Jesus et al., 2021); there is evidence that reporting mental health problems has become a stigmatized act, particularly in 'macho' jobs such as prison service (Iversen et al., 2011).

A space in the questionnaire is used to advance the discussion. It was dedicated so that respondents could discriminate other relevant stressors according to their reality, if they deemed it necessary. This process allowed the collection of 43 respondents. The Table 4 shows the results.

**Table 4 – Other stressors reported by PP as a frequent cause of stress in the work environment.**

Stress Factor	Frequency	%
Colleagues	14	32,6%
Management (lack of ethics; education; preparation; justice and equality, decisions made in a personal way without aiming at the collective)	12	27,9%
Lack of training/courses (among these, those offered by DEPEN-MG)	5	11,6%
Desktop	2	4,7%
Dealing with prisoners' lawyers and families	2	4,7%
Food	2	4,7%
Stand alone in the pavilion	2	4,7%
Lack of server appreciation	2	4,7%
ineffective administrative sector	2	4,7%
	<b>43</b>	<b>100.0%</b>

Source: Survey data, 2021

The cause most pointed out by the respondents as a source of stress, outside the literature review, was the colleagues themselves. Second, with a small difference, the relationship with superiors is observed. For the interviewees, inequality, decisions taken in a personal way and not aiming at the collective and the unit, are some of the occurrences that generate stress and affect the motivation and performance of work. Santos & Santos, (2011) state that knowing how to work as a team, respecting opinions, accepting differences and valuing others, are important virtues that need to be cultivated. It is important to point out the importance of good relationships, whether among colleagues or with superiors, are the main ally to maintain a balanced work environment (Costa et al., 2014).

In addition to these factors, another interesting aspect is the relationship with prisoners, which also does not appear among the most representative factors, which is in line with the results obtained by Tschiedel & Monteiro, (2013). These authors justify this fact because of the defenses used by workers to reduce or deny the risk to which they are subject. Thus, this may be the explanation or the fact there really are other issues that currently affect the participants of this research in greater proportion.

A survey carried out by with 1464 Criminal Police Officers from 19 prisons, state and federal in the United States, in the period between 2017 and 2019, indicates many stressors. Exaggerated workloads, perception of insufficient staff, problems of function, lower control or autonomy, lack of support at work or at home, and exposure to violence were associated with greater stress among prison officers. Prisons that had characteristics that threatened order and security (fewer police officers or higher levels of violence) demonstrate higher levels of stress among the workforce.

Expressive 94 of the 98 respondents, that is, 96% said that working under some level of stress can indeed interfere with work performance. In this sense, the consequence most reported



by those surveyed was the risk of forgetting some safety procedure, which would put their own lives, the entire unit's and society's lives at risk. The police officers also highlighted, as implications of stress, the risk of treating a colleague harshly and further worsening the organizational environment, in addition to demotivation and lower-than-expected performance.

### 4.3 Perceptions of improvements by respondents

In an attempt to capture suggestions for improvements that can act to reduce the stress experienced in this context, respondents propose changes to the work environment. Such results were treated by the Content Analysis technique, which allowed the identification of three central categories: *Public Power, Management and Servants*.

The first category presents an external approach, representing the police officers' clamor for government actions related to the increase in the number of effective professionals and the valorization and recognition of the career.

In the *Management* category, whose approach reflects the policies and management of the units, civil servants demand dialogue, professionalism, greater job rotation, safety training, transparency in the information passed on and decisions taken. In addition, respondents request actions aimed at coping with the pressure they suffer, such as the promotion of the "health week for criminal police", in addition to professionals for psychological support and group therapy. It takes a risk management approach that seeks to identify and manage work-related stress at its source, complementing programs that must be tailored to the specific challenges faced by correctional institutions and the people who work in them (Clements et al., 2020). In addition to the technical factor, Bezerra et al. (2021) argue that Criminal Police seek some protection mechanisms against stress, such as religious practice, social support, understanding of colleagues, recognition of their work and good relationships with superiors.

Specifically in relation to people management, the respondents point to the need for trained personnel to manage the units, an active human resources sector that works to facilitate the functional life of the Criminal Police. Acting in search of minimizing stress within organizations is important, as its effect is contagious. Such a feeling can be transferred from one worker to another and cause a cascading effect, leading to an epidemic of stress and a series of losses, both in the human, social and financial spheres, affecting workers and the entire organization (Maffia & Pereira, 2014).

Finally, in the last category named *Servants*, police officers recognize their role as agents in the stress reduction process, especially through the companionship and union that must occur among co-workers. In this way, the collective good is sought, not the individual good. Promoting a more balanced work environment establishes a positive differential that constitutes an important condition for organizations fully achieve the expected results (Zille, 2005).

It is possible to affirm that, in the penitentiary work environment, the respondents experienced intense feelings, in view of the risk situations faced daily. Therefore, the challenge of maintaining harmony, in this context, is even greater. Such a finding, however, should not reduce the effort to discover the roots of the emotional problems found, especially in the short term and avoiding efforts that do not generate value (CORRÊA et al., 2019). "For the sake of facility safety, it is critical that supervisors are aware of the emotional and cognitive state of their subordinates to ensure a high level of job performance and professionalism" (Armstrong et al., 2015, p.12).

To advance in alternatives that can help the process of reducing stress in Criminal Police, there is still a clear need for more research on interventions within the prison service to inform initiatives that help to improve the well-being of these servers (Clements et al., 2020).

McCraty et al., (2009) report a strategy that reveals efforts in this direction. This action included several modules, such as the identification of risk factors for the health of police officers, the reorientation and restructuring of emotions, biofeedback, and the improvement of communication skills and application of these skills in the workplace. As a result, such initiatives demonstrated improvements in police officers' physical health markers, such as cholesterol, heart rate, and blood pressure. In addition, there was a reduction in self-reported emotional stress and positive perceptions about support, motivation, and objectivity of goals as well as productivity showed improvements in the intervention group.

Dugan et al. (2016) compared the effects of two methods of delivering health and safety interventions in US correctional facilities: the first initiative was implemented 'top-down' (led by administrators assisted by health professionals); and the second was 'bottom-up' (developed by the frontline officers themselves).

Thus, it is important to emphasize the need for action at the political level, such as reducing the use of incarceration to combat prison overcrowding; at the organizational level, such as ensuring adequate staffing levels; as well as at the individual level, eg stress management training.

## 5 FINAL CONSIDERATIONS

This research sought to identify the levels of occupational stress in Criminal Police Officers of a Prison Unit in Minas Gerais, as well as their generating factors, or stressors.

From a sample involving 98 criminal police officers, 89% of them have some degree of stress, which varies from mild to moderate to very intense. Of this number, 24 (27.59%) had intense stress, and 29 (33.33%) had very intense stress, which shows a marked imbalance between the pressures arising from the work environment and the psychic structure of these servers.

Among the main sources of this tension present in the work environment of the research participants, the insufficient number of staff stands out, since more than 90% of the respondents classify it as a significant cause for the daily tension in the prison unit. This finding illustrates the lack of employees in this security sector, which causes accumulation of activities on those in activity and causing discontent and stress in these professionals.

Another relevant source was the biological risk of infectious diseases, especially in the face of the Covid 19 pandemic period in which the world finds itself. Overcrowding, the high risk of prisoners and the lack of communication between the levels of the Unit also had a great impact on the responses.

The importance of stressors is highlighted as such a disease interferes with people's quality of life, and can bring serious damage to both health and productivity at work. The effects of stress in a prison environment present serious risks, the main one being that of forgetting some security procedure, which would put the entire Unit under study at risk, with its police officers and inmates, as well as society.

However, it is important to note that 34 police officers (35%) of the sample are still at a mild to moderate level of stress and yet another 11 (11%) are not under any level, that is, they have no stress. In view of this, care and attention are necessary, because if these manifestations are left aside, the symptoms will be more likely to progress to more aggravated levels of stress, taking into account the work performed by these professionals.

From the results presented, especially in the indications of improvements, it is clear the need for attention from the government, from the penitentiary, and from the Criminal Police themselves, regarding the demand for structural and personal changes. Measures must be taken seeking to monitor the situations identified, seeking to remedy them as soon as possible. On the part of the government of Minas, the clamor for more workers for the penitentiaries is evident, as well as

greater appreciation of the server. For the direction of the Unit, there is a request for more dialogue and equity in decisions, in addition to promoting the health week of the Criminal Police with greater attention to psychological support. Finally, for the Criminal Police themselves, the respondents recognize the need for unity and greater companionship of the group.

### 5.1 Limitations and future suggestions

One of the limitations of this research is the fact that it was carried out only in one prison unit. For future work, we recommended to reapply this work to other Units in the state or outside the state to compare the realities between units and states in Brazil. Another limitation was the impossibility of qualitative research, given the restrictions imposed by the pandemic, making it impossible to visit the Unit and interviews with the Criminal Police. Finally, this study sought to contribute to the advancement of research on stress at work in general and, in particular, to studies on the manifestations of stress in the work of criminal police, especially those involved in the sample.

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Contribution	[Author 1]	[Author 2]	[Author 3]
1. Definition of research problem	√		√
2. Development of hypotheses or research questions (empirical studies)	√		√
3. Development of theoretical propositions (theoretical work)			
4. Theoretical foundation / Literature review	√	√	
5. Definition of methodological procedures			√
6. Data collection			
7. Statistical analysis	√	√	
8. Analysis and interpretation of data			√
9. Critical revision of the manuscript			
10. Manuscript writing	√	√	
11. Other (please specify)			

## Conflict of Interest

The authors have stated that there is no conflict of interest.

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