

The influence of distress tolerance on the relationship between expressive suppression and depressive symptoms

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Abstract

Objective: The aim of the current study was to investigate the relationship between suppression of emotion expression, distress tolerance and depressive symptoms amongst a non-clinical population.

Method: 82 young women participated in the study and several questionnaires were administered to measure: suppression of emotion expression, assessed by the Emotion Regulation Questionnaire (ERQ), distress tolerance, assessed by the Distress Tolerance Scale (DTS) and depressive symptoms, assessed by the Beck Depression Inventory Short-Form (BDI-SF).

Results: It has been found a positive correlation between suppression of emotion expression and depressive symptoms, and a negative correlation between poor distress tolerance and depressive symptoms. No moderating effect of distress tolerance in the relationship between suppression of emotion expression and depressive symptoms was found.

Conclusion: The findings of this study suggest that individuals who use maladaptive emotion regulation strategies, such as expressive suppression and individuals who are unable to tolerate negative emotions, are at risk of developing depressive symptoms. It might be beneficial for future research to involve a clinical population and to examine more maladaptive emotion regulation strategies and compare these, in the relationship with depressive symptoms.

1. Introduction

Many people after experiencing negative and stressful life events manifest depressive symptoms and this is associated with one's reduced quality of life and high economic impact in the society (Pots et al., 2016). Targeting depressive symptoms seem an efficacious way to decrease the prevalence of depression (Pots et al., 2016).

Depression is a significantly comorbid disorder with other mental illnesses (e.g. substance abuse, anxiety, eating disorders) and it can lead to poorer treatment outcome, being associated with higher functional impairment, a worse course of both disorders and a higher risk of suicide in comparison to a condition without comorbidity (Adan, Antùnez, & Navarro, 2017; Wang, Cho, & Kim, 2018).

According to Stocking and colleagues (2016), many different evidence-based treatments for depression are accessible and still a lot of people do not seek treatment, do not respond to it or they experience relapse over time, which is why is important to improve the prevention of this disorder.

Examining the underlying mechanisms may help to improve our understanding of depression and to find the most suitable treatment in order to improve one's quality of life.

Emotion regulation strategies and depressive symptoms

Depression is characterized by emotion regulation dysfunction (Joormann & Stanton, 2016): the way an individual regulates emotions might be an important factor in the development and maintenance of this disorder, thus it needs clinical attention (Hofmann, Sawyer, Fang, & Asnaani, 2012). The way individuals regulate their emotions, influences their general well-being, how they relate to others, the ability to work and to enjoy themselves (Gross, 1998). Difficulties in emotion regulation have been linked to different psychopathologies such as substance abuse, anxiety, and depression (Kneeland, Dovidio, Joormann, & Clark, 2015). Individuals regulate their negative emotions using a range of strategies, both adaptive and maladaptive. Emotion regulation strategies are considered maladaptive when they do not change emotions in a useful and context-sensitive way, and they are inconsistent in a person's goals (Kim, Bigman, & Tamir, 2015). Person's goals are intended as desired emotional states, in fact, individuals can decide for which emotions strive for (e.g. less anxiety), when regulating their emotions (Tamir, 2016). For example, a student may experience great sadness and disappointment after s\he didn't pass an important exam and try to dampen her\his emotions with alcohol. This might be helpful in not expressing sadness and disappointment, but the negative emotion, even if unwanted, is still experienced.

On the other hand, adaptive emotion regulation strategies aim to one's goals and target to deal with the negative emotion, they interpret a situation and its meaning before the emotion process and responses are fully activated (Gross & John, 2003). For example, a student must present in front of the class and his\her heartbeat increases, standing up in front of everybody. S\he may not think about her\his racing heart as a sign of anxiety but instead as a sign of her\his body getting prepared for the presentation.

All strategies aim to reduce an emotional state, but maladaptive strategies are often unsuccessful in doing so (Conklin et al., 2015). Difficulties in everyday emotion regulation, lead to prolonged and severe distress that may evolve in psychopathological disorders (Aldao, Jazaier, Goldin, & Gross, 2014). In fact, adaptive emotion regulation strategies are thought to

be protective factors, whereas maladaptive emotion regulation strategies are thought to be risk factors of psychopathology (Aldao, Nolen-Hoeksema, & Schweizer, 2010).

An example of a maladaptive emotion regulation strategy is the expressive suppression of emotions. This strategy aims to reduce or inhibit unwanted emotions, intervening late in the emotion process when emotion is already ongoing, and it can only modify the behavioral response (Gross & John, 2003). Expressive suppression has been demonstrated to be quite unsuccessful at decreasing the experience of negative emotions and to have detrimental cognitive, behavioural and health consequences (impaired memory functions, social isolation, more cardiovascular activation, etc.) (Gross, 1998).

Depressive symptoms are strongly associated with expressive suppression of emotion where it might be trying to avoid the experience of emotions (D'Avanzato, Joormann, Siemer, & Gotlib, 2013). In response to stressful events, individuals may try to control their emotional responses by avoiding expressing emotions externally. It is not effective in relieving the unwanted emotions: it causes great arousal, it is cognitively taxing, and in the long-term, they experience prolonged and severe distress which may cause depressive symptoms (D'Avanzato et al., 2013). Individuals who experience depressive symptoms, must deal with excessive and persistent negative emotions and having troubles in down regulating emotions prolong and preserve their conditions (Gross, 1998).

Expressive suppression has been demonstrated to increase the unwanted negative experience which might explain why individuals who experience depressive symptoms, are likely to experience more negative emotions than individuals who do not experience depressive symptoms (Dixon-Gordon, Aldao, & De Los Reyes, 2015).

Distress Tolerance and depressive symptoms

Individuals can perceive negative emotions as less or more unbearable and they perceive themselves as less or more capable of dealing with them, which is described by the psychological construct of Distress Tolerance (DT) (Zvolensky, Vujanovic, Bernstein, & Leyro, 2010). DT has gradually gained attention from the scientific community since its potential role in therapeutic intervention, serving as an underlying mechanism for therapeutic change in mental health (Zvolensky & Hogan, 2013). It is defined as the individual's perceived ability and the behavioral act of tolerating negative emotional states and it is thought to be involved in the development and maintenance of psychopathological disorders (Zvolensky et al., 2010). When facing distress and distressing-eliciting situations, individuals with poor distress tolerance may respond maladaptively to them. They try to avoid distressing situations or to reduce emotions expression (Williams, Thompson, & Andrews, 2013). Individuals who

have poor distress tolerance may try to quickly alleviate distress, for example, using self-harm as a mechanism to manage emotions that are perceived as too painful (Viana, Woodward, Raines, Hanna, & Zvolensky, 2018). Once they quickly alleviate distress, the decreased experience of negative emotion will negatively reinforce them to continue engaging in such behaviors. Individuals escape distress through behaviors that may change the frequency, duration or form of the negative internal experience (Ellis, Vanderlind, & Beevers, 2013).

Individuals with poor distress tolerance perceive depressive symptoms as unbearable, shameful and unacceptable and this might lead them to experience great irritability and anger reactivity (Ellis et al., 2013). Also, poor tolerance of distress might lead individuals to focus on the experience of distress rather than emotion regulation strategies that may proper reduce distress (Van Eck, Warren, & Flory, 2017). Non accepting the experience of emotion or criticizing oneself because experiencing a certain emotion might aggravate emotion's regulation, increasing its intensity and the risk of enhancing depressive symptoms (Aldao & Tull, 2015). According to Allan and colleagues (2014), lower distress tolerance across non-clinical populations have been associated with higher depressive symptoms.

The present study

Finally, distress tolerance and emotion regulation seem to be related concepts: not being able to adaptively regulate emotions may lead to experience higher levels of distress and the ability to cope with negative emotions may be perceived as poor. Consequently, individuals engage in maladaptive behaviors in order to avoid distress. On the other side, perceiving distress as intolerable may lead individuals to be less able to use adaptive emotion regulation strategies and to avoid more negative emotions (Jeffries, McLeish, Kraemer, Avallone, & Fleming, 2016; Van Eck et al., 2017). It seems clear that symptoms of depression are associated with emotion dysregulation and distress intolerance, yet much work remains to identify the mechanisms underlying this association. It might be hypothesized that individuals who have both emotion regulation strategies difficulties and poor tolerance of distress, may experience greater symptoms of depression.

The purpose of the present study is to examine how distress tolerance would moderate the link between emotion regulation strategies and depressive symptoms such that more use of expressive suppression would demonstrate higher scores of depressive symptoms when participants report poorer distress tolerance. It has been hypothesized that: 1) more use of suppression of emotion expression will be related to more depressive symptoms, 2) poorer distress tolerance will be related to more depressive symptoms, and 3) individuals who

suppress more the expression of their emotions and have poorer distress tolerance will report more depressive symptoms than individuals who score low on either of these factors.

2. Method

2.1 Participants and procedure

In the present study, the non-clinical sample consisted of 82 participants. A non-clinical sample has been involved in the study since the aim is to investigate underlying mechanisms of the relation between emotion regulation strategies, distress tolerance and depressive symptoms more generally.

Most of the participants who took part in the study were recruited through flyers posted in numerous locations within the university complex, another part has been recruited on distinct locations than the University of Utrecht. The first inclusion criterion was that participants were female, given that the experiment is included in a larger study about eating disorders in which women resemble the eating disorder population. Recruited participants were between 18 and older (with a focused between 18 and 35 years of age) and fluent in Dutch. The individuals that met all the criteria to be included in the experiment, were invited to come to the laboratory for participating in the assessment. Participants could stop the assessment at any moment without reason and ask questions to the researchers. No monetary reward was given to participants but earning student credits (if applicable) and the chance to win a bol.com youcher.

Participants were instructed about the experiment and its procedure: the assessment took app. 40 minutes. After reading the information letter, participants signed informed consents and they proceeded to complete demographic questions (sex, age, the highest level of education, current occupation and current education). Next, participants completed the Emotion Regulation Questionnaire (ERQ; Gross & John 2003), aimed to identify habitual emotion regulation strategies of the participants: cognitive reappraisal and expressive suppression. Then, Beck Depression Inventory-short form (Beck & Steer, 1993) scored depressive symptoms and Distress Tolerance Scale (Simon & Gaher, 2005) measured distress tolerance scores of the participants. Ethical approval for this study was not needed from the Faculty Ethics Review Board (FERB) of the Faculty of Social and Behavioural Sciences of the University of Utrecht because no clinical population was involved in the study.

The whole study had an experimental design in which emotions were induced, emotion regulation was manipulated and its effect on working memory was tested. Additionally, questionnaires were filled in to assess symptoms of depression, distress tolerance, and emotion regulation tendencies more generally. These questionnaires were used to test the research question of this study. Participants' demographic information was collected through an initial self-report questionnaire: age, gender, the highest level of education completed, current occupation and current education.

2.2.1 Emotion regulation

The Emotion Regulation Questionnaire (ERQ; Gross & John 2003) was administered in order to investigate individual differences in emotion regulation strategies among participants. The ERQ measures two strategies: cognitive reappraisal (e.g., 'When I want to feel more positive emotion, I change what I'm thinking about') and emotion suppression (e.g., I control my emotions by not expressing them). The ERQ contains 10 items with six items for the cognitive reappraisal scale and four items for the expressive suppression scale. A 7-point Liker scale rates each item from 1 (=strongly disagree) to 7 (= strongly agree) with higher scores indicating greater use of the strategy. This questionnaire has demonstrated good reliability and good internal consistency for the emotion expression suppression subscale ($\alpha = .804$) (Gross & John, 2003).

2.2.2 Depressive symptoms

Depressive symptoms scores have been measured by the Beck Depression Inventory-short form (Beck & Steer, 1993). The BDI-SF is a 13 items self-report questionnaire assessing depressive symptoms on a 4-point scale. The BDI-SF is the shortened version of the original BDI (Beck et a., 1961). Beck and Steer divided this scale into 2 subscales: the cognitive-affective scale (items 1 to 13) ad the somatic performance scale (items 14 to 21). Thus, BDI-SF corresponds to the cognitive-affective subscale alone. Higher scores predict more depression, obtained by summing the item values: moderate and severe depression is associated with scores higher than 10. The validity of the Dutch version of BDI is good (Schotte, Maes, Cluydts, De Doncker, & Cosyns, 1997). This questionnaire showed good internal consistency (α = .858).

2.1.3 Distress Tolerance Scale

Distress Tolerance Scale, developed by Simon and Gaher (2005), measured distress tolerance scores. It is a self-report questionnaire composed of 15 item and four subscales: Tolerance ("I can't handle feeling distressed or upset"), Appraisal ("Being distressed or upset is always a major ordeal for me"), Absorption ("When I'm distressed or upset, I can't help but concentrate on how bad the distress actually feels") and Regulation ("I'll do anything to stop feeling distressed or upset"). Five-Point Likert scale rates each item with a response ranging from 1 (Strongly Agree) to 5 (Strongly Disagree). Lower scores predict poor distress tolerance. The DTS shows good psychometric properties, with a good discriminant validity, good test-retest reliability and good internal consistency for the full scale (α = .869). (Simons & Gaher, 2005).

2.1.4 Statistical Analysis

All statistical analyses were conducted using the Statistical Package for Social Sciences (SPSS Inc., Chicago, IL, USA) version 25 for Windows. To test the hypotheses, three-step hierarchical Linear Regression analysis (HLM; Bryk & Raudenbush, 1992) with listwise deletion as performed. Participants who failed to answer an entire questionnaire were excluded (8 participants in total). Variables were centered and the interaction term was created and entered in the final step of the model. With depressive symptoms as the dependent variable, suppression of emotion expression was entered in the first step of the model. Distress tolerance as entered in the second step and the interaction term suppression of emotion expression x distress tolerance was entered in the third step.

3. Results

3.1. Demographic characteristics

Mean and SD scores of the participants are presented in Table 1. The age of participants ranged from 18 to 65 years. The 87,8 % of the 82 female participants were Bachelor student and more than 50% of them were psychology student of academic university education. The 6% of the participants were full-time workers, the 3,7% were university students of applied sciences and the 2,4% were part-time workers.

Table 1. Mean and SD of demographic characteristics of the participants; mean and SD scores on suppression of emotion expression, distress tolerance, and depressive symptoms.

Participants	Mean	SD
Age	21.57	6.01
ERQsupr	12.81	4.59
DTStotal	44.48	9.07
BDItotal	4.17	4.45

Note: SD, standard deviation; ERQsupr, scores of suppression of emotion expression calculated with Emotion Regulation Questionnaire; DTStotal, total scores of distress tolerance calculated with Distress Tolerance Scale; BDItotal, total scores of depressive symptoms calculated with Beck Depression Inventory-Short Form.

3.2. Hierarchical Linear Regression

One of the assumptions for linear regression is linearity. In the scatterplots with distress tolerance or suppression of emotion expression as predictors and depressive symptoms as the outcome, a quadratic regression equation seemed to be a better fit than a linear equation. Quadratic terms of DT and ERQsupr were made and assessed in a regression model to evaluate the fit. The quadratic term for DT was significant, and therefore this quadratic relationship was investigated further on in the analysis. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1,620. There was homoscedasticity, as assessed by visual inspection of a plot of standardized residuals versus standardized predicted values and the assumption of normality of the residuals was met, as assessed by P-P plot. There was no multicollinearity, as assessed by VIF values not greater than 5. No outliers were found.

It was predicted that individuals who habitually use suppression of emotion expression would show more depressive symptoms than people who use less suppression of emotion expression. In fact, it has been found that suppression of emotion expression has a significant positive effect on depressive symptoms, B=.193, SE=.96, p=.047. A one-unit increase on the suppression of emotion expression scale leads to an increase of .193 points on the depressive symptoms scale, which means that for more use of suppression of emotion expression, are associated more depressive symptoms. The hierarchical

multiple regression revealed that at step 1 suppression of emotion expression explains 12.9% of the variance in depressive symptoms, F(1,80) = 11,865 p < .05.

The second hypotheses predicted that individuals who have poorer distress tolerance would show more depressive symptoms than individuals who have less distress tolerance. As predicted, distress tolerance has significant negative effect on depressive symptoms, B=-.194, SE=.48, p=.000. A quadratic regression equation seemed to be a better fit than a linear equation, consequently, a quadratic term has been created. Quadratic relationship means that one variable does not decrease at a constant rate and result in a U shape. The quadratic term for distress tolerance was significant, B=.012, SE=.005, p=.007. A one-unit increase on the distress tolerance scale leads to a decrease of .194 on the depressive symptoms scale, which means that for less distress tolerance, are associated with more depressive symptoms. However, since the quadratic term was significant, this negative effect becomes milder when the score on distress tolerance increases (U-shape). Introducing distress tolerance to the model explained an additional 20.7% of the variation in depressive symptoms. This change in R^2 was significant, F(2,78)=12,173 p < .001.

Finally, it has also been predicted that individuals who both use more suppression of emotion expression and have poorer distress tolerance would show more depressive symptoms than people who score low on either of these factors. In order to investigate both the use of suppression of emotion expression and poorer distress tolerance, interaction terms have been created and added to the model. Not as expected, the addition of the interaction terms to the regression model did not contribute to the explained variance in depressive symptoms, R^2 change= .015, F(2,76) = 0.855, p = .429. Therefore, model 2 seemed to be the best model.

4. Discussion

The present study aimed to investigate the relationship between suppression of emotion expression, distress tolerance, and depressive symptoms within a non-clinical population. The first results of the current study showed that more use of suppression of emotion expression was incrementally positively associated with greater depressive symptoms, which is in line with previous research (Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Cicchetti, Ackerman, Izard, 1995; D'Avanzato et al., 2013; Joormann &

Stanton, 2016; Gross & John, 2003; Kwon, Yoon, Joormann, & Kwon 2013; Su, Lee, & Oishi, 2013). This study supports the previous literature, showing that the habitual use of expressive suppression might cause a persistent negative mood and finally enhance depressive symptoms.

However, few recent studies are debating the direction of the relation between expressive suppression and depressive symptoms: it seems not clear whether expressive suppression predicts depressive symptoms or expressive suppression is a consequence of depressive symptoms (Larsen et al., 2013; De France et al., 2019). These studies hypothesized that expressive suppression might be a way to downregulate negative emotions and to be beneficial in the short-term (De France et al., 2019; Larsen et al., 2013). France and colleagues (2019) are now considering that expressive suppression may be one of the outcomes of depressive symptoms: depressed individuals may want to use expressive suppression because they believe that their emotions are not socially acceptable, perceiving them as inappropriate. Also, using expressive suppression may prevent them to elicit negative reactions and rejection from people around them (De France et al., 2019). In this regard, expressive suppression might appear as an adaptive emotion regulation for people who suffer from depression.

As the current study had a cross-sectional design, it was not possible to draw any firm conclusion about causal relations. Next studies should investigate the direction of this relationship further by using a longitudinal design to clarify if expressive suppression is indeed a risk factor for depressive symptoms or a consequence of it. It might be suggested to conduct a longitudinal study involving an adolescent sample to measure their depressive symptoms and their use of expressive suppression over time.

In line with the second hypothesis, results showed that poorer distress tolerance was associated with greater depressive symptoms, which is in line with previous studies (Felton et al., 2018; Williams et al., 2013). This finding is not surprising, and it may be explained by the fact that distress intolerance is identified as a vulnerability to depressive symptoms, since individuals who experience poor distress tolerance, show adversity to experience negative emotions (Zvolensky, Vujanovic, & Bernstein, 2010). This aversion is due to seeing negative emotions as harmful and unbearable and perceiving oneself as incapable to deal with them. The inability to effectively cope with negative emotions and the perception of negative emotions as threatening, reveal a rigid view of negative emotions and unwillingness to experience negative emotions. Poor distress tolerance denotes a non-acceptance of negative emotions and this has been demonstrated to have

detrimental consequences and to enhance depressive symptoms (Aldao, & Tull, 2015; Zvolensky et al., 2010). This underlines the importance of targeting distress tolerance for depression treatment since DT has been shown to have stability over time and it would affect individuals' ability to benefit from treatment (Cummings et al., 2013; Felton et al., 2018).

Contrary to the third hypothesis in which distress tolerance would moderate the relationship, the last finding revealed that the habitual use of suppression of emotion expression in combination with poor distress tolerance does not predict more depressive symptoms than these two concepts in itself.

Some of the previous studies focused on adolescents when studying expressive suppression and distress tolerance in relation to depressive symptoms (Felton et al., 2018; Larsen et al., 2013; Sai, Luo, Ward, & Sang, 2016). This because the use of expressive suppression is more related to adolescence when it is important to mask one's emotions to avoid interpersonal and relationships difficulties (John & Gross, 2004; De France et al., 2019).

This highlights that other maladaptive emotion regulation strategies than expressive suppression might be habitually used among young adults and that these, in relation with depressive symptoms, might be moderated by distress tolerance. For example, rumination seems to be another frequently used maladaptive strategy among young adults (Schirda, Valentine, Aldao, & Prakash, 2016). In fact, individuals who have poor distress tolerance, in order to avoid present negative emotions, ruminate on past negative emotions and experiences (Jeffries et al., 2016). It is therefore suggested for further studies to investigate different maladaptive emotion regulation strategies and compare these in the relationship with depressive symptoms and with distress tolerance as a moderator among young adults. Both the need of investigating other maladaptive emotion regulation strategies and the fact that, as mentioned before, expressive suppression might be a beneficial strategy for depressed individuals, might have accounted for the findings of this study.

Also, a non-clinical population was studied and the scores on the BDI-SF were not high enough to surely make assumptions about depressive symptoms. Almost all the 82 participants scores below the clinical cut-off point, except for two participants that scored in the mild and moderate range. All the BDI total scores were lower than 13, which is considered a minimal range of depressive symptoms, except for one of 18 (which is considered mild) and one of 25 (which is considered moderate). This might also have accounted for the current results and the next studies might involve a clinical population.

However, the current study provides evidence in support of suppression of emotion expression and distress tolerance as relevant factors in the prevention and treatment interventions of depressive symptoms. Acceptance-oriented approaches, such as dialectical behavioral therapy (DBT; Linehan, 1993), mindfulness-based cognitive therapy (MBCT; Teasdale et al., 1995) and acceptance and commitment therapy (ACT; Hayes 1984), have been demonstrated to be efficacious in helping to reduce expressive suppression and to increase distress tolerance. Through these approaches, individuals are motivated to experience their emotions without trying to push them away and to fully experience them with openness, by promoting a non-judgmental attitude towards distressing experiences, embracing that emotions are temporary and tolerable (Carpenter, Sanford, & Hofmann, 2019). These techniques, such as mindfulness, may reduce expressive suppression and increase distress tolerance and it has been proven to be effective with depressive symptoms (Bullis, Bøe, Asnaani, & Hofmann, 2014; Carpenter et al., 2019). Mindfulness can help to desist from criticizing your own cognitions and emotions, can help maintaining awareness and can increase distress tolerance, which taken together, predicted lower levels of depressive symptomatology (Cash & Whittingham, 2010).

4.1 Limitations and future directions

It is important to acknowledge some limitations of the current study. First, the generalizability of the results is limited by the fact that only young women were included in the sample, resulting in a rather homogenous sample with respect to sex and age. This was done because this study was part of a larger study in which male participants are excluded, as it targets eating disorders and women resemble the eating disorder population. Second, given that only self-report questionnaires were used, this study relied on the self-evaluation of participants. In fact, one of the disadvantages of using self-report questionnaires is the social desirability bias: participants tend to answer in a socially acceptable way rather than in a truthful way. Also, it is possible that participants interpret the questions in a different way because items are not clear and for the fact that they are being observed, they might not feel at ease in selecting extreme answers. Although the psychometric properties of the self-report questionnaire of emotion regulation (ERQ; Gross and John, 2003), distress tolerance (DTS; Simon & Gaher, 2005) and depressive symptoms (BDI-SF; Beck & Steer, 1993) are good, future research should include other

methods too. In order to decrease the share method variance risk, it is recommended to use different methods such as interviews and behavioral and psychophysiological measures.

Other limitations were the sample size and the sample population. The sample was only moderate in size, since 82 people participated in this study, and it is suggested to conduct further research with a larger sample because it provides more accurate mean values and a smaller margin of error. Also, as in this study a non-clinical population was involved in which the BDI scores were mostly below the clinical cut-off point, it was not possible to surely make assumptions about depressive symptoms. Next studies should examine whether the present findings are generalizable to a clinical population.

Some studies focused on the ethnicity of the participants, highlighting the importance of the context of the emotions in investigating the relationship between expressive suppression and depressive symptoms (Kwon et al., 2013; Su et al., 2013). Most of the cited studies were conducted within Western cultures in which the relation between expressive suppression and depressive symptoms can be seen from a different perspective. Specifically, European and American cultures do not value the restraint of emotion and their expression as much as the East Asian cultures (Su et al., 2013). Given that we are part of an individualistic culture, it is not important for us to discreetly deal with our emotions, whereas collectivistic cultures find social harmony important, in which it is better to not express your own private emotions (Su et al., 2013). In non-Western cultures, such as the Asiatic one, expressive suppression does not lead to depressive symptoms because it is not seen as a maladaptive emotion regulation strategy (Aldao & Tull, 2015; Su et al., 2013). Culture can moderate the link between emotion regulation and mental health (Aldao & Tull, 2015). In this regard, the results of the current study are relevant, but they should be considered in the correct context.

4.2 Conclusion

The current results support the idea that the use of more suppression of emotion expression is linked to more depressive symptoms. Also, although poor distress tolerance did not moderate the relationship between suppression of emotion expression and depressive symptoms, the findings of this study still show that poor distress tolerance is related to more depressive symptoms. These findings indicate that individuals who use maladaptive emotion regulation strategies, such as expressive suppression and individuals

who are unable to tolerate negative emotions, are at risk of developing depressive symptoms. It is therefore important to target expressive suppression and distress tolerance in the prevention and treatment of depressive symptoms. Acceptance-oriented approaches seem to be beneficial in relieving depressive symptoms as they help increase distress tolerance and adopt a non-judgemental attitude, promoting awareness and acceptance of one's own emotions (Carpenter et al., 2019).

References

- Adan, A., Antùnez, J. M., & Navarro, J. F. (2017). Coping strategies related to treatment in substance use disorder patients with and without comorbid depression. *Psychiatry Research*, 251, 325-332.
- Aldao, A., & Tull, M. T. (2015). Editorial overview: New directions in the science of emotion regulation. *Current Opinion in Psychology. 3, iv-x.*
- Aldao, A., Jazaieri, H., Goldin, P.R., & Gross, J.J. (2014). Adaptive and maladaptive emotion regulation strategies: Interactive effects during CBT for social anxiety disorder. *Journal of Anxiety Disorder*, 28, 382-389.
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, *30*, 217-37.
- Allan, N. P., Macatee, R. J., Norr, A. M., & Schimdt, N. B. (2014). Direct and Interactive Effects of Distress Tolerance and Anxiety Sensitivity on Generalized Anxiety and Depression. *Cognitive Therapy and Research*, *38*, *530-540*.
- Bullis, J. R., Bøe, H. J., Asnaani, A., & Hofmann, S. G. (2014). The benefits of being mindful: Trait mindfulness predicts less stress reactivity to suppression. *Experimental Psychiatry*, 45, 57-66.
- Campbell-Sills, L., Barlow, D. H., Brown, A. T., Hofmann, S. G. (2006). Effects of suppression and acceptance on emotional responses of individuals with anxiety and mood disorders. *Behaviour Research and Therapy*. 44, 1251-1263.
- Carpenter, J. K., Sanford, J., & Hofmann, S. G. (2019). The Effect of a Brief Mindfulness Training on Distress Tolerance and Stress Reactivity. *Behavioral Therapy*, 50, 630-645.

- Cash, M., & Whittingham, K. What Facets of Mindfulness Contribute to Psychological Well-Being and Depressive, Anxious, and Stress-related Symptomatology?

 Mindfulness, 1, 177-182,
- Cicchetti, D., Ackerman, B. P., & Izard, C. E. (1995). Emotions and emotion regulation in developmental psychopathology. *Development and Psychopathology*, *7*, *1-10*.
- Conklin, L.R., Cassiello-Robbins, C., Brake, C.A., Sauer-Zavala, S., Farchione, T.J., Ciraulo, D.A., & Barlow, D.H. (2015). Relationships Among Adaptive and Maladaptive Emotion Regulation Strategies and Psychopathology During the Treatment of Comorbid Anxiety and Alcohol Use Disorders. *Behaviour Research and Therapy*, 73, 124-130.
- Cummings, J. R., Bornovalova, M. A., Ojanen, T., Hunt, E., MacPherson, L., & Lejuez, C. (2013). Time doesn't change everything: The longitudinal course of distress tolerance and its relationship with externalizing and internalizing symptoms during early adolescence. *Journal of Abnormal Child Psychology*, 41, 735-748.
- Cutuli, D. (2014). Cognitive reappraisal and expressive suppression strategies role in the emotion regulation: an overview on their modulatory effect and neural correlates. Frontiers in Systems Neuroscience, 8, 175.
- D'Avanzato, C., Joormann, J., Siemer, M., & Gotlib, H. I. (2013). Emotion Regulation in Depression and Anxiety: Examining Diagnostic Specificity and Stability of Strategy Use. *Cognitive Therapy and Research*, *37*, 968-980.
- De France, K., Lennarz, H., Kindt, K., & Hollenstein, T. (2019). Emotion regulation during adolescence: Antecedent or outcome of depressive symptomology?

 *International Journal of Behavioral Development, 43, 107-117.
- Dixon-Gordon, K. L., Aldao, A., & De Los Reyes, A. (2015). Emotion regulation in context: Examining the spontaneous use of strategies across emotional intensity and type of emotion. *Personality and Individual Differences*, 86, 271-276.

- Ellis, A.J., Vanderlind, W.M., & Beevers, C.G. (2013). Enhanced Anger Reactivity and Reduced Distress Tolerance in Major Depressive Disorder. *Cognitive Therapy* and Research, 37, 498-509.
- Felton, J. W., Collado, A., Havewala, M., Shadur, J. M., MacPherson, L., & Lejuez, C.
 W. (2018). Distress Tolerance Interacts with Negative Life Events to Predict
 Depressive Symptoms Across Adolescence. *Journal of Clinical Child and Adolescent Psychology*, 24, 1-10.
- Garnefski, N., & Kraaij V. (2005). Relationships between cognitive emotion regulation strategies and depressive symptoms: A comparative study of five specific samples. Personality and Individual Differences, 40, 1659-1669.
- Garnefski, N., Teerds, J., Kraaij, V., Legerste, J., & van den Kommer, T. (2013).

 Cognitive emotion regulation strategies and depressive symptoms: differences between males and females. *Personality and Individual Differences*, 36, 267-276.
- Gross, J. J. (1998). The Emerging Field of Emotion Regulation: An Integrative Review.

 *Review of General Psychology, 3, 271-299.
- Gross, J.J. (2015). Emotion Regulation: Current Status and Future Prospects.

 Psychological Inquiry, 1, 1-26.
- Gross, J.J., & John, O.P. (2003). Individual differences in row emotion regulation processes: implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85, 348–362
- Hofmann, S. G., Sawyer, A.T., Fang, A., & Asnaani, A. (2012). Emotion dysregulation model of mood and anxiety disorders. *Depression and Anxiety*, 29, 409-416.
- Jeffries, E. R., McLeish, A. C., Kraemer, K. M., Avallone, K. M., & Fleming, J. B. (2016). The Role of Distress Tolerance in the Use of Specific Emotion Regulation Strategies. *Behavior Modification*, 40, 439-451.

- John, O. P., & Gross, J. J. (2004). Healthy and Unhealthy Emotion Regulation: Personality Processes, Individual Differences, and Life Span Development. *Journal of Personality*, 72, 1301-33.
- Joormann J., & Stanton, C. H. (2016). Examining emotion regulation in depression: A review and future directions. *Behaviour Research and Therapy*, 86, 35-49.
- Kim, M.Y., Bigman, Y., & Tamir M. (2015). Emotional Regulation. *International Encyclopedia of the Social & Behavioral Sciences (Second Edition)* (pp. 452-456).
- Kneeland, E. T., Dovidio, J. F., Joormann, J., & Clark, M. S. (2015). Emotion malleability beliefs, emotion regulation, and psychopathology: Integrating affective and clinical science. *Clinical Psychology Review*, 45, 81-86.
- Kwon, H., Yoon, K. L., Joormann, J., & Kwon, J-H. (2013). Cultural and gender differences in emotion regulation: Relation to depression. *Cognition & Emotion*, 27, 769-782.
- Larsen, J. K., Vermulst, A. A., Geenen, R., Van Middendorp, H., English, T., Gross, J.
 J., Ha, T., Evers, C., & Engels, R. C. M. E. (20132). Emotion Regulation in Adolescence: A Prospective Study of Expressive Suppression and Depressive Symptoms. *The Journal of Early Adolescence*, 33, 184-200.
- Leyro, T.M., Zvolensky, M.J., & Bernstein, A. (2010). Distress tolerance and psychopathological symptoms and disorders: a review of the empirical literature among adults. *Psychological Bulletin American Psychological Association*, 136, 576-600.
- Pots, W. T. M., Fledderus, M., Meulenbeek, P. A. M., ten Klooster, P. M., Schreurs, K. M. G., & Bohlmeijer, E. T. (2016). Acceptance and commitment therapy as a webbased intervention for depressive symptoms: randomized controlled trial. *The British Journal of Psychiatry*, 208, 69-77.

- Sai, L., Luo, S., Ward, A., & Sang, B. (2016). Development of the Tendency to Use Emotion Regulation Strategies and Their Relation to Depressive Symptoms in Chinese Adolescents. *Frontiers in Psychology*, 7, 1222.
- Schafer, J. O., Naumann, E., Holmes, E. A., Tuschen-Caffier, B., & Samson, A. C. (2017). Emotion Regulation Strategies in Depressive and Anxiety Symptoms in Youth: A Meta-Analytic Review. *Journal of Youth and Adolescence*, 46, 261-276.
- Schirda, B., Valentine, T. R., Aldao, A., & Prakash, R. S. (2016). Age-Related Differences in Emotion Regulation Strategies: Examining the Role of Contextual Factors. *Developmental Psychology*, *52*, *1370-1380*.
- Stockings, E. A., Degenhardt, L., Dobbins, T., Lee, Y. Y., Erskine, H. E., Whiteford, H. A., & Patton, G. (2016) Preventing depression and anxiety in young people: a review of the joint efficacy of universal, selective and indicated prevention. *Psychological Medicine*, 46, 11-26.
- Su, C. J., Lee, R. M., Oishi, S. (2013). The Role of Culture and Self-Construal in the Link Between Expressive Suppression and Depressive Symptoms. *Journal of Cross-Cultural Psychology*, 44, 316-331.
- Tamir, M., (2016). Why Do People Regulate Their Emotions? A Taxonomy of Motives in Emotion regulation. *Personality and Social Psychology Review*, 20, 199-222.
- Van Eck, K., Warren, P., & Flory, K. (2017). A Variable-Centered and Person-centered Evaluation of Emotion Regulation and Distress Tolerance: Links to Emotional and Behavioral Concerns. *Journal of Youth and Adolescence*, 46, 136-150.
- Viana, A. G., Woodward, E. C., Raines, M. E., Hanna, A. E., & Zvolensky, M. J. (2018). The role of emotional clarity and distress tolerance in deliberate self-harm in a sample of trauma-exposed inpatient adolescents at risk for suicide. *General Hospital Psychiatry*, 50, 119-124.

- Wang, H. R., Cho, H., & Kim, D. (2018). Prevalence and correlates of comorbid depression in a nonclinical sample with DSM-5 internet gaming disorder. *Journal of Affective Disorders*, 226, 1-5.
- Williams, A. D., Thompson, J., & Andrews, G. (2013). The impact of psychological distress tolerance in the treatment of depression. *Behaviour Research and Therapy*, 51, 469-475.
- Zvolensky, M. J., & Hogan, J. (2013). Distress Tolerance and its Role in Psychopathology. *Cognitive Therapy and Research*, *37*, *419-420*.
- Zvolensky, M. J., Vujanovic, A. A., Bernstein, A. (2010) Distress tolerance: Theory, Research, and Clinical Applications. New York, United States: Guilford Publications.
- Zvolensky, M. J., Vujanovic, A. A., Bernstein, A., & Leyro, T. (2010). Distress Tolerance: Theory, Measurement, and Relations to Psychopathology. *Current Directions in Psychological Science*, 6, 406-410.