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The efficacy of a Compassion Focused Therapy-based intervention in reducing psychopathic traits and disruptive behavior: A clinical case study with a juvenile detainee

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2 **The efficacy of a Compassion Focused Therapy-based intervention in reducing psychopathic**
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4 **traits and disruptive behavior: A clinical case study with a juvenile detainee**
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58
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60

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Conflict of interests

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1
2 **The efficacy of a Compassion Focused Therapy-based intervention in reducing psychopathic**
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4 **traits and disruptive behavior: A clinical case study with a juvenile detainee**
5

6 **Abstract**
7

8 Conduct Disorder (CD) is the most diagnosed psychopathological disorder in juvenile detainees.
9

10 **The presence of a CD diagnosis, especially when associated with psychopathic traits, contributes to**
11 **a poor prognosis, high recidivism rates and low responsivity to treatment in these youth. Although**
12
13 group intervention programs have proven to be effective in decreasing antisocial behavior, studies
14
15 testing their efficacy in reducing psychopathic traits are scarce and limited. Moreover, there is a
16
17 lack of research focused on the efficacy of individual treatment approaches specifically designed to
18
19 **reduce psychopathic traits and disruptive behavior** in juvenile detainees. Compassion Focused
20
21 Therapy (CFT) shows promising results in the treatment of several psychopathological disorders.
22
23 **Besides, there is some theoretical support to consider CFT a suitable approach to treating juvenile**
24
25 **detainees. However, there are no treatment programs based on CFT that are designed to target**
26
27 **psychopathic traits and disruptive behavior in these youth. Consequently, treatment outcome**
28
29 **research in this area is absent.** This clinical case study presents the treatment of a **juvenile detainee**
30
31 **with CD**, a high psychopathic profile, and a very high risk for criminal recidivism using **the**
32
33 **PSYCHOPATHY.COMP program (a 20-session individual CFT program), which was specially**
34
35 **designed to reduce psychopathic traits and disruptive behavior.** The treatment outcome data
36
37 revealed a significant reduction in psychopathic traits **and disruptive behavior.** The treatment gains
38
39 were maintained and/or increased over time (3 months after program completion). **This clinical case**
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41 **study demonstrates the feasibility and efficacy of the PSYCHOPATHY.COMP program in**
42
43 **reducing psychopathic traits and disruptive behavior in this juvenile detainee.**
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55 *Keywords:* Compassion Focused Therapy; Conduct Disorder; Disruptive Behavior; Juvenile
56
57 Detainees; Psychopathic Traits.
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1. Theoretical and Research Basis for Treatment

The high prevalence of the Conduct Disorder (CD) diagnosis among juvenile detainees is well established in the literature (Abram et al., 2015; Rijo et al., 2016). In addition, psychopathic traits (i.e., Grandiose-Manipulative/GM, Callous-Unemotional/CU; and Impulsive-Irresponsible/II traits) are more prevalent in detained youth than in normative youth (Andershed, Kerr, Stattin, Levander, 2002; Ribeiro da Silva, Salekin, & Rijo, 2019a). Several studies have noted that the combination of a CD diagnosis with high levels of psychopathic traits is linked to a more persistent and severe pattern of antisocial behavior, higher recidivism rates and less engagement and responsivity to treatment than when CD is not associated with high levels of psychopathic traits (Herpers, Rommelse, Bons, Buitelaar, & Scheepers, 2012; Leistico, Salekin, DeCoster, & Rogers, 2008). In the early 40s, Cleckley (1941/1988) wrote that “We do not at present have any kind of psychotherapy that can be relied upon to change the psychopath fundamentally” (p. 478). After almost 80 years, there is still a lack of studies testing the efficacy of intervention programs specifically tailored for juvenile detainees with CD in reducing psychopathic traits and disruptive behavior.

Treatment efforts

Behavioral and cognitive-behavioral interventions are among the most effective in the treatment of antisocial behavior problems, in both adult and youth criminal samples (Andrews & Bonta, 2010; Koehler, Lösel, Akoensi, & Humphreys, 2013; Lipsey, 2009; MacKenzie & Farrington, 2015). However, regarding psychopathic traits, there is a long debate about whether they are or are not treatable (see Ribeiro da Silva, Rijo, & Salekin, 2013; Frick, Ray, Thornton, & Kahn, 2014; Wilkinson, Waller, & Viding, 2015 for a review). Some authors (Harris & Rice, 2006) argued that psychopathy is a non-treatable condition and that therapeutic efforts may even worsen psychopathic traits, antisocial behavior and recidivism risk, making individuals avoid legal detention in more successful ways. Other authors contended that psychopathic traits and disruptive behaviors seem to be changeable, especially, but not exclusively, if individuals are identified early

1
2 in life (during childhood or adolescence) and treated properly (Hecht, Latzman, & Lilienfeld, 2018;
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4 Salekin, 2002; Salekin, Worley, & Grimes, 2010; Wilkinson et al., 2015). In this respect, behavioral
5
6 interventions, cognitive-behavioral interventions, and parent/family-based interventions seem to be
7
8 the most effective in reducing psychopathic traits and disruptive behaviors (e.g., Caldwell,
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10 McCormick, Wolfe, & Umstead, 2012; Datyner, Kimonis, Hunt, & Armstrong, 2016; Fleming,
11
12 Kimonis, Datyner, & Comer, 2017; Hecht et al., 2018; Kimonis & Armstrong, 2012; McDonald,
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14 Dodson, Rosenfield, & Jouriles, 2011; Mills, Babinski, & Waschbusch, 2018; Polaschek & Skeem,
15
16 2018; Salekin, 2002). Another promising avenue to treat these youth is interventions based on
17
18 positive and/or prosocial/affiliative emotions (Dadds, Cauchi, Wimalaweera, Hawes, & Brennan,
19
20 2012; Salekin, Tippey, & Allen, 2012).

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24
25 Nevertheless, the scientific literature on the treatment of psychopathic traits is scarce, the
26
27 rigor of treatment designs is limited, and the assessment of treatment efficacy presents several
28
29 methodological problems (Hecht et al., 2018; Polaschek & Skeem, 2018; Ribeiro da Silva et al.,
30
31 2013; Wilkinson et al., 2015). In addition to being scarce, the majority of studies on this field were
32
33 conducted prior to the 1980s, few used methodological rigorous designs, and even fewer were
34
35 conducted in forensic settings, namely, with young offenders (Hecht et al., 2018; Polaschek &
36
37 Skeem, 2018; Salekin, 2002). Only three studies, meeting ethical requirements and basic
38
39 methodological standards (a relatively large sample size and a control group), examined whether
40
41 treatment reduces criminal behavior and/or psychopathic traits in young offenders (Butler, Baruch,
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43 Hickey, & Fonagy, 2011; Caldwell, Skeem, Salekin, & Van Rybroek, 2006; Manders, Deković,
44
45 Asscher, van der Laan, & Prins, 2013). Overall, the results of these studies showed that
46
47 psychopathic traits and/or criminal behavior can be reduced after the delivery of an intensive
48
49 treatment approach using cognitive-behavioral techniques (Caldwell et al., 2006) or an intensive
50
51 multimodal family intervention (Butler et al., 2011; Manders et al., 2013).

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57 Several promising pathways to the treatment of young offenders with psychopathic traits
58
59 have been identified (see Hecht et al., 2018 for a review). First, the past few decades have seen
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1
2 significant gains regarding the scientific understanding about the etiology and assessment of CD
3
4 and psychopathic traits (Ribeiro da Silva, Rijo, & Salekin, 2012, 2015; Hecht et al., 2018), which is
5
6 fundamental to the development and delivery of intervention programs targeting theoretically sound
7
8 mechanisms of change (Hecht et al., 2018; Salekin, 2002). Second, new forms of cognitive-
9
10 behavioral therapies (CBT) have been developed in recent years, showing growing empirical
11
12 support (Kahl, Winter, & Schweiger, 2012). Unlike traditional CBT, these new therapeutic
13
14 approaches mainly focus on changing the function of psychological events (e.g., cognitions,
15
16 motives, and emotions) rather than on changing their particular content or frequency (Kahl et al.,
17
18 2012). However, no research has been published testing the efficacy of these new CBT approaches
19
20 in treating juvenile detainees.
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25 **Compassion Focused Therapy**

26
27 Compassion Focused Therapy (CFT) emerged from developments within this CBT
28
29 movement but stands out because of its evolutionary underpinning and its focus on the promotion of
30
31 a compassionate motivation in individuals (Gilbert, 2014). Compassion can be conceptualized as a
32
33 motivation to be sensitive to the suffering of the self and others, allied with the wisdom, strength,
34
35 and commitment to prevent and/or alleviate that same suffering (Gilbert, 2010). Therapists serve as
36
37 models, guiding and helping individuals overcome their fears, blocks, and resistances to
38
39 compassion and bringing forth the different flows of compassion: having compassion towards the
40
41 self, giving compassion to others, and receiving compassion from others (Gilbert, 2017, 2019).
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45
46 Case formulation in CFT is similar to standard formulation processes, encompassing a series
47
48 of interconnected stages (Gilbert, 2016): background and historical influences (i.e., early attachment
49
50 experiences and life events, which light up emotional memories of feeling (un)safe and (un)cared
51
52 for and/or easily threatened); key threats (i.e., external and internal key threats around archetypal
53
54 and innate themes of abandonment, rejection, shame, and abuse/harm; external threats relate to what
55
56 the world or others might do, while internal threats are associated with what emerges inside the
57
58 self); safety strategies (i.e., ways of coping with external and/or internal threats; these can be either
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1
2 internalizing or externalizing); and unintended consequences (i.e., efforts of individuals to deal with
3
4 their key threats often lead to unintended consequences, which usually worse those same threats).
5

6 In a CFT-based intervention, therapists compassionately guide patients to discover the
7
8 universal and evolutionary role of human functioning (in a mind/body duality) and the adaptive role
9
10 of the individual's own functioning, taking into account his/her background and current life context
11
12 (Carter, Bartel, & Porges, 2017; Cowan, Callaghan, Kan, & Richardson, 2016; Gilbert, 2014;
13
14 Shirtcliff et al., 2009). As humans, we all have universal, automatic, and instinctive reactions to
15
16 threats (linked to our reptilian brain, part of the “old” brain area), which are crucial to **surviving and**
17
18 **thriving** (MacLean, 1985). Most problems arise when the reptilian brain conflicts with affiliative
19
20 motivations (linked to the mammalian brain, also part of our “old” brain) and with the unique
21
22 cognitive skills of the human cerebral cortex (linked to the “new” brain) (MacLean, 1985). To
23
24 regulate emotional states, which always combine a multiplicity of emotional patterns (i.e., our
25
26 multiple selves: angry self, sad self, anxious self...), humans may resort to three emotion regulation
27
28 systems: the threat system (shared by all species; its function is to protect individuals from threats);
29
30 the drive system (its function is to allow individuals to experience positive feelings that guide,
31
32 motivate, and encourage them to seek out resources to survive and prosper); and the soothing
33
34 system (its function is to allow individuals to experience peacefulness and safeness) (Gilbert, 2015).
35
36 Psychopathological symptoms and disorders arise when there is an unbalance of these three
37
38 emotion regulation systems, particularly when the threat activation commands the individual's
39
40 functioning. In this respect, shame (encompassing unbearable and persistent feelings of being
41
42 inferior, inadequate, and worthless) and shame regulation play a major role in CFT. Thus, as we all
43
44 share the need to create positive feelings about ourselves in the mind of others, **when individuals**
45
46 **feel** devalued, neglected, and/or abused since early ages, **they tend to** become vulnerable to shame,
47
48 which, in turn, over-stimulates the threat system and its archaic responses (freeze, flight, fight;
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50 Gilbert, 2015, 2017). In fact, research has found evidence for the key role of shame and shame
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52 regulation problems in several psychopathological disorders (Ribeiro da Silva et al., 2015). When
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1
2 individuals tend to internalize the shame experience (e.g., “I am inferior and worthless”), they
3
4 usually develop internalizing psychopathology. In turn, when individuals tend to externalize the
5
6 shame experience (e.g., “Others are trying to put me down”), they are more prone to develop
7
8 externalizing psychopathology (Elison, Pulos, & Lennon, 2006; Nathanson, 1992; Vagos, Ribeiro
9
10 da Silva, Brazão, Rijo, & Elison, 2018b).
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13
14 In sum, in a CFT-based intervention, therapists compassionately guide patients to discover
15
16 that our functioning is actually not our fault, as we are just one version of ourselves, which was
17
18 shaped by evolutionary, genetic, epigenetic, and environmental influences that we did not choose
19
20 (Cowan et al., 2016; Gilbert, 2019). However, it is also our responsibility, once we can know
21
22 ourselves better, learn and practice new regulation strategies, and guide our automatic responses
23
24 instead of being guided by them (Gilbert, 2017, 2019). To encourage this responsibility, CFT
25
26 provides training on specific practices that are designed to address the triggering of the threat
27
28 system, balance the emotion regulation systems and cultivate compassion in individuals. This is
29
30 called Compassionate Mind Training (CMT), a cross-cutting ingredient throughout a CFT
31
32 intervention (Gilbert, 2016, 2019).
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35

36
37 From a CFT perspective, antisocial behavior patterns and psychopathic traits are
38
39 conceptualized as evolutionary rooted responses to deal with harsh rearing scenarios (Ribeiro da
40
41 Siva et al., 2015). In detail, if the human brain is evolutionarily designed to survive and thrive in
42
43 adverse environments, when individuals are raised in hostile psychosocial backgrounds, as are the
44
45 majority of juvenile detainees, their brains also become calibrated for such environments (Abram et
46
47 al., 2015; Vagos, Ribeiro da Silva, Brazão, & Rijo, 2018a; Vagos, Ribeiro da Silva, Brazão, Rijo, &
48
49 Gilbert, 2016, 2017). Thus, these youth tend to present an overdeveloped threat system, which
50
51 functions mostly according to survival principles (e.g., “better safe than sorry”), as well as central
52
53 emotional dysfunctions (e.g., Garofalo, Neumann, & Velotti, 2018; Kosson, Vitacco, Swogger,
54
55 Steuerwald, & Gacono, 2016). These emotional dysfunctions comprise, among others, high levels
56
57 of shame and shame regulation problems; i.e., shame seem to be massively externalized by
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2 compensation (GM traits), avoidance (CU traits) and/or attack mechanisms (II traits) (Del Giudice
3 & Ellis, 2015; Nyström & Mikkelsen, 2012; Ribeiro da Silva, Vagos, & Rijo, 2019b; Shirlcliff et
4 al., 2009). In sum, **although** early conceptualizations emphasized the appearance of sanity and the
5
6 lack of emotional experience as core features of psychopathy (Cleckley, 1941/1988), a growing
7
8 body of research is finding evidence that psychopathic traits probably act as a mask of
9
10 invulnerability that hides deep suffering and a shameful nucleus (Nathanson, 1992; Ribeiro da Silva
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12 et al., 2015, 2019b).

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18 **CFT is applied in the treatment of several mental health problems in adulthood, some of**
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20 **them previously considered difficult to treat (Braehler et al., 2013, Kirby, Tellegen, & Steindl,**
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22 **2017; Sommers-Spijkerman, Trompetter, Schreurs, & Bohlmeijer, 2018). Moreover, CFT has been**
23
24 **indicated as a suitable treatment approach for children and youth (Carona, Rijo, Salvador, Castilho,**
25
26 **& Gilbert, 2017).** Finally, there is some theoretical support to consider CFT as an appropriate
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28 approach to treat juvenile detainees (Ribeiro da Silva et al., 2015). However, until now, no study
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30 has tested this hypothesis.

31 32 33 **Psychopathy.comp**

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The growing empirical support of CFT (see Leaviss & Uttley, 2015 for a review), the
reliability of conceptual models explaining psychopathic traits under the lens of a CFT approach
(Ribeiro da Silva et al., 2019b), and the compelling theoretical support of CFT as an adequate
treatment for **youth with disruptive behavior and psychopathic traits** (Ribeiro da Silva et al., 2013,
2015) lead Ribeiro da Silva and colleagues (2017) to **develop the PSYCHOPATHY.COMP**
program: an individual compassion-based psychotherapeutic intervention for juvenile detainees
with CD and psychopathic traits. The main goal of this program is to reduce psychopathic traits and
disruptive behavior through the development of a compassionate motivation in these youth, towards
both the self and others.

The PSYCHOPATHY.COMP program was developed by a research team that included
experts in CFT and/or CBT (including Paul Gilbert, the founder of CFT), most of them with clinical

1
2 experience in the assessment and treatment of antisocial individuals. In the first stage, the research
3
4 team had intensive training on CFT and discussed the program's structure and methodologies. From
5
6 this effort, a draft of the PSYCHOPATHY.COMP program was developed, manualized, and tested
7
8 individually with a small group of young offenders. Based on the qualitative feedback data from
9
10 this feasibility study and on supervision sessions with Paul Gilbert, content-related changes were
11
12 identified and conducted to develop the final version of the PSYCHOPATHY.COMP program. The
13
14 PSYCHOPATHY.COMP program has many similarities with other CFT programs (e.g., strategy of
15
16 change, CMT; Gilbert, 2010) but stands out by being highly experiential and tailored for the
17
18 specific difficulties and life experiences of juvenile detainees. Moreover, as individuals with
19
20 psychopathic traits tend to present poor treatment engagement (Hecht et al., 2018; Herpers et al.,
21
22 2012; Leistico et al., 2008), the PSYCHOPATHY.COMP program was designed taking into
23
24 account motivational interviewing strategies aligned with a CFT framework (Steindl, Kirby, &
25
26 Tellegan, 2018).

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32 PSYCHOPATHY.COMP is a manualized program of 20 60-min sessions, which runs on a
33
34 weekly basis. Sessions must be delivered by therapists skilful in CFT. The program's structure
35
36 follows a progressive strategy of change, which occurs in four sequential modules (see Table 1): (1)
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38 The basics of our mind; (2) Our mind according to CFT; (3) Compassionate Mind Training; and (4)
39
40 Recovery, relapse prevention, and finalization. As a common feature of all therapeutic sessions,
41
42 therapists are focused on developing a secure therapeutic relationship, assessing the motivational
43
44 stage of the youth (acting accordingly by using motivational interviewing strategies aligned with a
45
46 CFT framework; Steindl et al., 2018), and stimulating the CMT.

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50 [Insert Table 1]

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52 The main goal of module 1 is to offer youth insights about the evolutionary roots of humans'
53
54 basic motives, needs, and emotions, including the automatic and universal responses to social and
55
56 physical threats. Adopting a non-pathological and de-shaming perspective, youth are dynamically
57
58 encouraged to understand that even if we cannot change events, emotions, and thoughts themselves,
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1
2 we can change the way we interact with them and act on them, and accordingly, we can change our
3
4 behavioral response. CMT is introduced in module 1 as a fundamental platform to begin the process
5
6 of building participants' compassionate mind and awareness.
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9 Module 2 brings awareness to youth about the functioning of the human mind according to a
10
11 CFT formulation and continues the CMT. Therapists compassionately enable youth to discover that
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13 although we are "just one version of ourselves" (i.e., we probably would be different if genetic or
14
15 contextual factors in our lives have been different), our evolutionary, genetic, epigenetic, and
16
17 contextual inheritance does not lead to determinism, as we all could make conscious actions as we
18
19 increase our knowledge about our own functioning. To encourage such conscious actions, beyond
20
21 the importance of CMT, youth are experientially guided to understand the concepts of emotion
22
23 regulation systems, which may help us regulate our emotional states, shame, and shame regulation
24
25 strategies.
26
27

28
29 Although CMT started in module 1 and continued during module 2, module 3 is explicitly
30
31 focused on CMT. Using experiential exercises, youth are gradually exposed to the triggering of the
32
33 threat system (mostly anger/shame exposure) to allow them to understand its outputs (in the mind
34
35 and body), differentiate and integrate their multiple selves, seek out and test compassionate
36
37 strategies to tolerate and cope in healthy ways with their own distress.
38
39

40
41 Finally, module 4 is aimed at revisiting the motivations for recovery and preventing relapse,
42
43 always under the lens of compassion. Youth are encouraged to deeply understand that although
44
45 suffering will always be part of our lives, this therapeutic journey offered them several
46
47 compassionate emotion regulation strategies to deal with suffering. However, therapists always
48
49 emphasize youth's control and personal choices, as well as their responsibility for change.
50
51

52
53 Sessions present a predefined structure, starting with the therapist making a grounding
54
55 exercise before the session, which is aimed to bring the compassionate self of the therapists into the
56
57 session. The sessions themselves are then divided into three parts. Part 1 starts with a grounding
58
59 exercise (i.e., Soothing Rhythm Breathing; Gilbert, 2010), which is aimed at helping youth to be
60

1
2 compassionate before starting the session itself, followed by an overview of the last session and,
3
4 lastly, by a moment to explore any insights and/or events that occurred during the week. Part 2
5
6 starts with an exercise, which is followed by the development of the session theme, where youth are
7
8 guided to a deeper level of understanding. Finally, part 3 starts with a session summary, and
9
10 afterwards, youth are invited to do a CMT practice. At the end, a “Magic Card” is given to youth,
11
12 which works like a keyword that mirrors and summarizes the session’s theme.
13
14

15
16 Despite PSYCHOPATHY.COMP’s compelling theoretical support for changing
17
18 psychopathic traits and **disruptive behavior** in juvenile detainees, this is the first study to report on
19
20 the application of this program.
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22

23 **2. Case Introduction**

24
25 Peter (pseudonym) is a 16-year-old male who was detained in a Portuguese maximum security
26
27 juvenile detention facility **for the first time**. Peter was convicted to 26 months after being charged
28
29 **with 35 counts of offenses against people (e.g., armed robberies, physical aggression)**. Before
30
31 detention and since the age of 14, Peter lived in a foster care facility; he was registered in the
32
33 seventh grade but had dropped out of school, **having been previously held back three years**. Peter
34
35 was invited to voluntarily participate in this study. All ethical requirements were guaranteed,
36
37 including institutional authorizations, his parents’ written consent, his own oral consent,
38
39 confidentiality, and anonymity.
40
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42

43
44 **According to the Portuguese legal system, detention in a maximum-security unit is the most**
45
46 **severe consequence a court can apply to youth who have committed an offense between the ages of**
47
48 **12 and 16. Under this sentence, youth are monitored and controlled 24/7 in the detention facility**
49
50 **using a token economy system. However, regardless of their behavior, youth leave the facility only**
51
52 **when they are released; i.e., school, medical appointments, visits, etc. all occur inside the facility.**
53
54 **Exceptions are made if clearly justified (e.g., medical urgency, court assignments) or if there is a**
55
56 **very clear and consistent behavioral improvement (e.g., youth can spend Christmas at home).**
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1
2 The therapist was a psychologist with 14 years of clinical experience. She had had training in
3
4 CFT for the last 7 years and had clinical experience in delivering CFT-based interventions with
5
6 young offenders. During this case study, the therapist had weekly supervised sessions with a CFT
7
8 expert.
9

10 11 3. Presenting Complaints 12

13 Peter presented with significant antisocial symptoms consistent with Oppositional Defiant
14
15 Disorder (ODD) and CD (childhood-onset type, severe). He also reported alcohol and substance
16
17 abuse before detention. Peter showed poor insight about the impact of his behavior on others,
18
19 blamed others for the detention, was very resistant to change, and reported difficulties in the
20
21 adjustment to the juvenile detention facility rules: “There was no need for this (detention). Yes, I
22
23 committed some robberies, but I was ok when the judge convicted me. I did not change anything
24
25 since I come in here and I am never going to change, never!”
26
27
28

29 According to Peter’s juvenile justice record file, before the detention, he was highly
30
31 impulsive, self-centered, oppositional, defiant, violent; presented low empathy, poor frustration
32
33 tolerance, antisocial cognitions and behavior, tended to minimize his conduct; had little insight
34
35 about the impact of his behavior on others and was associated with delinquent peer groups.
36
37
38

39 According to Peter’s results on the Youth Level of Service/Case Management Inventory
40
41 (YLS/CMI; Hoge, Andrews, & Leschied, 2002), he presented a “very high” risk for criminal
42
43 recidivism (on a scale from “low” to “very high”). In detail, Peter showed high scores in all the
44
45 domains of the YLS/CMI: Prior and Current Offenses/Disposition (4 out of 5 points); Family
46
47 Circumstances/Parenting (4 out of 5 points); Education/Employment (6 out of 7 points); Peer
48
49 Relations (4 out of 4 points); Substance Abuse (4 out of 5 points); Leisure/Recreation (3 out of 3
50
51 points); Personality/Behavior (6 out of 7 points); and Attitudes/Orientation (4 out of 5 points);
52
53 Total score = 35 points. This assessment was completed by a probation officer before Peter’s
54
55
56
57 detention.
58
59
60

4. History

1
2 A personal history was obtained via interviews with Peter, his family (mother, father, and
3
4 grandparents), and by consulting his juvenile justice record file. Peter's mother became pregnant at
5
6 18 years old. He was born to term, and no complications were reported. Peter reached
7
8 developmental milestones on time and had no significant medical concerns. He is an only child of
9
10 both his parents, though he now has one younger brother from his father and a younger sister from
11
12 his mother. Peter grew up in a large city in Portugal and lived with both parents until he was 8 years
13
14 old. However, the relationship between his parents was marked by domestic violence, and they
15
16 ended up getting divorced at that time. His father was described as absent, impulsive and violent
17
18 and was said to engage frequently in thrill-seeking behaviors; he also had two guns at home. Peter's
19
20 father used to beat him, including with objects (e.g., once he threw a chair at him). Peter also
21
22 witnessed several fights between his father and other adults. For instance, he remembers a fight
23
24 between his father and two other men, during which his father shot at their house windows. After
25
26 the divorce, his parents continued to have a conflict-ridden relationship, especially concerning
27
28 issues related to child-rearing practices, which affected Peter's relationship with both parents.
29
30 Against this background with his parents, Peter always had a very positive and consistent bond with
31
32 his maternal grandparents.
33
34
35
36
37

38 Peter was described as a temperamentally difficult child since he was at least 1 year old, with
39
40 little tolerance for frustration and poor self-control. He started to display oppositional defiant
41
42 behaviors and insensitivity to punishment at the age of 3. At the age of 5, Peter was sent to therapy
43
44 for the first time (for about a year and a half), but he was not able to establish a good therapeutic
45
46 relationship with the psychologist ("I did not like her"), and his behavior did not improve. After the
47
48 divorce of his parents (at the age of 8), Peter's behavior became even more problematic, both at
49
50 school and at home. Less than a year after the divorce, his parents went to live with other partners,
51
52 who are now his stepmother/stepfather. Peter had difficulties accepting both of them, becoming
53
54 even more defiant to his parents, to his stepmother/stepfather and to his teachers and peers.
55
56 Consequently, at the age of 9, Peter was sent again to therapy (for about a year), but his behavior
57
58
59
60

1
2 did not improve, and he was not able to establish a good therapeutic relationship with this
3
4 psychologist, either (“I did not like her, either”). Although Peter was living with his
5
6 mother/stepfather, he often ran away to his father's house (for the first time when he was 10 years
7
8 old), but when the relationship with his father/stepmother became more problematic, he would
9
10 eventually return to his mother's house. At the age of 11, Peter began to engage in physical fights
11
12 with peers, became a member of delinquent groups, missed school, smoked weed and hashish, and
13
14 ran away from home again. When his stepfather found him, he brutally spanked Peter (he broke his
15
16 nose and caused him several contusions and wounds on his face and body – this was the only time
17
18 Peter's stepfather was physically abusive to him). Peter felt that his mother did not protect him
19
20 since she continued to live with his stepfather and said to him, “You need to learn not to run away
21
22 from home and to behave properly”. She also forbade him to leave the house until he had no
23
24 wounds; it was his grandparents who took care of his injuries. When Peter talked to his father again
25
26 (more than 2 weeks later), he contacted the police, but with no physical evidence and with his
27
28 mother saying that he was lying, his stepfather was not charged. Finally, his mother said to Peter,
29
30 “You are dead to me”. Peter lived for a year with his father, although he regularly visited his
31
32 grandparents, but his antisocial behavior worsened. At the age of 13, he went to live with his
33
34 grandparents, but there was no improvement in his behavior. Peter said, “I was living with my
35
36 grandparents, but the rules were my mother's rules”. With the worsening of his antisocial behavior
37
38 pattern (Peter completely missed school, often ran away from home and frequently engaged in
39
40 physical fights, etc.), the judge determined that he should be placed in a foster care facility. Peter
41
42 entered the foster care facility at the age of 14, and he started therapy with the psychologist of the
43
44 institution, with whom he was able to establish a good therapeutic relationship (“I did like her, she
45
46 was nice to me”). However, his behavior rapidly worsened. He began to shoplift, carry out robbery,
47
48 and then hold armed robberies. He did not respect any of the foster care facility rules (e.g., he ran
49
50 away, missed school, lied, was disrespectful and physically aggressive towards adults/peers), and he
51
52 tried to set the institution on fire. Some of the victims of the armed robberies and physical
53
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1
2 aggression episodes pressed charges against Peter, which led him to a juvenile justice court and then
3
4 to the juvenile detention facility.
5

6 7 **5. Assessment**

8 9 **Semi-Structured Clinical Interview**

10
11 At baseline, Peter was assessed with the Mini-International Neuropsychiatric Interview for
12
13 Children and Adolescents (MINI-KID; Sheehan et al., 2010; Portuguese Authorized Version by
14
15 Rijo et al., 2016). This baseline assessment took place 4 months after Peter's placement in the
16
17 detention facility. The MINI-KID is a structured clinical diagnostic interview that assesses DSM
18
19 (Diagnostic and Statistical Manual of Mental Disorders, DSM-5; American Psychiatric Association,
20
21 2013) Axis I disorders in children and adolescents in a way that is both comprehensive and concise.
22
23 The MINI-KID is organized into diagnostic sections, each starting with 2 to 4 screening questions
24
25 for each specific disorder. Additional symptom questions within each disorder section are asked
26
27 only if the screen questions are positively answered. All questions are in a binary "yes/no" format.
28
29 The MINI-KID takes into account not only DSM criteria A but also the impairment and duration of
30
31 the symptoms and is considered a short and accurate instrument to diagnose Axis I disorders,
32
33 namely, mood disorders, anxiety disorders, substance-related disorders, tic disorders, disruptive
34
35 disorders and attention-deficit hyperactivity disorder, psychotic disorders, eating disorders, and
36
37 adjustment disorders. Moreover, items are included to address ruling out medical, organic, and/or
38
39 drug causes for disorders. Diagnostic criteria are summarized and documented within each disorder
40
41 section and on a summary sheet. The MINI-KID takes between 30 and 90 minutes to administer.
42
43 Inter-rater reliability was found to be excellent for all mental health disorders assessed with the
44
45 MINI-KID (Sheehan et al., 2010). Peter met the criteria for CD (childhood-onset type, severe) as
46
47 the main diagnosis, but he also met the criteria for ODD and substance use disorders (alcohol and
48
49 cannabis). Peter was diagnosed with no other mental health disorders, either in the past or in the
50
51 present.
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59 60 **Psychopathic Traits**

1
2 Psychopathic traits were assessed using the Youth Psychopathic Traits Inventory-Short (YPI-S;
3
4 Van Baardewijk et al. 2010; Portuguese version by Pechorro, Andershed, Ray, Maroco, &
5
6 Gonçalves, 2015) at three time points: at baseline (4 months after Peter's placement in the detention
7
8 facility), at the end of the PSYCHOPATHY.COMP program (post-treatment assessment) and at a
9
10 three-month follow-up (follow-up assessment, which was completed while Peter was still detained).
11
12 The YPI-S is an 18-item self-report version of the original Youth Psychopathic Traits Inventory
13
14 (YPI; Andershed et al., 2002), which assesses psychopathic traits in youth via ratings within three
15
16 different factors: Grandiose-Manipulative (GM; e.g., "It's easy for me to manipulate people"),
17
18 Callous-Unemotional (CU; e.g., "I think that crying is a sign of weakness, even if no one sees
19
20 you"), and Impulsive-Irresponsible (II; e.g., "I like to do exciting and dangerous things, even if it is
21
22 forbidden or illegal"). Each factor is estimated by a set of six items; each item is rated on a four-
23
24 point scale (1 = "Does not apply at all" to 4 = "Applies very well"). Both the total YPI-S and the
25
26 YPI-S factor scores range from zero to 4, with higher scores indicating higher levels of
27
28 psychopathic traits (Van Baardewijk et al. 2010). The YPI-S has shown strong convergence with
29
30 the original YPI and good psychometric proprieties (Van Baardewijk et al. 2010). In a study with a
31
32 Portuguese sample of young male offenders, the YPI showed a three-factor structure, acceptable
33
34 internal consistency based on alpha (alphas for the GM, CU, and II factors were .79, .69, and .73,
35
36 respectively), and high correlations between the YPI-S factors and the total YPI-S (ranging from .74
37
38 to .79) (Ribeiro da Silva et al., 2019a).

39
40
41 Taking into account the psychopathic severity profiles found in the study by Ribeiro da Siva and
42
43 colleagues (2019a) (ranging from a low psychopathic profile to a high psychopathic profile), Peter's
44
45 baseline scores were consistent with a high psychopathic profile. Peter's baseline, post-treatment,
46
47 and 3-month follow-up scores on the YPI-S are reported in Table 2.

48 **Disruptive Behaviors**

49
50 A grid was developed by researchers to collect the following behavioral data from Peter's
51
52 record file (these data were reported by staff members of the juvenile detention facility): the total
53
54

1
2 number of disciplinary infractions he committed (e.g., school absence, defiant/oppositional
3 behavior, aggressive and violent behavior, destruction of detention facility property), as well as the
4 total number of days in punishment (as a consequence of these disciplinary infractions). Behavioral
5 data were collected for four time intervals: during the 3 months before the beginning of the
6 PSYCHOPATHY.COMP program (the first month of detention was not considered because it
7 corresponds to an adaptation period), during the first 3 months of the program, during the last 3
8 months of the program, and during the 3 months after the completion of PSYCHOPATHY.COMP
9 (which was completed while Peter was still detained). Peter's behavioral data across time were
10 computed for each time interval and taken as disruptive behavior indicators (see Table 2).

21
22 [Insert Table 2]

23 24 25 **6. Conceptualization**

26
27 In conceptualizing Peter's difficulties according to a CFT framework, different aspects of his
28 own functioning must be integrated into a comprehensive case formulation. In addition to the
29 evolutionary predisposition that makes humans react quickly and instinctively to threats (Del
30 Giudice & Ellis, 2015; Ferguson, 2010), Peter seemed to present some genetic predispositions that
31 lead him to be a temperamentally difficult child (Lykken, 2006), and he was raised in a harsh
32 environment (Cowan et al., 2016; Shirtcliff et al., 2009). In detail, Peter was described as a
33 temperamentally difficult child (with little tolerance for frustration and poor self-control since he
34 was at least 1 year old), who started to show oppositional defiant behaviors and insensitivity to
35 punishment early in life (at the age of 3). In addition, in the first 8 years of his life, Peter witnessed
36 several episodes of domestic violence between his parents, and he was frequently physically
37 punished for presenting misbehaviors. After his parents divorced, things became worse, as his
38 parents continued to have a conflict-ridden relationship and to be emotionally, verbally, and
39 physically abusive towards Peter. Peter's parents also had difficulties in setting boundaries for him
40 and in applying effective parental discipline strategies; moreover, they were frequently in conflict
41 regarding those boundaries. Additionally, Peter felt that he was not truly loved by his parents,
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1
2 especially after they went to live with other partners (which occurred less than a year after the
3
4 divorce). Finally, Peter witnessed several unpredictable and violent fights between his father and
5
6 other adults.
7

8
9 With the combination of these evolutionary, genetic, epigenetic, and environmental influences,
10
11 Peter developed a hypersensitive, vigilant, and reactive threat system. His threat system was easily
12
13 triggered by his key threats, both external (abuse, abandonment, rejection) and internal (e.g.,
14
15 feelings of being worthless, unlovable, inferior, and lonely). To address these key threats, Peter
16
17 started to externalize the experience of shame and other unpleasant emotions very soon in life,
18
19 either through avoidance (e.g., “I remember that I did not care about my parents beating me, it did
20
21 not hurt!”) or through oppositional behaviors (e.g., “If they said to me that I could not go for a walk,
22
23 I would find a way to go anyway”). According to a CFT case formulation, although dysfunctional,
24
25 these oppositional behaviors can be seen as heroic efforts in trying to find independence from a
26
27 harsh authority (building the courage to choose for himself, rather than being frightened and
28
29 adopting submissive/compliant behaviors).
30
31
32
33

34 Over time, Peter’s avoidance strategies worsened; he started to drink and to smoke weed and
35
36 hashish and stated that “I did not care about the ones I hurt, I did not care about anything”; i.e., he
37
38 was apparently unemotional towards others’ distress (including the distress he caused) and to his
39
40 own distress (i.e., CU traits). He also started to display GM traits (e.g., “I was the boss. I could
41
42 make people to do whatever I want”), as well as II traits and antisocial behaviors (e.g., lie, run away
43
44 from home, miss school, blame other for his behavior, attack others). These safety strategies lead
45
46 Peter to be placed in a foster care facility (separated from his family; unintended consequences). As
47
48 his antisocial behavior quickly escalated to severe offenses against people (e.g., physical
49
50 aggressions, armed robberies), he was then placed in a juvenile detention facility. In sum, Peter was
51
52 caught in a vicious cycle, unwittingly reinforcing his own external and internal key threats of
53
54 abandonment and rejection and of being worthless, inferior, and lonely.
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7. Course of Treatment and Assessment of Progress

Peter's treatment progressed through the four PSYCHOPATHY.COMP modules.

Module 1

During the first module, Peter was very resistant to the detention process and to changing his behavior. For instance, he stated, "They took my freedom away"; "I cannot be with my family, I cannot go outside to take some fresh air, this place is driving me crazy"; "I am losing my time"; "I am losing the best years of my life"; "I am losing my mind", "No one is helping me, everyone is just punishing me"; "I just want to destroy this place, to run away, and go home"; "I am not going to change, ever! No one is going to change me. I don't need to change, I don't want to change".

Despite this initial resistance, he quickly managed to establish a good relationship with the therapist. Peter also easily understood the evolutionary value of humans' automatic and universal responses to threats, as well as the possibility we all have to change the way we cope with these threats across life. In addition, by using motivational interviewing strategies aligned with the CFT framework (Steindl et al., 2018), in session 2, Peter started to move into the contemplation stage by stating: "I want to find a way to be helped"; "I want to find a way to calm myself down"; "I want to find new ways of thinking". No resistances to CMT were detected. In contrast, Peter found CMT useful and practiced it between sessions (namely, at night in his bedroom).

Module 2

During the initial sessions of this module, Peter showed even more ambivalence towards change. On the one hand, he started to understand the benefits of change, but he also maintained some resistance: "You know, it is not easy, I just want to leave this place, but time drags on"; "On one side it was good to have been caught. Here, I can change, I can learn to calm myself down, but not because of others, I just don't like to be incarcerated". However, his rage was out of control, especially with some peers and staff members: "I am so angry, everything about this place pisses me off"; "People want to shut me up, to make me behave this way, or that way. But no one buys me; I do what I want, when I want"; i.e., Peter was using the same externalizing safety strategies

1
2 that led him to the juvenile detention facility. Most likely, for these reasons, his behavior was not
3
4 improving, which was observable from his record file.
5

6 After session 6, Peter became more conscious about his own functioning; he realized that he
7
8 was constantly trying to regulate his emotional states by using the threat regulation system. By
9
10 doing so, he could only use the automatic responses of the threat system (especially the fight
11
12 response), which led him to be caught by anger and to display disruptive behaviors. For instance,
13
14 every time he started to think that it was best for him to behave properly, his mind automatically
15
16 stated that he would not be able to do that (“I want to behave properly, but I can’t, I just can’t”).
17
18 Therefore, he started to get angry, to feel tension in his jaw and hands, to feel threatened, to be
19
20 overwhelmed by angry thoughts (“I just want to hit people, to destroy all of this”) and to act
21
22 accordingly. These insights, along with the knowledge and practice of other emotion regulation
23
24 tools (resort to drive and soothing systems to balance the functioning of the three emotion
25
26 regulation systems; test different and non-destructive ways to express his rebellion and courage)
27
28 and CMT, probably contributed to a clear improvement in his behavior from the middle of this
29
30 module.
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33
34
35

36 **Module 3**

37
38 During this module, which is mainly focused on CMT, Peter continued to improve his
39
40 behavior at the juvenile detention facility. This improvement was probably due to the effect of
41
42 compassion and the nature of the session’s exercises; i.e., these are very experiential, allowing for
43
44 anger and shame exposure (and exposure of all the negative emotions that may arise when the threat
45
46 system is triggered), but always offer the opportunity to reframe the experience in a compassionate
47
48 way. Additionally, Peter clearly moved from the stage of denying his antisocial conduct, shame, and
49
50 externalizing shame regulation strategies to acknowledging the shame experience, tolerating it and
51
52 starting to feel guilty about the harm he caused others and himself.
53
54
55

56
57 One event was probably crucial for this change. In session 13, Peter was very anxious, and
58
59 for the first time, he was not able to perform the CMT practice at the beginning of the session.
60

1
2 Validating his emotional state and genuinely showing concern for him, the therapist asked him what
3
4 was going on. After several attempts, Peter was able to tell, in tears, that he and his peers had been
5
6 breaking a rule of the juvenile detention facility for two weeks (they were secretly using a cell
7
8 phone). He was clearly disturbed by this, feeling shame, remorse and guilt: “I do not deserve all you
9
10 people do for me, you trusted me and I broke that trust”; “You know, it is a stupid cell phone, but
11
12 when I saw it I could not resist. Yes, I made a few phone calls to my family and friends, and I knew
13
14 that it was against the rules. All you people were thinking that I was getting better, and I just
15
16 disappointed you”. Compassionately guiding and holding his distress, the therapist said to Peter that
17
18 this confession was an act of courage and kindly asked him if he had ever felt this way before: “No,
19
20 I never felt this way before. Even when I robbed people, when I knockout people, I never felt like
21
22 this. I can’t sleep, I can’t eat. I don’t know what is wrong with me.” The therapist maintained a
23
24 compassionate attitude and led Peter to acknowledge that he was starting to develop consciousness
25
26 about the impact his behaviors may have on others, and consequently, he was starting to feel guilt.
27
28 When Peter became calmer, the therapist suggested alternative actions he may take after this
29
30 episode: keep it a secret, talk to the head of the facility, or talk to the head of the facility in the
31
32 presence of the therapist. First, Peter thought that confessing would be “stupid” because he could
33
34 never be caught. The therapist kindly stated that that was true, but there was one person who knew
35
36 the truth. Peter acknowledged that that person was himself and that he was unable to deal with it.
37
38 Therefore, he decided to confess to the head of the facility in the presence of the therapist. While
39
40 confessing, Peter was again very disturbed, crying and sweating, but at the end, he stated that he felt
41
42 relieved. The therapist normalized his behavior, as we all make mistakes, validated his courage, and
43
44 told him that what he had done was an act of compassion, as he was able to acknowledge his own
45
46 distress and the suffering he might have caused others and actually did something to
47
48 prevent/alleviate that suffering. The next day, Peter moved forward, convincing his peers to confess
49
50 to the head of the facility that they were also using the cell phone.
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1
2 The remaining sessions of module 3 flowed naturally, with Peter increasing and expanding
3
4 his compassionate motivation to other areas: he was more attentive to the suffering of others (peers,
5
6 staff, family members) and made efforts to alleviate that suffering (e.g., after a session he saw a
7
8 peer, and acknowledging that he was distressed, approached him, placed his hand on his shoulder,
9
10 and kindly asked him what was going on); he was also more willing to receive compassion from
11
12 others (e.g., when facing difficult moments, he asked for help from the therapist but also from his
13
14 social worker, some members of the staff, and peers); and he started to act compassionately towards
15
16 himself. In this respect, he wrote letters to his family members (mother, father, grandfather,
17
18 grandmother) and expressed gratitude for the good things they had done for him. In the letters to his
19
20 mother and father, he also compassionately specified that some of their attitudes towards him had
21
22 made him suffer and feel bad about himself. Moreover, role playing an armed robbery, Peter was
23
24 able to display guilt and compassion towards his victims. Acknowledging that he never looked into
25
26 his victims eyes, he stated, “No, I never looked at their faces. Although I was very aggressive, I
27
28 think that I could not bear that distress. I would acknowledge that they were someone else’s son,
29
30 someone else’s grandson... and they were indeed”.

36 **Module 4**

37
38 During the last module, Peter continued to show improvements, but concerns about the end of
39
40 the therapeutic process emerged, which probably spurred his fears of abandonment. This issue was
41
42 addressed according to a compassionate framework. Moreover, Peter felt reassured by
43
44 understanding that the therapist would be available for booster sessions any time he needed. At the
45
46 end of therapy, Peter was compassionately challenged to describe himself before and after
47
48 treatment: “Do you remember saying that you would never change? You are in the same
49
50 environment, in the same difficult context, but your behavior has clearly improved. Can you tell me
51
52 what changed?” and Peter quickly answered “It was me, I changed, and I am grateful for being
53
54 detained and for being in here with you every week. If I was not caught at that time, I would end up
55
56 hurting people severely, or even killing someone.”
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8. Complicating Factors

The major complicating factors were related to the juvenile justice system services and policies. First, it took almost a year after Peter's detention to determine the exact time of his detention period, which hindered Peter's emotional, cognitive and behavioral regulation ("I am always thinking about this. My mind doesn't stop. I have no idea when I am leaving this place"). After this period, the court decided to shorten the detention period from 26 to 18 months; however, Peter considered that his improvements were not fully taken into account: "They put me in here so I could get better. Now I am better, and they are just punishing me, so what was the point of this". Second, the nature of the maximum-security juvenile detention facility is very restrictive. In detail, although the token economy system is crucial to control youth's disruptive behaviors, even if youth **do not present any disruptive behavior** for a considerable amount of time, they still have few privileges; i.e., they may have access to an mp3 player, keep their own clothes and make phone calls every day, but they are not allowed to receive extra visits (e.g., on their birthday) or to leave the detention facility until release. However, because Peter's behavior was clearly and consistently improving, the court made an exception and allowed him to spend Christmas at home.

9. Access and Barriers to Care

There were no apparent access issues or barriers to care considerations because of the inherent characteristics of the juvenile detention facility; this allowed Peter to be available for the entire treatment process and follow-up period. Moreover, the juvenile detention facility administration and staff provided the logistics for all treatment sessions (e.g., schedules, setting). **Although PSYCHOPATHY.COMP is not a family intervention program; the regular and consistent presence of Peter's family during the weekly visit and their encouraging attitude towards him were also crucial.** In detail, after detention, Peter's family called him regularly, wrote him encouraging letters, and always visited him during the allowed weekly visit, being supportive and kind. Additionally, the communication between his parents exponentially improved: "Now they talk without screaming or attacking each other, I think that they finally understood that they were driving me nuts!"

10. Follow-Up

To examine the changeability of psychopathic traits in Peter's case, from pretreatment to post-treatment and from pretreatment to 3-month follow-up, we used the Reliable Change Index (RCI; Jacobson & Truax, 1991). The RCI is an index considered to have high reliability for testing the efficacy of a particular therapy or program and can show whether an individual improves or deteriorates in comparison to baseline; the threshold for significant improvement at $p < .05$ lies at a z-score ≤ -1.96 (z-scores lower than -0.84 or -1.28 indicate, with a confidence interval of 80% or 90%, respectively, that real, reliable, and significant change has also been verified; Wise, 2004). To determine whether the observed change is in fact reliable, the RCI also takes into account normative data and the measurement error of the instrument (Jacobson & Truax, 1991). Thus, the RCI is computed using the formula: $RCI = \frac{(x_2 - x_1)}{\sqrt{2(SD_0\sqrt{1 - \alpha})^2}}$ where x_2 represents the results of the individual in the post-treatment/follow-up, x_1 represents the results of the individual in the pretreatment, SD_0 represents the standard deviation of the variable in a normative sample, and α represents the internal consistency of the scale in that same sample. To compute the RCI, we relied on the data of the normative/community sample used in the study by Ribeiro da Silva and colleagues (2019a) (i.e., YPI-S-GM: $\alpha = .79$, $SD_0 = 3.20$; YPI-S-CU r: $\alpha = .69$, $SD_0 = 2.85$; and YPI-S-II: $\alpha = .73$; $SD_0 = 2.62$).

To examine the indicators for disruptive behavior, as there were no normative data for computing the RCI, we were able to focus on only the differences across time, considering the number of disciplinary infractions and the number of days in punishment.

Table 2 reports Peter's improvements in psychopathic traits and disruptive behaviors. His YPI-S total score and YPI-S factor scores decreased significantly from pre-treatment to post-treatment (the threshold for significant improvement at $p < .05$ was not reached only for the GM factor; $RCI = -1.86$) and continued to decrease at the follow-up (the threshold for significant improvement at $p < .05$ was reached both for the YPI-S total score and for all the YPI-S factor scores). Peter's

1
2 behavior also clearly improved since the beginning of the program (when he committed the last
3
4 disciplinary infraction), but especially after the middle of the program.
5

7 **11. Treatment Implications of the Case**

8
9 This is the first study to examine the efficacy of the PSYCHOPATHY.COMP program in
10 **reducing psychopathic traits and disruptive behaviors in juvenile detainees with CD**. Although
11
12 group intervention programs have proven to be effective in decreasing antisocial behavior (Andrews
13
14 & Bonta, 2010; Koehler et al., 2013; Lipsey, 2009; MacKenzie & Farrington, 2015), the literature
15
16 testing the efficacy of interventions in reducing psychopathic traits is scarce and limited (see Hecht
17
18 et al., 2018 for a review). To the best of our knowledge, this is the first psychotherapeutic program
19
20 specifically tailored for reducing psychopathic traits and disruptive behaviors in juvenile detainees
21
22 and the first study to use a CFT-based intervention to treat these youth. As an individual
23
24 intervention, the PSYCHOPATHY.COMP program can be easily adjusted for each youth
25
26 (maintaining its core aims and design), offering an in-depth treatment alternative to surpass the
27
28 limitations of group programs.
29
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32
33

34 This case study demonstrated that the PSYCHOPATHY.COMP was effective in reducing
35
36 psychopathic traits and disruptive behaviors in a 16-year-old male detained in a maximum security
37
38 juvenile detention facility, who presented a very high risk for criminal recidivism, CD (childhood-
39
40 onset type, severe; and comorbidity with ODD and substance use disorders), and a high
41
42 psychopathic profile. In detail, Peter's YPI-S scores improved from a high psychopathic profile
43
44 (pretreatment) to normative scores in the post-treatment, but mostly at the follow-up (Ribeiro da
45
46 Silva et al., 2019a). Peter's behavior also improved over time and after the beginning of the
47
48 program (see table 2); these improvements were evident enough to lead the court to make an
49
50 exception to the rules and allow him to spend Christmas at home.
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54 The PSYCHOPATHY.COMP program seemed to be suitable for treating Peter, as it followed a
55
56 compassionate approach that gradually and respectfully helped him to understand his own
57
58 difficulties, first related to resistance to the detention process and change and then to his own fears
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1
2 of compassion, which were disguised by his psychopathic traits, among others (Ribeiro da Silva et
3 al., 2019b). The therapeutic relationship and the compassionate bridging between Peter and the
4 therapist probably helped him to gradually feel safe and to start to find compassionate ways to
5 balance the functioning of his emotion regulation systems.
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11 Despite these findings, it is possible that CFT in general and the PSYCHOPATHY.COMP
12 program in particular may raise some concerns when applied to juvenile detainees with
13 psychopathic traits. Namely, some clinicians and researchers may argue that this approach may help
14 to cover-up or worsen psychopathic traits more efficiently **than other treatment approaches**,
15 allowing youth to more successfully achieve their antisocial goals. However, if we take into account
16 recent research conceptualizing psychopathic traits as an adaptive response that masks central
17 emotional dysfunctions and a shameful nucleus (e.g., Garofalo et al., 2018; Kosson et al., 2016;
18 Ribeiro da Silva et al., 2015; 2019b), PSYCHOPATHY.COMP might be an effective alternative to
19 address and **reduce** psychopathic traits **and disruptive behaviors**. In detail, and as verified in this
20 case study, psychopathic traits may be conceptualized as a mask of invulnerability that externalizes
21 unpleasant emotions by compensation (GM traits), avoidance (CU traits) and/or attack mechanisms
22 (II traits) (Ribeiro da Silva et al., 2019b). In this sense, although psychopathic traits seem to be the
23 opposite of compassion (Shirtcliff et al., 2009), building a compassionate motivation in these
24 individuals is not only what they need, but it is also an effective alternative to change those same
25 traits. Thus, PSYCHOPATHY.COMP may offer these youth a safe environment that allows them to
26 (a) process their own unpleasant memories and emotions compassionately; (b) build the wisdom,
27 strength, and courage to start to become more self-aware, in control, and responsible for their
28 emotional states, gradually dropping out their mask of invulnerability; and (c) find and test
29 compassionate alternative strategies to bear and cope in healthy ways with their own distress and/or
30 the distress of others.
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57 Nevertheless, the findings from this case study must be considered within the context of some
58 limitations. As a clinical case study, it is difficult to clearly ascertain whether Peter's improvements
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1
2 were due to the PSYCHOPATHY.COMP program or other external variables, namely, the juvenile
3
4 detention facility interventions, which include a token economy system. Thus, future empirical
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6 research may help to disentangle whether improvements are due to the program, to the juvenile
7
8 detention facility interventions, or both. However, it is important to highlight that Peter began the
9
10 program 4 months after detention and, during that period, no improvements were noticed. Another
11
12 important limitation is that all assessments were made while Peter was still detained. Thus, we
13
14 cannot assure whether Peter's improvements will be maintained after release and/or whether these
15
16 improvements will have an impact on his risk of criminal recidivism/recidivism rate. Future studies
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18 should therefore test the effects of the PSYCHOPATHY.COMP program over time (i.e., after
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20 release), including the risk of criminal recidivism and criminal recidivism rates as outcome
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22 measures.

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27 Given that youth with CD and high levels of psychopathic traits usually have poorer treatment
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29 outcomes than youth with lower levels of psychopathic traits (see Hecht et al., 2018 and Polaschek
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31 & Skeem for a review), there is a critical need to test novel interventions targeting theoretically
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33 sound mechanisms of change in these youth. The encouraging research findings from this case
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35 study suggest that CFT in general and PSYCHOPATHY.COMP in particular may fit the
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37 intervention needs of this population. However, additional research on the efficacy of this
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39 therapeutic program in treating juvenile detainees is needed.
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43 12. Recommendations to Clinicians and Students

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45 This case study demonstrates meaningful clinical improvements in Peter's levels of
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47 psychopathic traits and disruptive behaviors after completion of a 20-session individual program
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49 based on CFT. These gains were maintained/increased after a 3-month follow-up period, which
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51 indicates that this was an effective treatment approach for this youth. The findings from this case
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53 study provide initial support for the efficacy of the PSYCHOPATHY.COMP program in reducing
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55 psychopathic traits and disruptive behaviors in juvenile detainees. However, future research is
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57 needed to extend these findings, testing its efficacy in a clinical trial design, as findings from case
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1 studies are not always replicated in rigorous trials (CONSORT; Moher et al., 2010). Finally, it will
2 be important to track the progress of youth after release, as there is a large risk for juvenile
3 detainees to relapse into crime and to face prison sentences in the future (Herpers et al., 2012).

4 Efforts to design and test the efficacy of intervention programs specifically tailored for changing
5 psychopathic traits in juvenile detainees may help to ameliorate the significant negative impact that
6 antisocial behavior and psychopathic traits have on society and on the individuals themselves.
7 These preliminary findings also support the need for future clinical research with juvenile detainees,
8 holding promise for reducing psychopathic traits and disruptive behavior over time.

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Table 1. *Brief Overview of the PSYCHOPATHY.COMP Program*

Module	Session	Theme	Key messages of the session
1. The basics of our mind	1	Presentations	We have a lot of things in common with each other. Most of the things in our lives are not our choice.
	2	Our basic ingredients	We all have the same instinctive reactions to threats.
2. Our mind according to CFT	3	Old brain/New brain = tricky brain	Humans have a tricky mind
	4	Multiple versions	We are just one version of ourselves
	5	Responsibility and freedom	We are not prisoners of our evolutionary, genetic, and environmental past experiences.
	6	Emotion regulation systems	It is important to be aware that we all have three emotion regulation systems
	7	Emotion regulation systems (cont.)	A good way to achieve stability is to balance the functioning of our emotion regulation systems
	8	Outputs of the threat system	We are all sensitive to shame
	9	Coping strategies	What is the best strategy to deal with shame
	10	Motivations and recovery	Knowing our motivations help us to follow a path of recovery
3. Compassionate Mind Training	11	Compassion: What is and what is not	No matter what, we can always choose compassion
	12	Multiple selves	We all encompass a multiplicity of selves, differentiate and integrate that multiplicity is key
	13	Fears of compassion	We all have fears, blocks, and resistances of compassion that we should face and overcome
	14	Flows of compassion	All the flows of compassion are important, though they may encounter roadblocks.
	15	Self-compassion	Self-compassion is key and the only tool we have available 24/7
	16	Flows of compassion revised	Compassion always give us an outlet
	17	Safe place	We can go to our safe place and reach our compassionate self whenever we need it
	18	Compassionate letter	Compassion is powerful and can impact in our lives.
4. Recovery, relapse prevention	19	Revisiting motivation and recovery: The role of compassion	We now have the tools to be responsible for our choices.
	20	What has changed? An overview	Life is always going to be bittersweet, learn to bear and face difficult moments compassionately is key

Table 2.

Peter's Scores on the YPI-S, Disruptive Behavior Indicators, and Reliable Change Indices for Pre-treatment to Post-treatment and 3-month follow-up

Measures	T0	T1	T2	T3	RCI-1	RCI-2
YPI-S-T	-	3.11	1.89	1.67	-3.29	-3.89
YPI-S-GM	-	2.83	2	1.83	-1.86	-2.23
YPI-S-CU	-	2.67	1.5	1.17	-2.25	-2.89
YPI-S-II	-	3.83	2.17	2	-3.24	-3.57
Disruptive behavior						
Disciplinary infractions	4	1	0	0	-	-
Days in punishment	7	2	0	0	-	-

Note: YPI-S = Youth Psychopathic Traits Inventory-Short (YPI-S-T = Total score; YPI-S-GM = Grandiose-Manipulative; YPI-S-CU = Callous-Unemotional; YPI-S-II = Impulsive-Irresponsible).

Psychopathic traits outcome measure was collected in three time-points: pre-treatment (T1), post-treatment (T2), and 3 month follow-up (T3). Disruptive behavior outcome measures were collected for four time-intervals: during the 3 months before the beginning of the program (T0), during the PSYCHOPATHY.COMP's first 3 months (T1); during the PSYCHOPATHY.COMP's last 3 months (T2) and during the 3 months after PSYCHOPATHY.COMP completion (T3). RCI = Reliable Change Index (RCI-1 = from pre-treatment to post-treatment; RCI-2 = from pre-treatment to 3-month follow-up).