




Centrality and associations between the dark triad, trait emotional intelligence and social distancing during COVID-19 pandemic in Peru: a network analysis

Centralidad y asociaciones entre la tríada oscura, inteligencia emocional rasgo y distancia social durante la pandemia de COVID-19 en Perú: un análisis de redes

Centralidade e associações entre a tríade sombria, traço de inteligência emocional e distância social durante a pandemia de COVID-19 no Peru: uma análise de redes

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Abstract: Few studies in South America have examined personality traits that had an impact at an individual and social level during the pandemic. The aim of the study was to identify the most central variables and partial associations in a network among the dark triad, trait emotional intelligence, social distancing during the pandemic, and demographic variables. Age was hypothesized as a possible central variable in the network, and a negative relationship was found between the dark triad and social distancing and trait emotional intelligence, except for narcissism. A non-probabilistic sampling method was used, with 311 adults ($M = 33.95$ years, 65 % women). Online surveys as the Dirty Dozen Dark Triad, Trait Meta-Mood Scale, and demographic data were used. Emotional attention played a key role in linking the dark triad and emotional intelligence. Moreover, it favored adherence to social distancing, while the reverse was observed with Machiavellianism. Finally, dark triad and emotional intelligence domains showed a negative association, except for narcissism, which had a positive connection with emotional attention. In summary, during the pandemic, assessing emotional attention was crucial to comprehend social aversive motivations and promote adherence to social distancing. In contrast, Machiavellianism, associated with the youth, needs further investigation and did not contribute to public health social norms.

Keywords: dark triad; trait emotional intelligence; social distancing; Peru; network analysis

Resumen: Pocos estudios en Sudamérica han examinado rasgos de personalidad que tuvieron impacto a nivel individual y social durante la pandemia. El objetivo del estudio fue identificar las variables centrales y asociaciones parciales en una red entre la tríada oscura, inteligencia emocional rasgo y distancia social durante la pandemia, y variables demográficas. Se hipotetizó a la edad como posible variable central en la red, y la relación negativa entre la tríada oscura con la distancia social y la inteligencia emocional rasgo, excepto el narcisismo. Se utilizó un muestreo no probabilístico donde participaron 311 adultos ($M = 33.95$ años, 65 % mujeres). Mediante encuestas en línea, se aplicaron las escalas Dirty Dozen Dark Triad, Trait Meta-Mood Scale y datos demográficos. La atención emocional fue clave al conectar la tríada oscura y la inteligencia emocional. Además, favoreció la adherencia a la distancia social, mientras lo inverso sucedió con el maquiavelismo. Los dominios de la tríada oscura e inteligencia emocional tuvieron asociación negativa, excepto por el narcisismo, que mostró una conexión positiva con la atención emocional. En síntesis, durante la pandemia, la evaluación de la atención a las emociones fue crucial para entender las motivaciones aversivas sociales y promover la adhesión al distanciamiento social. En contraste, debe investigarse más el maquiavelismo, que se asoció a los jóvenes, y no contribuyó a la normativa social de salud pública.

Palabras clave: tríada oscura; inteligencia emocional rasgo; distancia social; Perú; análisis de red



Resumo: Poucos estudos na América do Sul examinaram os traços de personalidade que foram impactados a nível individual e social durante a pandemia. O objetivo do estudo foi identificar as variáveis centrais e associações parciais em uma rede entre a tríade sombria, o traço de inteligência emocional, o distanciamento social durante a pandemia e variáveis demográficas. As hipóteses foram de que a idade era uma possível variável central na rede, e de que havia uma relação negativa entre a tríade sombria e o distanciamento social e o traço de inteligência emocional, exceto para o narcisismo. Foi utilizado um método de amostragem não probabilístico, com a participação de 311 adultos ($M = 33,95$ anos, 65 % mulheres). Por meio de pesquisas online, foram aplicadas as escalas Dirty Dozen Dark Triad, Trait Meta-Mood Scale e dados demográficos. A atenção emocional foi fundamental ao conectar a tríade sombria e a inteligência emocional. Além disso, favoreceu a adesão ao distanciamento social, enquanto o inverso foi observado com o maquiavelismo. Os domínios da tríade sombria e da inteligência emocional tiveram associação negativa, exceto pelo narcisismo, que apresentou uma conexão positiva com a atenção emocional. Em resumo, durante a pandemia, a avaliação da atenção às emoções foi crucial para compreender as motivações sociais aversivas e promover a adesão ao distanciamento social. Em contraste, é necessário investigar mais o maquiavelismo, que se associou aos jovens, e não contribuiu para as normativas sociais de saúde pública.

Palavras-chave: tríade sombria; traço de inteligência emocional; distanciamento social; Peru; análise de rede

The exploration of personality is a fundamental practice in the psychological field, revealing a synergy of behavioral, affective, motivational, and other patterns with a defined purpose (Roberts & Woodman, 2017). Among these trends, an increase in non-pathological tendencies towards manipulation and insensitivity has been reported, often overlooked despite their potential impact on contexts requiring constructive social interactions (Zettler et al., 2021). Particularly, during the COVID-19 pandemic, there was a need to detect and evaluate interpersonal trends characterized by a low response to various public health preventive measures (Ścigala et al., 2021). In this situation of crisis and uncertainty, many individuals did not act with empathy towards the needs of others. This was particularly relevant in the case of Peru, which, during that period, experienced high infection and mortality rates alongside deficient healthcare organization (Economic Commission for Latin America and the Caribbean [ECLAC], 2022). Furthermore, there was a certain inclination to benefit from essential medical products at the expense of others and disregard health regulations to curb the virus spread (Cuba, 2021; Ministry of Interior, 2021). Many of these behaviors may further hinder the recovery in terms of the economy and public health associated with COVID-19 (Nemexis, 2020; Ścigala et al., 2021).

In this regard, it has been reported that Machiavellian, psychopathic, and narcissistic traits may be crucial in predicting low adherence to health measures (Doerfler et al., 2021; Huang et al., 2021; Ścigala et al., 2021). This set of traits encompasses a theoretical model known as the Dark Triad of personality, which emerged by integrating tendencies with interpersonal aversive characteristics and low empathy in everyday situations into the literature (Rogoza & Ciecuch, 2020). However, they do not necessarily imply the presence of a disorder or psychopathology, as they manifest along a continuum throughout life (Muris et al., 2017; Paulhus & Williams, 2002).

Machiavellianism encompasses an interpersonal disposition of long-term manipulation, emotional detachment, and defiance of social norms to gain benefits or advantages over others (Götz et al., 2020). Given these characteristics, it has been suggested that this trait is one of the most norm-violating during the pandemic, such as non-compliance with social distancing, lack of hand hygiene, frauds targeting individuals who are ill and resistance to preventive messages related to COVID-19 (Blagov, 2021; Huang et al., 2021; Triberti et al., 2021). Primary psychopathy involves insensitive behaviors, manipulative tendencies, superficial relationships, and a lack of fear and anxiety in risky situations (Del Gaizo & Falkenbach, 2008). This trait is not confined to criminal contexts but is observed in financial and political environments where individuals tend to effectively conceal their personal motivations (LeBreton et al., 2006). During the pandemic, psychopathy has been implicated in the disregard for the lives of those affected, lower adherence to measures such as lockdowns, and social distancing (Blagov, 2021; Carvalho & Machado, 2020; Doerfler et al., 2021). On the other hand, subclinical narcissistic profiles are characterized by arrogance, a need for admiration, attention, and success (Ash et al., 2023). Consequently, they demonstrate a greater desire for social contact, potentially creating an initial impression of charisma (Malkin et al., 2013). Previous studies suggest that narcissistic individuals promoted conspiracy theories about COVID-19 and showed less adherence to social distancing. However, they prioritized hygiene protocols and mask use, suggesting a greater emphasis on their own well-being than caring for others (Grubbs et al., 2022; Sternisko et al., 2021).

Due to the opportunistic lifestyle characteristics of these traits, they are more likely to be expressed primarily in environments characterized by certain instability and unpredictability (Jonason et al., 2020). This may be the case in Peru, a country with low expectations of social change in the face of inequality in the population and significant distrust towards authorities due to constant issues of citizen insecurity and political corruption (National Institute of Statistics [INEI], 2020a). This can foster motivations to ignore norms and the rights of others, as the survival demands of an individual or groups with common interests (families, friends, institutions, etc.) prevail over the rules established for an entire society (Villegas, 2011; Zitek & Schlund, 2021). In this sense, dark triad traits may persist in contexts where the benefits of gaining advantages over others outweigh perceived risks, emphasizing the importance of evaluating them in the context (Brito-Costa et al., 2021).

In contrast, during the COVID-19 crisis, it is crucial to analyze which affective dispositions can promote more empathetic and considerate behaviors. In this regard, investigating the foundations of emotional self-awareness is relevant, as they act as antecedents to empathy. In various studies, emotional self-assessment dispositions often significantly predict greater empathetic perspective and concern (Fernández-Abascal & Martín-Díaz, 2019; Jiménez Ballester et al., 2022; Pacheco & Berrocal, 2004). This is consistent since being willing to reflect on one's own emotions is the first step to understanding how others may react to similar experiences. In that line, emotional intelligence promotes psychological well-being and interpersonal relationships (Fernández-Berrocal et al., 2012). From the perspective of Salovey et al. (1995), trait emotional intelligence consists of affective patterns of an intrapersonal nature, i.e., perceiving, understanding, and effectively managing one's own emotions. Emotional attention is self-assessment, awareness of intensity, and the first step to using emotional information effectively (Salovey et al., 1995). Emotional clarity involves believing in the ability to differentiate and specify the reasons for changes in affective states (Boden & Thompson, 2017). Finally, emotional repair is the disposition to address emotions constructively after experiencing conflicting situations or events that generate discomfort (Fernández-Berrocal et al., 2004).

During the pandemic, there were reports highlighting the importance of assessing emotional attention. For instance, it increased compared to periods before the emergence of COVID-19 and was proportionate to high levels of anxiety during this period (Castro & Dueñas, 2022; Panayiotou et al., 2021). Moreover, such attention to one's affective experience favored a greater inclination to seek emotional support from others (Prentice et al., 2020). In contrast, a lower predisposition to identify and regulate emotions has been linked to a reduction in the quality of life during this health crisis (Pallotto et al., 2021; Panayiotou et al., 2021). Although the explicit relationship between emotional intelligence and compliance with health measures has not been explicitly examined, apart from previous years (Sánchez López et al., 2018), previous works suggest that individuals more aware of their emotional experiences tend to reflect more on their actions and decisions, possibly influencing greater adherence to the mentioned measures.

Regarding the joint exploration of dark triad traits with total scores of trait emotional intelligence, two meta-analyses report that Machiavellianism and psychopathy have a negative relationship with this overall emotional domain, while narcissism has a null or positive association (Miao et al., 2019; Michels & Schulze, 2021). However, when these associations are deepened for each component, more differentiated information is obtained. For example, individuals with a higher tendency toward Machiavellianism seem to have no issues perceiving their own emotions; however, they struggle to discern between them and regulate negative emotions (Al Aïn et al., 2013; Bonfá-Araujo & Hauck Filho, 2023; García et al., 2015). Individuals with high psychopathy scores appear to present more notable difficulties, as apart from not regulating negative emotions, they also tend not to attend or differentiate their own emotions (Malterer et al., 2008; Newman & Lorenz, 2003). Additionally, the evidence is mixed for those with grandiose narcissistic tendencies, as they have been linked to positive emotional self-perceptions (Casale et al., 2019; Petrides, 2011; Ruiz et al., 2012), but a meta-analytic review suggests that associations with emotional traits are null (Miao et al., 2019). In general, it is necessary to assess emotional components separately to observe which emotional attributes are more associated with each dark triad domain.

Age and sex are also important variables in understanding connections between personality traits as they influence the biopsychosocial development of individuals (Goldberg et al., 1998). Between the two variables, age consistently appears to condition the expression of each examined trait, as

longitudinal studies have associated it with both a higher manifestation of dark traits in young individuals (Hartung et al., 2022) and a better disposition to assess, discern, and improve emotional states at older ages (Parker et al., 2021). Concerning sex, men tend to have higher scores in dark triad traits compared to women, but sex differences in emotional intelligence are not clear, except for emotional attention, expressed more in women (Sánchez Núñez et al., 2008). In line with other studies, a recent meta-analysis points out that the relationship between psychopathy and emotional intelligence is stronger when there are fewer female participants, and the negative link between Machiavellianism and emotional intelligence is higher in younger age groups (Michels et al., 2021). Thus, these findings suggest the need to consider sociodemographic variables in research on emotional and antagonistic traits.

Collectively, there are reasons to suggest that trait emotional intelligence and the dark triad can be examined in a model with a common origin and not as isolated variables. In the literature, it is reported that trait emotional intelligence, assessed as a trait, has more robust correlations with extraversion and neuroticism from the Big Five model, compared to the model of intelligence as emotional ability (Sánchez-García et al., 2016). In this context, trait emotional intelligence seems to be oriented towards the success of social interactions while also fostering a tendency for self-awareness and effective management of negative emotionality (Alegre et al., 2019). Concurrently, antagonistic traits also have significant associations with Big Five traits such as low agreeableness and conscientiousness (Muris et al., 2017). These findings suggest that trait emotional intelligence and the dark triad have an underlying basis of other manifestations of personality traits, and it is plausible to integrate them at the same level. Thus, it is possible to evaluate a system of multiple relationships consisting of interpersonal aversive personality traits (dark triad) and emotional traits (trait emotional intelligence) at the same level of organization (Cramer et al., 2012).

This perspective is feasible through network analysis, which allows for the examination of complex psychological variables encompassing simultaneous relationships between behavior, affect, cognition, and other aspects that shape personality. Some advantages of this model include partial associations that control shared variance among psychological, demographic, and nominal variables (Epskamp & Fried, 2018), as well as identifying the most relevant domains based on the strength and number of connections in the network, useful for suggesting preventive or intervention actions (Jones et al., 2021). Additionally, when demographic variables are added, it can address an interaction system from Bronfenbrenner's socio-ecological model (Crawford, 2020). In the context of this study, such a model is examined as the complex interaction between individual factors (sex, age, personality), close and community relationships (constructive or harmful social interactions), and broader social factors (social norms and health guidelines for COVID-19) to understand interactions between subsystems.

Objectives and hypotheses of the present study

Given that the literature mentioned suggests that age has significant associations with both the expression of dark triad traits and emotional intelligence, age is posited, even during the pandemic, as one of the most central variables (more connections and magnitude of relationships) in the entire network. This hypothesis seems more likely to be confirmed than others because most studies do not relate specific components of emotional intelligence, making it challenging to find a consistent emotional pattern with all aversive traits. However, in that regard, there is agreement in the literature regarding the direction of associations between aversive and emotional traits, and a second hypothesis can be proposed: specifically, that primarily psychopathy, in addition to Machiavellianism, is negatively related to components of trait emotional intelligence, except for narcissism.

Therefore, the first objective of this study was to identify the variables with higher centrality during the pandemic in a network model that includes the dark triad, trait emotional intelligence, adherence to social distancing, age, and sex. The second objective was to expand existing knowledge on the relationship between the dark triad, components of trait emotional intelligence, compliance with measures such as social distancing, and demographic data such as age and sex.

Method

Participants

Participants were selected through intentional non-probabilistic sampling. Selection criteria included gathering data from Peruvian citizens aged 18 and above residing in Lima during the 2021

pandemic period. The sample size was determined considering a significance level of .05, a statistical power of 0.95, a minimum effect size of 0.2 (Ramos-Vera, 2021), resulting in a minimum of 200 participants. However, in the present study, this number was expanded with previously analyzed information on antagonistic personality traits and emotional traits (Ramos-Vera et al., 2023), this time with emphasis on a pandemic context in Peru. Initially, there were a total of 316 participants; however, 5 were identified to have linear response tendencies and were excluded from the dataset. Finally, 311 Peruvian adults ($M = 33.95$; $SD = 11.6$) participated in the present study, of which 65 % were women (204) and 35 % were men (107). Participants' ages ranged from 18 to over 65 years, with the majority having a university education (62 %, 194) compared to secondary education (38 %, 117).

Instruments

Dirty Dozen Dark Triad (DDDT; Jonason & Webster, 2010). It measures three personality traits: Machiavellianism (tendencies of manipulation, deceit, exploitation of others), subclinical psychopathy (insensitivity, amorality, cynicism, and lack of remorse), and subclinical narcissism (need for admiration, prestige, special treatment from others). The questionnaire version adapted for the Peruvian context by Lonzo et al. (2020) consists of 12 items with five response options (1: *never* to 5: *almost always*) in Likert format. The reliability, measured by the omega coefficient in this study, was .82 for Machiavellianism, .60 for subclinical psychopathy, and .80 for subclinical narcissism. The fit of the three-factor model with the DWLS estimator, which does not assume normality, demonstrated adequate values of CFI = .98, TLI = .98, RMSEA = .06, and SRMR = .06.

Trait Meta Mood Scale (TMMS-24; Fernández-Berrocal et al., 2004). This is a 24-item scale in Spanish that measures emotional intelligence as a trait using a Likert scale (1: *not at all* to 5: *totally agree*). It is based on the domains of attention (degree of attention and recognition of one's own emotions), clarity (degree of understanding and differentiation of emotions), and emotional repair (changing negative emotional states and prolonging positive ones) (Salovey et al., 1995). In this study, the reliability of scores measured by the omega coefficient had coefficients of .83 for attention, .86 for clarity, and .81 for emotional repair. The fit of the three-factor model with the aforementioned estimator had fit indices of CFI = .96, TLI = .96, RMSEA = .09, and root mean square residual (RMR) = .08.

Sociodemographic Data Questionnaire. A questionnaire was conducted with basic data such as age, sex, level of education, and compliance or non-compliance with social distancing in the last 30 days.

Procedures

During the second semester of the year 2021, the present research was conducted using a virtual form distributed in adult communities through social media platforms such as Facebook and WhatsApp. This form provided information about the study's objectives, offering details about the process of collecting confidential and anonymous data. After the completion of surveys, the data were cleaned and organized for subsequent statistical analysis.

Ethical Considerations

This study was carried out following the guidelines and approval of the Ethics Committee of César Vallejo University (Project Record I2020120110491919D - 54132). This includes practices to ensure the well-being, dignity, and autonomy of participants, encompassing privacy and confidentiality of the collected information. Additionally, it was ensured that participation was voluntary, and participants could withdraw at any time without consequences. The procedures mentioned were conducted in accordance with the guidelines of the 1964 Declaration of Helsinki and Article 27 of the professional ethics code of the College of Psychologists of Peru.

Data Analysis

Analyses were conducted using R version 4.2.2 (R Core Team, 2013), and statistical packages including qgraph (Epskamp et al., 2012), bootnet (Epskamp & Fried, 2023), huge (Jiang et al., 2019), psych (Revelle, 2017), networktools (Jones, 2020), and Clique-Percolation (Lange, 2021). As the data followed a non-normal distribution, non-parametric statistics, such as the mentioned huge package, were used. A network was estimated that integrated personality variables, compliance with social distancing during the pandemic, and influential demographic variables in the dark triad and trait emotional intelligence, such as age and sex (Fernández-Berrocal et al., 2012; Michels & Schulze, 2021).

In this graphical model, each element is represented by “nodes” (circles: variables), connected by “edges” (lines: relationships). Edges indicate regularized partial correlations between psychological variables, controlling for relationships with other components of the network, avoiding spurious associations (Epskamp & Fried, 2018; Waldorp & Marsman, 2021). To identify domains with a greater number and magnitude of connections influencing other communities in the network, measures of bridge-expected influence were reported (Jones et al., 2021; Ramos-Vera & Serpa-Barrientos, 2022). Similarly, to reinforce findings of relevant nodes in the network, the Clique-percolation method was used, detecting nodes belonging to multiple groups or communities simultaneously (Lange, 2021). Parameters used were $k = 3$, indicating three or more strongly connected nodes, and $I = 0.15$, indicating the minimum magnitude of connection between all nodes greater than three. Moreover, the predictability index is represented by a ring around the nodes, indicating which variable is most predicted by the others (Haslbeck & Waldorp, 2018). Finally, bootstrap tests are post-hoc analyses applied to demonstrate the stability of relationships, with at least 1700 samples of relationship replicas.

Results

Table 1 displays the descriptive statistics of participants’ responses based on the measures used in the estimated network. Among the dark triad traits, narcissism had the highest mean (10.40), while emotional repair had the highest mean (31.03) in interpersonal emotional intelligence. The domain with the highest bridge centrality values was emotional attention (1.20), followed by narcissism (0.99), and emotional clarity (0.54). Regarding predictability, i.e., nodes most predicted by other nodes (R^2), the domain of Machiavellianism had the highest value of the mentioned index (49 %), followed by psychopathy and emotional repair (both 37 %). In terms of centrality (bridge-expected influence), higher values of this index were observed in the emotional attention component (1.20).

Table 1

Descriptive Analysis, Bridge Centrality Values, and Predictability of the Network

Variable	<i>M</i>	<i>SD</i>	g_1	g_2	C.V.	R^2
Machiavellianism	7.68	2.92	0.74	0.33	-2.04	0.49
Psychopathy	8.66	2.72	0.27	-0.06	-0.13	0.37
Narcissism	10.40	3.55	0.25	-0.15	0.99	0.35
Emotional Attention	28.72	5.19	-0.34	0.35	1.20	0.23
Emotional Clarity	30.13	4.82	-0.48	0.84	0.54	0.36
Emotional Repair	31.03	4.33	-0.67	2.08	-0.20	0.37
Age	33.95	11.6	0.45	2.11	-0.91	0.23
Sex	1.65	0.47	-0.66	-1.57	0.16	0.08
Social Distancing	0.9	0.36	-3.5	9.81	0.39	0.05

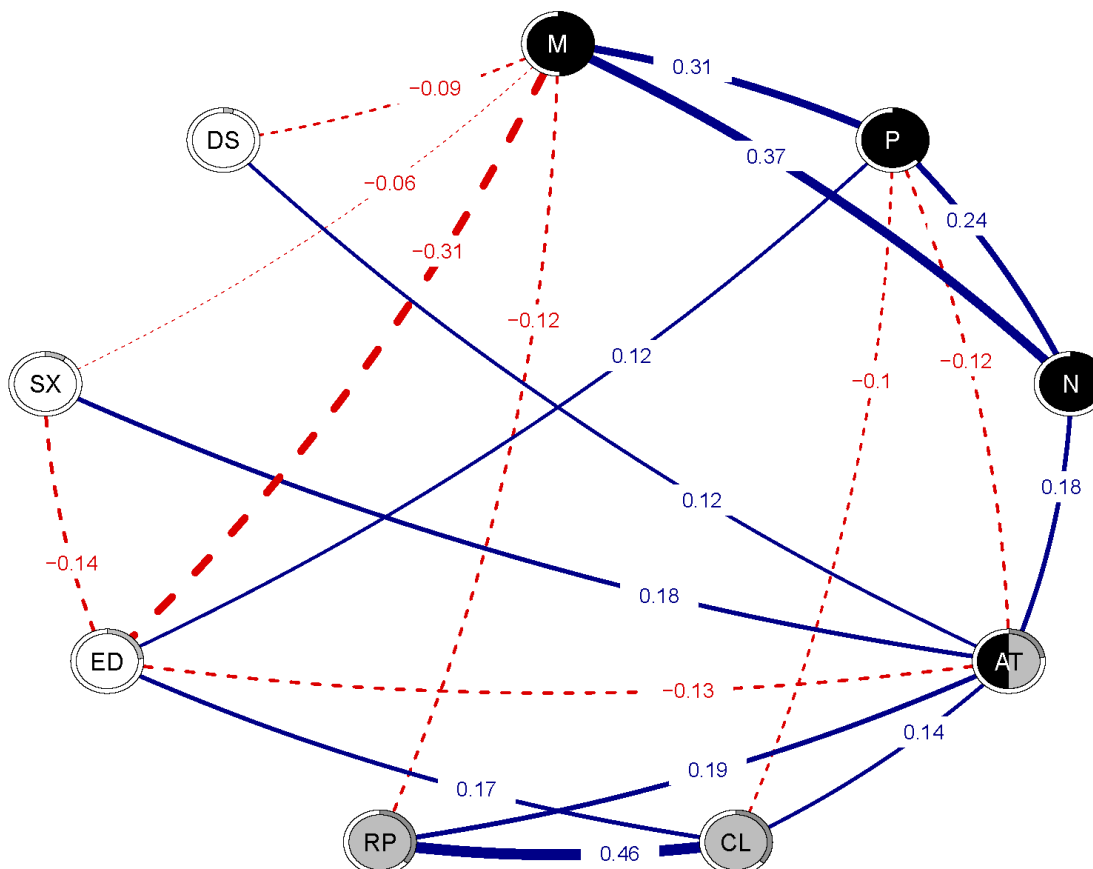
Note. *SD*: standard deviation; g_1 : skewness, g_2 : kurtosis, C.V.: centrality values (bridge expected influence), R^2 : predictability. Sex codes: 1 = men, 2 = women

In Figure 1, the network structure of partial correlations among the aforementioned personality traits, social distancing, and demographic variables is observed. Negative partial correlations between subclinical psychopathy and emotional attention ($r = -.12$; $p < .05$) and emotional clarity ($r = -.10$; $p < .05$), and a positive correlation with age ($r = 0.12$; $p < .05$), stand out among others. Machiavellianism was negatively associated with emotional repair ($r = -.12$; $p < .05$), age ($r = -0.31$; $p < .05$), and adherence to social distancing ($r = -0.09$; $p < .05$); while subclinical narcissism had a positive relationship with emotional attention ($r = .18$; $p < .05$). Similarly, positive associations are reported between dark triad traits ($r = .24$ to $.37$; $p < .05$) and between dimensions of trait emotional intelligence ($r = .14$ to $.46$; $p < .05$).

On the other hand, emotional attention was positively related to adherence to social distancing ($r = .12$; $p < .05$), to sex (women, $r = .18$; $p < .05$), and negatively with age ($r = -0.13$; $p < .05$). Additionally, the Clique Percolation method detected that emotional attention simultaneously belonged to the grouping of the dark triad and trait emotional intelligence.

Figure 1

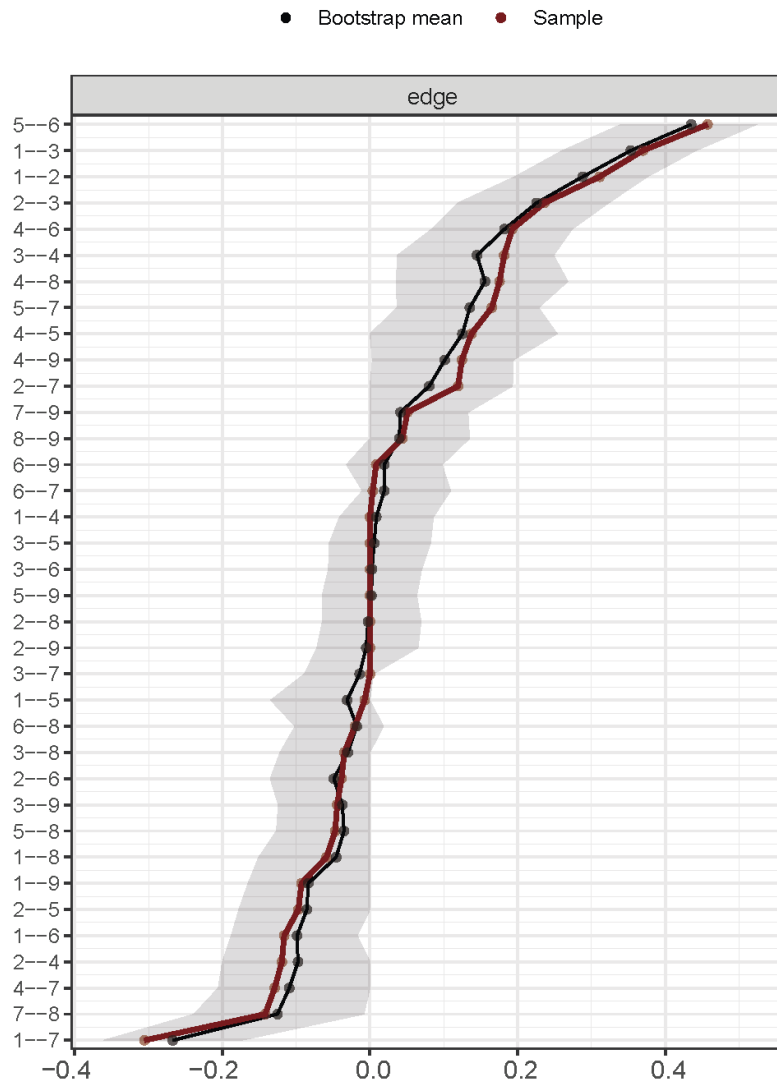
Partial associations network according to dimensions and demographic variables



Note. Solid lines represent positive relationships, and dashed lines indicate negative associations. Rings represent the degree of predictability. Black nodes: dark triad, gray nodes: trait emotional intelligence, white nodes: demographic variables and social distancing. M: Machiavellianism, P: Psychopathy, N: Narcissism, AT: Emotional Attention, CL: Emotional Clarity, RP: Emotional Repair, ED: Age, SX: Sex (1: male, 2: female), DS: Adherence to Social Distancing. The gray and black node indicates that the Emotional Attention node is overlapping with both the dark triad and emotional intelligence groups.

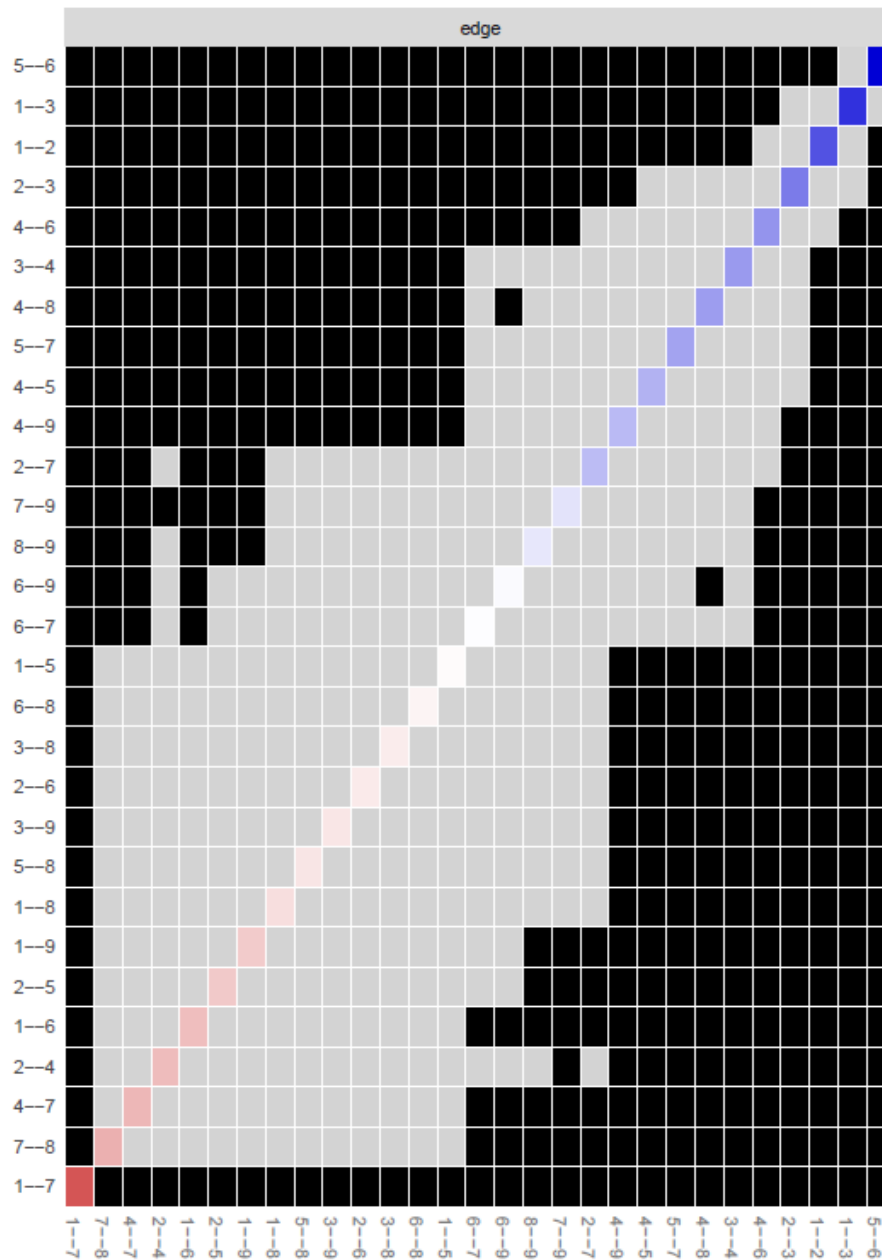
Figure 2 demonstrates the precision of network associations through bootstrapping, where the study's sample estimates (thicker line) align with those of the resampling with 1500 samples (thinner line). Finally, Figure 3 indicates in the upper and lower corners that the significantly highest positive connection was between emotional clarity and emotional repair (square in the upper right corner), and the highest negative connection was between Machiavellianism and age (square in the lower left corner).

Figure 2
Accuracy and stability of the estimated network associations.



Note. Accuracy of connections in the network. 1: Machiavellianism, 2: Subclinical Psychopathy, 3: Subclinical Narcissism, 4: Emotional Attention, 5: Emotional Clarity, 6: Emotional Repair, 7: Age, 8: Sex, 9: Social Distancing. Edge = connection or association.

Figure 3
Network associations differences



Note. Differences in edge centrality in the network. 1: Machiavellianism, 2: Subclinical Psychopathy, 3: Subclinical Narcissism, 4: Emotional Attention, 5: Emotional Clarity, 6: Emotional Repair, 7: Age, 8: Sex, 9: Social Distancing.

Discussion

The primary objective of this study was to assess centrality metrics within a systemic model of network relationships. This was mainly applied to identify the most relevant connector in a network composed of personality variables such as the dark triad and trait emotional intelligence, along with other sociodemographic variables. This approach is justified due to the complex nature of socioemotional interactions and their variability in crisis situations, such as the COVID-19 pandemic (Brito-Costa et al., 2021). This analysis is particularly relevant in a South American country that has faced significant challenges in containing the virus's spread and experienced significantly elevated mortality rates globally (CEPAL, 2022).

From a systemic perspective, among the most crucial variables that supported the entire network through their connections, we highlight that it was not just age, as initially proposed. Instead,

the emotional attention domain of trait emotional intelligence had the highest number of connections (7 out of 8 possible) with other variables throughout the network. Simultaneously, the Clique-Percolation method detected that emotional attention had overlapping characteristics with both the dark triad and trait emotional intelligence groups. Attention to emotions involves at least three clear characteristics: an orientation toward self-assessment of emotional processes, awareness of the intensity of affective signals, and represents the adaptive initial phase of emotional information, impacting overall intrapersonal and interpersonal well-being perception (Boden & Thompson, 2017).

In this regard, emotional attention acted as a "bridge" between the domains of the dark triad and trait emotional intelligence, but it also promoted adherence to social distancing measures, as well as a better predisposition to assess one's own emotions in women and younger participants. Firstly, this suggests that both groups composed of personality traits share common characteristics with emotional attention. For instance, in the present study, the trait of self-assessment or intrapersonal attention served as a common link to narcissism, as the latter implies a prioritized focus on self-image and self-assessment to maintain a positive perception of oneself in the eyes of others (Grijalva & Zhang, 2016). Thus, findings reporting positive correlations between these variables in previous studies are plausible (Ash et al., 2023; Ruiz et al., 2012). In contrast, a lower awareness of internal affective processes may be a distinctive feature of individuals with elevated levels of psychopathy, which does not favor adequate emotional regulation, as indicated by previous research (Blair & Mitchell, 2009; Malterer et al., 2008).

Secondly, emotional attention was crucial in the Peruvian context of the pandemic, as it facilitated adherence to social distancing measures. In Peru, the fear of COVID-19 contagion increased proportionally with the number of affected family members or acquaintances and the constant dissemination of related news (Santa-Cruz-Espinoza et al., 2022). This could lead individuals who are more aware of both their physical and emotional well-being to show a greater willingness to follow social distancing measures. In this way, they sought to protect not only their own well-being but also that of close and more vulnerable individuals (Panayiotou et al., 2021). On the other hand, emotional attention also had a negative connection with age and a positive connection with the sex node (women's group). With experience, individuals tend to have a better self-perception of emotional abilities and may be more selective about what to worry about, in contrast to younger individuals who tend to be more emotionally reactive (Kunzmann et al., 2014). Regarding women, this association could be due to early socialization valuing emotional expression more than in men, leading them to have more contact with their affective experiences. At the same time, this is reflected in findings among Peruvian women regarding increased attention to negative emotions during the pandemic (Fischer & LaFrance, 2015; Pedraz-Petrozzi et al., 2021).

As a second objective, the aim was to assess the relationships between the mentioned personality variables, compliance with social distancing, and other sociodemographic measures such as age and sex, providing a more contextualized understanding of associations with the health crisis and underlying biosocial factors. One of the most noteworthy findings was that Machiavellianism was negatively associated with complying with social distancing measures to prevent the virus's spread. Although this connection was one of the weakest in the entire network, it aligns with previous studies where individuals with high Machiavellian scores tend to bypass health measures such as social distancing or mask-wearing (Chávez-Ventura et al., 2022; Triberti et al., 2021). These behaviors have also been reported in the Peruvian context, where young people attended clandestine social gatherings despite health controls (Ministerio del Interior, 2021). This is also relevant to the association found between Machiavellianism and younger age, as the transition to adulthood may reveal a certain immaturity in using manipulation as the easiest way to obtain what they want without considering the health risk to themselves and others (Götz et al., 2020).

In the findings of associations between the dark triad and emotional intelligence, it stands out that Machiavellians showed limited resources for regulating their negative emotions. This aligns with findings suggesting that these individuals use these emotional states to exert more control and manipulation over others (Abell et al., 2016). On the other hand, there is evidence that more Machiavellian individuals faced negative emotions maladaptively during the pandemic (Mojsa-Kaja et al., 2021), so they might employ tactics such as exaggerating their affective states to gain economic advantages or presenting themselves as a solution for vulnerable individuals to obtain benefits regardless of the crisis situation (Hardin et al., 2021). Equally significant, manipulative traits likely

played a crucial role in the occurrence of high psychological violence in Peru during the pandemic, surpassing even physical violence levels (INEI, 2022b).

Regarding individuals with a higher prevalence of psychopathic traits, they were associated with lower emotional attention and emotional clarity. This may indicate an orientation towards seeking quick benefits that provide intense sensations, reinforced when ignoring the intensity and understanding of their own affective states (Malterer et al., 2008; Newman & Lorenz, 2003).

Finally, narcissistic individuals reported higher emotional attention, in contrast to other aversive traits. This supports some previous studies that also found this positive association (Casale et al., 2019; Ruiz et al., 2012), which is consistent with the selfish motivations of attending to one's own needs (Grijalva & Zhang, 2016), even emotional states, whether positive or negative. Therefore, as suggested by other studies, when health is at risk, narcissistic individuals feel more threatened, prioritizing self-care, even if it involves conflict with others or defending conspiratorial beliefs about the origin of the virus and its spread (Grubbs et al., 2022; Hardin et al., 2021; Sternisko et al., 2021).

Regarding limitations, the findings are not generalizable to the entire study population, given the type of sampling and the number of participants used. Similarly, causal relationships are not intended to be attributed through self-report instruments. Concerning data collection, it was based on a number of participants from previous personality studies (Ramos-Vera et al., 2023) and was conducted online due to health restrictions in the country. Subsequent studies should verify if the same results are obtained through traditional means such as pen and paper. Regarding the measure of emotional attention, it did not distinguish in the assessment of positive or negative affective responses, for a better explanation with each variable. Finally, although the relationship between Machiavellianism and low adherence to social distancing was statistically significant, compliance responses to such measures prevail, so future studies should explore this association in more detail. This study is also a significant contribution to the literature on personality traits, especially in the context of Hispanoamerica and during a pandemic, as far as we know, there are very few studies examining harmful interpersonal traits and emotional characteristics.

Conclusion

The results suggest that emotional attention was a crucial component during the pandemic in the Peruvian context, which should be explored to reduce manipulative and insensitive tendencies, and promote self-care in individuals through social distancing, in comparison to Machiavellianism. However, it also seems to have favored narcissistic tendencies for a greater focus on one's own needs. Overall, it appears necessary to explore trait emotional intelligence through its components, as this provides detailed information on which emotional traits can either prevent or reinforce both antagonistic personality traits and public health measures during the pandemic. Therefore, future research should delve into which specific traits might be more effective in promoting the benefits of emotional self-assessment. This could be useful in new critical health periods or other contexts (academic, professional, political, etc.) to diminish motivations for personal gain, both in face-to-face and virtual interactions.

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