Cognitive emotion regulation strategies mediate the relationships between Dark Triad traits and negative emotional states experienced during the COVID-19 pandemic.

Justyna Mojsa-Kaja [a,*], Klaudia Szklarczyk [a], Sara Gonz´alez-Yubero [b], Raquel Palomera [b]

a *Department of Neurobiology and Neuropsychology, Institute of Applied Psychology, Jagiellonian University, Krakow, Poland*

b *Department of Education, University of Cantabria, Santander, Spain*

COVID-19 has become a major source of stress as it puts individuals at risk of a range of mental health problems. Personality traits may predispose people to use adaptive or maladaptive coping strategies that lead to different health-related outcomes. The goal of the present study was to examine whether the use of distinct coping strategies during this stressful COVID-19 outbreak mediates the relationships between Dark Triad (DT) traits and stress, depression, and anxiety.

The study was conducted in Poland (N=1086) and Spain (N=582), thus cross-culturally validated measures were used to assess depression, anxiety and stress (DASS-21), cognitive emotion regulation strategies (CERQ) and socially aversive traits covered by DT (Dirty Dozen scale).

The study shows that maladaptive CERS mediates the relationships between narcissism/Machiavellianism and stress, anxiety and depression. Additionally, adaptive CERS mediates the relationship between psychopathy and depression.

The results provide a better understanding of the mediating role of CERS on the relationships between DT traits and the stress, anxiety and depression experienced during the COVID-19 pandemic.

1. Introduction

Stress caused by the novel Coronavirus (COVID-19) pandemic has recently become a major threat to public health. One of its consequences is an increased risk of a range of mental health conditions such as depression and anxiety (Liu et al., 2020). Stressful life events and crises have an adverse effect on health, although not all individuals are equally affected. There is a growing body of research providing empirical evidence for the relationships between personality traits and stress (Soliemanifar et al., 2018), depression (Klein et al., 2011) and anxiety (Bienvenu & Brandes, 2005). While the vast majority of research is focused on the Five-Factor Model of personality (Kotov et al., 2010), less emphasis has been put on investigating socially negative personality traits, such as those represented by the Dark Triad (narcissism, Machiavellianism, and psychopathy). During the COVID-19 pandemic, a few recent studies have indicated that people scoring high in aspects of Dark Triad traits are less likely to take preventative measures and comply with restrictions (Nowak et al., 2020; Zajenkowski et al., 2020).

The Dark Triad (DT) is a group of traits that share the core features of selfish behavior and cold interpersonal orientation (Paulhus & Williams, 2002). The unique features of these traits are a cynical nature, hypocrisy and manipulation (i.e., Machiavellianism), antisocial aggressiveness, impulsivity and callousness (i.e., psychopathy), dominance, superiority and an egocentric attitude (i.e., narcissism) (Gómez-Leal et al., 2019). DT traits are related to distinctive patterns of everyday

functioning and well-being; for example, Machiavellianism and psychopathy have been associated with decreased emotional expressivity (Lyons & Brockman, 2017) and lower levels of positive mood (Egan et al., 2014). These different aspects of the DT traits might act as risk or protective factors against psychopathologies.

DT traits cause different responses to stress. Machiavellianism has been positively associated with perceived stress (Birkás et al., 2020), whereas narcissism has been associated with less (Richardson & Boag, 2016) or more concerns about life stressors (Coleman et al., 2019), and psychopathy is unrelated to perceived stress (Birkás et al., 2020; Richardson & Boag, 2016). Narcissistic individuals tend to actively face the stressor, unlike individuals who score high on Machiavellianism and psychopathy (Birkás et al., 2016). Narcissism has a relationship with reduced emotional reactivity to stress, whereas Machiavellianism and psychopathy are linked to increased emotional reactivity to stress (Birkás et al., 2016; Onley et al., 2013).

Machiavellianism and psychopathy are associated with negative mental health and stress outcomes, whereas narcissism has either no association or increases (Coleman et al., 2019) or decreases vulnerability to stress and poor mental health outcomes (Birkás et al., 2020; Jonason et al., 2015). Previous research has indicated a positive significant correlation between psychopathy/Machiavellianism and depressive symptoms, whereas for narcissism the direction of the correlation depends on the sub-dimension assessed (Gómez-Leal et al., 2019). Moreover, Machiavellianism and psychopathy have been identified as predictors of sleep disturbances, anxiety sensitivity, and intolerance of uncertainty (Sabouri et al., 2016).

The COVID-19 outbreak is one of the most evident examples of a stressful situation for millions of people around the world that requires adaptive coping in order to prevent stress-related disorders (Babore et al., 2020). In general, two major coping functions are

distinguished: problem-focused coping, which relates to attempts to behaviorally act on the stressor; and emotion-focused coping, which relates to attempts to manage stress-related emotions (Lazarus, 1993). Garnefski and colleagues (2001) suggested separating the cognitive components of emotion regulation from other behavioral emotion-regulation strategies focused on taking action. This author defined it as an individual's thoughts after having experienced a negative event and proposed nine cognitive emotion-regulation strategies (CERS): self-blame, rumination, catastrophizing, other-blame, acceptance, positive refocusing, refocus on planning, putting into perspective, and positive reappraisal. The first four strategies are considered maladaptive, while the remaining five are adaptive (Garnefski et al., 2002). Maladaptive cognitive coping styles are an important risk factor of psychopathology in adolescents and adults (Garnefski et al., 2002; Garnefski & Kraaij, 2007). Studies consistently show that maladaptive cognitive emotion-regulation strategies are associated with anxiety, depression and stress (D'Avanzato et al., 2013; Garnefski & Kraaij, 2007; Martin & Dahlen, 2005). Additionally, a meta-analysis confirmed that maladaptive strategies are more strongly associated with psychopathology than adaptive ones, and mood-related disorders are more strongly associated with emotion-regulation strategies than other disorders (Aldao et al., 2010). Recent studies concerning the COVID-19 outbreak have indicated the protective function of adaptive emotion regulation in moderating the relationship between perceived stress and anxiety symptoms (Jungmann & Witthöft, 2020).

Considering how stress, depression and anxiety are associated with DT on one hand and CERS on the other, we hypothesize that CERS could constitute a mediation mechanism that explains the relationship between DT and stress-induced mental health outcomes (like depression and/or anxiety). The main objective of our study is to determine whether the use of maladaptive/adaptive CERS by individuals with different

constellations of DT traits makes them more vulnerable to developing psychopathology during the COVID-19 outbreak.

2. Materials and Methods

2.1. Procedure and Participants

An anonymous online Google Forms questionnaire (https://www.google.com/forms/about) was prepared in order to minimize face-to-face interactions. This 10-minute, online questionnaire was distributed via a mailing list and social media posts; also, participants were asked to share the link with other adult individuals. Data was collected between the end of June and the beginning of July 2020. The total sample consisted of 1,668 respondents (79.6% women) aged 18–77 years (M = 30.3; SD = 12.5) who were citizens of Poland (65.1%) and Spain (34.9%). All respondents confirmed their willingness to participate in the study at the beginning of the anonymous online survey. The study was performed in accordance with the Declaration of Helsinki (World Medical Association, 2013). All participants provided a consent which was obtained online after a detailed instruction describing main purposes of the study.

2.2 Measures

We used cross-culturally validated, self-report measures to assess the analyzed constructs.

To measure DT personality dimensions, we used the 12-item version of the Dirty Dozen scale (Jonason & Webster, 2010), the Spanish (Maneiro et al., 2019) and Polish (Czarna et al., 2016) language versions of which have been psychometrically validated. The scale consists of 3 independent-yet-related factors, each measured by 4 items:

narcissism (Spanish α = 0.86; Polish α = 0.85), psychopathy (Spanish α = 0.49; Polish α = 0.67) and Machiavelliansm (Spanish α = 0.68; Polish α = 0.84).

To assess depression, anxiety, and stress, we applied a shortened, 21-item version of the Depression, Anxiety and Stress Scale (DASS-21; Lovibond & Lovibond, 1995), validated in Spanish (Bados et al., 2005) and translated into Polish by Makara-Studzińska and co-authors (version retrieved from the official DASS website, psychometrically validated by Scholten et al., 2017). The DASS-21 is a set of three scales, with 7 items per scale; it is designed to measure the negative emotional states of depression (Spanish α=0.89; Polish α=0.91), anxiety (Spanish α=0.89; Polish α =0.87), and stress (Spanish α=0.91; Polish α =0.90). Participants responded using a 4-point Likert scale.

To measure the CERS used by individuals after the occurrence of a negative event, namely the COVID-19 outbreak, we used The Cognitive Emotion Regulation Questionnaire (Garnefski et al., 2002), which is available in Spanish (Domínguez-Sánchez et al., 2013) and Polish (Marszał-Wiśniewska & Fajkowska, 2010) adaptations. It has a 5-point Likert scale response format and consists of 36 items grouped in 9 scales: self-blame (not used in the present study), rumination, catastrophizing, other-blame, acceptance, positive refocusing, refocus on planning, putting into perspective and positive reappraisal. The first four strategies are maladaptive strategies (Spanish α = 0.89; Polish α = 0.79), while the remaining five are adaptive strategies (Spanish α = 0.90; Polish α = 0.77). These two major factors were employed in the further analysis.

The instruction in DASS-21 and CERQ was slightly modified to address the COVID-19 context, and participants were asked to mark how many of the statements applied to themselves (DASS-21) or how often they felt or thought in a certain way (CERQ) in the period of time from March to July 2020.

3.Data Analysis

The Statistical Package for Social Science (SPSS v.26) and AMOS v.26 were used to analyze the data. Descriptive statistics and Pearson correlations between the variables (Table 1) were calculated. Mediation analyses (Table 2) were conducted to investigate whether CERS mediated the effect of DT on depression, anxiety, and stress by using a bootstrapping estimation technique with 1,000 samples.

4. Results

4.1 Descriptive statistics and intercorrelations between variables are summarized in Table 1.

Table 1. Descriptive statistics and intercorrelations between variables included in the study (N=1668)

		Mean	SD	Min	Max	1	2	3	4	5	6	7	8
1.	Depression	1.02	.83	0	3.00	--	0.69**	0.78**	-0.19**	0.51	0.16**	0.11**	0.19**
2.	Anxiety	.67	.72	0	3.00		--	0.73**	-0.23	0.53**	0.14**	-0.13	0.14**
3.	Stress	1.35	.85	0	3.00			--	-0.31	0.53**	0.15**	0.03	0.19**
4.	Adaptive CERS	3.35	.74	1.00	5.00				--	0.12**	-0.003	-0.13**	0.05
5.	Maladaptive CERS	2.15	.77	1.00	5.00					--	0.14**	0.000	0.17***
6.	Machiavellism	2.40	1.22	1.00	7.00						--	0.46*	0.50**
7.	Psychopathy	2.45	1.16	1.00	7.00							--	0.26**
8.	Narcissism	3.45	1.53	1.00	7.00								--

Note:*p < .05, **p < .01, ***p<0.001

Pearson correlations (Table 1) indicated intercorrelations between depression, anxiety, stress (p<0.01), adaptive and maladaptive CERS (p<0.01), as well as DT traits (p<0.05 for Machiavellianism and psychopathy; p<0.01 for all the remaining correlations between DT).

Maladaptive CERS was found to be strongly positively correlated with depression, anxiety, and stress, while adaptive CERS correlated negatively only with depression. Narcissism and Machiavellianism were positively correlated with depression, anxiety, stress and maladaptive CERS. Finally, psychopathy was positively correlated

with depression and negatively with adaptive CERS. It is important to note that significant correlations of DT traits with other variables (see Table 2) were low (Cohen, 1988).

4.2 Mediation Analyses

The significant correlations between DT, CERS, depression, anxiety, and stress (Table 2) enabled the following mediations to be tested: (1) the mediating role of maladaptive CERS on associations between Machiavellianism or narcissism (independent variables) and depression, anxiety and stress (dependent variables); (2) the mediating role of adaptive CERS on the relationships between psychopathy (independent variable) and depression (dependent variable). After controlling for the influence of age and gender, seven associations between DT and negative emotional states were tested for mediation via CERS. The direct and indirect (via the mediator) effects of DT on depression, anxiety, and stress were calculated using a bootstrap estimation technique with 1,000 samples. If the confidence intervals did not involve zero for the indirect effect, results were interpreted as significant (Agler & De Boeck, 2017).

Table 2. Effect of DT traits on negative emotional states mediated by CERS.

IV	a. Effect of IV on M	b. Effect of M on DV	c. Direct effect of IV on DV	c'Total effect of IV on DV	Indirect/ mediated effect of IV on DV via M	95% CI	Indirect/ total ratio
DV: Depression, M:maladaptive CERS							
Machiavellianism	0.08*	0.47**	0.04	0.08*	0.04	0.01-0.06	0.50
narcissism	0.12**	0.47**	0.03	0.09**	0.06	0.03-0.08	0.67
DV: Anxiety, M:maladaptive CERS							
Machiavellianism	0.08*	0.51**	0.06*	0.10**	0.04	0.01-0.07	0.40

narcissism	0.12**	0.51**	0.000	0.06*	0.06	0.03-0.09	1
DV: Stress, M:maladaptive CERS							
Machiavellianism	0.08**	0.49**	0.04	0.081*	0.04	0.01-0.07	0.50
narcissism	0.12*	0.49**	0.04	0.103*	0.06	0.03-0.09	0.60
DV: Depression, M: adaptive CERS							
psychopathy	-0.11**	-0.18**	0.07*	0.09**	0.02	0.01-0.03	0.22

Note: IV - independent variable; DV - dependent variable; M - mediator; CI - confidence intervals; Indirect/total ratio - ratio of the indirect effect to total effect (c') indicating a magnitude of mediated effect.
$*p < .05, **p < .01$

As shown in Table 2, all the analyzed indirect effects proved significant. Maladaptive CERS mediated the effect of Machiavellianism and narcissism on depression, anxiety, and stress. Additionally, adaptive CERS mediated the relationship between psychopathy and depression. The ratios of indirect to total effect (see Table 2) show that maladaptive CERS explained 50% of significant relationships between Machiavellianism and depression, and 67% of the relationships between narcissism and depression. Moreover, maladaptive CERS explained 40% of significant relationships between Machiavellianism and anxiety and 100% of the relationships between narcissism and anxiety. Additionally, maladaptive CERS explained 50% of significant relationships between Machiavellianism and stress and 60% of relationships between narcissism and stress. Finally, adaptive CERS explained 22% of associations between psychopathy and depression.

5. Discussion

Previous research has shown that individuals differ in their habitual use of emotion regulation strategies (Gross & Jazaieri, 2014) and this is related to psychological well-

being (Garnefski & Kraaij, 2007). Additionally, research suggests that different personality traits, including DT, may predispose individuals to use certain coping strategies related to the costs and benefits associated with psychological health (Birkás et al., 2016). Currently, little is known about the links between DT and the use of certain types of CERS, or about their associations with the psychological functioning of individuals during the pandemic. Therefore, the goal of this study was to examine whether using distinct CERS during this stressful COVID-19 outbreak mediates the relationships between DT traits and depression, anxiety and stress.

Firstly, our study confirmed the results of previous studies regarding positive associations between some DT traits (Machiavellianism and psychopathy) and particular negative emotional states. We found positive associations between DT traits and particular negative emotional states. The presented results are in line with those found in the literature for the links between Machiavellianism and depression (Gómez-Leal et al., 2019), anxiety (Birkás et al., 2016; Sabouri et al., 2016), and stress (Lyons et al., 2019). As for psychopathy, we have shown that it correlates positively with depression. The lack of a relationship between psychopathy and stress or anxiety is surprising since there are studies showing a positive association between them (Sabouri et al., 2016). On the other hand, psychopathy is associated with a tendency to be cold-blooded and to have low anxiety (Neumann et al., 2013). Therefore, more studies are needed in the field to reach a conclusion on the specific type of association or lack thereof between psychopathy and stress or anxiety.

While our findings regarding Machiavellianism and psychopathy have mainly confirmed the results of previous studies, the positive correlation we have demonstrated between narcissism and depression, anxiety, stress may seem surprising because it is not consistent with the literature. Interestingly, we have shown positive correlations between

10

narcissism and depression, anxiety and stress, but insights from previous research studies are conflicting. Whilst some studies have found a negative relationship between depression and narcissism (Jonason et al., 2015), others have found a positive relationship between these constructs (Gómez-Leal et al., 2019). Our results may be explained by the narcissistic self-absorbed state of mind that corresponds with a focus on one's negative emotions and, in consequence, may lead to depressive symptoms (Garnefski & Kraaij, 2007). In relation to narcissism and anxiety, there are also some inconsistent findings in the literature. For instance, Lyons and colleagues (2019), showed that increased narcissism is linked with reduced anxiety and generally may be considered as a protective factor for mood disorders (Jonason & Schmitt, 2012). On the other hand, Spano (2001) suggested more complex relationships between the analyzed constructs; they showed that grandiose narcissists reported low levels of trait anxiety, whereas vulnerable narcissists reported higher state, trait, and attachment-related anxiety. Finally, a recent literature review of the associations between narcissism and stress-reactivity (Coleman et al., 2019) indicates a consistent pattern of results, thus showing that this personality trait is linked with a variety of maladaptive stress responses, and people higher in narcissism report more frequent and varied stressors in daily life. This picture is congruent with our findings on the higher level of stress experienced during the COVID-19 outbreak by narcissistic individuals.

Secondly, we observed certain associations between DT traits and CERS. To the best of our knowledge, the present study is the first to indicate positive correlations between Machiavellianism and narcissism on one hand and maladaptive CERS stress on the other, and a negative correlation between psychopathy and adaptive CERS. Machiavellianism is associated with externalization of blame and limited access to emotion-regulation strategies (Wai & Tiliopoulos, 2012), which may explain its link with

CERS. The similar relationship between narcissism and maladaptive CERS is surprising since narcissists have a tendency to cope with stress differently than Machiavellians by using task-oriented and emotionally controlled coping strategies (Birkás et al., 2016; Onley et al., 2013). However, some studies show that specific aspects of narcissism (e.g. exploitation or covert narcissism) are positively associated with behaviors indicating poor emotional control, e.g. impulse control difficulties, internalized negative emotions, and a high level of rumination (Zeigler-Hill & Vonk, 2015). Concerning psychopathy, our study supports the previous findings that have linked it with difficulties in regulating emotional experiences following negative events (Zeigler-Hill & Vonk, 2015).

Thirdly, we have confirmed the insights from other studies regarding positive associations between maladaptive CERS and depression, anxiety, and stress, as well as negative correlations between adaptive CERS and depression (Garnefski et al., 2001; Garnefski et al., 2002; Garnefski & Kraaij, 2007; Martin & Dahlen, 2005). More frequent use of maladaptive CERS has previously been indicated to be a general feature of psychopathology (D'Avanzato et al., 2013). On the other hand, adaptive coping strategies can act as effective intrapersonal factors that mitigate the likelihood of psychopathology during the COVID-19 outbreak (Ye et al., 2020). Our study supports previous findings on positive relationships between adaptive CERS (like positive reappraisal and refocus on planning) and psychological well-being (Balzarotti et al., 2016).

Finally, in terms of verifying the mediation mechanisms, our findings revealed that people scoring high in narcissism and Machiavellianism tend to use maladaptive CERS, which explains the increased levels of stress, anxiety, and depression in them. The current results support and extend the previous findings, which showed that maladaptive cognitive strategies are significantly related to individual emotion-regulation differences and are triggered by negative life events (Garnefski et al., 2001). We showed that such

individual differences are related to the DT, particularly when experiencing negative life events. The presented study shows that narcissistic people, who are characterized by an egocentric attitude and a self-centered perspective in thinking, have a tendency to think about their own negative feelings and thoughts (rumination), exaggerate and think about the terror of what they have experienced (catastrophizing), and put the blame for what they have experienced on the environment or another person (other-blame). We suggest that narcissism facilitates the employment of maladaptive CERS, which in turn leads to higher levels of stress and symptoms of depression, anxiety, and stress experienced during the COVID-19 outbreak. In addition, we have shown the mediating role of maladaptive CERS on associations between Machiavellianism and poorer psychological well-being. The Machiavellistic tendencies to be self-centered and focused on self-interest and personal gain (Sabouri et al., 2016) are congruent with the use of maladaptive CERS and explain the emotional deficiencies shown in previous research (Jonason & Krause, 2013). Moreover, we found that people with a high subclinical level of psychopathy have a low tendency to use adaptive CERS (like acceptance, positive refocusing, refocus on planning), which in turn leads to the occurrence of depression in them. Taking into consideration the fact that psychopathy comes with a wide range of emotional deficiencies, including lower cognitive empathy and externally oriented thinking (Jonason & Krause, 2013), our results are consistent with the emotional functioning associated with psychopathy and correspond with the current findings on the links between depression and psychopathy (Gómez-Leal et al., 2019).

6. Conclusions

Our findings suggest that in the face of a pandemic, different DT traits may predispose individuals to use particular cognitive emotion regulation strategies, but these come with

mental health costs and benefits. Better knowledge of the mechanisms behind the associations between DT traits and negative emotional states during the COVID-19 pandemic could support preventive initiatives and interventions. Our results should make it easier to predict and/or better diagnose specific psychopathologies linked with particular DT traits during a pandemic. Moreover, our results could facilitate the development of successful therapeutic programs focused on adaptive CERS to reduce the negative consequences of COVID-19, such as depression. The implications outlined here may also be relevant to future pandemics and public health crises.

CRediT authorship contribution statement Justyna Mojsa-Kaja: Conceptualization, Methodology, Investigation, Data curation, Formal analysis, Visualization, Writing – _original draft. Klaudia Szklarczyk: Investigation, Visualization, Writing – original draft. Sara Gonz´alez-Yubero: Data curation, Investigation, Methodology, Writing – review & editing. Raquel Palomera Martin: Data curation, Investigation, Methodology, Writing – _review & editing.

References

Agler, R., & De Boeck, P. (2017). On the Interpretation and Use of Mediation: Multiple Perspectives on Mediation Analysis. *Frontiers in Psychology*, *8*, 1984.

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, *30*(2), 217–237.

Babore, A., Lombardi, L., Viceconti, M. L., Pignataro, S., Marino, V., Crudele, M., Candelori, C., Bramanti, S. M., & Trumello, C. (2020). Psychological effects of the COVID-2019 pandemic: Perceived stress and coping strategies among healthcare professionals. *Psychiatry Research*, *293*, 113366.

Bados, A., Solanas, A., & Andrés, R. (2005). Psychometric properties of the Spanish version of depression, anxiety and stress scales (DASS). *Psicothema*, *17*(4), 679–683.

Balzarotti, S., Biassoni, F., Villani, D., Prunas, A., & Velotti, P. (2016). Individual Differences in Cognitive Emotion Regulation: Implications for Subjective and Psychological Well-Being. *Journal of Happiness Studies*, *17*(1), 125–143.

Bienvenu, O. J., & Brandes, M. (2005). The Interface of Personality Traits and Anxiety Disorders. *Primary Psychiatry*, *12*(3), 35–39.

Birkás, B., Gács, B., & Csathó, Á. (2016). Keep calm and don't worry: Different Dark Triad traits predict distinct coping preferences. *Personality and Individual Differences*, *88*, 134–138.

Birkás, B., Pátkai, G., & Csathó, Á. (2020). The Mediating Role of the Dark Triad Between Life History Strategy and Perceived Stress Factors. *Psychological Reports*, *123*(2), 252–265.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. New York: Routledge Academic.

Coleman, S. R. M., Pincus, A. L., & Smyth, J. M. (2019). Narcissism and stress-reactivity: a biobehavioural health perspective. *Health Psychology Review*, *13*(1), 35–72.

Czarna, A. Z., Jonason, P. K., Dufner, M., & Kossowska, M. (2016). The Dirty Dozen Scale: Validation of a Polish Version and Extension of the Nomological Net. *Frontiers in Psychology*, *7*, 445.

D'Avanzato, C., Joormann, J., Siemer, M., & Gotlib, I. H. (2013). Emotion Regulation in Depression and Anxiety: Examining Diagnostic Specificity and Stability of Strategy Use. *Cognitive Therapy and Research*, *37*(5), 968–980.

Domínguez-Sánchez, F. J., Lasa-Aristu, A., Amor, P. J., & Holgado-Tello, F. P. (2013). Psychometric Properties of the Spanish Version of the Cognitive Emotion Regulation Questionnaire. In *Assessment* (Vol. 20, Issue 2, pp. 253–261). https://doi.org/10.1177/1073191110397274

Egan, V., Chan, S., & Shorter, G. W. (2014). The Dark Triad, happiness and subjective well-being. *Personality and Individual Differences*, *67*, 17–22.

Garnefski, N., & Kraaij, V. (2007). The Cognitive Emotion Regulation Questionnaire. *European Journal of Psychological Assessment: Official Organ of the European Association of Psychological Assessment*, *23*(3), 141–149.

Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and Individual Differences*, *30*(8), 1311–1327.

Garnefski, N., Kraaij, V., & Spinhoven, P. (2002). Manual for the use of the Cognitive Emotion Regulation Questionnaire. *Leiderdorp, The Netherlands: DATEC*.

Garnefski, N., Legerstee, J., Kraaij, V. V., Van Den Kommer, T., & Teerds, J. (2002). Cognitive coping strategies and symptoms of depression and anxiety: a comparison between adolescents and adults. *Journal of Adolescence*, *25*(6), 603–611.

Gómez-Leal, R., Megías-Robles, A., Gutiérrez-Cobo, M. J., Cabello, R., Fernández-Abascal, E. G., & Fernández-Berrocal, P. (2019). Relationship between the Dark Triad and depressive symptoms. *PeerJ*, *7*, e8120.

Gross, J. J., & Jazaieri, H. (2014). Emotion, Emotion Regulation, and Psychopathology: An Affective Science Perspective. *Clinical Psychological Science*, *2*(4), 387–401.

Jonason, P. K., Baughman, H. M., Carter, G. L., & Parker, P. (2015). Dorian Gray without his portrait: Psychological, social, and physical health costs associated with the Dark Triad. *Personality and Individual Differences*, *78*, 5–13.

Jonason, P. K., & Krause, L. (2013). The emotional deficits associated with the Dark Triad traits: Cognitive empathy, affective empathy, and alexithymia. *Personality and Individual Differences*, *55*(5), 532–537.

Jonason, P. K., & Schmitt, D. P. (2012). What have you done for me lately? Friendship-selection in the shadow of the Dark Triad traits. *Evolutionary Psychology: An International Journal of Evolutionary Approaches to Psychology and Behavior*, *10*(3), 400–421.

Jonason, P. K., & Webster, G. D. (2010). The dirty dozen: a concise measure of the dark triad. *Psychological Assessment*, *22*(2), 420–432.

Jungmann, S. M., & Witthöft, M. (2020). Health anxiety, cyberchondria, and coping in the current COVID-19 pandemic: Which factors are related to coronavirus anxiety? *Journal of Anxiety Disorders*, *73*, 102239.

Klein, D. N., Kotov, R., & Bufferd, S. J. (2011). Personality and depression: explanatory models and review of the evidence. *Annual Review of Clinical Psychology*, *7*, 269–295.

Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking "big" personality traits to anxiety, depressive, and substance use disorders: a meta-analysis. *Psychological Bulletin*, *136*(5), 768–821.

Lazarus, R. S. (1993). Coping theory and research: past, present, and future. *Psychosomatic Medicine*, *55*(3), 234–247.

Liu, C. H., Zhang, E., Wong, G. T. F., Hyun, S., & Hahm, H. "chris." (2020). Factors associated with depression, anxiety, and PTSD symptomatology during the COVID-19 pandemic: Clinical implications for U.S. young adult mental health. *Psychiatry Research*, *290*, 113172.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, *33*(3), 335–343.

Lyons, M., & Brockman, C. (2017). The Dark Triad, emotional expressivity and appropriateness of emotional response: Fear and sadness when one should be happy? *Personality and Individual Differences*, *104*, 466–469.

Lyons, M., Evans, K., & Helle, S. (2019). Do "Dark" Personality Features Buffer Against Adversity? The Associations Between Cumulative Life Stress, the Dark Triad, and Mental Distress. *SAGE Open*, *9*(1), 2158244018822383.

Maneiro, L., López-Romero, L., Gómez-Fraguela, J. A., Cutrín, O., & Romero, E. (2019). Pursuing the Dark Triad: Psychometric properties of the Spanish version of the Dirty Dozen. *Journal of Individual Differences*, *40*(1), 36–44.

Marszał-Wiśniewska, & Fajkowska, M. (2010). Właściwości psychometryczne Kwestionariusza Poznawczej Regulacji Emocji (Cognitive Emotion Regulation Questionnaire; CERQ). Wyniki badań na polskiej próbie [Psychometic properties of the Cognitive Emotion Regulation Questionnaire (CERQ): Results of the studies on the Polish sample]. *Studia Psychologiczne*, *49*(1). http://dx.doi.org/

Martin, R. C., & Dahlen, E. R. (2005). Cognitive emotion regulation in the prediction of depression, anxiety, stress, and anger. *Personality and Individual Differences*, *39*(7), 1249–1260.

Neumann, C. S., Johansson, P. T., & Hare, R. D. (2013). The Psychopathy Checklist-Revised (PCL-R), low anxiety, and fearlessness: a structural equation modeling analysis. *Personality Disorders*, *4*(2), 129–137.

Nowak, B., Brzóska, P., Piotrowski, J., Sedikides, C., Żemojtel-Piotrowska, M., & Jonason, P. K. (2020). Adaptive and maladaptive behavior during the COVID-19 pandemic: The roles of Dark Triad traits, collective narcissism, and health beliefs. *Personality and Individual Differences*, *167*, 110232.

Onley, M., Veselka, L., Schermer, J. A., & Vernon, P. A. (2013). Survival of the scheming: a genetically informed link between the dark triad and mental toughness. *Twin Research and Human Genetics: The Official Journal of the International Society for Twin Studies*, *16*(6), 1087–1095.

Paulhus, D. L., & Williams, K. M. (2002). The Dark Triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality*, *36*(6), 556–563.

Richardson, E. N., & Boag, S. (2016). Offensive defenses: The mind beneath the mask of the dark triad traits. *Personality and Individual Differences*, *92*, 148–152.

Sabouri, S., Gerber, M., Lemola, S., Becker, S. P., Shamsi, M., Shakouri, Z., Sadeghi Bahmani, D., Kalak, N., Holsboer-Trachsler, E., & Brand, S. (2016). Examining Dark Triad traits in relation to sleep disturbances, anxiety sensitivity and intolerance of uncertainty in young adults. *Comprehensive Psychiatry*, *68*, 103–110.

Scholten, S., Velten, J., Bieda, A., Zhang, X. C., & Margraf, J. (2017). Testing measurement invariance of the Depression, Anxiety, and Stress Scales (DASS-21) across four countries. *Psychological Assessment*, *29*(11), 1376–1390.

Soliemanifar, O., Soleymanifar, A., & Afrisham, R. (2018). Relationship between Personality and Biological Reactivity to Stress: A Review. *Psychiatry Investigation*, *15*(12), 1100–1114.

Spano, L. (2001). The relationship between exercise and anxiety, obsessive-compulsiveness, and narcissism. *Personality and Individual Differences*, *30*(1), 87–93.

Wai, M., & Tiliopoulos, N. (2012). The affective and cognitive empathic nature of the dark triad of personality. *Personality and Individual Differences*, *52*(7), 794–799.

World Medical Association. (2013). World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. *JAMA: The Journal of the American Medical Association*, *310*(20), 2191–2194.

Ye, Z., Yang, X., Zeng, C., Wang, Y., Shen, Z., Li, X., & Lin, D. (2020). Resilience, Social Support, and Coping as Mediators between COVID-19-related Stressful Experiences and Acute Stress Disorder among College Students in China. *Applied Psychology. Health and Well-Being*. https://doi.org/10.1111/aphw.12211

Zajenkowski, M., Jonason, P. K., Leniarska, M., & Kozakiewicz, Z. (2020). Who complies with the restrictions to reduce the spread of COVID-19?: Personality and perceptions of the COVID-19 situation. *Personality and Individual Differences*, *166*, 110199.

Zeigler-Hill, V., & Vonk, J. (2015). Dark Personality Features and Emotion Dysregulation. *Journal of Social and Clinical Psychology*, *34*(8), 692–704.