Gisele Magarotto Machado

CAPACIDADE DISCRIMINATIVA DO INVENTÁRIO DIMENSIONAL CLÍNICO DA PERSONALIDADE - 2 PARA TRAÇOS DO TRANSTORNO DE PERSONALIDADE ANTISSOCIAL

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Dissertação apresentada ao Programa de Pós-Graduação Stricto Sensu em Psicologia da Universidade São Francisco para obtenção do título de mestre.

ORIENTADOR: PROF. DR. LUCAS DE FRANCISCO CARVALHO

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Gisele Magarotto Machado defendeu a dissertação **"CAPACIDADE DISCRIMINATIVA DO INVENTÁRIO DIMENSIONAL CLÍNICO DA PERSONALIDADE – 2 PARA TRAÇOS DO TRANSTORNO DE PERSONALIDADE ANTISSOCIAL"** aprovada pelo Programa de Pós-Graduação Stricto Sensu em Psicologia da Universidade São Francisco em 28 de agosto de 2020 pela Banca Examinadora constituída por:

Prof. Dr. Lucas de Francisco Carvalho
Orientador e Presidente

Prof. Dr. Wagner de Lara Machado
Examinador

Prof. Dr. Nelson Hauck Filho
Examinador

PROTOCOLO DE ASSINATURA(S)

O(s) nome(s) indicado(s) para assinatura, bem como seu(s) status em 10/09/2020 é(são) :

☑ Wagner de Lara Machado (Signatário)
Tipo: Assinatura Eletrônica

☑ Lucas de Francisco Carvalho (Signatário)
Tipo: Assinatura Eletrônica

Nelson Hauck Filho (Signatário)
Tipo: Assinatura Eletrônica

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Existe uma lenda chinesa conhecida como “Akai Ito” (Fio vermelho do destino). De acordo com esta lenda, quando uma pessoa nasce os deuses amarram um cordão vermelho nos tornozelos de pessoas que vão se encontrar ao longo da vida, não importa o que aconteça. A lenda tem os seguintes dizeres: “um fio invisível conecta os que estão destinados a conhecer-se, independentemente do tempo, lugar ou circunstância. O fio pode esticar ou emaranhar-se, mas nunca irá partir”. Eu só posso agradecer pelos deuses terem amarrado essa linha vermelha no tornozelo de tanta gente maravilhosa que cruzou o meu caminho até aqui.

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disse que se o mestrado era meu sonho, não havia dúvidas de que a escolha certa era ficar. Essa dissertação nunca ficaria pronta sem vocês. Eu amo vocês demais!

Agora, vocês que me perdoem, mas preciso falar de um monte de gente, então paciência! Antes de mais nada preciso dizer que se algum dia eu fiz comida para você, provavelmente gosto de você. Tenho dificuldades em olhar nos olhos das pessoas e dizer que elas são importantes, então faço isso de outras formas, cozinhar é a principal (aparentemente escrevendo eu também consigo, rs). Peço desculpas antecipadas caso não cite o nome de alguém aqui, mas veja, posso te fazer um doce pelo seu perdão.

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Logo depois veio a Letícia... outra menina alta, cabelo preto. Ficamos conhecidas como as trigêmeas (eu, ela e Ju). Não bastava sermos parecidas fisicamente, tínhamos que andar juntas pelos corredores da USF. Diga-se de passagem, muitos professores confundiam a gente no começo dessa jornada. Lê, você se tornou uma irmã para mim também, parceira e confidente. Você é id junto comigo, me ensinou o deboche, me ensinou a rir das desgraças e ensinou as expressões preferidas da minha vida (as quais

não devo citar aqui, hahaha). Além de tudo, a Lê é minha irmãzinha de orientação. A construção deste trabalho teve muita influência dela, que leu, releu, palpitou e trocou ideias comigo sobre como ele poderia ser melhor. Pouco depois de ficarmos amigas ela disse para mim que na primeira reunião que tivemos com o Lucas, ela ficou me olhando e pensando que eu devia ser uma pessoa muito séria e estudiosa, que ficou até com um medinho de mim. Acertou sobre o estudiosa. Lê, leia as palavras que escrevi para a Ju como se fossem para você e Ju, faça o contrário. Vou levar vocês, minhas trigêmeas, para a vida todinha, "super gêmeas, ativar".

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fim dos tempos. Gab, seu coração é imenso, obrigada por me acolher nele e estar presente nos momentos em que eu precisei de você.

Logo me aproximei do André... Puts, pensa numa pessoa com cara de brava e sem habilidades sociais. Mas o André, desse jeitinho dele, me convidou para escrever o meu primeiro artigo, fez questão de me enviar uma mensagem dizendo "comemora aí que seu primeiro artigo foi aceito", me ensinou nem sei quantas coisas e sempre teve paciência com os meus erros. Além disso, gosto das piadinhas dele, rs. Paulinha foi a próxima... mineira lindimais, uai. A dona de um dos melhores cafés do Lab, que sempre mantêm tudo organizado e me mostra músicas lindas. Paulinha, ainda está na minha missão de vida conseguir te arrastar para os meus rolês. Depois, meu mano Boni (Helder Carlão Boni, para os íntimos), que me ensina cada dia um pouquinho mais sobre o amor, dono da calma, da paciência e das piadas de tiozão. Pensando bem acho que essas piadas de tiozão foram frutos da convivência com os nossos professores. E teve o Léo, que é do Lab. 3, mas é nosso adotado do Lab. 1, que foi no Grimma comigo na primeira semana de USF e que vai fazer um show lá comigo assim que a pandemia acabar! Lab 1, que saudades das apostas de café, das piadas e dos jogos de xadrez. Obrigada pela companhia no dia-a-dia de trabalho, pelas risadas, pelos ensinamentos e pela ajuda.

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tem uma luz de outro universo, me ajuda constantemente no meu processo de autoconhecimento e me ajuda a lidar com o meu inconsciente hahaha. Preciso também agradecer ao João Lucas (sim, sei que você odeia o João), que está sempre pronto para acolher, dizer que tudo vai ficar bem, ensinar uma pose, dançar e para ensinar que "dó de quem não gosta de mim que nem de feia pode me chamar".

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porque ele acredita na minha capacidade e não porque tem um estoque da carta +4 do UNO escondido em algum lugar, ou porque assim como a Paola Bracho, está nessa só para se alimentar do desespero dos alunos. Lucas, eu agradeço muito pela sua paciência infinita comigo (convenhamos que é algo a ser estudado), pelo acolhimento e por tudo que me ensinou. Como disse no começo, eu não tenho palavras para descrever a minha gratidão por você.

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Resumo

O transtorno de personalidade antissocial (TPAS) é caracterizado por traços patológicos como impulsividade, tendência a enganar, irresponsabilidade, exposição ao risco e insensibilidade. A pessoa com TPAS pode atingir ou não também critério para o especificador psicopático, que se refere ao rebaixamento em ansiedade e evitação, assim como elevação em busca por atenção, refletindo o estilo audacioso típico da psicopatia. O TPAS está relacionado a diversos prejuízos na vida das pessoas, incluindo comportamentos transgressores, ausência de empatia e comportamentos de risco. A identificação de elevação nos traços de TPAS deve auxiliar profissionais em saúde mental a intervir e diminuir os prejuízos relacionados ao transtorno. Este estudo teve como objetivo verificar a capacidade dos fatores do IDCP-2 para discriminar traços do TPAS e do especificador psicopático, além de investigar as relações entre os traços e criminalidade. O estudo contou com uma amostra de 460 pessoas, sendo 367 da população geral e 93 detentos, que responderam a seis escalas: IDCP-SV, *Structured Clinical Interview for DSM-IV-Personality Questionary*, IDCP-2, *Personality Inventory for DSM-5-*, *Levenson Self-Report Psychopathy* e *Affective and Cognitive Mesure of Empathy*. Este estudo foi dividido em três artigos. O artigo 1, "Investigation on the factors of the Dimensional Clinical Personality Inventory 2 for identification of traits of the antisocial personality disorder", visou verificar a adequação dos fatores do IDCP-2 para a identificação de traços do TPAS. O artigo 2, "Discriminating pathological traits of the antisocial personality disorder and its psychopathy specifier with factors of the Dimensional Clinical Personality Inventory 2", teve como objetivo investigar a capacidade discriminativa dos fatores do IDCP-2 para traços típicos do TPAS e do especificador psicopático e também estabelecer pontos de corte para escores calculados a partir desses fatores. No artigo 2 também foi verificada a capacidade incremental do IDCP-2 em relação ao PID-5. Por fim, o artigo 3, "Antisocial personality disorder traits and criminality: findings from a network analysis with Brazilian adults", teve como objetivo investigar associações entre criminalidade e traços típicos do TPAS, e a associação destes traços com diferentes tipos de crime. Os achados dos estudos conduzidos suportam a recomendação dos fatores do IDCP-2 na prática clínica, visando a triagem de pessoas com padrões típicos do TPAS e do especificador psicopático. Os fatores do IDCP-2 que demonstraram melhor desempenho para diferenciar pessoas com e sem elevação em traços do TPAS foram Antagonismo, Enganosidade e Impulsividade; e para diferenciar pessoas que apresentam elevação em TPAS e também no especificador psicopático os principais fatores foram Antagonismo, Enganosidade e Indiferença. No que diz respeito à criminalidade, as facetas Exposição ao Risco (alta) do PID-5 e Empatia Afetiva (baixa) do ACME se associaram à criminalidade. Além disso, observamos que diferentes traços patológicos foram associados com diferentes tipos de crime e de transgressões.

Palavras chave: empatia; cluster B; acurácia diagnóstica.

Abstract

Antisocial personality disorder (ASPD) is composed of pathological traits, such as impulsivity, deceitfulness, irresponsibility, risk-taking, and callousness. ASPD diagnoses can be accompanied by a psychopathy specifier composed of low anxiousness, low withdrawal, and high attention-seeking, reflecting a boldness stile typical of psychopathy. ASPD is associated with several impairments in people's lives, as criminal behaviors, lack of empathy, and risk behaviors. The identification of elevation in ASPD typical traits can help mental health professionals to intervene in impairments generated as a result of ASPD. This study aimed to verify the capability of IDCP-2 factors for discriminate ASPD and psychopathy specifier traits, as well as to investigate the relationship between these traits and criminality. The sample was composed of 460 Brazilian adults, 367 a community sample, and 93 a prison inmates sample. We administered six scales: IDCP-SV, Structured Clinical Interview for DSM-IV - Personality Questionary, IDCP-2, Personality Inventory for DSM-5, Levenson Self-Report Psychopathy, and Affective and Cognitive Measure of Empathy. Our study was divided into three papers. The paper 1, "Investigation on the factors of the Dimensional Clinical Personality Inventory 2 for identification of traits of the antisocial personality disorder", aimed to verify the capability of IDCP-2 factors for the identification of ASPD traits. The paper 2, "Discriminating pathological traits of the antisocial personality disorder and its psychopathy specifier with factors of the Dimensional Clinical Personality Inventory 2", aimed to investigate the discriminant capability of IDCP-2 factors for ASPD and psychopathy specifier typical traits, as well as establish cutoffs for scores calculated with these factors. We also verified the incremental capacity of IDCP-2 factors over PID-5. Paper 3, "Antisocial personality disorder traits and criminality: findings from a network analysis with Brazilian adults," aimed to investigate the associations between criminality and ASPD traits, as well as the association between specific traits and types of crime. The findings of the conducted studies support the recommendation of IDCP-2 factors in clinical practice, aiming at the screening of typical traits of ASPD and the psychopathy specifier. The IDCP-2 factors that showed better performance in the differentiation of people with and without an elevation in ASPD traits were Antagonism, Deceitfulness, and Impulsivity, and the factor Antagonism, Deceitfulness, and Indifference for people with and without an elevation in ASPD with the psychopathy specifier traits. On criminality, high scores of the PID-5 facet Risk-taking and low scores of Affective empathy of ACME were associated with criminality. We observed that different traits show associations whit different types of crime and transgressions.

Keywords: empathy; B cluster; diagnostic accuracy

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INTRODUÇÃO

Transtornos de personalidade

Os transtornos de personalidade (TP) são tradicionalmente diagnosticados com base no modelo categórico, apesar de existir uma tendência crescente em utilizar modelos diagnósticos dimensionais (Widiger, 2011). Os modelos categóricos fundamentam-se em termos de presença ou ausência de certas características, apresentando a vantagem de direcionar a decisão clínica, já que aponta se o sujeito apresenta ou não o transtorno. No entanto, apresenta a desvantagem da ocorrência de sobreposição de diagnósticos, bem como de grande heterogeneidade de sintomas para um mesmo transtorno (Widiger & Frances, 2002; Widiger & Trull, 2007). Em contrapartida, os modelos dimensionais embasam o diagnóstico em termos de variantes mal-adaptativas de traços de personalidade. Nos modelos dimensionais, os problemas acerca da heterogeneidade e a falta de limites claros entre os diagnósticos são supridas, porém torna-se mais difícil estabelecer um diagnóstico conclusivo (Trull & Durrett, 2005).

O Manual Diagnóstico e Estatístico de Transtornos Mentais (DSM) utiliza em sua quarta versão (DSM-IV-TR; *American Psychiatry Associaton* [APA], 2002), e mantem na quinta versão (DSM-5; APA, 2013), o modelo categórico para o diagnóstico de TP. Contudo, frente à ascensão dos modelos dimensionais, apresenta um Modelo Alternativo para Transtornos da Personalidade (MATP). Este modelo foi incluído na seção III do DSM-5, e apesar de estudos prévios apresentarem resultados promissores acerca da aplicabilidade do modelo (e.g., Zimmermann, Kerber, Rek, Hopwood, & Krueger, 2019), ele ainda é considerado uma proposta em estudo. O MATP é um modelo híbrido, ou seja, considera características dimensionais e categóricas para diagnóstico dos TP, propondo um diagnóstico baseado na presença de dois critérios. O critério A refere-se à dificuldades na relação com o *self* e relações interpessoais, bem como a prejuízos significativos no

funcionamento da personalidade. O critério B refere-se à presença de traços patológicos de personalidade (APA, 2013). Pessoas diagnosticadas com TP tendem a apresentar inflexibilidade adaptativa (poucas estratégias individuais para lidar com demandas sociais e para resolver problemas), estabilidade tênue (controle inadequado das emoções e formas patológicas de enfrentamento) e tendência a criar e manter vícios e círculos viciosos (Carvalho, 2019; Millon, 2016).

Corroborando os pressupostos dimensionais do critério B do MATP, em 2017 foi proposto o Hierarchical Taxonomy Of Psychopathology (HiTOP; Kotov et al., 2017). Baseado na tradição dimensional, o HiTOP propõe um novo sistema de classificação baseado nos avanços de pesquisas quantitativas sobre a organização das psicopatologias. Esse sistema foi concebido por meio da análise de estudos que versavam sobre traços mal adaptativos da personalidade e sintomas dos diversos transtornos mentais, propondo uma estrutura global que abarca e explica a relação entre todos os transtornos, sintomas e traços. A organização do HiTOP é hierárquica, em cinco níveis, sendo eles: super-espectro/espectro geral, espectros, subfatores, transtornos e componentes e traços mal-adaptativos dos transtornos.

Nessa organização foram incluídos seis espectros, dentre os quais todos os transtornos se agrupam, sendo eles: internalizante (afeto negativo; tendência a experienciar sentimentos desagradáveis como raiva ou ansiedade, comportamentos interpessoais passivos ou hostis e emocionalidade restrita ou instável), transtorno do pensamento (psicoticismo; excentricidade, problemas de percepção e comportamento significativamente esquisito – que difere acentuadamente do esperado), desinibição externalizante (baixa conscienciosidade; irresponsabilidade, impulsividade, comportamentos de risco, distração e descuido), antagonismo externalizante (baixa agradabilidade; insensibilidade, indiferença, traços antissociais, grandiosidade e busca

por atenção), desapego (baixa extroversão; afeto depressivo, o afastamento/reatraimento social e a desconfiança) e somatoforme (transtornos que apresentam tendências a somatizações; único espectro que não abarca traços patológicos e TPs) (Hopwood, Schade, Krueger, Wright, & Markon, 2012; Kotov et al., 2017).

Especificamente, o espectro externalizante, que pode ser caracterizado pela tendência a expressar a angústia/estresse de maneira voltada ao mundo externo (Krueger, McGue, & Iacono, 2001), agrupa transtornos que possuem em comum padrões problemáticos de atitudes, comportamentos e pensamentos direcionados ao mundo exterior (Krueger, Markon, Patrick, & Iacono, 2005). Este espectro é formado por transtornos associados a comportamentos agressivos, antissociais, delinquentes e de violação de regras (Achenbach & Eldebrock, 1978). Este estudo teve foco em um dos TP representados no espectro externalizante (antagonismo externalizante e desinibição externalizante): o Transtorno de Personalidade Antissocial (TPAS).

O Transtorno de Personalidade Antissocial

A prevalência do TPAS na população geral é de 0.2 a 3.3%, enquanto em amostras de sujeitos do sexo masculino que fazem abuso de substâncias ou encontram-se em prisões e ambientes forenses é de aproximadamente 70% (APA, 2013; Hare, 2003). Em situações clínicas a prevalência é de até 30% (APA, 2000). Um estudo brasileiro (Santana et al., 2018) investigou a prevalência de TPs no Brasil (megacidade de São Paulo), com foco nos clusters. Os pesquisadores encontraram prevalência de 2,7% para os transtornos do Cluster B, que contém o TPAS. Esse achado é similar ao que foi observado por Winsper et al. (2019) que encontraram a prevalência mundial de 2,8% para transtornos do Cluster B.

Apesar de o diagnóstico oficial do TPAS ser realizado com base no modelo categórico do DSM-5, estudos prévios apontam que este transtorno apresenta evidências

de dimensionalidade (Carvalho, Hauck-Filho, Pianowski, & Muner, 2019; Marcus, Lilienfeld, Edens & Poytheress, 2006; Walters, 2011). O TPAS é caracterizado por um padrão difuso de desconsideração e violação dos direitos de outras pessoas e dificuldade de se adaptar as normas sociais vigentes. No MATP o TPAS é avaliado a partir da elevação em 7 traços patológicos de personalidade: Insensibilidade, Tendência a enganar, Hostilidade, Impulsividade, Irresponsabilidade, Manipulação e Exposição ao Risco (APA, 2013). Evidências geradas a partir de estudos prévios corroboram a caracterização do TPAS a partir da elevação nestes traços patológicos de personalidade (Anderson et al., 2014; Decuyper, Pauw, Fruyt, Bolle, & Clercq, 2009; Kotov et al., 2017; Strickland et al., 2013; Wygant et al., 2016).

Embora sejam conhecidos os traços patológicos típicos do TPAS, um obstáculo frequente para o diagnóstico deste transtorno é sua sobreposição com a psicopatia (Crego & Widger, 2018). O diagnóstico de TPAS apresentado pelo DSM-5 aproxima-se do diagnóstico de psicopatia apresentado por Hare (2003) no Psychopathy Checklist Revised (PCL-R). Hare (2003) aponta que a psicopatia é um transtorno definido por comportamentos socialmente desviantes e/ou antiéticos, podendo ser violentos ou não, baseados na manipulação, falsidade e sedução para conseguir alcançar os fins que deseja. Para o autor, a psicopatia pode ser dividida em dois fatores. O fator 1 é caracterizado por sintomas afetivos (falta de remorso ou culpa, falta de empatia, falha em aceitar responsabilidade pelas próprias ações) e interpessoais (glamour e charme superficial, grandiosidade, mentira patológica e tendência a enganar). Por sua vez, o fator 2 é caracterizado por sintomas referentes ao estilo de vida (estilo de vida parasitário, falta de objetivos realistas a logo prazo e irresponsabilidade) e a tendências sociais desviantes (pobre controle de comportamentos, delinquência juvenil e versatilidade criminal). O diagnóstico do TPAS associa-se como fator 2, apontando para a sobreposição dos fatores

relacionados ao estilo de vida e comportamentos sociais desviantes. (Trull & Durrett, 2005).

Críticas foram realizadas quanto ao diagnóstico do TPAS, apontando que ele seria uma versão incompleta da psicopatia. Patrick e Brislin (2018) explicam que os modelos diagnósticos para o TPAS propostos nas versões anteriores do DSM (III, III-R e IV) foram desaprovados por enfatizar as tendências impulsivas e antissociais do transtorno e representar as características afetivas e interpessoais de forma limitada. No entanto, abordagens suplementares sobre o TPAS em termos de traços de personalidade dimensionais, como a apresentada no MATP, promoveram uma cobertura balanceada tanto das características do núcleo afetivo-interpessoal, quanto das impulsivas-antissociais. (APA, 2013; Patrick & Brislin, 2018; Strickland et al., 2013).

Estudos prévios apontam que o TPAS e a psicopatia apresentam sobreposição quanto à tendência a enganar, insensibilidade exploração, antagonismo, irresponsabilidade, imprudência, busca por sensações e impulsividade (Decuyper et al., 2009; Miller & Lynam, 2003; Miller, Lynam, Widiger, Leukefeld, 2001). Estudos realizados com o modelo triárquico da psicopatia (Patrick, Fowles, & Krueger, 2009) sugerem que existe sobreposição entre o TPAS e a psicopatia no que diz respeitos às dimensões *meanness* (tendência ao maquiavelismo, ausência de remorso, desprezo pelos outros, incluindo traços de insensibilidade, hostilidade e exploração) e *disinhibition* (associado a impulsividade, tendências antissociais, dificuldade com o controle de impulsos e com planejamento), ao passo que indicam que a dimensão *boldness* (associado a características como dominância, confiança, assertividade social, baixa ansiedade) seria exclusiva da psicopatia (Wall, Wygant, & Sellbom, 2014; Venables, Hal, & Patrick, 2014). Ainda que o papel do *boldness* seja controverso na literatura da área (Fuller, 2019), há autores que defendem o *boldness* como reflexo dos postulados de Lykken (1995) e de

Cleckley (1941), e apontam que ele seria, de fato, a chave para a diferenciação entre o TPAS e a Psicopatia (e.g. Lilienfeld et al., 2012; Patrick, Venables, & Drislane, 2013; Wall et al., 2014).

No MATP do DSM-5 a psicopatia é apresentada como um especificar do TPAS. Este especificador apresenta traços típicos do *boldness.* O especificador psicopático é determinado pela ausência de medo ou de ansiedade e por um estilo audacioso que maquia comportamentos mal-adaptativos, possui um componente de potência social e um de imunidade ao estresse representados, respectivamente pela busca de atenção/baixo retraimento e pela ausência de medo/baixa ansiedade (APA, 2013). Achados prévios sustentam a relação do modelo proposto na seção III com medidas típicas de psicopatia (Anderson et al., 2014; Crego & Widiger, 2014; Strickland et al., 2013).

Neste trabalho, o TPAS será compreendido a partir da perspectiva dimensional, tendo como um de seus embasamentos principais o MATP do DSM-5. Neste modelo a psicopatia é tratada como um especificador do TPAS. No MATP ambos os transtornos são caracterizados a partir da elevação dos mesmos traços de personalidade (impulsividade, irresponsabilidade, exposição ao risco, hostilidade, manipulação, insensibilidade e tendência a enganar), com adição de alguns traços representantes da dimensão *boldness* para o especificador psicopático (baixa ansiedade, busca por atenção, baixa evitação) (APA, 2013). Desta forma, no presente estudo a psicopatia é entendida como um especificador do TPAS.

Ainda que existam divergências quanto aos traços que compõem o TPAS e a psicopatia, existe um ponto de convergência fundamental entre os transtornos: sua associação com comportamentos desviantes e criminosos. Em estudo de metanálise foi encontrado que as dimensões de personalidade que mais apresentam relação com o comportamento antissocial, agressivo e transgressor são a (baixa) agradabilidade e

(baixa) conscienciosidade (Jones, Miller, & Lynam, 2011). A baixa agradabilidade e baixa conscienciosidade são típicas do TPAS e da psicopatia (Decuyper et al., 2009). O TPAS e a psicopatia são frequentemente associados a abuso de álcool e drogas (Colpaert, Vanderplasschen, De Maeyer, Broekaert, De Fruyt, 2012; Goldstein et al., 2007), comportamentos de risco (Kelley & Petry, 2000), violência (Yu, Geddes, & Fazel, 2012), criminalidade (Jones, Miller, & Lynam, 2011; Vize, Miller, & Lynam, 2018) e reincidência criminal (Shepherd, Campbell, & Ogloff, 2016).

Avaliação do TPAS e do especificador psicopático

Há várias formas de avaliar TP, podendo ser utilizadas entrevistas, observações, inventários, técnicas projetivas e instrumentos de autorrelato. Atualmente os instrumentos de autorrelato são os mais utilizados na avaliação de traços saudáveis e patológicos da personalidade (Vasconcellos et al., 2018). Carvalho, Bartholomeu e Silva (2010), em trabalho que investigou os instrumentos de avaliação psicológica disponíveis no Brasil para a avaliação de TP, identificaram lacunas referentes a pesquisas e instrumentos específicos para esta finalidade. Em revisão recente, Carvalho, Gomes e Silva (2019) reafirmaram os déficits em relação à avaliação de TP no contexto nacional. Os autores sugerem que estudos sejam realizados visando a verificação de propriedades psicométricas e a acurácia de instrumentos clínicos para a avaliação de TP. Buscando suprir deficiências e trazer avanços para o campo da avaliação psicológica, Carvalho e Primi (2015) desenvolveram o Inventário Dimensional Clínico da Personalidade (IDCP), um instrumento de autorrelato que visa avaliar traços patológicos. Estudos foram realizados visando aprimorar o IDCP, o que culminou em sua segunda versão, o Inventário Dimensional Clínico da Personalidade 2 (IDCP-2; Carvalho & Primi, no prelo).

O IDCP-2 é um teste de autorrelato que avalia traços patológicos de personalidade. É composto por 206 itens, que avaliam 47 traços patológicos da personalidade agrupados em 12 dimensões (Dependência, Agressividade, Instabilidade de Humor, Excentricidade, Necessidade de Atenção, Desconfiança, Grandiosidade, Isolamento, Evitação a Críticas, Autossacrifício, Conscienciosidade e Inconsequência). As correlações entre os escores totais das dimensões do IDCP e IDCP-2, no geral, são superiores a 0,70, indicando que os achados com a versão prévia do teste são generalizáveis para o IDCP-2.

O IDCP-2 contempla traços típicos de diversos TPs e é capaz de identificar níveis patológicos destes traços (Abela, Carvalho, Cho, & Yazigi, 2015). Achados prévios indicam a adequação do instrumento para uso clínico no rastreio destes traços típicos de TP, como o Transtorno de Personalidade Obsessivo-Compulsivo (Carvalho, Costa, Otoni, & Junqueira, 2019) e o Transtorno de Personalidade Dependente (Carvalho, Pianowski, & Gonçalves, 2019). No entanto, não encontramos estudos com foco na verificação da capacidade dos fatores do IDCP-2 para a avaliação de traços típicos do TPAS e do especificador psicopático.

O IDCP-2 é composto por fatores que avaliam traços apontados pela literatura como típicos do TPAS e do especificador psicopático (Anderson et al., APA, 2013; Kotov et al., 2017; Wall et al., 2014; Wygant et al., 2016): Antagonismo (i.e., conduta agressiva e interesse por agressividade), Indiferença (i.e., falta de interesse pelos problemas dos outros), Impulsividade (i.e., estilo imprudente e pouco ponderado), Tomada de risco (i.e., estilo aventureiro e imprudente, tendência à exposição ao risco e busca por situações perigosas), Enganosidade (i.e., tendência a usar mentiras e ludibriações para atingir seus objetivos), Sedução e Manipulação (i.e., tendência à manipular para obter a atenção das pessoas, utilizando muitas vezes a sedução) e Busca por atenção (i.e., necessidade de ser

o centro das atenções). Estudos prévios encontraram propriedades psicométricas favoráveis para esses fatores (Carvalho, Pianowski, & Miguel, 2015; Carvalho, Sette, & Capitão, 2016; Carvalho, Sette & Ferrari, 2016; Carvalho, 2018).

Na literatura não existe consenso acerca de qual instrumento deve ser utilizado para a avaliação do TPAS; entretanto, de acordo com a literatura da área (Crocker et al., 2005; Dolan & Völlm, 2009; Kotov et al., 2017), foi possível delimitar alguns dos principais instrumentos utilizados para a avaliação desse transtorno: Minnesota Multiphasic Personality Inventory 2 (MMPI-2), Structured Clinical Interview for DSM Axis II Disorders (SCID-II), Personality Inventory for DSM-5 (PID-5), International Personality Disorder Examination (IPDE), Personality Assesment Inventory (PAI), California Psychological Inventory–Socialization scale (CPI-So), e Leisure Activity Inventory (LAI). Muitos desses instrumentos avaliam TP como um todo e possuem escalas específicas para a avaliação de TPAS, no entanto, estes instrumentos não tem escalas para a avaliação do especificador psicopático. Apesar de os instrumentos existentes forneceram informações valiosas sobre os traços típicos do TPAS, poucos deles propõem pontos de corte. Os pontos de corte são uma ferramenta importante para o avança da prática clínica, pois auxiliam no estabelecimento de um diagnóstico e suportam decisões baseadas no processo avaliativo (Dwyer, 1996). Sendo assim, é necessário que sejam propostos pontos de corte para instrumentos que avaliam o TPAS e o especificador psicopático.

Escopo

Como apresentado ao longo da revisão, sujeitos com TPAS (com presença ou não do especificador psicopático) apresentam traços de personalidade e comportamentos que são considerados socialmente aversivos (Anderson et al., 2014; APA, 2013; Decuyper et al., 2009; Kotov et al., 2017; Wall et al., 2014; Wygant et al., 2016). Os prejuízos

provenientes deste TP afetam, de maneira significativa, não somente o sujeito que possui o diagnóstico, mas também as pessoas que o rodeiam e a sociedade como um todo, já que está associada a criminalidade, violência, comportamentos de risco e uso de drogas (e.g., Colpaert et al., 2012; Goldstein et al., 2007; Jones et al., 2011; Shepherd et al., 2016; Vize et al., 2018). Além disso, pessoas com TPAS geram um custo financeiro muito alto para a sociedade (Welsh et al., 2008). Estima-se um custo médio de aproximadamente 65.000 euros (409.500 reais) para pessoas com transtornos de personalidade grave a cada seis meses (Barrett et al., 2005) e acredita-se que o TPAS gera um gasto ainda maior, pois somado ao tratamento ainda existem gastos com os desfechos da criminalidade, como reparo de propriedades e com tratamento de vítimas. A identificação correta de sujeitos com TPAS é essencial para prevenção e intervenção dos prejuízos frequentemente associados ao transtorno (Gibbon et al., 2010; Khalifa et al., 2010). Nesse contexto esta pesquisa tem foco na investigação da adequação dos fatores do IDCP-2 para a avaliação do TPAS e do especificador psicopático.

Este estudo teve como objetivo verificar a capacidade dos fatores do IDCP-2 para discriminar traços do TPAS e do especificador psicopático, além de investigar as relações entre os traços e criminalidade. Para tanto, foram elaborados três artigos: (1) Investigation on the factors of the Dimensional Clinical Personality Inventory 2 for identification of traits of the antisocial personality disorder, (2) Discriminating pathological traits of the antisocial personality disorder and its psychopathy specifier with factors of the Dimensional Clinical Personality Inventory 2, e (3) Antisocial personality disorder traits and criminality: findings from a network analysis with Brazilian adults. Todos os estudos contaram com uma amostra de presidiários, população na qual sabe-se que a prevalência do TPAS e do especificador psicopático são altas (i.e., até 70%; APA, 2013; Hare, 2003).

O artigo (1) Investigation on the factors of the Dimensional Clinical Personality Inventory 2 for identification of traits of the antisocial personality disorder teve como objetivo verificar a capacidade dos fatores do IDCP-2 para a identificação de traços do TPAS. Para tanto, utilizamos o Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012, 2014) como parâmetro de comparação, pois estudos prévios apontam sua adequação para a avaliação de traços típicos do TPAS (Anderson et al., 2014; Wygant et al., 2016). Este estudo apresenta evidências preliminares acerca da adequação dos fatores do IDCP-2 para traços típicos do TPAS e para a discriminação de pessoas com e sem a elevação nestes traços.

Em todos os artigos deste estudo compreendemos o TPAS por meio do MATP do DSM-5 (APA, 2013). No MATP o TPAS é a base do especificador psicopático, ou seja, o especificador psicopático só é considerado a partir da existência do TPAS. Desta forma, optamos por não inserir características do especificador psicopático no artigo 1, já que os traços do TPAS são a base principal do nosso estudo e os traços do especificador psicopático são complementares. A partir dos resultados deste estudo tivemos a primeira evidência de que os fatores do IDCP-2 são úteis para a triagem de traços típicos do TPAS. Estes achados deram base para prosseguir a investigação acerca da adequação destes fatores para a avaliação do TPAS e para iniciar a investigação destes fatores para a avaliação do especificador psicopático.

O artigo (2) Discriminating pathological traits of the antisocial personality disorder and its psychopathy specifier with factors of the Dimensional Clinical Personality Inventory 2, visou investigar a capacidade discriminativa dos fatores do IDCP-2 para traços típicos do TPAS e do especificador psicopático e também estabelecer pontos de corte para escores calculados a partir desses fatores. O estabelecimento de pontos de corte é uma ferramenta importante para a avaliação psicológica (Dwyer, 1996)

e são poucos os instrumentos para a avaliação do TPAS e do especificador psicopático que fornecem essa informação. Neste estudo também usamos o PID-5 (Krueger et al., 2012, 2014) como parâmetro de comparação. Como o artigo 1 forneceu dados sobre evidências de validade dos fatores do IDCP-2 com base em relações com medidas externas, o artigo 2 pode ser executado utilizado métodos mais robustos (e.g., classes latentes, regressão multinomial, curva ROC). A partir deste estudo foi possível agregar evidências acerca da capacidade dos fatores do IDCP-2 para a discriminação de traços típicos do TPAS e do especificador psicopático, além de sugerir pontos de corte para (a) diferenciar pessoas com elevação em traços do TPAS de pessoas sem elevação nesses traços, (b) diferenciar pessoas com elevação em traços do TPAS com especificador psicopático de pessoas sem elevação nesses traços e (c) diferenciar pessoas com elevação em traços de TPAS de pessoas com elevação em traços de TPAS com especificador psicopático.

O artigo (3) Antisocial personality disorder traits and criminality: findings from a network analysis with Brazilian adults, apresenta a investigação das associações entre traços do TPAS e criminalidade, bem como a associação destes traços com tipos específicos de crimes e transgressões. Este estudo não teve foco no IDCP-2 e sim, na criminalidade, enfatizando a necessidade de instrumentos adequados para a avaliação do TPAS.

ARTIGOS

Artigo 1 - Investigation on the factors of the Dimensional Clinical Personality Inventory 2 for identification of traits of the antisocial personality disorder

***Gisele Magarotto Machado[1]**

E-mail: gimagarotto@hotmail.com

https://orcid.org/0000-0003-1983-6636

Telephone number: +55 19 97420-6545

Lucas de Francisco Carvalho[1]

E-mail: lucas@labape.com.br

http://orcid.org/0000-0002-3274-9724

1 – Department of Psychology, Universidade São Francisco - R. Waldemar César da Silveira, 105 - Jardim Cura D'ars, Campinas - SP, 13045-510. Brazil.

***** Corresponding author.

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Abstract

Aim of the study: This study aimed to verify the factors of Dimensional Clinical Personality Inventory 2 (IDCP-2) for the identification of Antisocial Personality Disorder (ASPD).
Material and methods: The sample consisted of 460 Brazilian adults, where 367 were a community sample (aged 18-63 years), and 93 were prison inmates (aged 18-62 years). The participants answered factors from IDCP-2, facets from PID-5, and the Affective resonance factor of the ACME.
Results: The factors of the IDCP-2 showed high associations with the facets of the PID-5, and good discriminatory capacity for the groups of offenders and non-offenders, and the groups with high and low scores in typical features of the ASPD. However, the difference between the offenders and non-offenders was not significant for the Seduction and manipulation factor.
Discussion: The IDCP-2 factors can capture typical features of ASPD, with performance similar to PID-5. The factors of the IDCP-2 showed good performance, although Antagonism, Impulsivity, and Deceitfulness prove to be the bests to identify people with elevation on ASPD traits.
Conclusion: The factors of the IDCP-2 submitted to the investigation seem to demonstrate usability for screening typical features of ASPD.

Keywords: Cluster B; externalizing disorders; empathy; pathological traits

Resumo

Objetivo: Este estudo teve como objetivo verificar os fatores do Inventário Dimensional Clínico da Personalidade 2 (IDCP-2) para a identificação do Transtornos de Personalidade Antissocial (TPAS).
Material e Métodos: A amostra foi composta por 460 brasileiros adultos, dos quais 367 eram da população geral (idade variando de 18 a 63 anos) e 93 detentos de uma unidade prisional (idade variando de 18 a 62 anos). Os participantes responderam à fatores do IDCP-2 e ao fator Ressonância Afetiva da ACME.
Resultados: Os fatores do IDCP-2 demonstraram associações altas com as facetas do PID-5, e boa capacidade discriminativa para os grupos de transgressores e não-transgressores e para os grupos com altos e baixos exores em características típicas do TPAS. No entanto, a diferença entre os transgressores e não-transgressores não foi significativa para o fator Sedução e Manipulação.
Discussão: Os fatores do IDCP-2 são capazes de capturar traços típicos do TPAS, com performance similar ao PID-5. Os fatores do IDCP-2 demonstraram boa performance, no entanto Antagonismo, Impulsividade e Enganosidade demonstraram ser os melhores para identificar pessoas com elevação nos traços do TPAS.
Conclusão: Os fatores do IDCP-2 submetidos à investigação aparentemente demonstram utilidade para a triagem de características típicas do TPAS.

Keywords: Cluster B; transtornos externalizantes; empatia; traços patológicos

INTRODUCTION

Personality disorders (PD) are characterized mainly by a persistent, inflexible, and diffuse pattern that differs substantially from what is socially expected (APA, 2013). PD are associated with losses such as premature mortality, social costs, and morbidity (Moran et al., 2016; Samuels, 2011), and have a high prevalence around the world (Winsper et al. 2019). Antisocial Personality Disorder (TPAS) is directly associated with crime, alcohol and drug abuse and other externalizing behaviors (Colpaert, Vanderplasschen, De Maeyer, Broekaert, De Fruyt, 2012; Goldstein et al., 2007; Jones, Miller, & Lynam, 2011; Miller et al., 2014; Shepherd, Campbell, & Ogloff, 2016; Vize, Miller, & Lynam, 2018; Yu, Geddes, & Fazel, 2012). The prevalence of TPAS ranges from 0.2 to 3.3% in the general population and can reach up to 70% in forensic and prison settings (APA, 2013; Hare, 2003).

ASPD is characterized by a pattern of violation of rules and disregard for the rights of others (APA, 2013). Patients diagnosed with TPAS show elevation mainly in the following personality traits: deceitfulness, irresponsibility, impulsivity, hostility, insensitivity, manipulation, and risk-taking (Anderson et al., 2014; APA, 2013; Decuyper, Pauw, Fruyt, Bolle, & Clercq, 2009; Kotov et al., 2017; Wygant et al., 2016). The correct identification of an individual with TPAS is essential to prevent and intervene in the losses often associated with the disorder (Gibbon et al., 2010; Khalifa et al., 2010). Psychological assessment tests can help in correct identification of this disorder. Our focus was given to the Dimensional Clinical Personality Inventory 2 (IDCP-2; Carvalho & Primi, forthcoming), a self-report scale for the assessment of pathological traits.

The IDCP-2 was developed from reviews of the factors of the original version of the scale (IDCP; Carvalho & Primi, 2015). It consists of 206 items that are grouped into 47 factors. The IDCP-2 contemplates typical pathological traits, and previous findings

suggest the suitability of the scale to screening purposes (e.g., Carvalho, Costa, Otoni, & Junqueira, 2019; Carvalho, Pianowski, & Gonçalves, 2019).

The factors of IDCP-2 are representative of pathological traits, and we believe, based on they description, that some of them represent the core traits of ASPD. as highlighted in the literature (e.g., Anderson et al., 2014; APA, 2013; Decuyper et al., 2009; Kotov et al., 2017; Wygant et al., 2016). The Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012, 2014) also is a instrument for assessment of pathogical traits. Previous findings indicated that specific PID-5 facets can capture typical traits of ASPD (Anderson et al., 2014; Wygant et al., 2016). Based on that, we hypothesized (Table 1) which factors of the IDCP-2 evaluated ASPD pathological traits, and which external measures would relate to these factors.

Table 1. IDCP-2 factors and PID-5 facets corresponding to ASPD traits.

ASPD traits	IDCP-2 factors	PID-5 facets
Dishonesty	Misleading	Deceitfulness
Impulsivity	Impulsivity	Impulsivity
Hostility	Antagonism	Hostily
Risk-taking	Risk-taking	Risk Taking
Irresponsibility	Impulsivity Risk-taking	Irresponsibility
Manipulation	Seduction and manipulation	Manipulativeness
Callousness	Indifference	Callousness

Note. IDCP-2 does not have a factor directly corresponding to the irresponsibility trait, so we selected the Impulsivity and Risk-taking factors to represent it.

Although the validity of the IDCP-2 factors (Table 1) has been observed in previous studies (Carvalho, Pianowski, & Miguel, 2015; Carvalho, Sette, Capitão, & Primi, 2016; Carvalho, Sette & Ferrari, 2016; Carvalho, 2018), we could not find empirical findings focusing specifically on these factors for the assessment of traits of

ASPD. Therefore, this study aimed to investigate the capability of factors of the IDCP-2 for the identification of ASPD pathological traits.

MATERIALS AND METHOD

Participants

The data were collected from two population groups, totaling 460 participants. One sample was composed of 367 Brazilian adults from the general population (community sample), the majority being women (54.8%), and with a high school diploma (40.9%). The participant's age varied between 18 and 63 years (M = 30.37; DP = 9.95). The other sample was composed of 93 prison inmates (inmates sample) from a prison unit in the state of Minas Gerais, the majority being men (90.3%), and with a high school diploma (39.8%) or elementary school diploma (33%).

Instruments

Dimensional Clinical Personality Inventory 2 (IDCP-2; Carvalho & Primi, in press)

The IDCP-2 is a self-report scale for the evaluation of pathological personality traits. This scale is composed of 206 items, 47 factors, and 12 dimensions: Dependency, Aggressiveness, Mood instability, Eccentricity, Attention seeking, Distrust, Grandiosity, Isolation, Criticism avoidance, Self-sacrifice, Conscientiousness, and Inconsequence). The items should be answered on a 4-point Likert scale ranging from 1 = Has nothing to do with me to 4 = Has everything to do with me. In this study, we administered six factors of IDCP-2: Antagonism, Deceitfulness, Impulsivity, Risk-taking, Seduction and Manipulation, and Indifference, totaling 33 items. Previous studies found the validity of these factors (Carvalho, Pianowski, & Miguel, 2015; Carvalho et al., 2014; Carvalho, Sette & Ferrari, 2016; Carvalho, 2018). Cronbach's α varied from .68 to .88 and McDonald's ω from.70 to .89.

Personality Inventory for DSM-5 (PID-5; Krueger, Derringer, Markon, Watson, & Skodol, 2012, 2014)

The PID-5 is a self-report test aimed at assessing the 25 facets of maladaptive personality traits described in section III of the DSM-5, which can be combined into five domains (negative affect, detachment, antagonism, disinhibition, psychoticism). This test is composed of 220 items that should be responded on a 4-point Likert scale ranging from 0 = Very false or often false to 3 =Very true or often true. In this study, we administered seven facets: Callousness, Deceitfulness, Hostility, Impulsivity, Irresponsibility, Manipulativeness, and Risk-taking. Studies support the psychometric properties of PID-5 (e.g., Al-Dajani, Gralnick, & Bagby, 2016). Cronbach's α varied from .65 to .88 and McDonald's ω from .67 to .89. In total, 66 items were selected.

Affective and Cognitive Measure of Empathy (ACME; Vachon & Lynam, 2015)

The ACME is a self-report scale to measure empathy. It is composed of 36 items and three factors: Cognitive empathy, Affective resonance, and Affective dissonance. We administered the Affective resonance factor (12 items), referring to responses that are emphatically congruent to situations. The items must be answered on a 5-points rating scale ranging from 1 = Disagree strongly to 5 = Agree strongly. The scale is psychometrically sound (Vachon & Lynam, 2015). Cronbach's α was equal to .79 and McDonald's ω to .81.

We used the Affective resonance factor specifically as an indicator of low empathy to divide the sample into groups.

Procedure

This study followed the ethical research procedures following the Declaration of Helsinki (WMA, 2013), and was approved by a Brazilian Research ethics committee.

For the community sample, we collected the data over the Internet using the Google Forms tool. For the inmates sample, data were collected in a prison unit in the state of Minas Gerais. At the prison unit, guards randomly selected inmates, approximately ten inmates at a time, and took them into a room (used as a classroom in the prison unit). The administration was conducted in a pencil and paper format.

Statistical analysis

We correlated the factors of the IDCP-2 and the respective facets of the PID-5, as shown in Table 1. Participants were divided into two groups, the offenders group (n = 179), formed by inmates and individuals who performed three or more of the following transgressions: circumventing traffic rules, theft, cheating on a loving partner, engaging in fights with physical violence, damaging public property, and having served time in custody; and a group of non-offenders (n = 241), composed of people from the general population who reported less than three of the aforementioned transgressions and could not have committed robbery/theft or served time in prison.

We also divided the participants into two groups according to the score on the PID-5 facets and one factor of the ACME. This score was calculated using Insensitivity, Deceitfulness, Hostility, Impulsivity, Irresponsibility, and Manipulation facets, from PID-5 and low Affective Resonance from ACME. This score was standardized in z distribution (M = 0; SD = 1). We called pathological group the one composed of people who scored one or more standard deviations above the mean (n = 56), and healthy group of people who scored one or more standard deviations below the mean (n = 37). The groups were compared on the IDCP-2 factors through the bootstrap independent samples

t-test, significance levels were $p \leq .05$, and the effect size was Cohen's *d*. The Cohen's *d* was interpreted as 0.01 (very small), 0.20 (small), 0.50 (medium), 0.80 (large), 1.20 (very large), and 2.0 (huge) (Cohen, 1988; Sawilowsky, 2009). The analyzes were performed using the SPSS 23 software.

RESULTS

Table 2 shows the correlations between the factors of IDCP-2 and the facets of PID-5.

Table 2. Correlations between IDCP-2 factors and PID-5 facets.

	Dec	Imp	Host	RT	Man	Cal	Irres
Misleading	**.77****	.37**	.47**	.31**	.70**	.64**	.53**
Impulsivity	.40**	**.78****	.41**	.54**	.29**	.51**	.63**
Atangonism	**.59****	.39**	.58**	.39**	.50**	.67**	.49**
Risk-taking	.35**	.47**	.32**	**.71****	.36**	.42**	.48**
Seduction and manipulation	.54**	.27**	.38**	.33**	**.75****	.41**	.33**
Callousness	.32**	.22**	.35**	.24**	.23**	**.53****	.35**

Note. **=p<0,01; Dec=Deceitfulness; Imp = Impulsivity; Host=Hostility; RT=Risk taking; Man=Manipulativeness; Cal= Callousness; Irres=Irresponsibility. The expected correlations (Table 1) are highlighted in gray. The greatest correlations for each of the factors in IDCP-2 are in bold.

Stronger correlations were observed between the hypothesized measures in Table 1, except for Antagonism, which showed a slightly higher correlation with Deceitfulness facet. The IDCP-2 factors Deceitfulness and Risk-taking showed higher correlations with the directly corresponding facets, and the second-highest value with the Irresponsibility PID-5 facet. Table 3 presents the mean comparisons of the IDCP-2 factors in the offenders and non-offenders groups.

Table 3. Comparison between the means of the offenders and non-offenders in the factors of the IDCP-2.

IDCP-2 factor	Group	*M*	*SD*	CI 95%		*t (df= 418)*	*d* (*p*)
				Lower	Upper		
Misleading	Offenders	1,73	0,73	1,63	1,84	3,51	.36* (*p*<.01)
	Non-offenders	1,50	0,59	1,43	1,57		
Impulsivity	Offenders	2,03	0,78	1,91	2,15	5,96	.61** (*p*<.01)

	Non-offenders	1,60	0,63	1,52	1,68		
Antagonism	Offenders	1,72	0,67	1,62	1,82	3,17	.33* (p<.01)
	Non-offenders	1,53	0,51	1,46	1,59		
Risk-taking	Offenders	1,83	0,81	1,71	1,95	6,22	.65** (p<.01)
	Non-offenders	1,39	0,57	1,32	1,46		
Seduction and maipulation	Offenders	1,94	0,90	1,81	2,07	1,91	.19* (p=.57)
	Non-offenders	1,78	0,78	1,68	1,88		
Indifference	Offenders	1,79	0,68	1,69	1,89	4,02	.40* (p<.01)
	Non-offenders	1,54	0,62	1,46	1,62		

Note. *= small d; **medium d.

The offenders group had higher means than the non-offenders group in all factors. The mean differences were almost always significant, except for the Seduction and Manipulation factor. Effect sizes ranged from small to large. The factors with the highest effect size were Risk-taking and Impulsivity.

Table 4 presents the mean comparisons of the IDCP-2 factors in the pathological and healthy groups.

Table 4. Comparison between the means of the pathological and healthy groups in the factors of the IDCP-2.

IDCP-2 factor	Group	*M*	*SD*	CI 95%		*t (df= 91)*	*d* (*p*)
				Lower	Upper		
Misleading	Healthy	1.12	.19	1.06	1.18	-13.63	2.40 **(p<.01)
	Pathological	2.63	.79	2.41	2.84		
Impulsivity	Healthy	1.19	.34	1.08	1.31	-12.52	2.31** (p<.01)
	Pathological	2.66	.77	2.45	2.87		
Antagonism	Healthy	1.18	.20	1.11	1.25	-13.23	2.37**(p<.01)
	Pathological	2.51	.71	2.32	2.70		
Risk-taking	Healthy	1.06	.11	1.03	1.10	-1.58	1.83* (p<.01)
	Pathological	2.41	.95	2.16	2.67		
Seduction and manipulation	Healthy	1.31	.40	1.17	1.44	-9.82	1.79* (p<.01)
	Pathological	2.76	1.00	2.50	3.03		
Indifference	Healthy	1.29	.38	1.16	1.42	-7.08	1.30* (p<.01)
	Pathological	2.25	.90	2.01	2.49		

Note. * very large d; ** huge d.

The pathological group had higher means when compared to the healthy group. The effect sizes ranged from very large to huge. The factors with the largest effect size were Deceitfulness, Antagonism, and Impulsivity.

DISCUSSION AND CONCLUSIONS

Preventing and intervening in the losses associated with ASPD depends on assessment tools that correctly identify the traits of this disorder (Gibbon et al., 2010; Khalifa et al., 2010). Our focus was on IDCP-2, a self-report scale with empirical evidence of its ability to identify PD, as the Obsessive-Compulsive PD (Carvalho, Costa, Otoni, & Junqueira, 2019), and the Dependent PD (Carvalho, Pianowski, & Gonçalves, 2019). We aimed to investigate the capability of IDCP-2 factors to identify ASPD pathological traits. Our findings indicate the clinical usability of the selected factors for the screening of traits of the ASPD.

The facets of the PID-5 selected for this study are representatives of the ASPD traits (Anderson et al., 2014; APA, 2013; Wygant et al ., 2016). The associations between the IDCP-2 factors and the PID-5 facets confirmed most of our hypotheses presented in Table 1. An exception to this was the Antagonism factor, which was more associated with the PID-5 Deceitfulness facet and not with the Hostility facet. Although not expected, the observed associations were similar. Moreover, the unexpected high association is coherent, as both the Antagonism factor and the Hostility facet are related to aggressiveness and irritability (Carvalho et al., 2015; Krueger et al., 2014). Also, regarding the irresponsibility trait of ASPD, none of the IDCP-2 factors directly corresponds to it. Nevertheless, the associations were high with the IDCP-2 factors selected to capture this pathological trait, with emphasis on the Impulsivity factor.

The groups comparisons showed that offenders and people with high scores on Callousness, Deceitfulness, Hostility, Impulsivity, Irresponsibility, Manipulativeness, and low scores on empathy have higher means in the IDCP-2. Higher scores on factors that assess the features of the ASPD were found in previous studies, indicating that prisoners and individuals who commit transgressions (eg, violence, vandalism), tend to

show an increase in these features (Carrasco, Barker, Tremblay, & Vitaro, 2006; Colpaert et al., 2012; Goldstein et al., 2007; Jones et al., 2011; Shepherd et al., 2016; Vize et al., 2018;). An example of this is the high prevalence of ASPD in forensic and prison settings (APA, 2013; Hare, 2003). However, the Seduction and Manipulation factor did not show significant differences between offenders and non-offenders. This factor is a component of the IDCP-2 Need for Attention dimension (Carvalho, Sette, & Capitão, 2016; Carvalho et al., 2014), previously identified as related to the pathological traits of the Histrionic PD (HPD). Traits of the HPD was found to be more socially desirable in comparison to traits of other PD (Millon, 2011; Millon, Millon, Meagher, Grossman, & Ramanath, 2004). For instance, the items of the Seduction and Manipulation factor seem to capture subclinical levels of the pathological trait (e.g., "I can easily seduce people"). Our findings may represent the low discriminative capacity of this factor.

Our findings indicate the usability of IDCP-2 as a clinical indicator of the presence of pathological traits of the ASPD. Although the selected factors presented a good performance, Antagonism, Impulsivity, and Deceitfulness were those that demonstrated a higher discrimination capability. Although initial, our findings support the recommendation of the clinical use of IDCP-2 factors to discriminate individuals with a tendency to present ASPD traits. We recommend the clinical use of these factors for screening purposes.

The findings should be considered in light of the main methodological limitations of our study. First, the sample was not composed of individuals diagnosed with ASPD. This sample restriction may have decreased the variability in responses to the administered measures. Second, the external scales administered do not have cut-offs for ASPD traits, which preclude to establish a sample group truly considered to be pathological. Third, IDCP-2 does not have factors that correspond directly to the irresponsibility trait, which

may have reduced the scale's ability to discriminate people with elevation in this trait. Given these limitations, we suggest the conduction of studies verifying the capacity of the IDCP-2 factors to differentiate groups of people with and without a diagnosis of ASPD, allowing to establishing a cutoff for discrimination of TPAS. Besides, we suggest the development of items to the assessment of the irresponsibility trait.

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Artigo 2 - Discriminating pathological traits of the antisocial personality disorder and its psychopathy specifier with factors of the Dimensional Clinical Personality Inventory 2

Running head: Discriminating antisocial traits with the IDCP-2

***Gisele Magarotto Machado[1]**

E-mail: gimagarotto@hotmail.com

https://orcid.org/0000-0003-1983-6636

Telephone number: +55 19 97420-6545

Lucas de Francisco Carvalho[1]

E-mail: lucas@labape.com.br

http://orcid.org/0000-0002-3274-9724

1 – Department of Psychology, Universidade São Francisco - R. Waldemar César da Silveira, 105 - Jardim Cura D'ars, Campinas - SP, 13045-510. Brazil.

***** Corresponding author.

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Abstract

Objective: This study aimed to investigate the discriminative capability of factors of the Dimensional Clinical Personality Inventory 2 (IDCP-2) for antisocial personality disorder (ASPD) and its psychopathy specifier, as well as to establish a cutoff calculated based on these factors.
Methods: The sample consisted of 460 Brazilian adults, where 367 were a community sample (aged 18-63 years), and 93 were prison inmates (M = 30.37; SD = 9.95). We administered factors from IDCP-2, facets from PID-5, the antisocial scale of SCID-PQ-II, ACME, LSRS e IDCP-SV.
Results: We found three groups through the latent class analysis, differentiated by the increase in ASPD traits and in the psychopathic specifier. ANOVA and multinomial regression indicated that the IDCP-2 factors are capable of discriminating the group without elevation in the ASPD and psychopathic specifier of the other groups. Hierarchical regression demonstrated that IDCP-2 adds to the discriminative capacity of the facets of PID-5. The scores calculated from the IDCP-2 factors had a sensitivity greater than .90.
Conclusion: The antagonism, deceitfulness and impulsivity factors of IDCP-2 demonstrated better performance in the identification of people characterized by ASPD traits. The results of this study support the clinical utility of the IDCP-2 factors for screening the typical pathological traits of the ASPD and the psychopathic specifier.

Keywords: personality assessment; antisocial personality; psychopathic personality.

Resumo

Objective: Objetivo deste estudo foi investigar a capacidade discriminativa dos fatores do Inventário Dimensional Clínico da Personalidade 2 (IDCP-2) para traços do Transtorno de Personalidade Antissocial (TPAS) e do especificador psicopático, bem como estabelecer pontos de corte baseados nesses fatores.
Methods: A amostra foi composta por 460 adultos brasileiros, dos quais 367 eram da população geral (com idade variando de 18 a 63 anos) e 93 eram presidiários (com idade variando de 18 a 62 anos). Todos os participantes responderam aos fatores do IDCP-2, facetas do PID-5, a escala antissocial da SCID-PQ-II, ACME, LSRS e IDCP-SV.
Results: Nós encontramos três grupos via análise de classes latentes, diferenciados pelas elevações nos traços de ASPD e no especificador psicopático. A ANOVA e a regressão multinomial indicaram que os fatores do IDCP-2 são capazes de discriminar o grupo sem elevação nos traços patológicos dos demais grupos. O grupo com características típicas do especificador psicopático tendeu a apresentar maiores pontuações nos fatores do IDCP-2 quando comparado aos demais grupos. A regressão hierárquica demonstrou que o IDCP-2 acrescenta na capacidade discriminativa das facetas do PID-5. Os escores calculados a partir dos fatores do IDCP-2 apresentaram sensibilidade superior a .90.
Conclusion: Os fatores antagonismo, enganosidade e impulsividade do IDCP-2 demonstraram melhor desempenho na identificação de pessoas com elevação em traços

de TPAS. Para identificação de pessoas com elevação em traços de TPAS e do especificador psicopático os fatores com melhor desempenho foram antagonismo, enganosidade e indiferença. Os achados com os pontos de corte estabelecidos para os escores do IDCP-2 indicam capacidade para diferenciar pessoas com características típicas do TPAS e do especificador psicopático de pessoas sem essas características. Os resultados deste estudo suportam a utilidade clínica dos fatores do IDCP-2 para a triagem de características típicas do TPAS e do especificador psicopático.

Keywords: Avaliação da personalidade; personalidade antissocial; personalidade psicopática.

INTRODUCTION

A diffuse pattern of disregard, violation of people's rights, difficulty in adapting to current social norms, falsehood, manipulation, tendency to lie and cheat, characterize the Antisocial Personality Disorder (ASPD).[1] Regardless of being traditionally identified from the categorical perspective, empirical evidence indicates the dimensionality of this disorder.[2,3]

In the dimensional perspective, core pathological traits of the ASPD are deceitfulness, irresponsibility, impulsivity, hostility, insensitivity, manipulation, and exposure to risk.[1,4-6] These traits also characterize psychopathy,[4,7-9] although people with this condition also tend to present low anxiety, low avoidance, low submission, attention-seeking, audacity, and arrogance.[6,10-12] Psychopathy encompasses behaviors with interpersonal and affective impairment (i.e., primary psychopathy), as well as social apathy and behaviors that violate rules and laws (i.e., secondary psychopathy). Although ASPD and psychopathy are overlapping, the former is more associated with secondary psychopathy traits than traits of the primary psychopathy.[13] For instance, in the Alternative Model for Personality Disorders,[1] the psychopathy appears as an ASPD specifier, mainly characterized by features of primary psychopathy, including traits of the boldness dimension.[9,10,12,14]

ASPD and psychopathy traits are often associated with many social and personal losses. These losses include antisocial behaviors,[15] crime,[16] criminal recidivism,[17] and abuse of alcohol and drugs.[18,19]

Given the need to correctly identify people with ASPD and psychopathy traits, researchers from several countries have developed assessment tools, focusing on the screening of these pathological traits.[5,20] For instance, in the Brazilian context, a self-report scale was developed to the assessment of pathological traits, the Dimensional Clinical Personality Inventory (IDCP),[21] including factors representing the core traits of the ASPD and its psychopathy specifier. IDCP is currently in its second version (IDCP-2).[22] Studies have found validity for the IDCP-2 factors theoretically related to traits of ASPD,[23-26] as well as higher scores on these factors for prisoners and offenders, when compared to a community sample.[27] Although the empirical evidence suggests the clinical use of IDCP-2 to screening for traits of specific PD,[28] we did not find studies investigating the discriminative capacity of the factors for ASPD and its psychopathy specifier.

This study aimed to investigate the discriminative capability of factors of the IDCP-2 for identifying the presence of traits composing ASPD and its psychopathy specifier. Based on these findings, we also aimed to establish cutoffs for clinical purposes, as cutoff values can improve clinical practice and support inferences and decisions in this context.[29] Additionally, we tested the incremental capability of IDCP-2 factors and cutoffs in comparison with the Personality Inventory for DSM-5 (PID-5),[30] a similar self-report scale and internationally recognized as a measure for assessing pathological traits.

METHODS

Participants

The data were collected from two population groups, totaling 460 participants. One sample was composed of 367 Brazilian adults from the general population (community sample), the majority being women (54.8%), with a high school diploma (40.9%), and Caucasians (51%). The participant's age varied between 18 and 63 years (M = 30.37; SD = 9.95). The other sample was composed of 93 prison inmates (inmates sample) from a prison unit in the state of Minas Gerais, the majority being men (90.3%), Caucasians (55.9%), and with high school diploma (39.8%) or elementary school diploma (33%). The age varied from 18 to 62 years (M = 30.97; SD = 9.27) for the inmates sample.

Measures

Dimensional Clinical Personality Inventory 2 (IDCP-2)[22]

The IDCP-2 is a self-report scale for the evaluation of pathological personality traits. This scale is composed of 206 items, 47 factors, and 12 dimensions: Dependency, Aggressiveness, Mood instability, Eccentricity, Attention seeking, Distrust, Grandiosity, Isolation, Criticism avoidance, Self-sacrifice, Conscientiousness, and Inconsequence). The items should be answered on a 4-point Likert scale ranging from 1 = Has nothing to do with me to 4 = Has everything to do with me. In this study we administered seven factors of interest (37 items): Antagonism (α =.81; ω = .81), Deceitfulness (α =.85; ω = .86), Impulsivity (α =.86; ω = .86), Risk-taking (α =.86; ω = .86), Indifference (α =.68; ω = .70), Seduction and Manipulation (α =.78; ω = .78), and Attention Seeking (α= .78; ω = .78).[23-26]

Personality Inventory for DSM-5 (PID-5)[30]

The PID-5 is a self-report test aimed at assessing the 25 facets of maladaptive personality traits described in section III of the DSM-5, which can be combined into five domains (negative affect, detachment, antagonism, disinhibition, psychoticism). This test

is composed of 220 items that should be responded on a 4-point Likert scale ranging from 0 = Very false or often false to 3 =Very true or often true. In this study we administered six facets to evaluate ASPD traits (66 items): Callousness (α =.82; ω = .87), Deceitfulness (α =.85; ω = .88), Hostility (α =.88; ω = .88), Impulsivity (α =.86; ω = .89), Irresponsibility (α =.65; ω = .67), Manipulativeness (α =.85; ω = .85) and Risk-taking (α =.80; ω = .81).

The psychopathy specifier is composed of low withdrawal, low anxiousness, and attention-seeking.[1] As using reverse scores have been criticized because they do not necessarily reflect the opposite pole of the trait,[31] we administered other factors representing the boldness trait.[4,11] We selected the following factors to cover the boldness trait: Attention-seeking (α= .87; ω = .87), Risk-taking, and Irresponsibility. In total, we administered 74 items. Studies support the psychometric properties of PID-5.[30]

Levenson Self-Report Psychopathy (LSRP)[32]

The LSRP is a self-report scale to measure primary psychopathy (i.e., selfish, uncaring, and manipulative posture toward others) and secondary psychopathy (i.e., impulsivity and antisocial lifestyle). It is composed of 26 items that should be answered on a 5-point Likert scale. The Primary Psychopathy dimension is composed of 16 items (α= .69; ω = .78) and Secondary Psychopathy dimension, of 10 items (α=.68; ω = .70). Studies support the psychometric suitableness of the LSRP.[32]

Affective and Cognitive Measure of Empathy (ACME)[33]

The ACME is a self-report scale to measure empathy. It is composed of 36 items and three factors: Cognitive Empathy (α =.84; ω = .85), Affective Resonance (α =.79; ω = .81), and Affective Dissonance (α =.90; ω = .91). The items must be answered on a 5-

points rating scale ranging from 1 = Disagree strongly to 5 = Agree strongly. The scale is psychometrically sound.[33]

Structured Clinical Interview for DSM-IV Personality Questionnaire (SCID-PQ-II)[34]

The SCID-PQ-II is a self-report test to measure personality disorders according to the DSM-IV Axis II, besides two personality disorders not included (depressive and passive-aggressive). It is composed of 119 items that should be answered with "yes" or "no". In this study, we selected only the Antisocial Personality Disorder scale, composed of 15 items. Cronbach's α was equal to .82 and McDonald's ω to .83. We used this measure as an indicator of the antisocial pattern to covariance control in the latent profile analysis.

Dimensional Clinical Personality Inventory – Screening Version (IDCP-SV)[35]

The IDCP-SV aims to conduct personality disorder screening. It consists of 15 items that should be answered on a 4-point Likert scale ranging from 1 = Has nothing to do with me to 4 = Has everything to do with me. In previous studies, IDCP-SV showed good sensibility to identify patients with PD's diagnose (84% accuracy) and good specificity (77% accuracy).[35] We used this measure as an indicator of the presence of a general pattern of PD to the covariance control in the latent profile analysis.

Procedure

For the community sample, we collected the data over the Internet using the Google Forms tool. For the inmates sample, data were collected in a prison unit in the state of Minas Gerais. At the prison unit, guards randomly selected inmates, approximately ten inmates at a time, and took them into a room (used as a classroom in the prison unit). The administration was conducted in a pencil and paper format.

Ethics statement

This study followed the ethical research procedures following the Declaration of Helsinki,[36] and was approved by a Research ethics committee (protocol approval number is CAAE: 19408619.3.0000.5514).

Statistical analysis

The latent profile analysis allows investigating the existence of homogeneous subgroups of individuals in a heterogeneous population sample,[37] explaining different patterns of response to a set of items according to the belonging to each group. We based our hypothesis on the existence of three groups: people with high scores in ASPD traits, people with high scores in psychopathy traits, and people without high scores in ASPD and psychopathy traits. The indicators used for the latent profile analysis were the ACME scores (Cognitive empathy, Affective Resonance, and Affective Dissonance) and LSRP scores (Primary Psychopathy and Secondary Psychopathy). The ASPD score of the SCID-PQ-II and the dichotomous score of the IDCP-Screening were used as covariates to the latent profile analysis, to estimate the model with more stability.[38] We chose these covariates since scores on antisocial behavior and general measures of personality disorders are generally associated with an increase in antisocial and psychopathic traits, and therefore impact the likelihood of individuals belonging to each group.[13,34,39] Because the amplitude of the scores of the measures is different, due to the different number of items and the response scales, we standardized the data in z scores before the latent profile analysis. We performed this analysis through the Mplus version 7.

As standard recommendations[40] we used the following indicators for deciding the best number of profiles to be retained: the average probabilities for the most likely profile membership (entropy) should be higher than .80; lower values of Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), and sample-size adjusted BIC

(aBIC) indicate the best model fit; non-significant *p* values for the Lo–Mendell–Rubin likelihood ratio test (LMR-LRT), and Bootstrapped Likelihood Ratio Test (BLRT) indicate that a *k*-1 profiles model fits the data significantly better than the model with *k* profiles; models with profiles containing less than 5% of the sample should be avoided; theoretical support should exist for the model retained, and profiles should be interpretable.[41]

We compared the groups established through latent profile analysis (i.e., antisocial, psychopathic, and empathic group), through ANOVA with post hoc (Tukey) in the factors of the IDCP-2 and the facets of the PID-5. We used .05 as the significance level, and the partial eta squared was used as the effect size indicator. The partial eta squared was interpreted as 0.01 (small), 0.09 (medium) and 0.25 (large).[42] We also conducted a multinomial logistic regression, a logistic regression model, proposed by McFadden,[43] to enable the prediction of two or more nominal variables. Multinomial logistic regression was used to verify the capacity of IDCP-2 factors and PID-5 facets to identify groups. To verify the incremental validity of IDCP-2 over the predictive capacity of PID-5, we used hierarchical regression analysis. This analysis allows the investigation of the increase or decrease in the regression determination coefficient after the insertion of new variables and whether this difference is significant. In other words, it allows the verification of whether the amount of variance explained by the model varies significantly regarding the previous model.[44] The joint use of multinomial logistic regression analysis and hierarchical regression analysis has been conducted in previous studies.[45,46]

We created total scores from the mean of different combinations of the IDCP-2 factors (scores from 1 to 4) and PID-5 facets (from 0 to 3). We calculated a score from the IDCP-2 factors that were significant for differentiating the antisocial group of other groups in ANOVA and multinomial regression analysis (IDCP-2 antisocial score). We

calculated a score from the IDCP-2 factors that were significant for differentiating the psychopathic group of other groups in ANOVA and the multinomial regression analysis (IDCP-2 psychopathy specifier score). We also calculated two total scores from the facets of the PID-5; a score was derived from the facets that were significant for differentiating the antisocial group of other groups in ANOVA and multinomial regression (PID-5 antisocial score); a score was calculated from the facets that were significant for differentiating the psychopathic group of other groups in ANOVA and multinomial regression (PID-5 psychopathy specifier score).

The IDCP-2 and PID-5 antisocial scores were tested in the receiver operator characteristic curve (ROC curve) for the antisocial group versus the empathic group. We did the same for the IDCP-2 and PID-5 psychopathy specifier scores, but focusing on the psychopathic group versus the empathic group. The scores were submitted to the ROC curve for the psychopathic group versus antisocial group, aiming at establishing cutoffs for discrimination of these groups. We used the ROC curve and the Area Under Curve (AUC) to investigate the best cutoff for each score.[47,48] For the selected cutoff, we calculated the sensitivity and specificity.[49,50]

RESULTS

For the latent profile analysis, we tested solutions with 1, 2, 3, and 4 profiles. The solution with 1 profile presented the following fit indices: AIC = 6343.46, BIC =6384.77, aBIC = 6353.03. The solution with 2 profiles presented the following fit indices: AIC = 5694.47, BIC = 5760.57, aBIC = 5709.79, Entropy = 0.95, LMR LRT p = .002, BLRT p <.001. The solution with 3 profiles presented the following fit indices: AIC = 5522.73, BIC = 5613.62, aBIC = 5543.80, Entropy = .89, LMR LRT p = .038, BLRT p <.001. The 4-profiles solution presented a group with less than 5% of the sample, and therefore, it was discarded. The fit indices were incongruent to indicate the best solution. The LMR

LRT *p*-value indicated that the 1-profile solution was the best fit model. However, the AIC, BIC, and aBIC values indicated that the 3-profiles solution was the best fit model. All solutions showed good Entropy levels. Based on the lowest AIC, BIC, and aBIC values, and mostly because of the best interpretability of the observed profiles, we choose to retain the solution with 3-profiles for further analyses. Table 1 presents the descriptive statistics of the sample according to the three observed profiles.

Table 1. Composition of traits of the participants in the observed latent profiles.

	Psychopathic (N=30)		Antisocial (N=84)		Empathic (N=346)		*D*		
	M	SD	M	SD	M	SD	P1 vs. P2	P2 vs. P3	P1 vs. P3
Cognitive Empathy	.17	.18	-.25	.16	.05	.06	2.52***	3.38***	1.52**
Affective Resonance	-.89	.20	-.70	.20	.35	.05	.95*	10.59***	16.73***
Affective Dissonance	-2.95	.21	-.73	.14	.44	.04	13.72***	16.43***	47.99***
Primary Psychopathy	2.26	.22	.59	.15	-.35	.05	9.75***	11.74***	33.25***
Secondary Psychopathy	1.01	.19	.78	.13	-.29	.06	1.48**	13.63***	16.43***

*Note. *= large (0.80 to 1.19); **= very large (1.20 to 1.99); ***= huge (≥2.00); P1 = Psychopathic (profile 1); P2 = Antisocial (profile 2); P3 = Empathic (profile 3).*

Profile 1, psychopathic, put together people with the highest scores on psychopathy measures (Primary Psychopathy and Secondary Psychopathy), Cognitive Empathy, Affective Dissonance, and the lowest scores on Affective Resonance. Profile 2, antisocial, is composed of individuals with the average scores in the measures of psychopathy and empathy, i.e., lower than profile 1 and higher than profile 3. The antisocial profile is distinct from the psychopathic profile because the score in Secondary Psychopathy is higher compared to Primary Psychopathy. Profile 3, empathic, has the lowest scores in psychopathy and Affective Dissonance, in addition to the highest levels in the Affective Resonance factor. The effect sizes of the differences between profiles were large to huge.[51] Table 2 shows the comparisons between the profile means in the IDCP-2 factors.

Table 2. Means comparison in IDCP-2 factors through ANOVA and post hoc test (Tukey).

IDCP-2 Factors

	Antagonism			Seduction and Manipulation			Attention Seeking			Ri k-taking		
G	1	2	3	1	2	3	1	2	3	1	2	3
3	1.42			1.70			1.86			1.42		
2		2.01			2.10			2.1			1.90	
1			2.75			2.80			2.62			2.33
	F (2) = 159.62; p <.01; patial η2 = .43***			F (2) = 30.16; p <.01; partil η2 = .12**			F (2) = 19.24; p <.01; partil η2 = .08*			F (2) = 42.70; p <.01; partil η2 = .17**		

	Impulsivity		Indifference			Deceitfulness		
G	1	2	1	2	3	1	2	3
3	1.59		1.50			1.39		
2		2.25		1.84			2.00	
1		2.46			2.62			2.94
	F (2) = 51.49; p <.01; partil η2 = .19**		F (2) = 54.30; p <.01; partil η2 = .20**			F (2) = 145.45; p <.01; partil η2 = .41***		

Note. G1=psychpathic; G2=antisocial; G3=empathic. *= small; **= medium; *** = large.

The groups showed significant mean differences in the IDCP-2 factors. The psychopathic group obtained the highest averages, and the empathic group obtained the lowest means, in most cases. The Impulsivity factor, despite not differentiating the three groups, managed to separate the psychopathic group from the others. Table 3 shows the comparisons for the facets of the PID-5.

Table 3. Means comparison in PID-5 facets through ANOVA and post hoc test (Tukey).

PID-5 facets												
	Hostility			Manipulativeness			Attention-seeking			Callousness		
G	1	2	3	1	2	3	1	2	3	1	2	3
3	.50			.23			.66			.29		
2		.86			.52			1.04			.51	
1			1.32			1.10			1.61			1.11
	F (2) = 48.42; p <.01; partil η2 = .19**			F (2) = 52.87; p <.01; partil η2 = .20**			F (2) = 41.62; p <.01; partil η2 = .17**			F (2) = 128.27; p <.01; partil η2 = .37***		

	Irresponsibility			Deceitfulness			Impulsivity		Risk-taking	
G	1	2	3	1	2	3	1	2	1	2
3	.33			.27			.51		1.77	
2		.67			.53			.90		1.50
1			.96			1.23		1.09		1.56
	F (2) = 83.08; p <.01; partil η2 = .28***			F (2) = 130.40; p <.01; partil η2 = .38***			F (2) = 27.21; p <.01; η2p = .12**		F (2) = 26.49; p <.01; partil η2 = .11**	

Note. G1=psychopathic; G2=antisocial; G3=empathic. **= medium; *** = large.

The groups showed significant differences in the facets of the PID-5. As observed in the IDCP-2 factors, the psychopathic group obtained the highest means, and the empathic group, the lowest means. The Risk-taking and Impulsivity facets failed to differentiate the three groups but separated the empathic group from the others.

To predict the groups, we conducted a multinomial logistic regression with the factors of IDCP-2 (model 1) and facets of PID-5 (model 2) that evaluate ASPD traits. We performed a hierarchical regression with these measures, inserting the facets of PID-5 in block 1 and the factors of IDCP-2 in block 2 to verify the incremental capacity of IDCP-2 in comparison to PID-5 in the prediction of groups. Table 4 presents the results of the multinomial regression analysis and the hierarchical regression analysis.

Table 4. Multinomial logistic regression analysis and hierarchical regression analysis with ASPD traits.

Multinomial Regression					
Model 1					
	Psychopathic vs. Empathic		Antisocial vs. Empathic		
IDCP-2 Factors	B	OR	B	OR	Pseudo r² Nagelkerke
Antagonism	**2.67**	**14.44**	**1.65**	**5.21**	.57
Seduction and Manipulation	-.69	.50	**-.54**	**.58**	
Indifference	**.90**	**2.45**	-.04	.96	
Deceitfulness	**2.79**	**16.37**	**1.60**	**4.94**	
Impulsivity	.19	1.21	**.70**	**2.02**	
Model 2					
	Psychopathic vs. Empathic		Antisocial vs. Empathic		
PID-5 Facets	B	OR	B	OR	Pseudo r² Nagelkerke
Callousness	**4.50**	**90.23**	**1.87**	**6.50**	.53
Deceitfulness	**3.02**	**20.56**	**1.24**	**3.47**	
Impulsivity	**-1.83**	**.16**	-.50	.60	
Irresponsibility	**3.01**	**20.30**	**2.30**	**9.95**	
Risk-taking	**1.55**	**4.69**	**1.15**	**3.15**	

Hierarchical Regression					
Step1: PID-5 variables	B	B	r^2	ΔF	Δr^2
Callousness (PID-5)	**.51**	**.30**			
Deceitfulness (PID-5)	**.39**	**.26**			
Impulsivity (PID-5)	**-.16**	**-.16**	**.49**	**55.08**	**.49**
Irresponsibility (PID-5)	**.41**	**.27**			
Risk-taking (PID-5)	**.17**	**.13**			
Step2: IDCP-2 variables	B	B	r^2	ΔF	Δr^2
Callousness (PID-5)	**.23**	**.13**			
Impulsivity (PID-5)	**-.15**	**-.15**			
Irresponsibility(PID-5)	**.30**	**.19**			
Antagonism (IDCP-2)	**.28**	**.29**	**.58**	**15.10**	**.09**
Seduction and Manipulation (IDCP-2)	**-.08**	**-.12**			
Deceitfulness (IDCP-2)	**.27**	**.30**			

Note. The variables that were not significant in the regression analysis were omitted from the table. In the multinomial regression analysis, omitted measures were: Risk-taking (IDCP-2), Manipulativeness, and Hostility (PID-5). In the hierarchical regression analysis, in Step 1, the Manipulativeness and Hostility facets of PID-5 were omitted; in Step 2, the Deceitfulness, Risk-taking, Manipulativeness, and Hostility facets of PID-5 and Indifference, Risk-taking and Impulsivity factors of IDCP-2 were omitted. In bold p <.05.

The Antagonism, Indifference, Deceitfulness, Seduction and Manipulation, and Impulsivity factors (IDCP-2) contributed significantly to model 1. High scores on these factors, except for the Seduction and Manipulation factor, predicted a higher probability of belonging to the psychopathic and antisocial groups compared to the empathic group (e.g., high scores on Deceitfulness indicated that the individual is ~ 17 times more likely to belong to the psychopathic group when compared to the empathic group). The Callousness, Deceitfulness, Impulsivity, Irresponsibility, and Risk-taking facets (PID-5), contributed significantly to model 2. The IDCP-2 factors (33 items) were able to explain 57% of the variance, while the facets of PID-5 explained 53% (66 items). The hierarchical regression analysis showed that the facets of the PID-5 could explain 49% of the profiles, having a significant increase in the explanatory capacity from the insertion of the IDCP-2 factors (58%).

Table 5 investigate similar models to Table 4 but including measures related to the psychopathic specifier.

Table 5. Multinomial logistic regression analysis and hierarchical regression analysis with ASPD traits and psychopathy specifier.

Multinomial Regression					
Model 3					
	Psychopathic vs. Empathic		Antisocial vs. Empathic		
IDCP-2 Factors	B	OR	B	OR	Pseudo r² Nagelkerke
Antagonism	**2.76**	**15.81**	**1.72**	**5.61**	.58
Seduction and Manipulation	-.69	.50	**-.54**	**.58**	
Indifference	**0.93**	**2.54**	-.10	.90	
Deceitfulness	**2.82**	**16.72**	**1.60**	**4.96**	
Impulsivity	.14	1.15	**.76**	**2.14**	
Model 4					
	Psychopathic vs. Empathic		Antisocial vs. Empathic		
PID-5 Facets	B	OR	B	OR	Pseudo r² Nagelkerke
Callousness	**4.84**	**126.49**	**1.94**	**6.96**	.54
Deceitfulness	**2.87**	**17.60**	**1.24**	**3.45**	
Impulsivity	**-2.10**	**.12**	-.56	.57	
Irresponsibility	**2.95**	**19.07**	**2.24**	**9.39**	
Risk-taking	1.22	3.38	**1.11**	**3.02**	
Attention-seeking	**1.28**	**3.61**	.45	1.57	
Hierarchical Regression					
Step 1: PID-5 variables	B	β	r^2	ΔF	Δr^2
Callousness (PID-5)	**.52**	**.30**	**.51**	**50.99**	**.51**
Deceitfulness (PID-5)	**.37**	**.25**			
Impulsivity (PID-5)	**-.17**	**-.17**			
Irresponsibility (PID-5)	**.40**	**.25**			
Risk-taking (PID-5)	**.15**	**.12**			
Attention-seeking (PID-5)	**.11**	**.12**			
Step 2: IDCP-2 variables	B	β	r^2	ΔF	Δr^2
Callousness (PID-5)	**.25**	**.14**	**.60**	**11.37**	**.09**
Impulsivity (PID-5)	**-.16**	**-.16**			
Irresponsibility (PID-5)	**.28**	**.18**			

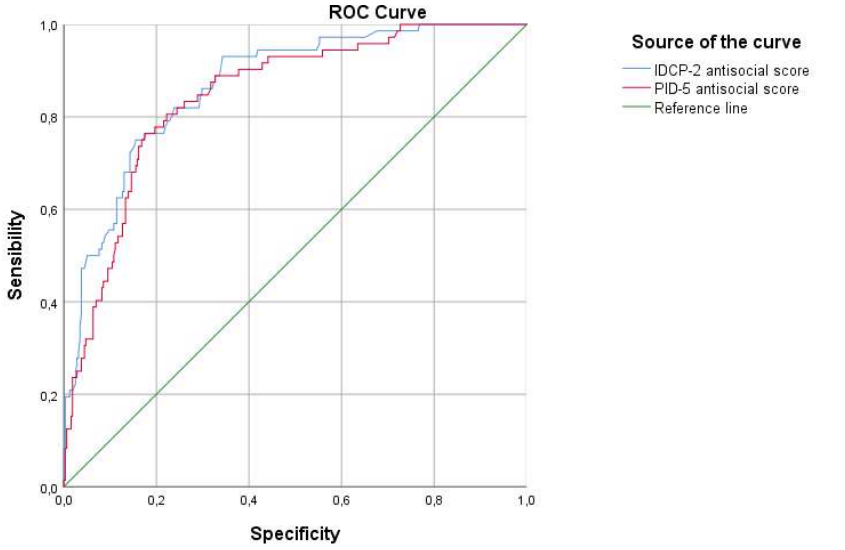
Attention-seeking (PID-5)	**.12**	**.13**
Antagonism (IDCP-2)	**.27**	**.28**
Seduction and Manipulation (IDCP-2)	**-.08**	**-.12**
Deceitfulness (IDCP-2)	**.27**	**.31**

Note. The variables that were not significant in the regression analysis were omitted. In the multinomial regression analysis, omitted measures were: Risk-taking, Attention Seeking (IDCP-2), Manipulativeness, and Hostility (PID-5). In the hierarchical regression analysis, in Step 1, the Manipulativeness and Hostility facets of PID-5 were omitted; in Step 2, the Deceitfulness, Risk-taking, Manipulativeness, and Hostility facets of PID-5 and Indifference, Risk-taking, Impulsivity, and Attention Seeking factors of IDCP-2 were omitted. In bold $p < .05$.

The same IDCP-2 factors that contributed significantly to the prediction of groups in model 1 (Antagonism, Indifference, Deceitfulness, Seduction and Manipulation, and Impulsivity), were significant predictors in model 3. Similarly, the PID-5 facets significant in model 2 were also in model 4, with the addition of the Attention Seeking facet. However, an increase in the regression and probability values was observed for models 3 and 4. Together, the IDCP-2 factors (37 items) were able to explain 58% of the variance in the groups, while the facets of PID-5 explained 54% (74 items).

In the hierarchical regression analysis, the PID-5 facets explained 51% of the variance in the groups, while the PID-5 facets with the IDCP-2 factors were able to explain 60% of it. The increase in the explanatory capacity from the insertion of the IDCP-2 factors was significant, indicating that IDCP-2 factors increase the group prediction performed by the PID-5 facets.

Figure 1 shows the AUC of the ROC curve calculated for the total scores with the factors of the IDCP-2 and with the facets of the PID-5. The scores were computed according to the factors (IDCP-2) and facets (PID-5) significant for discriminating groups in ANOVA and predicting variables in the multinomial regression.


ROC Curve
Sensibility
Specificity
1,0
0,8
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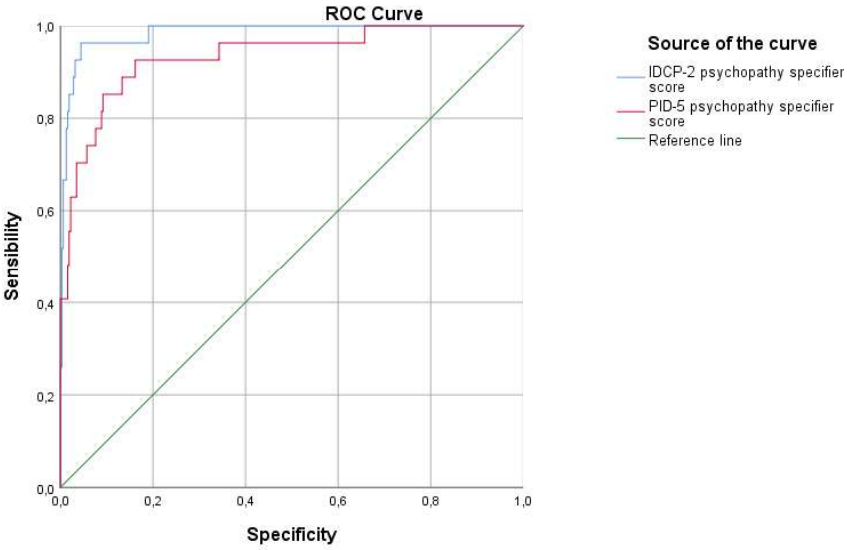
Source of the curve
IDCP-2 antisocial score
PID-5 antisocial score
Reference line


ROC Curve
Sensibility
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Source of the curve
IDCP-2 psychopathy specifier score
PID-5 psychopathy specifier score
Reference line

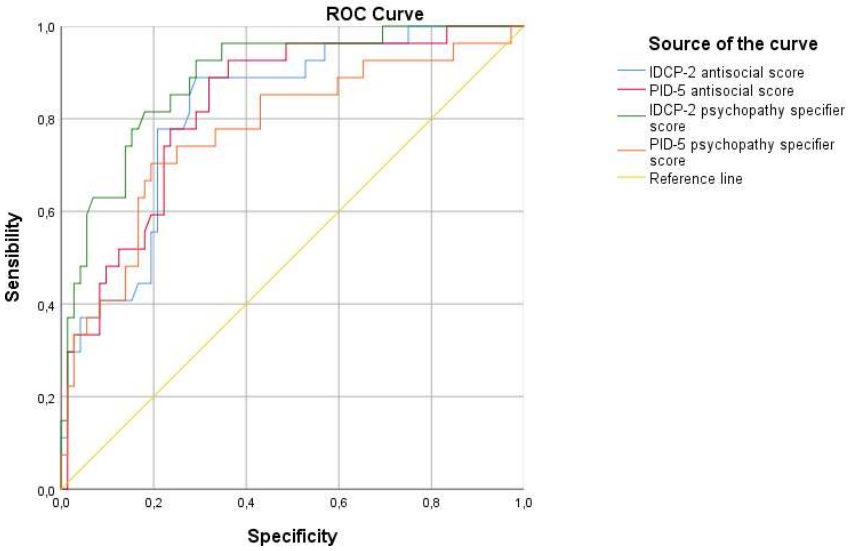
ROC Curve
Sensibility
Specificity
1,0
0,8
0,6
0,4
0,2
0,0
0,0
0,2
0,4
0,6
0,8
1,0
Source of the curve
IDCP-2 antisocial score
PID-5 antisocial score
IDCP-2 psychopathy specifier score
PID-5 psychopathy specifier score
Reference line

Figure 1. AUC for the IDCP-2 and PID-5 scores.

Note. The upper graph represents the ROC curve for the IDCP-2 and PID-5 antisocial scores differentiating the antisocial group from the empathic group. The middle graph represents the ROC curve for IDCP-2 and PID-5 psychopathy specifier scores distinguishing the psychopathic group from the empathic group. The lower graph represents the ROC curve for all scores, differentiating the antisocial group from the psychopathic group.

The antisocial IDCP-2 score showed a sensitivity of 92% and specificity of 64% (cutoff = 1.56; AUC = .87) for differentiation of the antisocial and empathic groups. The antisocial PID-5 score showed a sensitivity of 90% and specificity of 62% (cutoff = 0.54; AUC = .85) for differentiation of the antisocial and empathic groups. The cutoff of 1.74 showed the best performance for the IDCP-2 psychopathy specifier score, with 97% of sensitivity and 81% of specificity (AUC = .96) for differentiating the psychopathic and empathic group. For the cutoff equal to 0.73, the PID-5 psychopathy specifier score showed 93% of sensitivity and 84% of specificity (AUC = .93) for differentiation of the psychopathic and empathic group. Moreover, for differentiating the psychopathy group from the antisocial group, the IDCP-2 psychopathy specifier score was the one with the best performance (AUC = .89; sensitivity = 93%; specificity = 71%; cutoff = 2.2), although the PID-5 psychopathy score similarly presented good indices of sensitivity (78%) and specificity (67%) (AUC = .77, cutoff = .93).

DISCUSSION

ASPD and its variation including the psychopathic specifier are often associated with antisocial behaviors (e.g., alcohol and drug abuse, crime, aggression).[15-18] Measurement scales for identifying people with high scores on the pathological traits of these disorders are useful for indicating people who must undergo a detailed diagnostic process, as well as people who need intervention. This study aimed to investigate the capability of IDCP-2 factors to discriminate people with pathological traits of ASPD and the psychopathy specifier typical, as well as establish clinical cutoffs for scores calculated

based on these factors. The findings of this study indicated that the IDCP-2 factors showed a good capacity to discriminate between people with and without high scores in the typical traits of the ASPD and its psychopathic specifier. Besides, the findings suggested that IDCP-2 factors are as discriminative as the PID-5 facets for screening pathological traits of the disorders.

The findings observed via latent profile analysis confirmed the literature expectations,[1,8] including a group that represents the traits of classical psychopathy, a group representing traits of antisocial PD, and a group that represents the general population (or the tendency to not present elevation in the psychopathy and antisocial traits). The psychopathic group scored higher on measures of psychopathy (Primary and Secondary Psychopathy) and Cognitive Empathy, in addition to the lower scores on Affective Resonance. Together, these scores represent the typical behavior pattern of psychopaths or individuals with elevation in the psychopathic specifier traits.[1,6,8,12] There is evidence indicating that psychopaths have deficits in affective empathy; however, the role of cognitive empathy is still controversial and under investigation. Although not conclusive, empirical findings are showing that cognitive empathy is not affected in psychopathy.[52,53] Nevertheless, the antisocial group presented more aspects of the Secondary Psychopathy in comparison to the Primary Psychopathy, as well as low empathy, characterizing individuals with a pattern expected for ASPD individuals.[1,5,13] The empathic group had the highest scores in Affective Resonance and the lowest scores in psychopathy measures and Affective Dissonance.

Comparison between groups indicated the psychopathic group with the highest means in the IDCP-2 factors and PID-5 facets, in contrast to other groups. The antisocial group had higher means compared to the general population. The Impulsivity factor of IDCP-2 and the Impulsivity and Risk-taking facets of PID-5 did not differentiate the

psychopathic group from the antisocial group. We believe that these scores did not discriminate the psychopathic group from the antisocial group, as they evaluate overlapping traits between ASPD and psychopathy, such as impulsivity and risk-taking.[1,6,9,13,14]

In the multinomial regression analysis, the Deceitfulness and Indifference factors (IDCP-2) contributed to the discrimination of groups with an increase in psychopathy and ASPD traits from the general population group. We observed similar results for the Deceitfulness and Callousness facets of PID-5. Although the overlap of traits as deceitfulness, callousness, risk-taking, impulsivity and manipulativeness between ASPD and psychopathy is recognized in the literature,[1,6,9,14] PID-5 facets and IDCP-2 factors representing these traits diverged regarding their role in the prediction of the groups in our study. That is, each scale showed distinct groupings of factors as significant for the prediction of antisocial and psychopathic groups.

We believe that the divergent findings for the PID-5 facets and IDCP-2 factors in the multinominal regression analysis may have occurred as these scales evaluate different characteristics of the same traits. For instance, the Attention Seeking factor of IDCP-2 evaluates the exaggerated need to be the center of attention, to always be among people and to have many friends;[4] the PID-5 Attention-seeking facet evaluates the need to be the center of attention and to be able to admire others.[1,30] The same occurs for the Risk-taking factor, which in IDCP-2 focuses on a bold and reckless style,[26] while in PID-5, it focuses on the irresponsibility present in risk behavior.[1,30] The difference concerning the emphasis given to the characteristics of the traits can explain the divergent results in the regression analysis, which demonstrated that the IDCP-2 factors increase the predictive capacity of the PID-5 facets.

On the contribution of the IDCP-2 factors in the multinomial regression analysis, the higher the scores in Antagonism and Deceitfulness factors, the higher was the probability of the individual belong to the antisocial and to the psychopathic group. Furthermore, the Impulsivity factor contributed exclusively to the discrimination of people with high ASPD scores, possibly because it is a typical trait of secondary psychopathy, which is highly correlated to ASPD.[13] The Indifference factor was significant for the discrimination of people with high scores in ASPD traits and in the psychopathic specifier, which can be explained by the high association between callousness and primary psychopathy, the former encompassing core aspects of the classical psychopathy.[8,54] The specific IDCP-2 factor selected for the evaluation of the psychopathic specifier, Attention Seeking, did not demonstrate good predictive performance. Although we have employed the Attention Seeking factor as an indicator of social potency,[1] this factor encompasses an exaggerated need for attention and the need to have many friends,[24] not typical of the social potency, which may explain its poor performance.

The cutoff calculated for the IDCP-2 antisocial and psychopathy specifier scores showed good levels of sensitivity and specificity[50] to differentiate the antisocial group and the psychopathic group from the empathic group, as well as to differentiate the psychopathic and antisocial groups. These cutoffs can be employed in clinical practice[29] to screen people with ASPD, with or without the psychopathic specifier. The use of these cutoffs can also contribute to differentiate between people with ASPD and elevation in the psychopathic specifier from people without an elevation in the specifier. However, the use of cutoffs should be weighted by the current restriction on the validity of these scores. We suggest a research agenda in which (a) items for the composition of a Boldness factor were created to IDCP-2, aiming to capture the typical traits of the psychopathic

specifier, (b) studies including people diagnosed with ASPD with and without the psychopathic specifier were conducted, and (c) the use of IDCP-2 factors and cutoff for the differential diagnosis between ASPD and ASPD with a psychopathic specifier be investigated. This research agenda aims to examine the stability of the discriminative capacity of the scores, as well as their strengths and limitations.

The findings should be considered in light of the main methodological limitations of this study. First, the sample was not composed of people diagnosed with ASPD. This sample restriction may have decreased the variability in responses to the administered measures. Second, the external scales do not have cutoffs for the ASPD nor for the psychopathic specifier, which made it unfeasible to establish a sample group truly considered to be pathological. Third, we avoid the use of inverted scores due to criticisms previously presented in the literature.[31] However, the factors selected to capture boldness were not explicitly created for this purpose, which may have reduced the capacity to detect people with elevation in this pathological trait.

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Artigo 3 - Antisocial personality disorder traits and criminality: findings from a network analysis with Brazilian adults

Running head: Antisocial personality disorder traits and criminality

***Gisele Magarotto Machado[1]**

E-mail: gimagarotto@hotmail.com

https://orcid.org/0000-0003-1983-6636

Telephone number: +55 19 97420-6545

Lucas de Francisco Carvalho[1]

E-mail: lucas@labape.com.br

http://orcid.org/0000-0002-3274-9724

1 – Department of Psychology, Universidade São Francisco - R. Waldemar César da Silveira, 105 - Jardim Cura D'ars, Campinas - SP, 13045-510. Brazil.

***** Corresponding author.

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Abstract

Criminal behavior is frequently associate with Antisocial Personality Disorder (ASPD), and both are associate with society losses. This study aimed to investigate relationships between typical characteristics of ASPD and crime, as well as to verify associations of ASPD pathological traits with types of crime. The sample consisted of 460 Brazilian adults, where 367 were a community sample (aged 18-63 years), and 93 were prison inmates (aged 18-62 years). We administered facets of the PID-5 and the Affective empathy factor of the ACME. The network analysis demonstrated the Risk-taking facet (positive) and Affective empathy factor (negative) connected to criminality. We observed inconsistent findings on the comparison between groups according to types of crime and types of transgressions. Moreover, we found different patterns of traits associated with specific types of crime and transgressions. Our findings can assist in the identification of people most likely to present criminal behavior and highlight that particular interventions should be indicated for each type of crime and transgression.

Keywords: forensics; antisocial behavior; empathy; individual differences.

Resumo

O comportamento criminoso é frequentemente associado ao Transtorno de Personalidade Antissocial (TPAS), e ambos são associados a prejuízos para a sociedade. Este estudo objetivou investigar as relações entre características típicas do TPAS e crime, bem como verificar associações entre os traços patológicos do TPAS e tipos de crime. A amostra foi composta por 460 adultos brasileiros, dos quais 367 eram da população geral (idade variando de 18 a 63 anos, e 93 eram detentos de uma unidade prisional (idade variando de 18 a 62 anos). Nós aplicamos facetas do PID-5 e o fator Empatia Afetiva do ACME. A network analysis demonstrou que a faceta Exposição ao Risco (positiva) e o fator Empatia Afetiva (negativo) se conectaram à criminalidade. Nossos achados foram inconsistentes na comparação de grupos entre tipos de crime e tipos de transgressões. Além disso, nós encontramos que diferentes traços são associados com tipos específicos de crimes e transgressões. Estes achados podem auxiliar na identificação de pessoas com maior probabilidade e apresentar comportamento criminal e ressaltam que intervenções específicas devem ser indicadas para cada tipo de crime e transgressão.

Palavras-chave: ciência forense; comportamento antissocial; empatia; individualidade.

Introduction

Criminal behavior is a social phenomenon that negatively affects society in the physical, psychological, and economic domains (Međedović, 2017). In 2017, in Brazil, it was estimated an approximate rate of 31.6 deaths by homicide for every hundred thousand inhabitants, and a social cost directed at the repair and prevention of violence estimated at 70 billion dollars (Institute of Applied Economic Research [IPEA] & Brazilian Public Security Forum [BPFS], 2019). The United Nations Office on Drugs and Crime (UNODC, 2019) estimates a total of 464,000 deaths worldwide by homicide in the same year. Due to its social impact, psychologists and criminologists have sought to better understand this phenomenon and its causes, through the investigation of relationships between crime, violence, and personality traits, to prevent or at least intervene in the development of crime (e.g., Caspi et al., 1994; Gilbert & Daffern, 2011; Međedović, 2017, Weizmann-Henelius, Sailas, Viemerö, & Eronen, 2002).

The association between personality traits and criminal and antisocial behavior is widely observed in the literature (Eysenck & Gudjonsson, 1989; Jones, 2014). Meta-analytic studies found that low scores on the Five-Factor Model (FFM) facets Agreeableness (i.e., quality of social interactions, the tendency to compassion, and positive attitudes towards others; Costa & McCrae, 1985) and Conscientiousness (i.e., the propensity to proactivity, responsibility, and self-discipline; Costa, McCrae, & Dye, 1991) are associated with antisocial and criminal behaviors (Jones, Miller, & Lynam, 2011; Vize, Miller, & Lynam, 2018). Moreover, the meta-analysis conducted by Decuyper et al. (2009) found Antisocial Personality Disorder (ASPD) and Psychopathy characterized mainly by low scores in Agreeableness and Conscientiousness FFM facets and often associated with criminality.

ASPD is mainly identified by the disrespect and violation of the social norms and well-being of others (American Psychiatry Association [APA], 2013). ASPD individuals are described for an increase in pathological traits of Antagonism and Disinhibition dimensions. Antagonism is the pathological correspondent of low Agreeableness, and Disinhibition is the pathological correspondent of low Conscientiousness Thomas et al., 2012). Individuals with ASPD present elevation in the following pathological traits from both dimensions: callousness, irresponsibility, hostility, deceitfulness, risk-taking, impulsivity, and manipulation (Amini et al., 2015; APA, 2013; Few et al., 2015; Kotov et al., 2017; Wygant et al., 2016).

Antisocial and criminal behaviors are often associated with ASPD (Goldstein et al., 2007; Shepherd et al., 2016; Yu et al., 2012), the personality disorder with the highest prevalence in inmate samples (Coid et al., 2006; Fazel & Danesh, 2002). Although the prevalence of ASPD ranges from 0.2 to 3.3% in community samples, in forensic contexts, it can reach up to 70% (APA, 2013; Hare, 2003). Previous studies indicate that individuals with ASPD are more prone to recur (Hiscoke et al., 2003; Hodgins et al., 1996; Wormith et al., 2007), and to commit violent crimes (Azevedo et al., 2020; Kolla et al., 2017; Wojciechowski, 2019) when compared to people without this disorder.

Current study

Although there is ample empirical evidence on the relationship between ASPD and criminal and antisocial behaviors, there is a lack of evidence on the relationship between the typical ASPD pathological traits and these outcomes. This study aimed to investigate relationships between typical characteristics of ASPD and crime, as well as to verify associations of these pathological traits with types of crime.

Methods

Participants

Participants were from the general population (community sample, n = 367) and inmates from a prison unit (inmates sample, n = 93). The former was composed of Brazilian adults recruited by convenience, aged from 18 to 63 (*M* = 30.4; *SD* = 9.9), the majority being women (54,8%), Caucasians (51%), and people with a high school diploma (40.9%). 22.89% reported having been involved in fights with physical aggression, 14.44% had committed theft, and 23.16% were engaged in both transgressions. Seventeen people reported having already been arrested.

The inmates sample were composed of 93 prison inmates from a prison unit in Brazil. The majority of inmates sample were men (90.3%), Caucasians (55.9%), and with high school diplomas (39.8%) or elementary school diploma (33%). The age varied from 18 to 62 years (M = 30.97; DP = 9.27). Descriptive information about the crimes that the inmates sample were sentenced for are presented in Table 1.

Table 1. Sentenced crimes for inmates' sample.

	N	%
Assault	28	32.9
Homicide	14	16.5
Robbery	3	3.5
Agression	2	2.4
Rape	2	2.4
Pedophilia	1	1.3
Kidnapping	1	1.3
Drug smuggling	26	30.5
Theft	4	4.4
Abuse	2	2.4
Driving offenses	2	2.4
More than one crime	42	49.4
Recidivism	69	81.2

Measures

Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012, 2014)

The PID-5 is a self-report test aimed at assessing the 25 facets of maladaptive personality traits described in section III of the DSM-5, which can be combined into five domains (Negative Affect, Detachment, Antagonism, Disinhibition, Psychoticism). This test is composed of 220 items that should be responded on a 4-point Likert scale ranging from 0 = Very false or often false to 3 = Very true or often true. We administered the following PID-5 facets, based on the diagnostic criteria for ASPD in the Alternative Model for Personality Disorders (AMPD; APA, 2013): Callousness, Deceitfulness, Hostility, Impulsivity, Irresponsibility, Manipulativeness, and Risk-taking. Studies support the psychometric properties of PID-5 (e.g., Al-Dajani et al., 2016). Cronbach's α varied from .65 to .88 and McDonald's ω from .67 to .89.

Affective and Cognitive Measure of Empathy (ACME; Vachon & Lynam, 2015)

The ACME is a self-report scale to measure empathy. It is composed of 36 items and three factors: Cognitive Empathy, Affective Resonance, and Affective Dissonance. The sum of the Affective Resonance and Affective Dissonance factors represents the Affective Empathy factor. The items must be answered on a 5-points rating scale ranging from 1 = Disagree strongly to 5 = Agree strongly. The reliability estimates in the present study were: Affective Resonance (α =.79; ω = .81), Affective Dissonance (α =.90; ω = .91), and Affective Empathy (α =.90; ω = .91). Previous studies support the psychometric suitableness of the ACME (Vachon & Lynam, 2015).

Procedure

This study followed the ethical research procedures following the Declaration of Helsinki (World Medical Association [WMA], 2013), and was approved by a Research ethics committee (protocol approval number is CAAE: 19408619.3.0000.5514).

For the community sample, we collected the data over the Internet using the Google Forms tool. For the inmates sample, data were collected in a prison unit in Brazil. At the prison unit, guards randomly selected inmates, approximately ten inmates at a time, and took them into a room used as a classroom in the prison unit. We conducted the administration in a pencil and paper format.

Statistical Analysis

We performed a network analysis (Borsboom & Cramer, 2013), aiming to verify associations between typical traits of ASPD and criminality. The associations between variables in the network analysis are based on partial correlations, estimating the connection between two nodes considering the influence of all other components of the network (Lauritzen, 1996; Epskamp et al., 2017). The network analysis shows a graphical representation of associations using nodes and edges. The nodes represent the constructs (e.g., Impulsivity), and the edges represent the connection between the nodes, where thicker edges show stronger relationships and thinner edges, weaker relationships. We used the nodewise estimation algorithm that uses a series of linear regressions by estimating the neighborhood of each node in the underlying graph. We employed mixed graphical models (mgm) as an estimator because we used both categorical and continuous variables in the network. The mgm avoids that transformations of the variables generate a loss of information (Haslbeck & Waldorp, 2015). The penalty parameter used in this method is cross-validation, in which very weak associations and which do not add relevant information are reduced to zero. We performed the network analysis on software JASP version 0.12.2.0.

We conducted a multiple linear regression analysis to identify pathological traits and factors of empathy capable of significantly predicting crime. The criminality variable was a dichotomous variable created based on the inmates sample and community sample that reported previous arrestment (n = 106). We divided the participants according to the type of crime into two groups. Participants that were previously arrested, but we did could not access information on the type of crime, were excluded from the composition of these two groups. We considered crimes as violent and nonviolent based on the Brazilian Penal Code (Código Processo Penal, 1941). The violent group (n = 52) was composed of people who were convicted for the following crimes: assault, homicide, robbery, aggression, rape, pedophilia, and kidnapping; and the nonviolent group (n = 33) was composed of people who were sentenced for crimes of drug smuggling, theft, abuse, and driving offenses. We also divided the participants of the community sample into two groups according to the transgressions committed. The violent transgression group was composed of people that reported been involved in fights with physical violence (n = 84); the nonviolent transgression group was formed of people that reported committed theft (n = 61); the multiple transgressions group were composed of people who committed both forms of transgressions (n = 85).

We conducted a bootstrap independent samples t-test to compare groups of types of crime in the ASPD features and ANOVA to compare groups of types of transgression. We used .05 as the significance level and Cohen's *d* and η^2 *partial* as the effect size indicators. The Cohen's *d* was interpreted as 0.01 (very small), 0.20 (small), 0.50 (medium), 0.80 (large), 1.20 (very large), and 2.0 (huge) (Cohen, 1988; Sawilowsky, 2009). The η^2 *partial* was interpreted as 0.01 (small), 0.09 (medium) and 0.25 (large) (Cohen et al., 2001). Group comparisons were conducted in SPSS version 23.

Results

Figure 1 presents the network analysis connections, including typical ASPD personality traits, empathy, and the criminality variable.

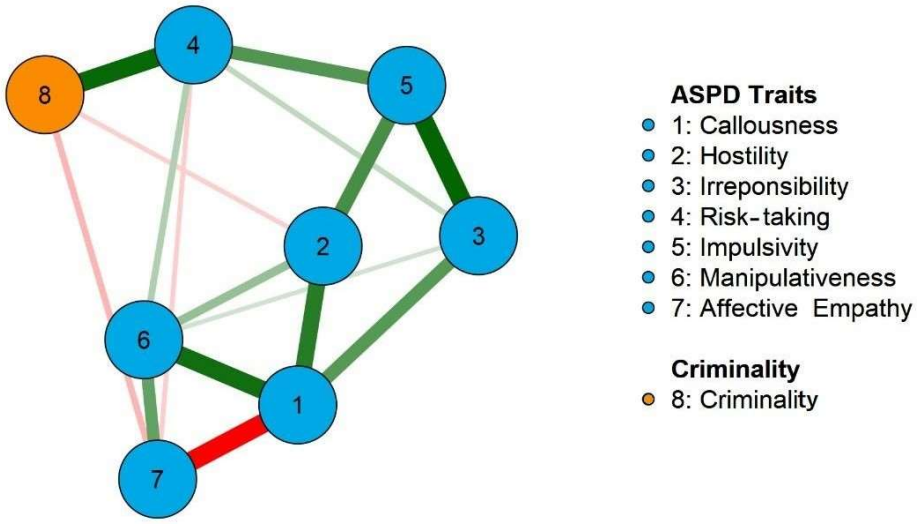

Figure 1. Connections between pathological traits, empathy, and criminality.

Table 1. Weights matrix of the connections.

Variable	1	2	3	4	5	6	7
1. Criminality	.00	.00	-.07	.00	.35	.00	.00
2. Callousness	.00	.00	.30	.24	.00	.00	.34
3. Hostility	-.07	.30	.00	.00	.00	.26	.15
4. Irresponsibility	.00	.24	.00	.00	.09	.36	.07
5. Risk-taking	.35	.00	.00	.09	.00	.24	.11
6. Impulsivity	.00	.00	.26	.36	.24	.00	.00
7. Manipulativeness	.00	.34	.15	.07	.11	.00	.00
8. Affective Empathy	-.11	-.36	.00	.00	-.07	.00	.22

The pathological trait positively associated with criminality was Risk-taking, while Hostility and Affective empathy had negative associations with the same variable. The strongest associations with criminality were observed for the Risk-taking trait. Figure 2 presents the centrality measures.

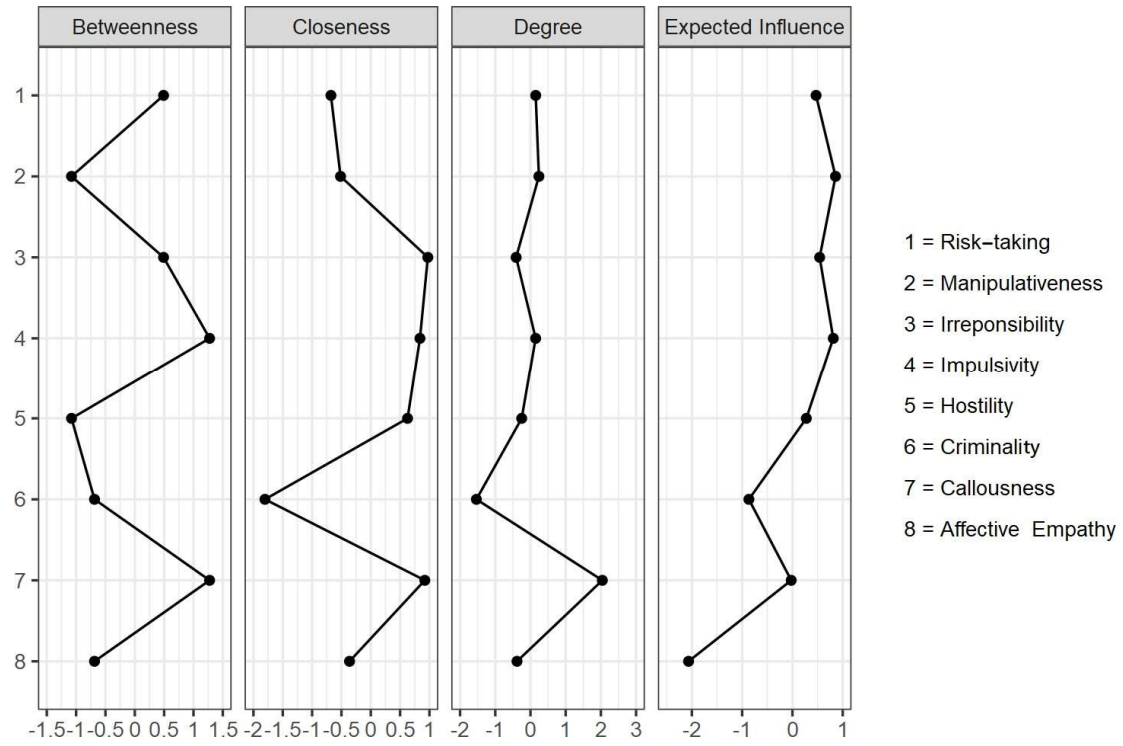

Figure 2. Centrality of the variables on the network.

Callousness, Impulsivity, and Manipulativeness were the most central variables on the network. However, when controlling for positive and negative edges, the most central variables were Impulsivity, Manipulativeness, Risk-taking, and Irresponsibility.

We performed a multiple regression analysis where the pathological traits and empathy were predictors of the criminality variable. Table 3 presents the findings on the predictions.

Table 2. Pathological traits and empathy to predict criminality.

	B	Error	B	*t*	*p*	r^2
Callousness	.10	.08	.09	1.20	.23	
Deceitfulness	-.07	.07	-.07	-.93	.36	
Impulsivity	.01	.04	.01	.20	.84	
Irresponsibility	-.02	.06	-.02	-.29	.77	
Risk-taking	.21	.04	.27	4.89	.00	.10
Manipulativeness	-.03	.05	-.04	-.63	.53	
Hostility	-.08	.04	-.12	-1.92	.06	
Affective Empathy	-.06	.03	-.09	-1.68	.09	

Risk-taking was the only measure significant in predicting the criminality variable. Table 4 shows the comparison between the violent and nonviolent groups in the scores of pathological traits and empathy.

Table 3. Mean comparison between violent (n=55) and nonviolent (n=33) groups in ASPD measures.

				CI 95%			
Variables	Groups	M	SD	Lower	Upper	t (*df=83)*	*d* (*p*)
Callousness	Violent	.42	.41	.29	.54	-.20	.05* (.84)
	Nonviolent	.44	.37	.30	.58		
Deceitfulness	Violent	.37	.47	.22	.51	.03	.01* (.98)
	Nonviolent	.36	.37	.23	.50		
Impulsivity	Violent	.74	.65	.54	.94	-.61	.14* (.55)
	Nonviolent	.83	.58	.61	1.04		
Irresponsibility	Violent	.49	.45	.35	.63	-.58	.14* (.56)
	Nonviolent	.55	.49	.37	.73		
Risk-taking	Violent	1.43	.47	1.27	1.58	-1.04	.26** (.30)
	Nonviolent	1.55	.47	1.37	1.73		
Manipulativeness	Violent	.25	.52	.09	.40	-.37	.09* (.71)
	Nonviolent	.29	.43	.13	.44		
Hostility	Violent	.44	.44	.30	.57	-2.00	.48** (.07)
	Nonviolent	.67	.58	.45	.89		
Affective Empathy	Violent	3.92	.56	3.74	4.09	1.27	.33** (.21)
	Nonviolent	3.73	.62	3.46	3.99		

Nota. * = very small; **= small.

Although none of the measures showed significant differences, some of the effect sizes were non-negligible. The group that committed nonviolent crimes had higher means in pathological traits, except for Deceitfulness and Affective Empathy. The largest effect sizes were observed for Hostility, Affective empathy, and Risk-taking. Table 5 shows the comparison among the groups of transgressors in the scores of pathological traits and empathy.

Table 4. Mean comparison between healthy and pathological groups in the ASPD measures.

				CI 95%					
Variable	Group	*M*	*SD*	Lower	Upper	*Df*	*F*	*p*	η^2 *partial*
Callousness	Violent transgression	.51	.42	.42	.60	2	3.62	.30	.019*
	Nonviolent transgression	.41	.36	.32	.51				
	Multiple transgression	.48	.35	.40	.55				
Deceitfulness	Violent transgression	.39	.45	.29	.49	2	.40	.33	.002

	Nonviolent transgression	.49	.46	.37	.61				
	Multiple transgression	.47	.42	.38	.57				
Impulsivity	Violent transgression	.69	.61	.55	.82				
	Nonviolent transgression	.71	.61	.55	.88	2	.00	.63	.000
	Multiple transgression	.78	.59	.65	.90				
Irresponsibility	Violent transgression	.42	.33	.35	.49				
	Nonviolent transgression	.51	.42	.40	.62	2	4.68	.03	.024*
	Multiple transgression	.59	.49	.49	.70				
Risk-taking	Violent transgression	1.40	.44	1.30	1.49				
	Nonviolent transgression	1.29	.45	1.17	1.41	2	.00	.08	.000
	Multiple transgression	1.46	.44	1.36	1.56				
Manipulativeness	Violent transgression	.32	.55	.20	.44				
	Nonviolent transgression	.43	.58	.28	.58	2	1.64	.21	.009
	Multiple transgression	.47	.59	.34	.60				
Hostility	Violent transgression	.75	.62	.62	.89				
	Nonviolent transgression	.66	.54	.52	.80	2	.85	.62	.004
	Multiple transgression	.70	.51	.59	.81				
Affective Empathy	Violent transgression	3.91	.57	3.78	4.03				
	Nonviolent transgression	3.95	.63	3.78	4.12	2	.20	.66	.001
	Multiple transgression	3.99	.50	3.88	4.10				

Note. * = small.

The multiple transgressions group demonstrated a higher score in Irresponsibility, the only score showing significant difference among groups. Although not significant, the violent transgressions group had higher scores in Callousness and Hostility and lower scores in Affective empathy factor; the nonviolent transgression group had higher scores in the Deceitfulness factor; and the multiple transgression group had higher scores in Impulsivity, Risk-taking, and Manipulativeness factors.

Discussion

Criminality negatively affects society (Međedović, 2017), and generates high costs for its repair and prevention (IPEA & BPFS, 2019). Personality disorders are often linked to this social phenomenon (Howard et al., 2008), although ASPD is the most typical in prison settings (APA, 2013; Coid et al., 2006; Hare, 2003). Our study aimed to investigate associations between ASPD traits and criminality, as well as to examine associations between pathological traits and types of criminality. The findings indicate

that high levels of Risk-taking and low levels of Affective empathy are associated with criminality.

The network analysis showed that high levels of Risk-taking facet and low levels of Affective Empathy and Hostility were related to criminality. Findings of previous studies indicated that Risk-taking (i.e., the tendency to involvement in risk activities, lack of concern about consequences and dangerous; APA, 2013; Krueger et al., 2012, 2014) have a crucial role in criminal behavior (Armstrong et al., 2020; Vazsonyi & Ksinan, 2017). High levels of Risk-taking are a component of the Disinhibition dimension and low levels of Affective empathy of the Antagonism dimension (APA, 2013; Lynam & Miller, 2019; Thomas et al., 2012). A previous meta-analysis supported that high levels of Antagonism (low Agreeableness) and Disinhibition (low Conscientiousness) are related to several antisocial behaviors, including criminality (Jones et al., 2011; Lynam & Miller, 2019; Vize et al., 2018; Vize et al., 2019).

Although the findings with the network analysis were, in general, coherent, ee observed a negative association between criminality and Hostility, a facet of the Antagonism dimension. McGee et al. (2016) found that Hostility was the PID-5 facet that suffered the highest level of underreporting response bias (i.e., suppression of scores in measures of psychopathology or undesirable traits). Quilty et al. (2018) also investigated response bias effects in the PID-5 facets and observed that scores of Antagonism and Disinhibition dimensions were the most discrepant scores comparing the self and informant reports, where lower scores were seen for the self-report. We believe that the unexpected findings on the association between Hostility and criminality may be due to the propensity to underreporting on this facet.

We observed inconsistent findings on the comparison between groups according to types of crime and types of transgressions. Previous studies suggested that people with

elevation in typical traits of ASPD have more probability of engaging in violent forms of antisocial behavior (Azevedo et al., 2020; Kolla et al., 2017; Wojciechowski, 2019; Yu et al., 2012). Moreover, evidence suggests that low levels of empathy are more related to violent crimes than with nonviolent crimes (Jolliffe & Farrington, 2007) and that low levels of Conscientiousness (i.e., high levels of Disinhibition traits as Impulsivity, Irresponsibility, and Risk-taking) are more related to nonviolent crimes (Vize et al., 2018). Our findings were opposite, showing the nonviolent group with higher scores in all measures, except for Deceitfulness and Affective Empathy. However, our findings on types of transgressions were partially confirmed by previous evidence, as we found that the violent transgressions group tended to present higher scores in most of the traits composing the Antagonism dimension; the nonviolent transgression group showed higher scores in the Deceitfulness facet; and the multiple transgression group exhibited higher scores in traits of the Disinhibition dimension, as well as the Manipulativeness facet.

The difference in our findings concerning types of crime and types of transgressions may have occurred due to two main reasons. First, we believe that the data collected from the inmates sample suffered from the social desirability bias, which is likely to arise in forensic samples (e.g., Edens 2009; Spaans et al., 2016). Second, almost half of the inmates sample (49.4%) reported having committed more than one crime, and there may be individuals in the nonviolent group who committed violent crimes prior to the current imprisonment and vice versa to the violent group. The lack of information on what types of crimes were committed before the inmate was serving a sentence, compromised the division and comparison of groups in our study. Therefore, we recommend that future studies explore personality differences between people that committed violent crimes, nonviolent crimes, and both types of crime. We also suggest

future studies to control for social desirability when investigating associations between pathological traits and criminality using self-report measures.

The findings of our study suggest a clear association of Risk-taking and low Affective Empathy with criminality. Moreover, we observed different patterns of traits associated with specific types of crime and transgressions. These findings can assist in the identification of people most likely to present criminal behavior, and highlighting that particular interventions should be elaborated for each type of crime and transgression, aiming different traits (and consequent impairments).

Our findings must be weighed in light of the main methodological limitations. First, the study had a small sample of detainees, possibly not being representative of this population. Second, the traits were evaluated through self-report scales, which may be impacted by social desirability or other response biases. Third, we did not control the impact of demographics, such as previous crimes, sex, and age, given restrictions of the sample distribution, which may have affected the results.

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CONSIDERAÇÕES FINAIS

O TPAS e o especificador psicopático frequentemente estão associados a comportamentos prejudiciais para o sujeito e para a sociedade (e.g., Colpaert et al., 2012; Jones et al; 2011; Miller et al., 2017; Vize et al., 2018). Instrumentos de avaliação auxiliam na identificação correta de pessoas com e sem as características típicas destes transtornos. A identificação de pessoas com padrões típicos do TPAS e do especificador psicopático é essencial para que intervenções possam ser realizadas (Gibbon et al., 2010; Khalifa et al., 2010). Este estudo teve como objetivo investigar a capacidade dos fatores do IDCP-2 para discriminar traços de TPAS e do especificador psicopático, bem como investigar associações entre estes traços e criminalidade. Este objetivo foi executado em três artigos: (1) Investigation on the factors of the Dimensional Clinical Personality Inventory 2 for identification of traits of the antisocial personality disorder, (2) Discriminating pathological traits of the antisocial personality disorder and its psychopathy specifier with factors of the Dimensional Clinical Personality Inventory 2, e (3) Antisocial personality disorder traits and criminality: findings from a network analysis with Brazilian adults.

Em conjunto, os resultados deste estudo apontaram para a adequação do IDCP-2 para a avaliação de traços típicos do TPAS e do especificador psicopático. Os fatores do IDCP-2 foram úteis na discriminação de pessoas com e sem elevação em traços do TPAS e do especificador psicopático (resultado confirmado utilizando diferentes métodos e grupos). Este estudo produziu três pontos de corte calculados a partir de diferentes combinações de fatores do IDCP-2, que demonstraram boa sensibilidade e especificidade, contribuindo para (a) diferenciar pessoas com elevação em traços do TPAS de pessoas sem elevação nesses traços, (b) diferenciar pessoas com elevação em traços do TPAS com especificador psicopático de pessoas sem elevação nesses traços e (c) diferenciar pessoas

com elevação em traços de TPAS de pessoas com elevação em traços de TPAS com especificador psicopático. Os fatores do IDCP-2 apresentaram performance semelhante às facetas do PID-5 para identificação da elevação de traços típicos do TPAS e do especificador psicopático, além de acrescentarem na predição deste padrão em relação ao PID-5. De forma geral, os achados deste estudo suportam a recomendação do uso clínico dos fatores do IDCP-2 e dos pontos de corte sugeridos estudo para a triagem de pessoas com suspeita de TPAS com ou sem especificador psicopático. Além disso, os achados deste estudo indicaram que traços típicos do TPAS são associados à criminalidade, apresentando diferentes padrões para cada tipo de crime, reforçando a necessidade de instrumentos adequados para a avaliação deste transtorno.

Sugerimos que sejam realizados novos estudos (a) verificando a capacidade discriminativa dos fatores do IDCP-2 e dos pontos de corte sugeridos neste estudo para pessoas com o diagnóstico de TPAS (com e sem especificador psicopático), (b) visando criar itens para composição de um fator *boldness* no IDCP-2, visando captar os traços típicos do especificador psicopático e (c) investigando a utilização dos fatores do IDCP-**2** e dos pontos de corte para o diagnóstico diferencial entre TPAS e TPAS com especificador psicopático (d) visando o desenvolvimento de instrumentos para a avaliação do TPAS e do especificador psicopático com controle de desejabilidade social e outros vieses de resposta.

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