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IMPACT OF REGULATORY EMOTIONAL SELF-EFFICACY ON DEPRESSION, ANXIETY, STRESS AND WELL-BEING

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Abstract

A better understanding of the mechanisms that facilitate emotional resilience and well-being among physician is needed due to their high risk for burnout. Present study investigates if perceived ability to self-regulate emotions is one of the factors that impact student's level of negative affect (depression, anxiety, stress) and well-being and its components. A sample of 151 medicine students volunteered to fill in online questionnaires evaluating the variables: RESE - Regulatory Emotional Self-Efficacy, PERMA and DASS 21 - Depression, Anxiety and Stress. SPSS correlational and linear regression analysis has been performed in order to determine the relationship between variables. Medium to strong positive correlations were found between self-efficacy to regulate emotions and well-being (.37 to .59, p< .005) and negative ones with depressions, anxiety and stress (-.31 to -.51, p< .005). Linear regression revealed that regulatory emotional self-efficacy explains up to 43% of variations in well-being and up to 36% variations in depression, anxiety and stress. Results of present study are promising and they should be replicated on larger samples. Enhancing regulatory emotional self-efficacy reduces the risk for mood disorders and enhances well-being.

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Keywords: Emotional regulation, self-efficacy, well-being.

1. Introduction

A better understanding of the mechanisms that facilitate emotional balance and well-being is needed due to the high prevalence of stress, burnout and mood disorders in our society. The most common problem in mood disorders is the sustained negative affect and the difficulty to experience positive affect, due to the reduce ability to regulate emotions (Joormann & Siemer, 2014).

The relevant concepts in present study are depression, anxiety and stress, wellbeing, emotion regulation and emotion regulation self-efficacy. Complex relationships between concepts are explored in literature and in a correlational study.

1.1. Depression, anxiety and stress

Mood disorders are characterized by sadness, loss of interest or pleasure, disturbed sleep or appetite, poor concentration. The most severe risk is the risk of suicide. The proportion of the global population with depression in 2015 is estimated to be 4.4% (322 millions) and with anxiety disorders 3.6% (264 millions). Depression and anxiety disorders are frequently occurring together are more common among females and the prevalence of the disorders is increasing (World Health Organization, 2017).

The research in this area focuses on treatment but also on prevention. A meta-analytic review in 2006 shows that most effective interventions are selective ones, they could be more accurately described as treatment rather than prevention, because they target very specific aspects related to depression. Authors emphasis on the importance of underlying mechanisms of depression and the particular aspects like the age, gender, culture (Horowitz & Garber, 2006).

Another review, published ten years later, confirms that selective interventions are more effective in preventing internalizing disorder onset and in reducing associated symptoms; intervention that combine psychological and educational aspects, targeting both depression and anxiety, have the best results, even in follow up (Stockings et al., 2016).

In adult life, one of the main sources of suffering is related to professional stress or burnout. Stress, as an important imbalance between demands and response capability (McGrath, 1970), when chronic, can lead to burnout. Burnout means emotional exhaustion, depersonalization and a sense of low personal accomplishment (Maslach & Leiter, 2008). Stress and burnout affect life satisfaction and work performance of the doctors (Eckleberry-Hunt et al., 2009), of the teachers (Watts & Robertson, 2011), and of the students (Dyrbye, Thomas, & Shanafelt, 2005). Stress is a work risk factor, and burnout, as a consequence of failing to manage chronic stress, is considered an occupational phenomenon, impacting workplace wellbeing (International Classification of Diseases, ICD-11).

As an example, stress and burnout affect up to half of the physician community in Canada (Boudreau, Grieco, Cahoon, Robertson, & Wedel, 2007), and about 33% of teachers (Macdonald, 1999).

There is a strong relationship between stress and mood disorders. A neuro-imagistic study shows that brains of subjects with chronic emotional stress show a dysregulation of the emotion and stress processing neuronal paths, so the internal homeostasis in response to negative emotional stress is difficult to restore. This low ability to down-regulate negative emotions in subjects suffering from occupational

chronic stress is making them more vulnerable to depressive symptoms. This impairment could be the link between stress and psychopathology (Golkar et al., 2014).

1.2. Emotion regulation

Emotion regulation it is an effort to alter the intensity, duration or expression of emotion. Decreasing negative emotion and increasing positive emotion it is the ultimate goal of regulating emotions in our everyday life (Gross & Thompson, 2007). Not all emotion regulation strategies are functional; studies show that suppression and the rumination/avoidance tendencies are associated with most severe symptoms across all disorders, including depression and anxiety (Sloan et al., 2019). Adaptive strategies negatively associated with psychopathology are problem solving, reappraisal and acceptance (Aldao, Nolen-Hoeksema, & Schweizer, 2010).

It is important to know that many different psychological interventions targeting mental disorders have as an outcome a significant decrease of maladaptive strategies like suppression, avoidance or rumination and an increase in overall emotional regulation. Increasing the skills for emotion regulation is one of the core aspects in prevention of mental disorders (Sloan et al., 2017).

1.3. Well-being

The prevention of psychological disorders was informed for decades only by pathology (Yamey & Wilkes, 2001). A shift in perspective is needed in order not only to reduce the negative feelings but to enhance wellbeing.

From the position of the president of the American Psychological Association in 1998, M. Seligman saw the opportunity to focus on what is life-giving rather than life-depleting and asked other researchers to do so. Actually, he started a new field, positive psychology, along with the "founding father" of flow, Mihaly Csikszentmihalyi.

Defining and measuring the psychological constructs of wellbeing is a central theme in positive psychology and one of the first measures in literature is of the life satisfaction defined as hedonic wellbeing (Diener, 2000).

Another approach, the multidimensional model of psychological eudaimonic well-being (Ryff & Keyes, 1995) includes six distinct components: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Eudaimonic well-being is measured with Scales of Psychological Well-Being (SPWB).

Seligman model of flourishing, in 2011, suggested that there are five measurable elements that make up well-being: positive emotion, engagement, relationships, meaning and accomplishment (Seligman, 2011). In order to measure flourishing well-being, a 23-item instrument was developed, PERMA-Profiler, assessing well-being, negative emotion, loneliness, and physical health (Butler & Kern, 2016).

Often researchers study only the impact of regulating negative emotion on happiness and just a few studies explore regulating positive emotion in relation with well-being. One study shows that focusing attention on the present moment, savouring and engaging in positive rumination during positive

events promoted positive affect, while focusing on negative details and engaging in negative rumination reduced positive affect and life satisfaction (Quoidbach, Berry, Hansenne, & Mikolajczak, 2010).

1.4. Self-efficacy and regulating emotion self-efficacy

The theory of core self-evaluations (Judge, Locke, Durham, & Kluger, 1998) brings together four relevant constructs predicting satisfaction and performance: self-esteem, generalized self-efficacy, locus of control and emotional stability. A meta-analytic study confirms significant relationship between these constructs and performance (Judge & Bono, 2001).

Self-efficacy beliefs, defined as the judgments people hold about their capacity to cope effectively with specific challenges and to face demanding situations (Bandura, 1986,) are specific to a task /domain and are influenced by personal experiences, vicarious experiences and social persuasion, according to social cognitive theories (Bandura, 2001). Vicarious experiences are situations when the subject observe relative similar others performing successfully a task and due to the perceived similarities his/her confidence in doing that task increases; social persuasion refers to encouraging feedback received from others on specific task /capabilities.

Studies show that knowledge and self-efficacy are improving also through online educational programs (Parsons, 2007; Calinici, Calinici, & Miclea, 2017); an online programme, like virtual patient, improving knowledge and self-efficacy, is very important in medical education as an intermediate step between theory and contact with real patient (Calinici, 2015).

Taking into account the specificity of self-efficacy and the distinction between positive and negative affect researchers tested the hypothesis of a specific affective self-efficacy, a set of beliefs modulating the expression of negative/ positive affect, especially in difficult situations (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003). Actually, the regulatory emotional self-efficacy beliefs represent a subjective self-appraisal of self- competence in emotion regulation.

First version of the Regulatory Emotional Self-Efficacy (RESE) scale was developed in 2003 (Bandura et al., 2003) and later refined (Caprara et al., 2008). The RESE scale assesses self-efficacy in expressing positive emotion and self-efficacy in managing two types of negative emotions: distress(despondency) and anger.

Regulatory emotional self-efficacy beliefs is moderately correlate with measures of positive and negative affect (about .30, Caprara et al., 2008). Studies show that regulating positive affect self-efficacy promotes prosocial behaviour (Caprara & Steca, 2005) and regulating negative affect self-efficacy is associated with lower levels of depressive symptoms (Bandura et al., 2003).

2. Problem Statement

Specialists advocates for the benefits of trans-diagnostic treatments addressing emotional dysregulation and educational programmes to prevent mental disorders by enhancing emotion regulation (Sloan et al., 2017). 'Emotion regulation is an important psychological variable associated with burnout' (Jackson-Koku & Grime, 2019) and a core symptom in psychopathology (Aldao, Nolen-Hoeksema, & Schweizer, 2010). Emotion regulation is also relevant in well-being, as an example self-regulation capacity significantly and positively correlates with three out of 5 dimensions of eudaemonic well-being:

personal growth, positive relationships with others and autonomy (Gagnon, Durand-Bush, & Young, 2016).

On the other hand, self-efficacy is one of the most important predictors of life satisfaction and performance (Judge & Bono, 2001) there is a strong relationship between stress, emotional intelligence and self-efficacy (El-Sayed, El-Zeiny, & Adeyemo, 2014).

As related concept of emotion regulation and self-efficacy, regulating affect self-efficacy it is possible to have a strong relation with negative affect symptoms (in depression, anxiety and stress) and with well-being, but evidence to support this relation is still needed. By clarifying this relation treatment and prevention could integrate better emotion regulation and regulating affect self-efficacy in specific interventions.

3. Research Questions

What is the relationship between regulation negative affect self-efficacy and depression, anxiety and stress symptoms? What is the relationship between regulation negative affect self-efficacy and well-being? Are people with better self-efficacy in regulation of negative emotion happier or at least facing less symptoms of depression anxiety and stress?

Is there a relationship between regulation positive affect self-efficacy and depression, anxiety and stress symptoms? Are people with higher self-efficacy in regulating positive affect happier? Should intervention target regulation positive affect self-efficacy also in order to reduce pathology or to enhance the well-being?

4. Purpose of the Study

Present study investigates the relations between regulation positive and negative affect and depression, anxiety, stress and well-being in a correlational study.

Hypothesis no 1

There is a negative, significant and strong correlation between regulation negative affect self-efficacy (RESE NEG) and depression, anxiety and stress level.

Hypothesis no 2

There is a positive, significant and strong correlation between regulation negative affect self-efficacy (RESE NEG) and well-being.

Hypothesis no 3

There is a positive, significant and strong correlation between regulation positive affect self-efficacy (RESE POS) and well-being.

5. Research Methods

5.1. Participants

A total of 151 participants were recruited via online networking group of a Romanian Medicine University (74% females; Mean of age = 23.6; SD = 3.6) and asked to complete online measures of depression, anxiety, stress, well-being and regulating affect self-efficacy. Participants included students

(89%) ranging all the way from first to sixth year of studies and university postgraduate (11%). Students and graduate did not differ in any of the study variable.

5.2.Measures

Depression, anxiety and stress level was assessed using DASS-21, a 21- items public domain instrument, self-report, designed to measure the emotional states of depression, anxiety and stress in general population. This well-validated instrument composed of three scales with 0 to 3 points items; provide a measure of these emotional states, but with no direct implication for clinical diagnostic. Example of item:' I couldn't seem to experience any positive feeling at all'.

Well-being was assessed using PERMA –Profiler (Kern, Waters, Adler, & White, 2015), an instrument developed according to Seligman's theory of flourishing. The instrument is a 23 self-report, 10 point items, assessing positive emotion, engagement, relationships, meaning, accomplishment, negative emotion, health (3 items each) and overall loneliness and happiness (one item each). Evidence for the psychometric properties of PERMA instrument are provided by several studies, adding empirical support for the structure and longitudinal stability this multidimensional conceptualization of well-being (Kern et al., 2015; Coffey, Wray-Lake, Mashek, & Branand, 2016), including cross-culturally (Khaw & Kern, 2014). The measure, which is freely available for non-commercial research, was translated into Romanian Language (with back-translation supervised). It had good psychometric properties on current sample. Example of item: 'In general, how often do you feel joyful?'.

Emotion regulation self-efficacy is assessed with RESE - Regulatory Emotional Self-Efficacy (Caprara et al., 2008), a 12 items instrument, self-report, items are 5 point on Likert scale, with three subscales - regulating positive emotions self-efficacy (RESE POS, 4 items), regulating despondency and distress –RESE DES, 4 items, regulating anger self-efficacy –RESE ANG (4 items). Evidence for the psychometric properties of RESE instrument are provided by several studies (Caprara et al., 2008), and a later, revised version has only 10 items, each negative scale losing one item (Gunzenhauser et al., 2013), present study using this revised version, RESE -R. Example of item: 'How well can you express joy when good things happen to you?

6.   Findings

6.1. Descriptive statistics

DASS 21, with three sub-scales D = Depression, A = Anxiety, S = Stress, it is a free widely used instrument, adapted and used on Romanian population as DASS-21R. In current sample means and standard deviations are D =10.20 (5.62), A = 10.74 (5.36), S= 11.30 (4.96). The internal consistencies of the sub-scales were α (D) = .89, α (A) = .83, α (S) = .84 and α (DASS-21) = .93.

RESE – R Revised Regulatory Emotional Self-Efficacy, 10 items, has three sub-scales, DES- perceived self-efficacy in managing despondency/distress; ANG- perceived self-efficacy in managing anger/irritation; POS- perceived self-efficacy in expressing positive affect). Instrument was translated and adapted with authors permission, has good psychometric properties in current sample, means and standard deviations are DES= 2.77 (1.01), ANG = 2.91 (1.08), and POS = 3.87 (0.90), in range, but a little bit lower than the ones reported in previous studies (Caprara et al. (2008) reported DES 3.34 (0.72),

ANG 3.07 (0.68), and POS 4.25 (0.65) and Gunzenhauser et al. (2013) - reported DES 3.40 (0.68), ANG 3.15 (0.75) and POS 4.25 (0.58).

Model fit indicators are CFI = .97, TLI = .97, RMSEA = .46, the correlation between dimensions are relevant only between the negative affect dimensions (.60, p < .001). The internal consistencies of the sub-scales were in range with the one reported in previous studies (Gunzenhauser et al., 2013): α (POS) = .80 (.79), α (DES) = .69 (.69), α (ANG) = .70 (.68) and α (NEG) (6 items) = .80 (.72).

PERMA- Profiler – with 5 subscales for well-being - P = positive emotion, E = engagement, R = relations, M = meaning and A = accomplishment, has in current sample means and standard deviations (P= 6.37 (1.98), E= 6.93(1.97), R=6.86 (2.29), M= 7.12(2.30) and A =6.78 (1.90)) a little bit lower than the one reported by authors for sample's age but in range with the ones reported for East European population. It is the same situation for the overall well-being, in current sample the mean is 6.82, standard deviations 2.09 and authors reported means and standard deviation for people aged between 18-25 are 7.12 (1.48) and for East Europe population 6.86 (1.71) (Butler & Kern, 2016).

Minimum for default model fit was achieved , correlation between dimensions and total index of well-being range from .76 to .89, p < .001, and the internal consistencies of the scales are in line with the ones reported by authors, for the whole instrument α = .87 and for sub-scales is ranging from .77 to .85.

Results

Since PERMA- Profiler was at first used on Romanian population, correlation with depression, anxiety and stress were computed in order to be compared with the ones reported for the instrument in other studies. Authors reported significant medium to high correlation between well-being components (measured with PERMA) and depression, anxiety and perceived stress. In current sample correlation between PERMA dimension and anxiety /stress are significant (see Table no. 01), ranging from -.14 to -.69, the strongest relationship are between depression and well-being index (-.66) and between distress (as total scor of depression, anxiety and stress) and engagement (-.56). This findings are in line with the ones reported in other studies (Butler & Kern, 2016), adding to the evidence that PERMA has a good validity across cultures (Khaw & Kern, 2014).

Table 01. Pearson correlation of well-being dimensions with depression, anxiety and stress

	DASS D	**DASS A**	**DASS S**	**DASS - 21**
PERMA P	-.67**	-.33**	-.48**	-.50**
PERMA E	-.42**	-.19*	-.29**	-.56**
PERMA R	-.61**	-.25**	-.35**	-.34**
PERMA M	-.54**	-.19*	-.26**	-.46**
PERMA A	-.47**	.-14*	-.29**	-.36**
PERMA Well-being	-.66**	-.26**	-.40**	-.34**

Note: ** Pearson correlation is significant at the 0.01 level (2-tailed), N= 151. DASS D – Depression, DASS A- Anxiety, DASS S – Stress, DASS -21 = DASS Total, PERMA P – Positive Emotion, PERMA E – Engagement, PERMA R – Relations, PERMA M – Meaning, PERMA A – Achievement.

In order to explore the complex relationship between welbeing, distress and perceived ability to regulate emotion correlation between variable were computed (see Table no. 02). Distress (total scor for DASS-21) is higly significant, negative correlated with each of the three dimensions of self-efficacy for

emotion regulation: with regulating positive emotion self- efficacy RESE POS (-.43), with regulating despondency self-efficacy RESE DES (-.47) and with regulating anger self-efficacy RESE ANG (-.46). Correlations between RESE dimensions and depression, anxiety and stress scores are highly significant, negative ones, medium to strong (from -.31 to -.54), the strongest relations are between (RESE POS) and depression (-.51) and between RESE ANG and stress (-.54).

Correlations between welbeing index and self-efficacy in regulating emotion are highly significant, positive, medium to strong: with RESE POS (.59), with RESE DES (.42) and with RESE ANG (.37). Correlation between welbeing components and RESE dimensions are also highly significant, positive, ranging from .20 to .59, with the strongest relations between RESE POS with Positive emotion (.59), with Relation (.56), respectively with Engagement (.43).

Table 02. Pearson correlations of RESE dimension with depression, anxiety, stress and well-being

	RESE POS	RESE DES	RESE ANG
DASS D	-.51**	-.42**	-.36**
DASS A	-.32**	-.36**	-.33**
DASS S	-.31**	-.48**	-.54**
DASS-21	-.43**	-.47**	-.46**
PERMA P	.59**	.45**	.38**
PERMA E	.43**	.30**	.34**
PERMA R	.56**	.27**	.20*
PERMA M	.49**	.36**	.30**
PERMA A	.37**	.37**	.37**
PERMA Well-being	.59**	.42**	.37**

Note: ** Pearson correlation is significant at the 0.01 level (2-tailed), N= 151. RESE – Regulating Emotion Self-Efficacy, RESE POS - Regulating Positive Emotion Self-Efficacy, RESE DES – Regulating Despondency Self-Efficacy, RESE ANG – Regulating Anger Self-Efficacy, DASS D – Depression, DASS A- Anxiety, DASS S – Stress, DASS -21 = DASS Total, PERMA P – Positive Emotion, PERMA E – Engagement, PERMA R – Relations, PERMA M – Meaning, PERMA A – Achievement.

In order to understand even better the relationship between emotion regulation self-efficacy and distress, respectiv well-being liniar regression analisys was performed (see Table no.3).

Regulating emotion self-efficacy explains 34-36% variation in distress level and 42-43% variation in well-being (Anova analysis is highly significant). Regression analysis were performed for each dimension of distress and well-being, shared variance with RESE is presented in the table (R Square vary between .20 and .44, all Anova analisys highly significant), and the relevance of each predictor (RESE DES, RESE ANG, RESE POS) is indicated by highly significants standardized coefficients Beta (ranging from .18 and .53). For depression the best RESE predictor is RESE POS (β= -.41, p<.001), for stress is RESE ANG (β= -.38, p<.001), for well-being and its components, by far, the best predictor is also RESE POS (β= .50, p<.001), especially for satisfaction in relations ((β= .53, p<.001).

Table 03. Regression coefficients - RESE dimensions predicting Depression, Anxiety, Stress and Well-being

	RESE R Square (adjusted)	RESE DES Standardized Coefficients Beta	RESE ANG Standardized Coefficients Beta	RESE POS Standardized Coefficients Beta
DASS-21	.36 (.34)	-.23*	-.22*	-.31***
DASS D	.35 (.34)	-.20*		-.41***
DASS A	.20 (.18)	-.20*		-.22**
DASS S	.35 (.34)	-.20*	-.38***	-.17*
PERMA Well-being	.43 (.42)	.18*		.50***
PERMA P	.44 (.43)	.23*		.49***
PERMA E	.24 (.23)		.22*	.36***
PERMA R	.33 (.31)			.53***
PERMA M	.30 (28)	.18*		.41***
PERMA A	.24 (.22)		.20*	.27***

Note: *$p<.05$, **$p<.01$, ***$p<.001$), N= 151. RESE – Regulating Emotion Self-Efficacy, RESE POS - Regulating Positive Emotion Self-Efficacy, RESE DES – Regulating Despondency Self-Efficacy, RESE ANG – Regulating Anger Self-Efficacy, DASS D – Depression, DASS A- Anxiety, DASS S – Stress, DASS -21 = DASS Total, PERMA P – Positive Emotion, PERMA E – Engagement, PERMA R – Relations, PERMA M – Meaning, PERMA A – Achievement.

7. Conclusion

Present study replicates the findings from other studies concerning the strong relationship between distress and PERMA well-being components. Strong relations were found between regulating emotion self-efficacy and depression, anxiety, stress, well-being and its components, confirming the all the hypothesis of the study:

- There is a negative, significant and strong correlation between regulation negative affect self-efficacy (RESE NEG) and depression, anxiety and stress level.
- There is a positive, significant and strong correlation between regulation negative affect self-efficacy (RESE NEG) and well-being.
- There is a positive, significant and strong correlation between regulation positive affect self-efficacy (RESE POS) and well-being.

Surprisingly, the study reveals also a negative highly significant, strong relation between distress and self-efficacy for positive emotion regulation RESE POS (correlations range from -.31 to -.51), relation revealed by linear regression analysis also - Standardized coefficients beta show RESE POS being even a stronger predictor than RESE DES and RESE ANG for depression, anxiety and global distress.

Regulating emotion self-efficacy (RESE) explains up to 35% variation in depression, anxiety and stress level, in depression and anxiety we need to improve especially self-efficacy for regulating despondency and positive emotion and in stress the self-efficacy for anger regulation.

Regulating emotion self- efficacy (RESE) explains up to 43% variation in well-being level, to increase positive emotion and meaningfull sense of life we need to improve especially self-efficacy for regulating despondency and positive emotion, to improve engagement and achievement - self-efficacy for regulating anger and positive emotion and to improve the satisfaction with relations - regulating positive emotion self-efficacy.

According to the results, interventions would benefit not only from taking affective self-efficacy into account, but mostly from focusing on positive affect regulation self-efficacy (inducing, keeping and expressing positive emotion). This findings are in line with other studies sugesting regulation for positive emotion should be a target in treatment (and prevention) of mood disorders (Carl, Soskin, Kerns, & Barlow, 2013).

The importance of the study also comes from the exploring of dimensions of well-being in relation with distress and affective regulation self-efficacy, finding could inform intervention that target specific outcomes – engagement, relations, meaning and also the overall well-being, important in academic settings, especially for medicine students as preventive factors for stress and burnout.

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