

# The relationship between character strengths and the Dark Triad

## *Relação entre forças de caráter e Triade Sombria*

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### Abstract

This study aimed to verify the mean difference of the 24 character strengths considering the level of each character strength in relation to the Dark Triad of personality. A total of 284 people participated in the study, responding to the Character Strength Scale and to the Short Dark Triad. Among them, 71.5% were female, with a mean age of 29.06 years ( $SD = 9.73$ ). For Machiavellianism and psychopathy, specific strengths are characterized by their underuse, while for narcissism, apart from modesty, character strengths are overused. Accordingly, we conclude that the underuse and overuse of character strengths can result in negative outcomes in addition to the socially valued positive aspects.

**Keywords:** Personality traits; Positive psychology; Psychopathology.

### Resumo

*Este estudo objetivou verificar a diferença média das 24 forças de caráter considerando o nível de cada força em relação à Triade Sombria da personalidade. Participaram 284 pessoas, 71.5% do sexo feminino, com média de idade de 29,06 anos ( $DP = 9,73$ ), respondendo à Escala de Força de Caráter e à Short Dark Triad. Para o maquiavelismo e a psicopatia, forças específicas são caracterizadas por sua forma subutilizada, enquanto, para o narcisismo, as forças, exceto modéstia, são usadas em demasia. Assim, conclui-se que a subutilização e o uso excessivo de forças podem resultar em desfechos negativos além dos aspectos positivos valorizados socialmente.*

**Palavras-chave:** Traços de personalidade; Psicologia positiva; Psicopatologia.

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Positive Psychology (PP) focuses on the scientific understanding of positive qualities and in promoting people's healthy functioning. The PP movement self-describes as the science of positive, subjective experience capable of improving quality of life and preventing pathologies related to a meaningless existence (Seligman & Csikszentmihalyi, 2014; Tehranchi et al., 2018). The intent is to collaborate with the advancement of understanding the human psyche and with the possibility of exploring qualities beyond pathologies (Snyder & Lopez, 2009).

The PP's investigated concepts are organized in a theoretical framework that contemplates constructs like affections, well-being, character strengths, among others (Park & Peterson, 2006; Peterson & Seligman, 2004). Regarding character strengths, Peterson and Seligman (2004) identify 24 strengths, organized into six virtues. They can be understood as individual characteristics that manifest through feelings, emotions, and behaviors that may benefit individuals (Seligman, 2004). The strengths are understood as observable and stable traits over time, must be measurable, contribute to personal fulfillment, and are morally valued aspects of a personality (Peterson & Seligman, 2004; Snyder & Lopez, 2009). Over the years, much research has been developed around character strengths in varied contexts and cultures, whether through the development of measures (Noronha & Barbosa, 2016; Park & Peterson, 2006; Shoshani, 2019; Snow, 2018), as related to other positive constructs (Martínez-Martí & Ruch, 2016; Ros-Morente et al., 2018), or through the development of evidence-based practices (Duan & Ho, 2018; Harzer & Ruch, 2015; Wagner et al., 2020).

Despite setting its vision of humanity and the world in healthy and positive elements, PP does not deny the existence of mental illness as a part of humanity (Snyder & Lopez, 2009). According to Snyder and Lopez (2009), the social construction of reality contains both 'positive' and 'negative' aspects, and while a clash between the two poles would not be useful, a full understanding of how they can be measured and developed may stimulate successful experiences. Thus, if the existence of disease or mental disorders is undeniable – these are well defined by the biological, medical, and psychiatric visions –, PP would lend understanding to the person's strengths that stand out and allow his or her optimal functioning even with the pathology. Besides, it supports the understanding that a character strength's absence or excess constitutes the true psychological disturbance (Peterson, 2006).

With this perspective, Peterson (2006) devised a structure that describes character strength disorders, departing from a malfunctioning that can be classified as opposition, absence, or excess. Character strength disturbances can be verified in an individual's behaviors, thoughts and feelings: the greater the frequency of disordered actions, the more noticeable they will be. The author states that when strengths are either underused or overused – that is, deviated from optimized use –, they may indicate psychological malfunction.

In order to examine the dark side of character strengths, as advocated by Peterson (2006), Freidlin et al. (2017) conducted a study with adults of the general population, in which they assessed character strengths, depression, flourishing, life satisfaction, and social anxiety. The results associated the overuse of character strengths with negative outcomes, while optimized use was related to positive aspects. More specifically, the high endorsement of social intelligence and humility and the underuse of enthusiasm, humor, self-regulation, and social intelligence were associated with social anxiety. Moreover, when near average, subjective well-being was moderately related to strengths. The authors concluded that character strengths are multifaceted and that these findings provide new insights into excessive developmental patterns, which may generate undesirable outcomes, such as anxiety and mood disorders.

Although Freidlin et al. (2017) and Peterson (2006) investigated character strengths and their underuse, more than one theoretical model is available for the topic. According to Hall-Simmonds and McGrath (2017) three proposals are possible with respect to the relationship between character strengths and psychopathology: strengths as a syndrome, strengths as symptoms, and strengths as moderators. Thus,

these authors suggest that the choice of a particular model must be in line with PP's clinical care objectives and the potential benefits to the client to improve the success of interventions.

The proposed hypothesis is that strengths that are under-overused will be in relationships with socially undesirable personality traits – specifically, the so-called Dark Triad (narcissism, machiavellianism, and psychopathy). According to Paulhus and Williams (2002), while their own characteristics make them independent, these three traits present common elements, such as manipulative behavior, a strong sense of self-esteem, and a tendency to exploit others for their self-benefit.

High levels in the components of the Dark Triad imply social harm to individuals. A review study on the traits (Furnham et al., 2013) identified that individuals with this pattern of functioning tended to have difficulty bonding, increased selfishness, and insensitivity. In addition, Machiavellians tend to be more cynical, narcissists are perceived by others as socially aversive, and psychopaths assume riskier behaviors (Furnham et al., 2013). Overall, the authors further indicate that the three traits may have in common the use of the mood as an interpersonal strategy, whether aggressive or affiliative.

Research relating the constructs investigated by PP, such as subjective well-being (Aghababaei & Błachniob, 2015), honesty, humility, religiosity, and happiness (Aghababaei et al., 2014), to the Dark Triad of personality are newly developing. Specifically, with regard to the association between character strengths and dark traits, they are still incipient. Therefore, considering that (1) character strengths have been studied as protective factors for healthy functioning (Ciarrochi et al., 2016; Littman-Ovadia et al., 2017); (2) that their excessive presence or profound absence can generate undesirable results (Freidlin et al., 2017; Peterson, 2006); (3) and the need to understand how the relationship between positive and negative elements occurs (Snyder & Lopez, 2009), this exploratory study aimed to verify the mean differences between the 24 character strengths, considering the level of each strength in relation to Machiavellianism, narcissism and psychopathy, in a sample of Brazilians.

## Method

### Participants

A total of 284 Brazilians were included in this study. Participants were between 18 and 65 years old ( $M = 29.06$ ,  $SD = 9.73$ ) and 203 were female (71.5%). From the general sample, 198 (69.7%) reported being single, 204 (71.8%) resided in the state of São Paulo, with a prevalence of income between one and three times the minimum wage (46.5%) and complete higher education (56.3%), being a convenience sample.

### Instruments

The *Character Strength Scale (Escala de Forças de Caráter)* – Developed by Noronha and Barbosa (2016) based on the Values in Action survey (Peterson & Seligman, 2004), the instrument measures character strengths through 71 self-reported items on a Likert-type scale (0 = Nothing to do with me, to 4 = Everything to do with me). The structure is unifactorial and the assessed strengths are Creativity, Curiosity, Critical thinking, Love of learning, Perspective, Bravery, Persistence, Authenticity, Vitality, Intimacy, Kindness, Social intelligence, Citizenship, Fairness, Leadership, Forgiveness, Modesty, Prudence, Self-regulation, Appreciation of beauty, Gratitude, Hope, Humor, Spirituality, with the internal consistency coefficient for the total scale of

$\alpha = 0.94$ . Some examples of items are: (3) "I do things differently" - Creativity; (20) "I express my affections with clarity" - Social Intelligence; and (71) "I keep my mind open" - Critical Thinking.

*Short Dark Triad (SD3)* – Adapted for Brazilian Portuguese (Monteiro, 2017) from the original version by Jones and Paulhus (2014). The scale measures the Dark Triad of personality through 27 self-reported items on a Likert-type scale (1 = Strongly disagree, to 5 = Strongly agree). The dimensions that make up the Dark Triad are Machiavellianism ( $\alpha = 0.78$ ), narcissism ( $\alpha = 0.77$ ) and psychopathy ( $\alpha = 0.78$ ), with the internal consistency coefficient for the total scale of 0.83. Some item examples are: (2) "I like to use clever manipulation to get my way" - Machiavellianism; (12) "Many group activities tend to be dull without me" – Narcissism; and (27) "I'll say anything to get what I want" - Psychopathy.

## Procedures

Upon approval of the Research Ethics Committee at *São Francisco* University (CAAE nº 50707921.0.0000.5514), the instruments were allocated in Google Forms and the link to access the research was distributed via social networks (e.g., Facebook, WhatsApp). The data collection occurred from December 2018 until February 2019. To be computed among the research participants, the subjects had to acknowledge the Free and Informed Consent Form, ensuring the voluntary participation intended for people who are 18 and older.

The data were analyzed with the software *Statistic Package for Social Sciences (SPSS)*, version 23. The database was constructed and went through a descriptive statistics analysis to understand the sample distribution. Initially, the normality test was performed using Kolmogorov-Smirnov and Shapiro-Wilk statistics. Finally, a variance analysis was performed to verify differences of means as a function of the level of strengths and the relation of these levels with the dark traits. The assumption of variance homogeneity was assessed using Levene's test. For character strengths in which there was no homogeneity of variance, Welch's correction was used. To correct deviations from the normal distribution of the sample and differences between group sizes, bootstrapping procedures were performed (1000 re-samples – 95% CI BCa). This correction also aimed to present a 95% confidence interval for the mean differences (Haukoos & Lewis, 2005). To analyze the group differences, the Tukey post hoc test was performed for character strengths with a homogeneous variance distribution and Games-Howell post hoc test for cases with no homogeneity. Finally, the effect size of the differences was analyzed using eta-squared.

Also, like other character strength instruments (Peterson & Seligman, 2004; Seibel et al., 2015), the Character Strength Scale (Noronha & Barbosa, 2016) is considered unidimensional. However, we followed the literature criteria and analyzed each strength individually. According to theoretical considerations (Peterson & Seligman, 2004), the sum of all strengths would not result in an interpretable score. In addition, thoroughly investigating each of these character strengths would provide details on the connections between positive and dark characteristics.

## Results

Initially, descriptive statistics were performed to analyze the mean scores and the variability of the constructs. Subsequently, we analyzed whether the data complied with normality assumptions. According to Table 1, the highest means in character strengths were for fairness and gratitude, with the maximum possible

**Table 1**  
Descriptive statistics

Character Strengths	Mean	Standard Deviation	Kolmogorov-Smirnov	Shapiro-Wilk
Creativity	7.87	2.32	0.09**	0.97**
Curiosity	9.79	2.06	0.16**	0.89**
Critical thinking	9.78	1.91	0.18**	0.90**
Love of learning	9.74	2.28	0.12**	0.86**
Perspective	8.66	2.30	0.13**	0.95**
Authenticity	9.23	1.92	0.10**	0.94**
Bravery	7.65	2.52	0.15**	0.96**
Persistence	9.35	2.36	0.16**	0.89**
Vitality	8.29	2.87	0.16**	0.92**
Intimacy	8.61	2.53	0.11**	0.90**
Kindness	9.78	1.96	0.13**	0.94**
Social intelligence	8.80	2.38	0.16**	0.93**
Fairness	10.13	1.71	0.11**	0.89**
Leadership	7.98	2.51	0.12**	0.96**
Citizenship	9.19	1.99	0.09**	0.93**
Forgiveness	7.27	3.02	0.09**	0.96**
Modesty	9.57	1.93	0.14**	0.92**
Prudence	9.41	2.03	0.12**	0.92**
Self-regulation	7.63	2.59	0.09**	0.97**
Appreciation of beauty	6.71	1.37	0.20**	0.83**
Gratitude	9.91	2.45	0.20**	0.81**
Hope	9.64	2.58	0.18**	0.84**
Humor	8.62	2.53	0.13**	0.93**
Spirituality	8.78	3.36	0.16**	0.85**
Machiavellianism	23.23	6.25	0.06*	0.98**
Narcissism	21.71	4.56	0.06**	0.99*
Psychopathy	14.98	4.97	0.14**	0.90**
Dark Triad	59.91	12.84	0.05*	0.97**

Note: \* $p < 0.05$ ; \*\* $p < 0.01$ .

score of 12 points. In turn, for the dark traits, the maximum possible score is 45 points, with the highest means obtained for Machiavellianism and psychopathy. None of the variables had accepted normality assumptions.

We performed a variance analyses with Tukey or Games-Howell post hoc test to verify mean differences in the level of each strength. The scores of the 24-character strengths were re-coded in three quartiles: low (quartile 25), average (quartile 50), and high scores (quartile 75). Curiosity, bravery, love, and appreciation of beauty did not show significant results in comparison with any of the dark traits. The other strengths showed statistically significant mean differences with at least one of the dimensions of the Dark Triad. The results that presented statistical significance for narcissism are presented in Table 2.

Narcissism was more present by people with overuse of creativity, critical thinking, love of learning, perspective, social intelligence, leadership, citizenship, and humor; thus, they were classified with characteristics such as eccentricity, thoughtlessness, know-it-all-ism, narrowness and psychobabble, conformism, selfishness, and excessive seriousness (Niemic, 2018; Peterson, 2006). In turn, underuse of modesty was associated with

higher levels of narcissism, characterizing people with difunctionally high self-esteem. Then, mean differences were analyzed regarding psychopathy; the results are presented in Table 3.

The higher presence of psychopathy was associated with the underuse of the following character strengths: love of learning, authenticity, persistence, vitality, kindness, justice, leadership, citizenship, forgiveness, modesty, prudence, self-regulation, gratitude, hope and spirituality. Considering the classification of character strength disorders (Niemic, 2018; Peterson, 2006), the characteristics found in lower levels would be: complacency, falsehood, laziness, restraint, indifference, partisanship, conformism, selfishness, mercilessness, footless self-esteem, thoughtlessness, self-indulgence, rugged individualism, present orientation, and anomie, respectively. Finally, Table 4 presents level differences in character strengths regarding Machiavellianism.

People who underused the strengths of authenticity, persistence, vitality, kindness, forgiveness, and modesty were observed to have higher scores in Machiavellianism. According to the proposal for classification, example of behaviors would be, respectively: phoniness, laziness, sedentary lifestyle, indifference, mercilessness, and footless self-esteem (Niemic, 2019; Peterson, 2006).

**Table 2**  
Analysis of variance with Tukey post hoc test of Character Strengths levels and Narcissism

Character Strengths	F (df)	Multiple comparisons between groups		Mean Differences	Bootstrapping (95% CI BCa)			$\eta^2$
					Std. Error	Lower Bound	Upper Bound	
Creativity	8.709 (2)**	Low	Average	-0.90	0.70	-2.21	0.46	0.06
			High	-2.58	0.65	-3.83	-1.35	
		Average	High	-1.68	0.62	-2.94	-0.52	
Critical thinking	3.126 (2)*	Low	Average	-1.19	0.59	-2.30	0.07	0.02
			High	-1.57	0.71	-3.07	0.16	
		Average	High	-0.37	0.73	-1.85	1.11	
Love of learning	3.378 (2)*	Low	Average	-1.73	0.67	-3.18	0.31	0.02
			High	-1.12	0.72	-2.63	-0.29	
		Average	High	0.60	0.60	0.55	1.72	
Perspective	10.408 (2)**	Low	Average	-1.85	0.69	-3.13	-0.47	0.07
			High	-2.90	0.68	-4.30	-1.56	
		Average	High	-1.05	0.58	-2.25	0.19	
Social Intelligence	9.557 (2)**	Low	Average	-2.17	0.63	-3.42	-0.85	0.06
			High	-3.02	0.77	-4.51	-1.48	
		Average	High	-0.85	0.65	-2.12	0.32	
Leadership	11.084 (2)**	Low	Average	-2.23	0.64	-3.49	-0.96	0.07
			High	-3.16	0.68	-4.53	-1.78	
		Average	High	-0.92	0.62	-2.11	0.27	
Citizenship	5.375 (2)**	Low	Average	-1.61	0.66	-2.93	-0.19	0.03
			High	-2.07	0.70	-3.50	-0.69	
		Average	High	-0.45	0.64	-1.60	0.68	
Modesty	3.590 (2)*	Low	Average	1.17	0.68	-0.32	2.60	0.07
			High	1.75	0.69	0.32	3.13	
		Average	High	0.64	0.63	-0.51	1.87	
Humor	5.891 (2)*	Low	Average	-0.79	0.66	-2.12	0.49	0.04
			High	-2.44	0.76	-3.95	-0.94	
		Average	High	-1.65	0.65	-2.98	-0.40	

Note: \* $p < 0.05$ ; \*\* $p < 0.001$ . CI BCa: Confidence Interval Bias Corrected and accelerated; df: degrees of freedom; F: ANOVA test;  $\eta^2$ : eta-squared.

**Table 3**

Analysis of variance with Tukey or Games-Howell post hoc test of Character Strength levels and Psychopathy

Character Strengths	F (df)	Multiple comparisons between groups		Mean Differences	Bootstrapping (95% CI BCa)			$\eta^2$
					Std. Error	Lower Bound	Upper Bound	
Love of learning	3.245 (2)*	Low	Average	1.53	0.74	0.05	3.16	0.02
			High	1.87	0.86	0.10	3.59	
			Average	0.34	0.71	-1.16	1.70	
Authenticity <sup>a</sup>	5.331 (2)*	Low	Average	2.09	0.61	0.85	3.41	0.03
			High	1.04	0.80	-0.42	2.54	
			Average	-1.04	0.74	-2.34	0.26	
Persistence <sup>a</sup>	6.993 (2)*	Low	Average	1.09	0.75	-0.32	2.37	0.05
			High	2.77	0.77	1.31	4.20	
			Average	1.74	0.63	0.49	2.97	
Vitality	4.044 (2)*	Low	Average	1.21	0.69	-0.13	2.55	0.02
			High	2.29	0.83	0.64	3.99	
			Average	1.08	0.70	-0.37	2.53	
Kindness	12.067 (2)**	Low	Average	0.65	0.87	-1.19	2.52	0.08
			High	2.95	0.60	1.62	4.10	
			Average	2.29	0.85	0.61	4.02	
Justice	7.878 (2)**	Low	Average	1.32	0.65	0.04	2.76	0.05
			High	2.96	0.76	1.32	4.47	
			Average	1.64	0.74	0.20	3.04	
Leadership	3.536 (2)*	Low	Average	0.91	0.74	-0.44	2.31	0.02
			High	2.03	0.78	0.49	3.44	
			Average	1.12	0.70	-0.20	2.36	
Citizenship <sup>a</sup>	9.540 (2)**	Low	Average	0.58	0.69	-0.86	1.99	0.06
			High	2.90	0.71	1.53	4.26	
			Average	2.32	0.70	0.94	3.65	
Forgiveness <sup>a</sup>	13.691 (2)**	Low	Average	2.01	0.67	0.72	3.31	0.10
			High	3.99	0.72	2.46	5.56	
			Average	1.97	0.63	0.64	3.31	
Modesty <sup>a</sup>	17.013 (2)**	Low	Average	2.53	0.71	1.05	3.96	0.13
			High	4.20	0.71	2.78	5.64	
			Average	1.66	0.63	0.36	2.92	
Prudence	5.369 (2)*	Low	Average	1.25	0.74	-0.20	2.68	0.03
			High	2.32	0.71	0.94	3.69	
			Average	1.06	0.63	-0.23	2.36	
Self-regulation	14.213 (2)**	Low	Average	1.56	0.68	0.26	2.76	0.10
			High	3.89	0.74	2.42	5.31	
			Average	2.32	0.66	0.85	3.81	
Gratitude	9.779 (2)**	Low	Average	1.49	0.74	-0.01	2.89	0.06
			High	3.02	0.64	1.78	4.23	
			Average	1.52	0.70	0.08	3.03	
Hope	4.740 (2)*	Low	Average	1.09	0.74	-0.35	2.50	0.03
			High	2.32	0.79	0.60	3.89	
			Average	1.23	0.69	-0.22	2.50	
Spirituality	5.301 (2)*	Low	Average	0.65	0.72	-0.72	2.02	0.03
			High	2.36	0.74	0.79	3.71	
			Average	1.71	0.68	0.35	2.97	

Note: <sup>a</sup>: Welsh test and Games-Howell post hoc test. \* $p < 0.05$ ; \*\* $p < 0.001$ . CI BCa: Confidence Interval Bias-Corrected and accelerated; df: degrees of freedom; F: ANOVA test;  $\eta^2$ : eta-squared.

**Table 4**

Analysis of variance with Tukey or Games-Howell post hoc test of Character Strengths and Machiavellianism

Character Strengths	F (df)	Multiple comparisons between groups		Mean Differences	Bootstrapping (95% CI BCa)			$\eta^2$
					Std. Error	Lower Bound	Upper Bound	
Authenticity	3.426 (2)*	Low	Average	1.80	0.83	0.15	3.56	0.02
			High	2.27	1.02	0.35	4.19	
		Average	High	0.46	0.93	-1.46	2.28	
Persistence	5.453 (2)*	Low	Average	1.59	0.94	-0.11	3.43	0.03
			High	3.02	0.95	1.14	4.95	
		Average	High	1.43	0.85	-0.17	3.06	
Vitality	2.877 (2)*	Low	Average	-0.08	0.82	-1.78	1.53	0.02
			High	1.96	0.99	-0.08	3.83	
		Average	High	2.05	0.94	0.10	3.83	
Kindness	3.619 (2)*	Low	Average	0.12	1.17	-2.34	2.34	0.02
			High	2.03	0.81	0.52	3.70	
		Average	High	1.90	1.13	-0.24	4.10	
Forgiveness <sup>a</sup>	9.999 (2)**	Low	Average	2.82	0.88	1.19	4.56	0.07
			High	4.40	0.95	2.50	6.28	
		Average	High	1.57	0.81	-0.11	3.26	
Modesty	6.495 (2)*	Low	Average	2.21	0.97	0.31	4.09	0.04
			High	3.17	0.92	1.26	5.16	
		Average	High	0.96	0.84	-0.78	2.75	

Note: <sup>a</sup>Welsh test and Games-Howell post hoc test. \* $p < 0.05$ ; \*\* $p < 0.001$ . CI BCa: Confidence Interval Bias-Corrected and accelerated; df: degrees of freedom; F: ANOVA test;  $\eta^2$  = eta-squared.

## Discussion

The present study aimed to understand associations between the positive personality traits, named character strengths (Noronha & Barbosa, 2016), and the dimensions of the Dark Triad, as well as to verify mean differences as a function of the levels of strengths in the components of the Dark Triad. Investigations about the levels of use of character strengths are important to help people who are generally unfamiliar with their strengths, as well as for those who have a disconnection of a meaning or sense in their positive personal characteristics, minimization, underuse and/or overuse in certain situations (Niemic, 2019). The identification of the use of each strength combined with the understanding of its context of occurrence tends to contribute to increasing awareness of the strengths and the promotion of actions that make it possible to find the optimal level (Niemic, 2019).

Narcissistic individuals exhibit grandiosity, need for admiration, lack of empathy and false modesty (Jonason & Jackson, 2016), characteristics that refer to the superficiality and need for reaffirmation, and knowledge-demonstration even without the necessary mastery. According to the results found, it is possible that these people have overused strengths that are mostly related to the protection against excess and establishing healthy relationships with the community, providing a sense of connection with the universe (Niemic, 2019). In this sense, instead of an optimized use of strengths, in which there would be a greater appreciation of the benefits for the collective, narcissistic people tend to seek individual benefits without any connection with the community.

Such findings may be indicative of the specific intervention strategies to adopt in relation to character strengths aiming to decrease narcissistic behaviors. According to Peterson (2006), character strengths are expressed in combinations that are idiosyncratic, so the analyst must consider the individual specificities in



the expressions or use of each set of strengths. Thus, working with a single strength may not be the best strategy for altering narcissistic behaviors.

It should be noted that modesty was the only one that suggested the need for an intervention focused on its elevation or further development. Narcissists are vain and egocentric, as well as extroverted, using their abilities to stand out from other individuals (Aghababaei & Błachnio, 2015; Muris, et al., 2017). This dimension can be understood in two respects, grandiose narcissism and vulnerable narcissism (Vize et al., 2016), in that the individual must be creative to maintain a place at the center of things, and to be able to understand others in order to outdo them. Therefore, nuances must be considered to lead the person to become aware of their defects, limitations, and aspects that require the help of other people.

Psychopathic individuals tend to have low tolerance of frustration, insensitivity, lack of remorse, social dominance, difficulty in delaying gratification (Patrick, 2006), that is, aspects consistent with the underuse of strengths that correspond to immediacy, self-centered behaviors, and lack of concern for the demands of other people. The results indicated that people with this predominant trait could benefit from interventions focused on the development of strengths related to prosocial behavior to increase empathic, self-regulating cooperation and civility behaviors (Peterson & Seligman, 2004).

Usually, psychopathy has a link with antisocial personality, having impulsivity as its main characteristic (Muris et al., 2017). Other characteristic traits of psychopathy are disinhibition, low empathy and remorse, and poor impulse control (Vize et al., 2016). In this sense, interventions aimed at increasing the strengths related to the virtue of courage would allow these individuals to develop emotional resources to persist in reaching their goals. It should be noted that the promotion of the levels of courageous strengths must be carried out with caution, as not to stimulate risky behaviors at the same time that they develop the critical capacity to assess the danger of taking actions in an impulsive manner (Peterson & Seligman, 2004).

Machiavellian individuals are strategic and manipulative, so they need to be critical and able to understand other subjects in order to manipulate them (Vize et al., 2016). They rarely engage in altruistic behavior, and when they do, it is always with a self-serving purpose (Aghababaei et al., 2014). They show little development of strengths that allow the establishment of authentic social relations, with the purpose of cooperative actions and guided by the perception about other people's interests and feelings (Niemic, 2019).

Studies such as those of Freidlin et al. (2017), Hall-Simmonds and McGrath (2017), and Peterson (2006) aimed to describe how some strengths, when underused or overused, can serve as moderators for clinical diagnoses, and in the results obtained in the present research it is possible to proceed with these appointments. These characteristics are present in Machiavellian individuals, who in turn present a cynical view of mankind, manipulative behaviors, and emotional coldness (Paulhus & Williams, 2002), which makes it difficult for them to establish genuine personal relationships.

Interventions may be more beneficial if they foster the development of authentic social behaviors, such as interpersonal affection and the recognition that other people should not be considered objects or means to achieve something (Kaufman et al., 2019; Peterson & Seligman, 2004). It is important to consider that individuals with higher levels of Machiavellianism tend to present a cynical view of life, adopting dichotomous perceptions about situations and people (Jonason et al., 2018). Hence, considering character strengths as contextual (Niemic, 2019), interventions would also be beneficial in enabling individuals to identify the situations in which they evidently use each strength and to expand these behaviors to more contexts.

Our results provide initial evidence that character-strength-development interventions are not always indicated, especially if done indiscriminately. Studies with clinical samples would be valuable to assess the consequences of these possible interventions more realistically. Interventions to boost strengths may not be an adequate strategy in individuals with narcissistic behavior since higher levels of these strengths have been found in them. In addition, our data suggest that for narcissistic individuals, the positive elements of

character strengths can be distorted from their genuine aspect, becoming a path to seek even more status and recognition through self-promotion.

## Conclusion

Our study endorses the relevance of character strengths as predictors not only of positive features as expected, but also for possible negative outcomes, such as the Dark Triad. Future studies should seek to understand how underused or overused characteristics play out in psychopathological personality traits. In addition, it is important to investigate the facets of character strengths, as these may indicate when it is important to intercede with strength-development interventions, and when such efforts would bring negative outcomes for the individual. In the case of the Dark Triad of personality, the findings may contribute to reducing socially harmful behaviors or preventing them from becoming even more pronounced. In addition, new studies should aim to develop more efficient ways of measuring character strengths at under and overused levels.

The study's main limitation was the effect size found in the results. Regarding the influence of such strengths on dark traits, other interfaces must be considered in addition to these characteristics, which demands parsimony in the practical application of the results presented here. Other limitations to be addressed in the future relate to the use of new instruments able to measure the multidimensionality of the Dark Triad constructs and to advance the operational and conceptual definitions of the specific disorders related to PP. A more accurate understanding of the character strengths continuum would provide more support for professionals seeking to identify the best intervention strategies.

## Contributors

L. O. BARROS was responsible for the conception of the idea, data collection, data analysis and writing the manuscript. B. BONFÁ-ARAUJO was responsible for the conception of the idea, data collection, writing and revision of the manuscript. A. P. P. NORONHA was responsible for the conception of the idea, writing and revision of the manuscript.

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