

Stress, emotion regulation and mental health: what links?

الضغط النفسي، الضبط الإنفعالي والصحة النفسية: ما الروابط؟

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Abstract:

This analytical theoretical study aims to highlight three central concepts in psychology: stress, emotional regulation, and mental health. Defining the ABCs of each concept accurately allows us to clarify the importance of regulating emotions during stressful situations and its impact on an individual's mental health and well-being.

We tried in this article to present the interactions between stress, emotion regulation, and mental health through four axes: the first concerns stress, the second concerns emotion regulation, the third concerns mental health, and finally, the fourth is where we tried to discuss the relationship between these concepts.

Keywords: stress; emotion regulation strategies; mental health; psychological disorder.

ملخص :

تهدف هذه الدراسة النظرية التحليلية إلى تسليط الضوء على ثلاثة مفاهيم مركزية في علم النفس: الضغط النفسي، الضبط الإنفعالي والصحة النفسية. وتحديد أبعاد كل مفهوم بدقة يسمح لنا بتوضيح أهمية الضبط الإنفعالي أثناء المواقف الضاغطة وتأثيرها على الصحة النفسية للفرد وعلى رفاهيته.

حاولنا في هذا المقال تقديم التفاعلات بين الضغط النفسي، الضبط الإنفعالي والصحة النفسية من خلال أربعة محاور: الأول يتعلق بالضغط النفسي، والثاني يتعلق بالضبط الإنفعالي، والثالث يتعلق بالصحة النفسية، والمحور الأخير وهو الرابع والذي حاولنا فيه مناقشة العلاقة بين هذه المفاهيم.

الكلمات المفتاحية: الضغط النفسي؛ استراتيجيات الضبط الإنفعالي؛ الصحة النفسية؛ الإضطراب النفسي.

Introduction

During the course of one's life, the individual has different experiences that provoke many emotions, some of which are pleasant and others unpleasant. Consequently, emotions are an important part of an individual's life, as there is no activity except that its are accompanied by some kind of emotion.

The concept of emotion regulation is one of the fundamental concepts related to emotions, as it is a set of internal and external processes responsible for the regulation, evaluation, and modification of emotional reactions to achieve an individual's goals. In other words, we can said that emotion regulation involves multiple strategies aimed at influencing and regulating emotions and guiding them to achieve an individual's goals and desires.

Since we live in a world full of stressful events and stress, the individual automatically uses emotion regulation strategies in order to cope with psychological stress. In this regard, Wang & Saudino (2011) pointed out that when people encounter stressful events, emotion regulation enables them to determine what types of emotional reactions are appropriate as well as when and how they express emotions.

The use of these strategies varies depending on situations and goals. There are emotion regulation strategies that are considered adaptive, and there are non-adaptive strategies. This is confirmed by the study (Aldao et al, 2010), which indicated that there are some strategies that help in the success of the emotional regulation process and lead to improved mental health, and other strategies contribute to the emergence of several disorders such as anxiety and depression disorders, eating disorders, and using substances (addictions).

From what we have discussed above, we can ask the following questions:

- What is stress, and what is mental health and psychological disorders?
- What is emotional regulation and its strategies?
- What is the relationship between stress, emotional regulation strategies and mental health?

1. Stress

In the past, stress was regarded as external stimuli or events threatening an organism or as an organism's responses to stressors.

These days stress is defined as external or internal stimuli that are meaningfully perceived by the person, activate emotions, and elicit physiological changes that threaten health and survival. Therefore, the same

event or situation may be differently perceived, resulting in quite different outcomes – health or illness. That is, what may be intolerable for one person may be acceptable to another (Koh, 2018).

Richard Lazarus (1984) suggested that stress reactions involve transaction between the person and the situation and that the person's interpretation of the event is more important than the event itself. The stress response is determined by the interaction between appraisals of the personal importance of a situation (called primary appraisals) with evaluations of the coping resources available to manage the situation (called secondary appraisal) In (Schneider & Riffle, 2012).

World Health Organization (WHO) (2023) indicates, “Stress can be defined as a state of worry or mental tension caused by a difficult situation. Stress is a natural human response that prompts us to address challenges and threats in our lives. Everyone experiences stress to some degree. The way we respond to stress, however, makes a big difference to our overall well-being “.

Therefore, Stress is the physiological or psychological response to internal or external stressors. It involves changes that affect almost every system in the body (For example, it may be manifested by palpitations, sweating, dry mouth, shortness of breath...etc).

Severe stress is manifested by the general adaptation syndrome. By causing these mind–body changes, stress contributes directly to psychological and physiological disorder and disease and affects mental and physical health, reducing quality of life (VandenBos, 2015).

1.1. – Elements of stress

The three things listed below represent the fundamental elements of psychological stress:

- a- Element of Stimulus: It is a situational requirement that an individual must adjust to. It could originate from the person or the environment.
- b- The interaction: the individual's perception and evaluation of the nature of the stress, its dynamics and effects, and his capacity to manage and regulate it, all reflect the interplay between the stimuli and the person.
- c- The response: The response component is made up of behavioral, psychological, and physiological responses to stressors like aggression and frustration (Bouketir & benflis, 2022).

1.2.- Causes Of Stress

Koh (2018) indicate that major causes of stress are classified into psychosocial factors and environmental (bioecological) factors:

A- Psychosocial Factors: There are four psychosocial factors include adaptation (e.g., job and family changes), frustration (e.g., prejudice and discrimination related to religion, race, national origin, generation, and region), overload (e.g., occupational, academic, and domestic), and deprivation (e.g., boredom and loneliness).

B- Environmental Factors: Stress responses in most individuals are caused by environmental (bioecological) factors, which are stimuli arising from our relationship with our environment. These stressors include disruptions in biological rhythms (e.g., disturbed sleep-wakefulness cycle, noise, pollution ...ect).

1.3.-Symptoms of Stress

- Difficulty relaxing, accompanied by many different emotions, including anxiety and irritability.

- Difficulty concentrating.

- Symptoms such as headaches, body aches, stomach aches or trouble sleeping.

- Loss of appetite or eating more than usual.

Chronic stress can worsen existing health problems and increase the use of alcohol, tobacco and other substances (WHO, 2023).

Acute stress occurs in response to a specific, time-limited event (e.g., speech to be given, a one-off dispute between spouses). While chronic stress occurs when the stressor persists and the individual does not have the means/opportunity to overcome it (e.g., heavy workload, violent spouse) and/or when several stress factors come one after another for which the individual does not have time/ means for recovery. It often causes the following symptoms:

- Insomnia and/or impaired sleep quality,
- Increased frequency of headaches, stomach-aches and backaches,
- Increased frequency and/or severity of attacks in the case of chronic illnesses (migraines, eczema, and irritable bowel syndrome),

- Mood swings,
- Irritability,
- Hyperactivity,
- Feeling of being under constant pressure,
- Feeling of not being able to cope,
- Psychological distress (Buytaert et al, 2013).

2. Emotion regulation

Emotion regulation is “an individual's ability to modulate an emotion or set of emotions. Explicit emotion regulation requires conscious monitoring, using techniques such as learning to interpret situations differently to manage them better, changing the target of emotions (e.g., anger) to create a more positive attitude and recognize how different behaviors can be used in the service of a given emotional state Implicit emotion regulation operates without deliberate monitoring; it modulates the intensity or duration of an emotional response without the need for awareness...” (VandenBos, 2015, p365).

We can say that emotion regulation refers to the conscious or unconscious processes of monitoring, evaluating, regulating, and managing emotional experience and emotional expression in terms of intensity, form, and duration of emotions, physiological and emotional behavioral states (Kok, 2020).

Gross (1998) sees emotion regulation as "the process by which individuals influence what emotions they have, when they have them, and how they feel and express these emotions" (Korb, 2019, p262). This definition is wide and includes many processes, such as identifying, understanding and integrating emotional information, while at the same time managing an individual's behavior according to an individual's personal and social goals.

It should be noted that emotion regulation is neither completely positive nor negative, just as emotional reactions are not absolutely positive or negative, but they become maladaptive (pathological) when it comes to a specific context (Korb, 2019).

2.1.- Emotion regulation strategies

There are many strategies for regulating emotions, depending on the chronological sequence of the process by which the emotion emerges, and whether these strategies focus on the antecedents or the response.

The upper part of Figure (01) shows five types of emotion regulation strategies:

A- Situation selection: This strategy involves choosing between situations according to the individual's emotional goals. Choosing a situation requires the ability to predict the potential emotional outcomes of future situations. It also involves balancing the short-term emotional effects of situations with their expected long-term effects, which are often in conflict with each other.

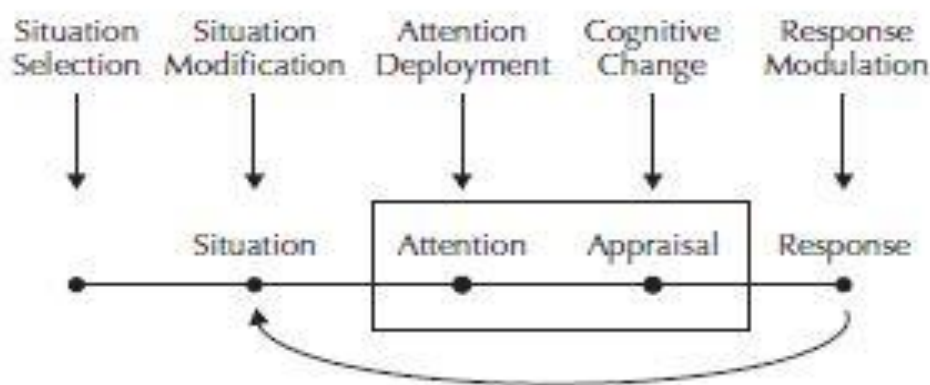
B- Situation modification: It refers to modifying aspects of the environment to achieve the individual's emotional goals. Situation modification requires that an individual view situations as flexible and see themselves as an effective agent of change in those situations (McRae & Gross, 2010).

C- Attention deployment: it occurs when a person redirects his attention in order to influence his emotions. Depending on the goal of an individual's emotional regulation, attention may be directed toward or away from potentially emotional stimuli or thoughts.

D- Cognitive change: Cognitive change has a flexible nature, as it changes how a person evaluates a situation, either by changing how one sees the situation or his ability to deal with it, in order to change its emotional importance.

E- Response modulation: Response modulation refers to trying to influence the response directly once the emotions begin. Examples of response modification include direct influence on an individual's physiological state or an individual's emotional expression (McRae & Gross, 2010).

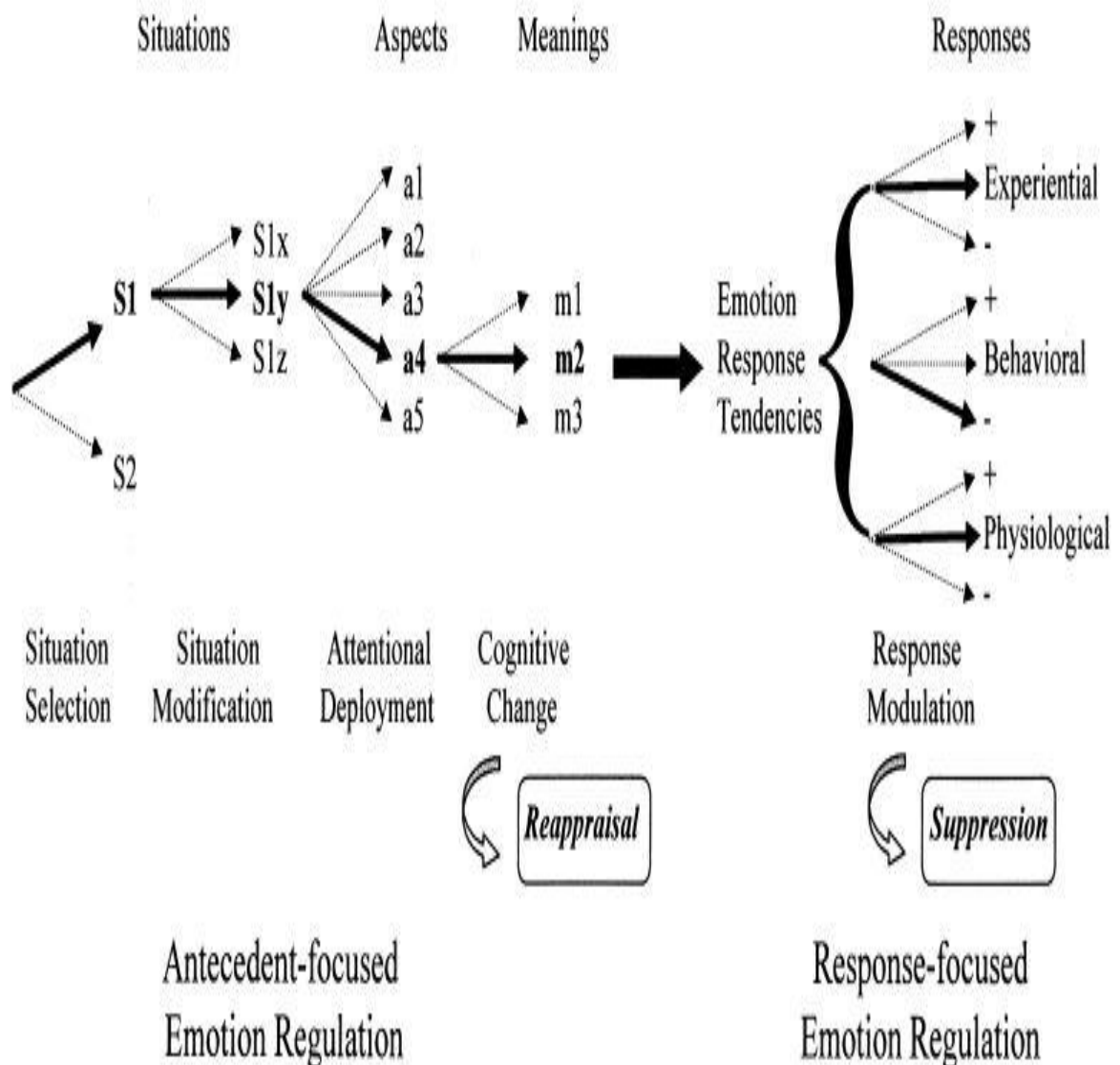
Figure N° 1: A process model of emotion regulation by Gross (2007), which highlights five types of emotion regulation strategies



Source: Gross & Thompson (2007, p. 10).

Through Figure No. 02, which shows the Gross (2002) model of the emotion regulation process, we can distinguish between emotion regulation strategies focused on antecedents (what the individual does before the emotional response) and emotion regulation strategies focused on the response (what the individual does when the emotion has already begun).

Figure N° 2: A process model of emotion regulation



Source: Gross (2002, p. 282).

3. Mental health

The concept of mental health was perceived as the absence of mental illness or psychological disorder. Previously, the focus was directed towards the absence of signs, symptoms, and syndromes, or their low degree. An individual without psychological disorders is an individual who has good mental health, while an individual who suffers from psychological disorders has deteriorating mental health.

According to the World Health Organization (WHO), mental health is “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (WHO, 2022).

This definition changed the idea that mental health is simply the absence of psychological disorder, and highlighted various aspects of positive mental health. Accordingly, a new perception of mental health in its positive dimension was adopted (Barry, 2019).

The concept of mental health will be treated in two dimensions:

3.1.- Psychological disorder

The term psychological disorder in the Encyclopedia of Positive Psychology refers to a strong emotional or intellectual disorder that affects an individual's health and safety. It is an umbrella term for all diagnosable mental disorders. Such as people suffering from severe psychological disorders (disorders in thought and perception, mood irregularity, excessive anxiety, inappropriate anxiety...etc.) (Peterson, 2009).

There are many psychological disorders, but we will mention the most important ones:

3.1.1.- Somatization

Somatization includes a wide range of common clinical cases, which are:

- Persons who suffer from exclusively specific symptoms of psychosocial problems or emotional distress,
- Persons who are anxious or convinced that they have a physical illness without having evidence of the illness,

- Persons who have a recurring pattern of unexplained physical symptoms or functional physical symptoms that require seeking help and cause them disability (Kirmayer & Robbins, 1991).

3.1.2.- Obsessive-compulsive disorder

It is a disorder characterized by recurrent intrusive thoughts (obsessions) that prompt ritual performance (compulsions). Normal obsessive thoughts include topics of pollution, dirt, contracting or transmitting disease, and doubts about performing certain actions (such as a concern that one has neglected to turn off a household appliance, for example). Common compulsive behaviors include frequent cleaning or washing, checking, tidying, repetition, and hoarding (VandenBos, 2015).

3.1.3.- interpersonal sensitivity

According to Derogatis (1976), interpersonal sensitivity focuses on feelings of personal inferiority, especially when compared with other people. In addition to feeling of uneasiness, marked discomfort during interpersonal interactions that manifests itself in distinct (obvious) symptoms such as negative expectations regarding interpersonal communication.

3.1.4.- Depression

Depression is a negative emotional state, ranging from unhappiness to intense feelings of sadness, pessimism and hopelessness that interfere with daily life. It also leads to various physical, cognitive and social changes: changes in eating or sleeping habits, lack of energy or motivation, difficulty concentrating or making decisions, and withdrawal from social activities. (VandenBos, 2015).

3.1.5.- Anxiety

Anxiety is a fearful mood that has a vague or no specific focus and is accompanied by bodily arousal. Anxiety disorder is any one of several mental disorders in which anxiety is the central feature, including panic disorder and agoraphobia, generalized anxiety disorder, phobias, obsessive-compulsive disorder, post-traumatic stress disorder, and anxiety disorders due to medical condition or drug abuse (Matsumoto, 2009).

3.1.6.- Hostility

Hostility is a multifaceted construct that includes cognition, emotion, and behavior:

The cognitive component of hostility consists of having negative beliefs about others (the other is untrustworthy, undeserving and unethical) resulting from a hostile attribution bias, where the actions of others are interpreted as having hostile intent, and this interpretation is often used as a justification for the hostile actions of the hostile person. .

The emotional component of hostility includes anger, irritation, resentment, disgust, and contempt. The behavioral component of hostility consists of verbal hostility and overt physical aggression (Lee & Bourdage, 2020).

3.1.7.- Phobia

A phobia is characterized by an intense fear of an object or situation that is out of proportion to the actual danger present. People who suffer from it experience intense anxiety immediately after coming into contact with the frightening object or situation, which can lead to panic attacks (Spencer, 2020).

3.1.8.- Paranoia

Paranoia is characterized by suspicion, increased self-consciousness, self-reference, projection of one's thoughts onto others, expectations of persecution, and blaming others for one's difficulties (Piotrowski, 2001). It is a psychological disorder in which a person has a set of false beliefs or delusions, such that it is not possible to argue with a person suffering from paranoia believing that his delusions are true (Prerost, 2010).

3.1.9.- Psychosis

Psychotic disorders are a group of mental disorders that share psychosis as one of their clinical features. Psychosis involves a gross impairment of one's sense of reality, as evidenced by symptoms such as delusions, hallucinations, thought disturbance, and strange behavior. These psychotic symptoms may be a primary component of the disorder or may be secondary to a mental or physical condition (Gooding & Tallent, 2010).

3.2.- Positive mental health

Positive mental health has three components that Keyes (2013) noted:

3.2.1.- Emotional well-being

Emotional well-being is a specific aspect of subjective well-being that includes self-reported perceptions of happiness, life satisfaction and the balance between positive and negative affect.

3.2.2.- Psychological well-being

Keyes defines psychological well-being by adopting Rife's model, which consists of six dimensions that summarize the individual's positive functioning in life:

- *Self-acceptance* is a positive attitude towards oneself, recognition and acceptance of multiple aspects of oneself, including unpleasant personal aspects. In addition, self-acceptance includes positive feelings about past life.
- *Positive relationships with others* are an individual's ability to develop feelings of warmth, trust, compassion and cooperation, while balancing relationships with others in order to make them happy.
- *Autonomy* is the ability to resist social pressures in order to think or behave in certain ways and to guide and evaluate behavior based on internal norms and values, not with the aim of aligning society.
- *Environmental mastery* is the ability to manage daily affairs, control a complex set of external activities, and make effective use of surrounding opportunities.
- *Purpose in life* is an individual's ability to define his goals and objectives in life in order to feel directed.
- *Personal growth* reflects the constant pursuit of current skills and talents, personal development opportunities and the realization of an individual's potential. In addition, personal growth includes the ability to stay open to new experiences.

3.2.3.- Social well-being

Social well-being consists of five elements that indicate whether and to what degree individuals are functioning well in their social world:

- *Social integration* is the extent to which people feel they have something in common with others who constitute their social reality.
- *Social contribution* includes the belief that one is a vital member of society, with something of value to give to the world.
- *Social coherence* is the perception of the quality, organization, and operation of the social world.

- *Social actualization* is the evaluation of the potential and the trajectory of society (the sense that society has a potential that is being realized through its institutions and citizens).

- *Social acceptance* is the construction of society through the character and qualities of others as a general category. Individuals who illustrate social acceptance trust others; think that others are capable of kindness.

4.- Interactions between stress, emotion regulation and mental health

Acute and chronic stress episodes are associated with anxiety disorders (generalized or non-specific anxiety) and manic behavior patterns. High activation of the parasympathetic system can lead to anxiety responses and arousal states such as mania and insomnia.

Stress is also associated with depressive reactions, as people exposed to acute stress feel powerless and interpret their adaptation efforts as futile (Everly & Lating, 2013). Stressful life events can also cause depression (Schneiderman et al, 2005).

Furthermore, acute stress is associated with various psychological disorders, such as schizophrenia, depression, and personality disorders (the development of specific types of disorders after acute stress depends on the individual's predisposition).

With the advent of the Diagnostic and Statistical Manual (DSM-5), brief psychotic disorder (brief reactive psychosis) and PTSD came to be viewed diagnostically as a direct result of an “identifiable stressor.” The same applies to the diagnostic categories of adjustment disorders. Diagnoses such as adjustment disorder with an anxious mood, adjustment disorder with a depressed mood, and adjustment disorder with mixed affective features show formal taxonomic acceptance of the broad spectrum of psychiatric manifestations that can result directly from psychological stress (Everly & Lating, 2013).

Other manifestations of psychological stress have been identified, including increased smoking and drug use, psychosomatic symptoms, sleep problems, and eating disorders (Schneiderman et al, 2005).

Accordingly, we can said that the impact of psychological stress on mental health revolves around the following disorders: anxiety disorders, emotional disorders, post-traumatic stress disorder, adjustment disorders, some types of

schizophrenia, brief psychotic disorder, psychosomatic disorders, and disorders related to addiction, and eating and sleeping disorders.

The links between stress and emotion regulation strategies reflect a complex interaction between biological, social, cognitive, emotional, and behavioral factors; therefore, large empirical gaps remain. Many studies have shown that emotion regulation strategies play a prominent role in the management of stress, but in fact, there is a two-way effect between stress and emotion regulation strategies. Stress can affect the types and resilience strategies used to regulate emotion, and successful emotion regulation is an essential buffer against the detrimental effects of stress and trauma on mental health and illness across the life span.

There are much research that have shown the association between using emotion regulation strategies while confronting stress by increasing resilience and decreasing psychological disorders, such as the cognitive change strategy (reappraisal), which emphasizes the positive aspects of the stressful negative event and mitigates its negative impact (Myruski et al, 2018).

Cross-sectional studies have demonstrated that individuals who report frequently using reappraisal tend to experience less negative emotion. Therefore, individuals who report frequently using reappraisal experience more positive and fewer negative emotions in response to a laboratory stress induction (Shallcross et al, 2015).

Shallcross et al (2015) indicate a consistent and strong relationship between self-reported use of reappraisal and improved mental and physical health in high-stress samples. Thus, we can say that reappraisal confers resilience.

Habitual use of relatively maladaptive emotion regulation strategies has also been associated with decreased physical and psychological well-being, particularly the use of expressive emotion suppression in response to stress, which has been linked to disease, emotional distress, and eating disorders (Myruski et al, 2018).

Overall, correlational, experimental, and intervention studies suggest a robust—and perhaps causal—association between emotional acceptance and reductions in negative emotions and point to acceptance as a strategy that confers resilience in the wake of stress (Shallcross et al, 2015).

According to Shallcross et al (2015), acceptance is thought to decrease negative affect via two related processes: (i) presenting opportunities to

acknowledge and understand negative emotions, which promotes self-compassion as well as psychological and behavioral flexibility; and (ii) reducing rumination and meta-emotions, defined as emotional reactions to one's own emotions.

Werner & Gross (2010) indicate that from the perspective of the emotional regulation process model, many pathological symptoms can be explained (e.g. Constant avoidance of trauma-related stimuli, rapid angry reactions in paranoid personality disorder, fear of gaining weight in anorexia nervosa, irritability in mood among people with bipolar disorder.. etc.) as involving a problem in selecting a situation, modifying a situation, deploying attention, making cognitive changes, or modulating a response :

Situation selection: The situational selection strategy is useful in choosing other situations or avoiding a situation that is likely to stimulate emotions, but using this strategy chronically or inflexibly can maintain psychological disorders. Through the chronic, maladaptive use of avoidance in avoidant personality disorder, for example, pathological fear is maintained, which negatively affects the individual's psychological and social functioning and reduces his quality of life (despite the short-term benefits resulting from avoiding negative situations) (Werner & Gross, 2010 ; Sheppes et al, 2015).

Situation modification: The use of the strategy of modifying the situation is adaptive when the person does not act reactively out of fear but rather honestly and confidently influences the social situation (such as by taking a firm stance and confronting the unfaithful spouse instead of enduring an unsuccessful marriage, as the dependent personality endures). Situation modification strategies may also be maladaptive when negative self-focused attention and self-monitoring increase, when they monopolize cognitive resources, or when they attract more attention from the other person (Werner & Gross, 2010).

Attention deployment: There are several maladaptive forms of attentional deployment: rumination, worry, and distraction. Rumination involves a frequent focus on feelings associated with negative events, as well as a negative appraisal of their consequences, which doubles an individual's levels of negative emotions.

Worry is focusing attention on potential threats in the future. This type of attentional deployment is used in people with anxiety disorders, so worry can be viewed as a way to avoid intense emotions or physiological arousal (it is useful

in the short term), but it prolongs decision-making times and prevents habituation to emotional stimuli in the long term (Werner & Gross, 2010; Sheppes et al, 2015).

Distraction involves refocusing attention on non-emotional aspects of a situation or mentally verifying the immediate situation. Distraction may also involve changing internal focus, as when individuals recall thoughts or memories that are inconsistent with the unwanted emotional state. Distraction used in low is effective and adaptive (for e.g., intentionally paying attention to a friend's funny joke rather than remaining stuck in negative rumination), but chronic distraction is a maladaptive strategy in that it prevents the ability to become accustomed to feared stimuli and to know that some of them are neutral or non-threatening, and the use of distraction in social situations may cause a conversation partner to feel less socially connected. It also prevents the individual from challenging worrying thinking or taking action to solve problems (Werner & Gross, 2010; Sheppes et al, 2015).

Cognitive change: Cognitive change refers to changing how an individual evaluates a situation to change its emotional significance, by changing the way one thinks about the external or internal situation or the individual's ability to manage the demands it imposes.

Reappraisal involves changing either (1) appraisals related to the situation or (2) appraisals related to one's emotional responses to that situation. Most of the time, the reappraisal strategy is considered an adaptive strategy (cognitive reappraisal has generally been associated with positive effects on psychological well-being, such as increased personal functioning, positive mood, and decreased negative impact) (Nyklíček, 2011). In other contexts, reappraisal can maintain negative emotional states through either self-elaboration (what does this situation mean to me?), or emotional resistance (not accepting one's current emotional experience, "I shouldn't feel this way" (Werner & Gross, 2010).

Self-elaboration is considered as activation of the self or the activation of thinking about the situation. This activation can increase the duration and complexity of emotional responses, i.e. increase the intensity and number of negative emotions.

Emotional resistance is beliefs about unwillingness to experience negative emotions and subsequent attempts to avoid emotions such as anxiety or depression. These beliefs maintain symptoms of psychological disorders such as

generalized anxiety disorder, separation anxiety disorder, and some symptoms of depression and agoraphobia (Werner & Gross, 2010; Arndt & Fujiwara, 2014).

Response modulation: Two of the best forms of response modulation are expressive suppression, which refers to efforts to inhibit ongoing emotion-expressive behavior, and experiential avoidance, which refers to efforts to inhibit the experience of emotion itself.

Expressive suppression is a maladaptive strategy that paradoxically increases negative feelings in healthy people and people with anxiety, in addition to the association of expressive suppression with mania, anxiety, and depression (Werner & Gross, 2010).

Experiential avoidance becomes a disordered strategy when it is applied so rigidly and inflexibly that enormous time, effort, and energy are devoted to managing, controlling, or experiencing unwanted special events. In contrast, an acceptance strategy is an adaptive strategy, which is allowing one's reactions to proceed without resist it in any way. Practicing acceptance allows feelings to rise and pass without attempts to avoid or control the experience (Werner & Gross, 2010; Arndt & Fujiwara, 2014).

4.1. Some studies about stress, emotion regulation, and mental health :

Table N° 1 Some studies about stress, emotion regulation, and mental health

Authors	Title	Participants	Evaluation Method	Results
Brenning K, Waterschoot J, Dieleman L, Morbée S, Vermote B, Soenens B, Van der Kaap-Deeder J, van den Bogaard	<i>The role of emotion regulation in mental health during the COVID-19 outbreak: A 10-wave longitudinal study (2023)</i>	986 Belgium persons	– Emotion Regulation Inventory (ERI) developed by Roth et al. (2009) – A specific study measure was created that included items tailored to the COVID-19 epidemic, anxiety and depressive symptoms, life satisfaction and	– Weekly variation in COVID-19-related concerns was negatively related to weekly variation in well-being and positively related to weekly variation in ill-being. – Emotional dysregulation and suppression

D, & Vansteenkiste M			sleep quality.	related positively to between-person vulnerability in ill-being and lower well-being (across all waves). – Between-person differences in emotional dysregulation amplified the strength of the within-person association between worry and depressive complaints and lowered life satisfaction.
Kinner, V. L., Het, S., & Wolf, O. T	<i>Emotion regulation: exploring the impact of stress and sex (2014)</i>	72 Deutsch persons	– Salivary cortisol – Blood pressure – Self-reported stress	– Stress impaired the effectiveness of distraction. – Stressed participants were less effective in distracting themselves from the emotional pictures. – An increase in cortisol was observed in male participants only. – Stress improves a woman's capacity to reduce negative emotions.
Aldao, A.,	<i>Emotion-</i>	114 studies	– Examination of	– A large effect

Nolen-Hoeksema, S., & Schweizer	regulation strategies across psychopathology: A meta-analytic review (2010)	that examined the relationships between dispositional emotion regulation and psychopathology	the relationship between each regulatory strategy and psychopathology across the four disorders (anxiety, depression, eating, and substance-related disorders). – Examination of the relationship between each regulatory strategy and each of the four psychopathology groups.	size for rumination (in the development of psychopathology, medium to large for avoidance, problem solving, and suppression, and small to medium for reappraisal and acceptance. – Internalizing disorders were more consistently associated with regulatory strategies than externalizing disorders.
Brietzke, E., Kauer-Sant'anna, M., Jackowski, A., Grassi-Oliveira, R., Bucker, J., Zugman, A., Mansur, R. B., & Bressan, R. A	Impact of childhood stress on psychopathology (2012)	articles that evaluated environmental influences, with a particular focus on childhood trauma, brain morphology, cognitive functions, and the development of psychopathology and mental disorders	– Examination of the relationship between environmental stress and psychopathology	– Exposure to trauma in early life can lead to several neuro-structural changes, such as a reduction in the size of the hippocampus and corpus callosum. – Childhood stress is associated with an increased risk of developing mental disorders such as depression, bipolar disorder, schizophrenia and substance abuse.
Kraiss, J. T.	The relationship	35 studies in the electronic	Meta-analysis (To be included	– Significantly small to moderate

Klooster, P. M. Moskowitz, J. T. & Bohlmeijer, E. T	<i>between emotion regulation and well-being in patients with mental disorders: A meta-analysis (2020)</i>	databases PsycINFO, PubMed and Scopus	in the meta-analysis, studies had to include a clinical sample, assess at least one specific emotion regulation strategy or overall deficits in emotion regulation and include well-being as an outcome.)	negative associations of well-being with avoidance and rumination. – Positive relationship of well-being with reappraisal and acceptance
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It is clear from Table 1 that these studies have a high level of credibility due to the large number of participants (e.g. 986) and the fact that some of the studies are a compilation and analysis of several previous studies and articles about the relationship between stress, emotion regulation and mental health.

In terms of methodology, these studies are quantitative studies and meta-analyses, so we can generalise its findings, in addition to supporting what has been said about the relationship between stress, emotion regulation and mental health.

These field studies support the theoretical links between emotion regulation, psychological stress and mental health discussed above:

Stress affects an individual's mental health, as confirmed by a study (Brietzke et al., 2012) showing the effective role of childhood psychological stress in the development of mental disorders (depression, bipolar disorder, schizophrenia and substance abuse). There is also a link between the use of adaptive emotion regulation strategies in coping with stress by increasing resilience and reducing mental disorders.

The habitual use of maladaptive emotion regulation strategies is associated with disorders such as emotional distress and eating disorders. This is suggested by the findings of (Kinner et al, 2014).

Finally, we can say that emotion regulation strategies have contributed to a better interpretation and understanding of the causal relationship between stress and mental health, by understanding the relationships and mutual influences

between these variables. However, this topic is still new and requires further field studies to support or contradict our findings.

Conclusion

Through what was previously mentioned in this analysis, in which we discussed both stress and the process of emotional regulation and their relationship to mental health, the importance of regulating emotions during stressful situations and their impact on the individual's psychological health and well-being is clearly evident.

As psychological stress affects an individual's mental health and causes many emotional disorders, adjustment disorders, anxiety disorders... and other disorders, here comes the role of emotion regulation strategies that may increase this negative effect of psychological stress through expressive emotion suppression or reduce this effect through both cognitive change and emotion acceptance strategies.

The study recommends the need to pay attention to emotions and emotion regulation strategies due to the role they play, as they protect against a group of disorders and contribute to improving the psychological health of the individual. It may also increase the impact of stress on psychological health and thus increase the severity of psychological disorders. This analysis also opens the way for other future studies related to studying the emotion regulation variable as a mediating or moderating variable in the relationship between psychological stress and mental health.

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