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Massachusetts Youth Screening Instrument-2 (MAYSI-2): relationships with the *Posttraumatic Stress Disorder Checklist - Civilian Version (modified version): among* youth from the community and detention facilities

Telma Renata Latães Campos
(renatalataes@gmail.com)

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sob a orientação do Prof. Doutor Mário R. Simões

Resumo

Considerando a elevada prevalência de problemas de saúde mental em Centros Educativos, incluindo distúrbios de ansiedade, nomeadamente PSPT, torna-se importante continuar o trabalho de validação de instrumentos, como o MAYSI-2 no sistema de justiça juvenil português, que incluiu entre outras a dimensão Experiências Traumáticas. O processo de validação deverá incluir não apenas entre jovens ofensores institucionalizados, mas também na em jovens da comunidade. O presente estudo tem como objectivo prosseguir a validação da versão Portuguesa do *Massachusetts Youth Screening Instrument-2* (MAYSI-2) em jovens detidos em estabelecimentos de segurança (Centros Educativos) e em jovens da população geral. A ênfase na validação da escala Experiências Traumáticas do MAYSI-2 impõe o exercício da adaptação e validação Portuguesa da *Posttraumatic Stress Checklist – Civilian Version (Modified Version)* (PCL-C:M). Neste contexto, o processo de validação do MAYSI-2 conta ainda com o recurso ao *Youth Self Report* (YSR) e à *Social Desirability Scale of Coimbra* (EDSC). Este estudo inclui um grupo de 105 jovens rapazes e raparigas pertencentes à amostra de controlo e 29 rapazes que se encontram em Centros Educativos. O presente estudo demonstrou bons resultados ao nível da consistência interna tanto para o MAYSI-2 como para a PCL-C:M. As escalas: *Raiva-Irritação*, *Depressão/Ansiedade*, *Queixas Somáticas* e *Perturbação do Pensamento* do MAYSI-2 são as que merecem maior atenção dada a elevada taxa de prevalência em ambas as amostras testadas. Tendo como referência o ponto de corte 82 para jovens que preencham critérios de diagnóstico para a PSPT, os grupos com resultados mais elevados foram as raparigas e nos jovens com idades compreendidas entre os 14 e os 17 anos, independentemente da amostra. Os resultados nas dimensões *Ideação Suicida*, *Perturbação do Pensamento* e *Experiências Traumáticas do MAYSI-2* tendem a aumentar com a idade. As escalas *Perturbação do Pensamento* e *Experiências Traumáticas do MAYSI-2* estão associados a resultados mais elevados na amostra forense. Por outro lado, os indivíduos com idades compreendidas entre os 14 e os 17 parecem obter resultados mais elevados nas dimensões *Abuso de Substâncias*, *Raiva-Irritação* e *Experiências Traumáticas*. Os resultados no MAYSI-2 e na PCL-C:M indicam que estes são instrumentos promissores e válidos. O MAYSI-2 evidenciou ser uma ferramenta de rastreio válida tanto para uso forense como na comunidade. A PCL-C:M parece ser uma boa prova de rastreio de PSPT quando administrada em jovens. Esta pesquisa mostrou, também, bons resultados no que concerne à consistência interna do MAYSI-2 tanto na amostra forense (α =.93, p <.01) como na amostra de controlo (α =.88, p <.01). Existem correlações positivas e significativas entre as dimensões do YSR e do MAYSI-2, principalmente entre as escalas *Raiva-Irritação*, *Queixas Somáticas* e *Perturbação do Pensamento* (MAYSI-2) e *Perturbação do Pensamento* (YSR);

Depressão/Ansiedade, *Ideação Suicida*, *Perturbação do Pensamento* (MAYSI-2) e *Ansiedade/Depressão* (YSR). A correlação entre *Experiências Traumáticas* (MAYSI-2) e PCL-C:M e PCL-C são menores que .55, sendo portanto "inadequada".

Palavras-Chave: MAYSI-2, PCL-C:M, validação, justiça juvenil, saúde mental, PSPT.

Abstract

Considering the high prevalence of mental health, including anxiety disorders, and PTSD, in Youth Detention Centers, became important to continue the validation of tools like MAYSI-2 in juvenile justice system, such instrument includes also a Traumatic Experience scale. .. The process of validation should include not only young offenders, but also youths form the community. This study aims to continue the validity of *Massachusetts Youth Screening Instrument-2* in Portugal for young people admitted in secure establishments and those from general population. The emphasis on the validation of the Traumatic Experiences Scale enhance the need of adaptation and validation of *Posttraumatic Stress Checklist – Civilian Version (Modified Version)* (PCL-C:M). At the moment, the validation process of MAYSI-2 includes also the *Youth Self Report* (YSR) and *Social Desirability Scale of Coimbra* (EDSC). The current sample includes 105 male and female youth from general population and 29 male from detention facilities. The present study showed good results for internal consistency both for MAYSI-2 and PCL-C:M. *Angry-Irritable*, *Depression-Anxiety*, *Somatic Complaints* and *Thought Disturbance* dimensions are those which deserves more concerning given the higher percentages in both community and forensic samples. Admitting a cutoff of 82 in PCL-C:M to those youths who might find criteria to PTSD the age group which results showed to be higher were the female group and those aged 14 and 17, irrespective of the sample. The scores on *Suicide Ideation*, *Thought Disturbance* and *Traumatic Experiences* dimensions trend to increase with age. *Thought Disturbance* and *Traumatic Experiences* tends to increase in the forensic sample. As escalas *Perturbação do Pensamento* e *Experiências Traumáticas do MAYSI-2* estão associados a resultados mais elevados na amostra forense. On the other hand, there are widely high frequency in 14-17 aged participants in relation to *Alcohol/Drug Use*, *Angry-Irritable* and *Traumatic Experiences* scales. Either MAYSI-2 as PCL-C:M showed to be promising and reliable measures. MAYSI-2 demonstrated to be a valid instrument as an intake screening to be used in detention facilities and in the community. PCL-C:M, seems to be a good screening PTSD measure in young people. This research showed, also, good results for MAYSI-2 internal consistency in the detention facilities (α =.93; p<.01) and in community sample (α =.88; p<.01). There are significant positive correlations between YSR and MAYSI-2 scales, especially between: *Angry-Irritable*, *Somatic Complaints* and *Thought Disturbance* (MAYSI-2) and *Thought Problems* (YSR); *Depression/Anxiety*, *Suicide Ideation*, *Thought Disturbance* (MAYSI-2 TE) and *Anxious/Depressed* (YSR). The correlation between Traumatic Experience scale (MAYSI-2) and PCL-C:M and PCL-C are less than .55, and therefore "inadequate".

***Key-words**:* MAYSI-2, PCL-C:M, validation, juvenile justice, mental health, PTSD

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M*assachusetts Youth Screening Instrument-2* (MAYSI-2): relationships with the *Posttraumatic Stress Disorder Checklist - Civilian Version (modified version): among* youth from the community and detention facilities

Identifying the mental health needs of youth in the juvenile justice system isn't a simple task, since it requires an underlying knowledge of the nature of mental disorders in adolescents, as well as the relation of such disorders with delinquency (e.g., Abram, Teplin, & McClelland, 2003; Grisso, Barnum, Fletcher, Cauffman, & Peuschold, 2001, *cit in* Grisso, Vincent, Seagrave, 2005). Recently, raised a new premise based on the perspective that youths' misdemeanors should be handled with punishment, instead of rehabilitation, likewise with adults. That's why most youths who deal with the juvenile justice system report higher rates of all kinds of mental health disorders (Borum & Grisso, 2006). Moffitt (1993, 2003) hypothesize that the conduct problems (CP) on the childhood-onset trajectory can be explained by a blend of three elements: 1) premature neurodevelopment shortcomings; 2) unsuitable parenthood and; 3) adverse social influence. According to the same author, around "10 to 21% engage in what Moffitt (1993) refers to as adolescent-onset delinquency, whereas only 5 to 14% of youth exhibit childhood-onset delinquency (Lahey *et al*., 2006; Moffitt *et al*., 2001)" (Beauchaine & Hinshaw, 2008, p. 339). The most common disturbances between youth, are those related to the use of substance; mood disorders; anxiety disorders, namely, the Separation Anxiety Disorder (12, 9%; Teplin *et al*., 2002) and the Posttraumatic Stress Disorder (PTSD – 4,5%; Wasserman *et al*., 2004).

The World Health Organization (WHO), defines mental health as "a state of complete physical, mental and social well-being, and not merely the absence of disease" (Constitution of WHO; 2007, p. 2). Therefore, mental health doesn't define itself by the presence of a disorder. The mental health during the stages of childhood and adolescence have a great impact in the future. According to some authors, there is a necessity of broadening

the knowledge about those who are under Educational Guardianship Act (EGA) (Cocozzza & Skowyra, 2000).

The juvenile detention centers aim for the social reintegration the youths through measures provided for internment in EGA approved by law No 166/99 of 14 September. The youths who are under this law have permission to receive appropriate support regarding mental health services (Grisso & Underwood, 2004 *cit in* Ford *et al*., 2007). Moreover, at the time of applying of the measures account should be taken into the child's personality, which in practice translates into the assessment to the need to educate youth on their human rights (Furtado & Guerra, 2001).

The *Massachusetts Youth Screening Instrument - 2* (MAYSI-2) was designed to meet the specific needs of juvenile justice intake personnel for a standardized, reliable, and valid screening instrument. Therefore, the MAYSI-2 appears as an intake screening that targets young people, aged 12-17, in need of emergency care. MAYSI-2 is a self-report inventory which includes 52 questions. Each item will instate in one of the six dimensions: *Alcohol/Drug Use* (ADU), *Angry–Irritable* (AI), *Depressed–Anxious* (DA), *Somatic Complaints* (SC), *Suicide Ideation* (SI), and *Thought Disturbance* (TD) (just for boys). The seventh scale, *Traumatic Experiences* (TE), provides information about potential recent traumas. The MAYSI-2 already has a study in Portugal (Ferreira, 2012), but it require more studies, including the validation of its dimensions, as it is the case of *Traumatic Experiences* scale.

Trauma is an event in which there is physical or psychological injury, the self is wounded, or when a person who directly experiences, witnesses, or learns about a violent event is “damaged” by it. Be that as it may, the trauma experience itself is not necessarily a stressful event. Trauma happens when both internal and external resources are inappropriately dealt with the external threat. The parenting patterns have a crucial role in the way that a child might respond to a traumatic event. The first five years of life are the most important for children to develop good and adequate strategies to deal with negative emotions, like those related to trauma

(Grolnick et al., 1996; Mangelsdorf, Shapiro, & Marzolf, 1995; Rothbart et al., 1992; Stansbury & Sigman, 2000, *cit in* Beauchaine & Hinshaw, 2008; Beauchaine & Hinshaw, 2008).

Nowadays, researchers who write about trauma rely on the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) for differential diagnosis of the phenomenon, which is the prevalent system for identifying and classifying mental disorders. In the most recent versions, DSM-IV-TR and DSM-V (American Psychiatry Association, 2000, 2013), the experience of a trauma event is required to meet criteria for PTSD and trauma is considered as a subjective experience.

As previously mentioned, there is a relation between those who attending the juvenile justice system and higher rates of trauma symptoms; besides that, a large body of literature endorses that despite the high prevalence of PTSD among youths from general population, youth in detention settings exhibit higher rates of PTSD symptoms, in relation to those from the community (Rosenberg et al., 2013; Cauffman et al., 1998; Dixon et al. 2005; Wolpaw and Ford 2004 cit in Kerig, Moeddel & Becker, 2010). Literature also consistently shows that there are gender differences regarding how boys and girls react when faced with a potential traumatic event. Usually, girls are more vulnerable to the negative effects of the traumatic event (Kerig, 2012). Solomon, Davies, and Luckham suggest the hypothesis that exposure to trauma disrupts adolescent girls' decision-making capacities. Since trauma and impaired decision making is a connection mediated by particular mental disturbances, they conclude that this association is linked by increases in "anger, substance abuse, depression, somatic conditions, and suicidal ideation" (Kerig, 2012, p. 85). The damage caused by the trauma experience can bring serious consequences in a child or teen life and, pursuant to, in their adult life. Despite the knowledge of this reality there are no Portuguese studies that can empirically sustain it, hence the importance of the present research. In this research we also use the scale *Posttraumatic Stress Disorder Checklist - Civilian Version (modified version)* to study more specifically the

traumatic experiences in institutionalized juvenile offenders, while examining the relationship between the results on this scale and MAYSI-2 psychopathology dimensions, including the *Traumatic Experiences* scale.

Brief, childhood and adolescence are both critical phases for mental health. Those stages have a huge impact on the future of every adult. In this paper, we share the perspective of Cocozzza and Skowyra (2000) according to which there is a growing and systematic need to learn more about mental health, especially among young who are in juvenile detention centers, and thus under EGA.

I - Prior Research

Despite child psychopathology has received scant consideration until mid-1980s; subsequent research has demonstrated the need to protect children's rights regarding health and education (Dadds & Vasey, 2001). The end of the 19th century was an important landmark in the childhood psychopathology history, since researchers realized the importance of ensuring protection within the judicial system, and to "free children from working within the adult workforce" (Culbertson, 1991, cit in Wilmshurst, 2005, p. 1).

First of all, to understand some terminological and conceptual issues in what regards anxiety, it is essential to explain a few fundamental ideas. We presume that anxiety is a "higher-order feeling state" (Damasio, 2003; *cit in* Weems & Silverman, 2008, p. 448) produced by specific brain area, like amygdale, which is in charge of the emotion regulation. The anxiety can be characterized as the result of a multicomplex response system that includes four components: affective, psychological, behavioural and, cognitive (Barlow, 2002; Lang, 1977; *cit in* Weems & Silverman, 2008); which means that it can be expressed in four different ways: behaviorally, cognitively, physiologically, or socially.

There are several practical reasons for discussing anxiety disorders amongst children and adolescents. Such disturbances warrant especial attention by investigators for four good reasons. Firstly, seeing as such disorders are among the most prevalent forms of psychopathology affecting those stages (Anderson, Williams, McGee, & Silva, 1987; Kashani & Orvaschel, 1990; Kashani, Orvaschel, Rosenberg, & Reed, 1989; *cit in* Vasey & Dadds, 2001). Secondly, even though several forms of anxiety are thought as a temporary development phenomenon, there are high rates of such disorders with a chronic course or a change form (Keller, Lavori, Wunder, Beardslee, & Schwartz, 1992; Last *et al*., 1996; Ollendick & King, 1994; Orvaschel, Lewinsohn, & Seeley, 1995; *cit in* Vasey & Dadds 2001). In other words, there is high probability of such disorders, which have their onset in infancy, becoming chronic in the adulthood (Burke, Burke, Regier, & Rae, 1990; Kendler, Neale, Kessler, Heath, & Eaves, 1992; Ost, 1987; *cit in* Vasey & Dadds 2001). Thirdly, anxiety symptoms can be warning signs for further anxiety disorders dysthymia, and depression (Cole, Peeke, Martin, Truglio, & Serocynski, 1998; Last et al., 1996; Orvaschel *et al*., 1995; *cit in* Vasey & Dadds 2001). Lastly, those disorders can interfere drastically with children's adaptive functioning in several areas of development (Dweck & Wortman, 1982; Last, Hanson, & Franco, 1997; McGee & Stanton, 1990; Strauss, Frame, & Forehand, 1987; *cit in* Vasey & Dadds 2001).

The PTSD is one of the most common forms of an anxiety disorder, for children and adolescents. Sexual abuse, physical abuse, exposure to domestic violence, war, natural disasters, and community violence are some forms of trauma that children and adolescents are exposed to. However, though experiencing a traumatic event is necessary for a diagnosis of PTSD, a greater part of children who experience traumatic events do not develop full-blown PTSD as defined by *DSM-V*. A meta-analysis by Fletcher (1996b) also indicated that not all children who are exposed to trauma develop PTSD as we met in DSM-V criteria, but around 36 percent of those exposed to traumatic event. According to a review of

25 studies in the practice parameters of the American Academy of Child and Adolescent Psychiatry (1998), there are three variables that may moderate the development of PSTD in children: "the severity of trauma, parental distress associated with the trauma, and temporal proximity to the traumatic event" (Runyon, Deblinger, Behl, & Cooper, 2006, cit in Ammerman, 2006, p. 150).

As mentioned before, PTSD is the only diagnostic category that requires an etiological agent to be present for diagnosis, namely, an identified traumatic event. In order to clarify the topic, trauma can affect people's lives in at least, three diverse ways: 1) having recurrent and intrusive memories of the trauma experience; 2) re-experiencing the trauma event through dissociation, nightmares or flashbacks; and 3) experiencing intense distress or psychological/physiological reactivity when exposed to similar situations, such as difficulties with anxious arousal, anger management, dissociative symptoms, and aggressive or socially avoidant behaviors, sleep disturbance, irritability, difficulty concentrating, hyper vigilance and exaggerated startled response. PTSD has a great environmental impact on the daily life of the victims in various areas of their lives, like family dynamics, school results and peer interactions. They might have issues in dealing with the symptomatology that is tied with it, whose duration must be over than a month. Assessing PTSD symptoms in children and adolescents is no easy task, since it requires a complex and multifaceted process. It is part of this procedure "to conduct extensive interviews about the history of traumatic events with both the child and the caregiver, as well as to gather all documented information, including medical records, police reports, and reports from eyewitnesses (Perrin, Smith, & Yule, 2000) to aid in the verification of the traumatic event" (Runyon, Deblinger, Behel, and Cooper, 2006).

Understanding the complex of PTSD "has been influenced by developmental research (...) result in impairment in developmental processes related to the growth of emotion regulation and associated skills in effective interpersonal behaviors (e.g., Shipman, Edwards, Brown,

Swisher, & Jennings, 2005; Shipman, Zeman, Penza, & Champion, 2000)" (Hill, O'Ryan, Udwin, Boyle, Yule, 2004, p. 400). In sum, the experience of trauma itself (independently of the effects on mental health) has a negative consequence on the psychosocial functioning; and , psychopathology following the trauma it is linked with poorer psychosocial functioning. Psychosocial functioning recuperates when the psychiatric state remits and post-traumatic stress and depression has different associations with impairments of psycho-social functioning (Bolton, Hill, O'Ryan, Udwin, Boyle, Yule, 2004 cit in Ammerman, 2006).

Quinn et *al*. (2005) reported a national average of 47.7% of Emotional Disturbances amongst incarcerated youths. High rates of emotional disturbances in juvenile system requires a mental health screening and assessment standards (Grisso, Vincent, & Seagrave, 2005; Wasserman *et al*., 2003 *cit in* Cruise, Evans, & Pickens, 2011).

According to Wasserman *et al*. (2003) the first 24 hours of admission in the juvenile justice system is crucial amongst those youths to determine the need for mental health services. These findings are highly consistent with recent research, documenting the prevalence of mental health disorders amongst justice involved-youths (Shufelt & Cocozza, 2006; Teplin, Abram, McClelland, Dulcan & Merile, 2002; Wasserman, McReynolds, Ko, Katz & Carpenter, 2005; Wasserman, McReynolds, Lucas, Fisher & Santos, 2002 *cit in* Cruise, Evans & Pickens, 2011). Attention has also been devoted to identify gender differences amongst those who are in correctional facilities. A substantial number of studies have demonstrated higher rates of disorders, especially anxiety and mood disturbances, amongst female youths relatively to male youths. Grisso and Barnum (2006) had explore such differences and conclude that, with the exception of MAYSI-2 Alcohol/Drug Use Scale, 72% and 63% of girls and boys, respectively, "produced clinical elevations on at least one MAYSI-2 scale with girls being approximately two times more likely to elevate MAYSI-2 scales relative rates found for boys (with the exception of Alcohol/Drug use)" (Cruise, Evans & Pickens, 2011, p. 31).

In accordance with Snyder and Sickmund (2006) recidivism amongst juveniles who are released from juvenile detention and re-enter society are elevated. In the United States, as well as some other countries (Wartna *et al*., 2010), "there is a recidivism rate approximately 55% after a 12-month follow-up period" (James, Asscher, De Roo, and Van der Laan, 2013, p. 264). This might have two possible explanations. First, the difficulty of most delinquents in becoming productive citizens (Travis, Solomon, & Waul, 2001) and second of all, when young offenders are released they face two transitions at the same time: 1) the transition from their detention facility to the broader community; 2) the transition from adolescence to adulthood. Both reasons previously referred to ally to mental disturbances contribute widely to the recidivism. Recently the concern with juvenile recidivism has become extensively acknowledge. The Risk-Need-Responsivity (RNR) model presumes that, in order to minimize recidivism amongst young offenders "the intensity of intervention should be adjusted to the risk of reoffending, target to the criminogenic needs (…) and align with responsivity of the offenders hence suitable and appropriate for the specific group of interest" (Andrews *et al*., 1990; Lipsey, 1995 *cit in* James, Asscher, De Roo, Van der Laan, 2013, p. 264). The MAYSI-2, especially designed as self-reported mental health screening for youths who are under the juvenile secure custody system, is considered, by a great number of authors, as an adequate intake to identify the mental health needs and, as consequence, to reduce recidivism.

The MAYSI-2 also had a dimension centered in the traumatic experiences (TE), however such scale is not able to diagnose PTSD. Ferreira (2012) has carried out a first Portuguese validation study of MAYSI-2 which required the administration of an assessment protocol of 100 young Portuguese boys aged between 12 to 20 years who resided in detention facilities (Ferreira,2012). The present study also aims to measure and compares the psychometric properties of MAYSI-2 not only in a sample of young offenders who live in detention facilities but also one community sample. Further, this study sets up the difference in bridging

the gap between the MAYSI-2 Traumatic Experience (TE) scale and PCL-C: Modified Version (PCL-C:M). In a sample of juvenile offenders, Grisso and Barnum (2006) detected trauma exposure and PTSD symptoms. They assume that the MASY-2 TE Scale is "a moderately accurate predictor of PTSD symptoms for both boys and girls" (Cruise & Ford, 2011, p. 339). Researchers have concluded that MAYSI-2 TE Scale can be useful as an intake screening to detect trauma exposure symptoms. Another objective of our study is to examine the validity of this result for Portuguese.

Posttraumatic Stress Disorder Checklist - Civilian Version (PCL-C) is a 17-item self-report checklist of PTSD symptoms based closely on the DSM-IV (4th ed.; *DSM-IV*, American Psychiatric Association, 1994) criteria. Some studies produced estimates of PTSD prevalence on subjects scoring above 50 and meeting the criteria of the DSM-V, at least one intrusion symptom, at least three avoidance symptoms, and at least two hyperarousal symptoms (Hodge et. al, 2004; Smith *et al*., 2008, 2009). Respondents rate each item from 1 ("not at all") to 5 ("extremely") to indicate the degree to which they have been bothered by that particular symptom over the past month. The PCL-C has demonstrated strong psychometric properties. Estimates of internal consistency (Cronbach's alpha) ranges between .89 (Blanchard *et al.*, 1996) to .90 (Weathers *et al*., 1993). Test-retest reliability has been reported as .96 at 2-3 days and .88 at 1 week (Blanchard *et al*., 1996; Ruggiero *et al*., 2003). We must take advantage of all the available resources to make the best possible diagnoses. Assessment - self-administered instruments are one of the best chances. There are a numerous self-report instruments that have been developed to assess PTSD-related symptoms, however, a majority of these instruments are not enough for diagnostic aims (Runyon, Deblinger, Behel, & Cooper, 2006). With the purpose of contextualizing and putting into perspective why the use of such instruments, especially PCL-C since is able to diagnose PTSD, is so important we must take into account the short and long term consequences described above. Besides that, several researches whose goal consists in studying the impact of psychological

trauma on mental health have demonstrated steadily that, regardless the age, trauma and their grade, the side effects are mainly associated to PTSD, along with anxiety and depression symptomatology (see Bolton, Hill, O'Ryan, Udwin, Boyle, and Yule, 2004, for a review). As a result, and from a development perspective, onset trauma seems to persist across the lifespan.

II - Goals

This study aim to continue the examination of the validity and clinical utility of MAYSI-2 in Portugal for young people admitted is secure establishments and those from general population. The research also aims to characterize MAYSI-2 ET Scale on both clinical/forensic and community samples; to identify the impact of traumatic experiences by gender and age; to identify the MAYSI-2 Scales which are more related to PTSD (evaluated by MAYSI-2 ET Scale and by PCL-C:M); to verify the effectiveness of MAYSI-2 TE Scale as a PTSD screening measure; and finally, to define a cutoff for PCL-C:M. In order to achieve these objectives it is necessary to do the subsequent analysis of the following surveys: 1) Massachusetts Youth Screening Instrument (MAYSI-2; Grisso & Barnum, 2006; Ferreira, Simões, & Fonseca, 2012); 2) PCL-C: modified version (PCL-C:M; Weathers, Litz, Huska & Keane, 1993;; experimental version: Simões, & Latães); 3) Escala de Desejabilidade Social de Coimbra (EDSC; Coimbra Social Desirability Scale; Simões, Almiro & Sousa, 2014) and; 4) Youth Self Report (YSR; *Achenbach, 2001*; portuguese version: Gonçalves, Dias & Machado, 2007). The present study also to analyze the following aspects:

1. The results in the seven MAYSI-2 dimensions considering the gender variable;

2. The MAYSI-2 Scales which most contribute to diagnose PTSD, by gender and by sample (community and forensic samples);

3. The prevalence of mental health needs amongst young offenders versus the community sample;

4. The relationships between MASY-2 and YSR Scales;

5. MAYSI-2 dimensions comparison of results considering the nature of the samples/groups (forensic versus community);

6. MAYSI-2 results, considering the following variables: age and gender, by sample;

7. The values to the internal consistency in PCL-C:M, both for the community sample, as well as the forensic one;

8. The correlations between the MAYSI-2 TE Scale and PCL-C:M (Campos, 2014); when compared with PCL-C (Weathers *et al*., 1993).

III – Method

Participants

The current sample includes 134 male and female youth. The gathering of data was divided into two moments. First, the community sample was collected from a Portuguese school, located in the central region of the country. Thereafter, the forensic/clinic sample was obtained by collecting the same protocol in 29 youths who are under Educational Guardianship Act (EGA), in a juvenile secure facility, also in the center region of the country. On the whole, 134 youths participated, more specifically, those who were aged 11 to 19; males and females, whose participation was voluntary. Besides that, all the student's tutors signed an informed consent form. The control group is comprised by 54 (51.43%) female and 51 (48.57%) male youths and the clinic/forensic group is composed by 29 young men.

Table 1. Community group: Age, Schooling, Reprobation and Nationality

	Community sample (N=105)
Age	13.27 ± 1.69 (11-17)
11-13	59 (56.2%)
14-17	46 (43.8%)
Schooling	
Middle school	105 (100%)
Reprobation's	
None	27 (26.5%)
At least one	75 (73.5%)
Nationality	
Portuguese	100 (98%)
Brazilian	1 (1%)
English	1 (1%)

The participants aged between 11 and 17 years of age, with an average age of 13.27 (SD=1.69). The previous table shows the distribution: 56.2% young people aged 11 to 13, and 43.8% aged 14-17. In regards to education, the sample is distributed between 6 and 10 years of schooling levels with the following distribution: 6th year (25.5%), 7th year (7.7%), 8th year (37.6%), 9th year (9.7%) and, 10 year (19.5%), being that 26.5% never failed and the rest of them failed to pass, at least one year. In terms of the nationality, the majority (98%) is Portuguese and the remaining 2% correspond to the Brazilian and English nationality, 1% each.

Table 2. Forensic group: Age, Schooling, Reprobation and Nationality

	Forensic sample (N=29)
Age	16.48 ± 1.53 (14-19)
14-17	25 (86.2%)
18-19	4 (13.8)
Schooling	
Middle school	26 (89.7%)
High School	3 (10.3%)
Reprobation's	
None	2 (6.9%)
At least one	27 (93.1%)
Nationality	

Portuguese	27 (93.1%)
PALOP	2 (6.9%)

The main difference amongst both samples is related to the average age. The average age of the clinic sample (16.31 ± 1.54) is higher when compared to the community sample (13.27 ± 1.69). It was therefore necessary to set a different group age for this sample (18-19) and to eliminate the first one (11-13). Furthermore, the forensic sample consists of youths that a minority are some individuals who attend high school. According to the ages of the participants it would be expected that higher rates of individuals are in high school, however as shown in the above table about 93% of the participants were held back in school at least once.

Procedures/Measures

1) Massachusetts Youth Screening Instrument-2 (MAYSI-2; Grisso & Barnum, 2006; Ferreira, Simões, & Fonseca, 2012).

MAYSI-2 is a 52-item self-reported survey for youths aged 12 to 17 years and was developed to identify mental health needs among justice-involved youth. The MAYSI-2 can be collect individually or group administration and requires about 10-15 minutes to be completed. It is a Likert scale, with only "Yes" or "No" options. The mental health screening is composed by seven scales: Alcohol/Drug use (AD), Angry–Irritable (AI), Depressed–Anxious (DA), Somatic Complaints (SC), Suicide Ideation (SI), Thought Disturbance (TD — males only), and Traumatic Experiences (TE). For the first six dimensions mentioned there is a categorical classification scoring system according to the cutoff of each MAYSI-2 scale: no elevation, caution, and warning. The TE scale is scored as the total number of traumatic experiences endorsed by the youth. Acceptable levels of reliability and validity have been established in

several researches across many samples of youth who are placed in secure juvenile facilities (see Grisso & Quinlan, 2005).

2) Posttraumatic Stress Disorder Checklist – Civilian Version: modified version (PCL-C; Weathers, Huska, Keane, Berger, Mendlowicz, Wanderson, 1993; experimental version: Latães& Simões, 2014).

PCL-C is a 17-item self-administered rating scale for assessing the 17 DSM-V symptoms of PTSD. There are two non-military versions of PCL, with some minor differences. The *PTSD Checklist Stressor Specific Version* (PCL-S; Weathers, Huska, Keane, 1991) is one of those versions and can be referenced to any specific traumatic event; the questions refer to "the stressful experience". By contrast, the PCL-C is a general civilian version, not associated to a specific event, which the questions referred to "a stressful experience from the past". Both versions are scored from 1 ("not at all") to 5 ("extremely") to specify the degree to which they have been concerned by that certain symptom over the past month. A score equal to or higher than 50 (Weathers *et al*., 1993) suggests the presence of a significant level of symptom severity which should be further evaluated with a formal assessment. Alternatively, PTSD can be diagnosed by following the DSM-V criteria, that is, at least one intrusion symptom, three avoidance symptoms, and two hyperarousal symptoms (Hodge et. al, 2004; Smith *et al*., 2008, 2009).

The current version (PCL-C:M) is a modified one, which includes the same 17-items plus 21- items which were selected from a multiple trauma symptom measures, namely, *Trauma Symptom Checklist for Children* (TSCC; Briere, 1996). Thus, the total possible scores range from 0 to 152. Such instruments were chosen because, in regards to psychometric properties, both instruments yield high internal consistency, which indicated that they are reliable in samples in traumatized and non-traumatized children and adolescents.

3) ***Escala de Desejabilidade Social de Coimbra*** (EDSC; Coimbra Social Desirability Scale; Almiro, Simões & Sousa, 2014).

Since other surveys are self-reported tools EDSC is a survey instrument, specially developed to be applied on adolescents who are under EAL and has as purpose to evaluate the subject trend, and giving responses that are socially desirable. It is composed by 22 items which the participants should answer "Yes" or "No". The results ranges between 0 to 22 and, the results for young male are around 11 with a 5 standard deviation, which means, that a result over 17 shall indicate the trend to provide responses socially desirable.

4) ***Youth Self Report*** (YSR; Achenbach & Edelbrock, 1987; Achenbach, 1991; Fonseca e cols., 1999).

The Youth Self Report (YSR) was designed for use with adolescents between the ages of 12 and 18 and held to assess the emotional and behavioral problems in adolescents. This standardized measure is composed by 118-items distributed by eight sub-scales: Withdrawn, Somatic Complaints, Anxiety and Depression, Social Problems, Thought Problems**,** Attention Problems, Aggressive Behavior, and Delinquent Behaviors. These sub-scales symptoms are categorized according to the internalization or externalization of the symptom, being the first three subscales classified as "internalizing", while the next two are referred as to "externalizing" and the remaining three are categorized as "neither internalizing nor externalizing". The YSR instrument has three response options that range from 0 (not true) to 2 (*Very true* or *Often true*). The subject should define whether each characteristic applies or not to itself.

Data Analysis

The research took place in a community school, at Aveiro, after official permission. All students of that public school had an authorization

signed by their parents/tutors to participate in any kind of research approved by the school. After a brief explanation of the purpose of the study, it was provided to each of the participants a protocol. On the compliance test protocol were included the previously referred tests were in the following order: socio-demographic questionnaire, MAYSI-2, PCL-C:M, EDSC and, finally, YSR. In a second phase, the Education and Rehabilitation Services and Detention Facilities authorized the research in a Youth Detention Center (YDC), at Coimbra. The collection of tests was carried out by a colleague who was doing the internship there. The anonymity and confidentiality of data was assured, besides that, all participants completed the form voluntarily. The application of the protocol took about 60 to 90 minutes and they answered in groups, according to their level of education.

Data analysis was conducted through the use the software SPSS (version 20.0). To analyze the normality of the response distribution it was used the Kolmogorov-Smirnov and Shapiro-Wilk tests. The p values (p=.00) indicated that the responses don't follow a normal distribution, so that the statistical analysis is essentially non-parametric.

Data analysis involved established frequencies for all demographic variables and samples of interest (gender, age and community versus forensic). To examine gender, education, age, and reprobation differences, the participants were divided in two samples: community (CS), with both boys and girls (N=105) and forensic, (FS) just boys (N=29).

IV - Results

1. MAYSI-2: Descriptive Analysis

Based on the table below we can conclude that there are two dimensions which had a bigger prevalence amongst community youths, apart from their schooling and age characteristics. The dimensions which deserve more concern are: *Depressed-Anxious* (36.2%) and *Somatic Complaints*

(36.2%), followed by *Thought Disturbance* (27.25%), *Suicide Ideation* (22.9%) and *Angry-Irritable* (16.2%).

Table 3. The comparison of the frequencies of community and youth offenders (YOff) samples according to both cutoff "caution" and "warning" by MAYSI-2 dimension

	Caution			***Warning***		
	Cut off	Percentage		Cutoff	Percentage	
		Community (N=105)	YOff (N=29)		Community (N=105)	YOff (N=29)
ADU*	4	0%	**26.9%**	7	**0%**	**7.7%**
AI*	5	16.2%	**31%**	8	**3.8%**	**3.4%**
DA*	3	36.2%	**31%**	6	**1.9%**	**6.9%**
SC*	3	36.2%	**20.7%**	**6**	**1.9%**	**0%**
SI*	2	22.9%	**24.1%**	**3**	**14.3%**	**13.8%**
TD*	1	27.5%	**39.1%**	2	**9.8%**	**13%**

*AD=Alcohol/Drug Use; AI = Angry-Irritable; DA=Depressed-Anxious; SC= Somatic Complaints; SI= Suicide Ideation; TD= Thought Disturbance

The youth offender sample results, when compared with the community sample, appear to be diverse. When compared with the community sample, the youth offender sample results appear to be diverse. In some dimensions, namely in AD Scale (26.9%), SI Scale (24.1%) and TD Scale (39.1%), the results have shown to be higher. In what concerns to the AI (31%), DA (31%) and SC (20.7%) Scales, the results would seem to indicate lowest rates of those dimensions in forensic group. Even though, the percentage of the participants who are included in the "warning" cutoff for the MAYSI-2 DA Scale (6.9%) appears to be highly, related to the community sample (1.9%).

Bearing in mind the table above, there are certain MAYSI-2 Scales which its prevalence increases with age: *Suicide Ideation, Thought Disturbance* and *Traumatic Experiences*. Finally, the *Angry–Irritable, Depressed Anxious and Somatic Complaints* dimension tends to remains stable over the childhood and adolescence.

Table 4. Descriptive Statistics of the community sample in what regards the age bracket

	11-13 (N=59)	14-17 (N=46)	T	p	Total (N=105)
ADU*	0.03(.169)	0.25 (.64)	-1.95	.14	.02 (.02)
AI*	2.41 (2.29)	2.36 (2.49)	.12	.90	2.30 (.233)
DA*	1.95 (1.91)	1.91 (2.29)	.09	.92	1.91 (.290)
SC*	1.93 (1.51)	1.96 (1.71)	-.07	.94	1.95 (.161)
SI*	.83 (1.38)	1.07 (1.74)	-.77	.45	.96 (.158)
TD*	0.61(.83)	.97 (1.04)	-1.84	.07	.74 (.099)
TE*	1.38 (1.22)	1.67 (1.66)	-.99	.35	1.45 (.141)

*AD=Alcohol/Drug Use; AI = Angry-Irritable; DA=Depressed-Anxious; SC= Somatic Complaints; SI= Suicide Ideation; TD= Thought Disturbance

Despite the youth offender sample not having, exactly, the same age brackets of the community sample, it is also possible to predict increasing or decreasing patterns and, besides that, it is possible to compare samples within participants whose ages range between 14 and 17. Similarly to what suggests the previous table, also the forensic sample shows to have, practically, the same MAYSI-2 Scales which its prevalence increases with age: *Thought Disturbance* and *Traumatic Experiences.* On the other hand, there are widely high frequency in 14-17 aged participants in relation to *Alcohol/Drug Use*, *Angry-Irritable* and *Suicide Ideation*. However, no statistically differences were found between the age groups in both samples.

Table 5. Descriptive Statistics of the YOff sample in what regards the age bracket

	14-17	18-19	t	p	Total
ADU*	2.30 (2.22)	1.00 (1.41)	.81	.43	2.20 (2.18)
AI*	3.24 (2.63)	0.75 (1.50)	1.83	.08	2.90 (2.64)
DA*	1.80 (1.85)	1.25 (1.89)	.55	.59	1.72 (1.83)
SC*	1.36 (1.32)	1.25 (1.25)	.16	.88	1.34 (1.29)
SI*	1.00 (1.60)	.50 (.58)	.60	.56	.93 (1.53)
TD*	.57(.74)	.67 (1.16)	-.20	.85	.58 (.78)
TE*	2.36 (1.31)	2.50 (1.00)	-.20	.84	2.38(1.27)

*AD=Alcohol/Drug Use; AI = Angry-Irritable; DA=Depressed-Anxious; SC= Somatic Complaints; SI= Suicide Ideation; TD= Thought Disturbance

Regarding to the gender differences, only to the community sample, female group has higher rates in all MAYSI-2 dimensions, except from *Alcohol/Drug Use* Scale. Such differences showed to be statistically different.

Table 6. Descriptive Statistics of the community sample in what regards the gender

	Male (N=51)	Female (N=54)	t	p
ADU*	0.19 (.557)	0.04 (0.189)	-1.31	.196
AI*	1.60 (1.63)	3.13 (2.71)	3.49	.01
DA*	1.04 (1.398)	2.77 (2.250)	4.72	.00
SC*	1.24 (1.153	2.59 (1.666)	4.84	.00
SI*	0.40 (0.808)	1.43 (1.869)	3.67	.00
TD*	0.43 (0.789)	1.06 (0.965)	3.41	.01
TE*	1.22 (1.23)	1.75 (1.543)	1.91	.05

*AD=Alcohol/Drug Use; AI = Angry-Irritable; DA=Depressed-Anxious; SC= Somatic Complaints; SI= Suicide Ideation; TD= Thought Disturbance

2. MAYSI-2: Internal Consistency

The internal consistency of the community sample was examined by calculating Cronbach's alpha for each of the MAYSI-2 dimensions, which values vary between .25 and .84. To be more precise, the MAYSI-2 dimensions have the following values: Alcohol/Drug Use (α = .77); Angry-Irritable (α = .82); Depressed-Anxious (α=.66); Somatic Complaints (α=.48); Suicide Ideation (α=.84); Thought Disturbance (α=.25); Traumatic Experiences (α=.49). The table below shows the comparison between the forensic samples of the present study with a research conducted in 2012 by Ferreira, in regards to the internal consistency. The results are similar for both researches that refer to participants who are under EGA (Table 7).

Table 7. The internal consistency (Cronbach alpha), by dimension, for Campos (2014) and Ferreira (2012) researches

	N	YOff (Campos, 2014) N=29	(Campos, 2014) N=54	(Ferreira, 2012) N=100
ADU*	8	.77	.48	.77
AI*	9	.82	**.63**	.73
DA*	9	.66	.60	.65
SC*	6	.48	**.39**	**.36**
SI*	5	**.84**	.54	**.81**
TD*	5	**.25**	.49	.42
TE*	5	.49	.54	.54
Total	52	.93	.88	.87

*AD=Alcohol/Drug Use; AI = Angry-Irritable; DA=Depressed-Anxious; SC= Somatic Complaints; SI= Suicide Ideation; TD= Thought Disturbance

3. MAYSI-2: Validity study

3.1. Construct Validity

The internal validity was verified through inter-dimensions correlations of MAYSI-2. Given that the results don't follow a normal distribution, it was used the Spearman's Rho coefficient. The non-normality was confirmed with both Kolmogorov-Smirnov and Shapiro-Wilk tests.

The correlation coefficient ranges from -.030 till .638. There are mostly moderated and statistically correlations between MAYSI-2 dimensions. The Drug Use Scale is negatively correlated with Somatic Complaints MAYSI-2 dimension. The table that follows illustrates detailed information.

Table 8. Inter-dimensions correlations (MAYSI-2) – Community sample

	DA	*SC*	*SI*	*TD*	*TE*	*ADU*
DA	-	-	-	-	-	-
SC	.444**	-	-	-	-	-
SI	**.629****	.233	-	-	-	-
TD	.381*	.421**	.406**	-	-	-
TE	**.581****	**.537****	.508**	**.638****	-	-
ADU	.058	-.030	.003	.048	.043	-
AI	**.586****	.466**	.316*	.46*	.40*	.204

**p<.01

*p<.05

Note: DA (Depressed-Anxious), SC (Somatic Complaints), SI (Suicide Ideation), TD (Thought Disturbance), ADU (Alcohol-Drug Use), AI (Angry-Irritable), TE (Traumatic Experiences).

It's also useful to compare both samples, however by using only the male gender of the community sample. In regards to the community sample, the main correlations are: *Angry-Irritable* and *Depressed-Anxious* (*rho*=.586, p<.01); *Depressed Anxious* and *Suicide-Ideation* (*rho*=.629, p<.01); *Depressed-Anxious* and *Traumatic Experiences* (*rho*=.581, p<.01); *Thought Disturbance* and *Traumatic Experiences* (*rho*=.638, p<.01) and; *Traumatic Experiences* and *Somatic Complaints* (*rho*=.537, p<.01) (See Table 8). In contrast to the community sample, in the forensic sample the MAYSI-2 ADU Scale isn't negatively correlated to the other dimensions. Indeed, Alcohol/*Drug Use* is correlated with *Angry Irritable* (*rho*=.594, p<.01), as well as: *Angry-Irritable* and *Depressed-Anxious* (*rho*=.755, p<.01); *Angry-Irritable* and *Somatic Complaints* (*rho*=.636, p<.01); *Depressed-Anxious* and *Somatic Complaints* (*rho*=.751, p<.01) and; *Depressed-Anxious* and *Suicide Ideation* (*rho*=.580, p<.01) (See Table 9)

Table 9. Inter-dimensions correlations (MAYSI-2) – YOff

	DA	***SC***	***SI***	***TD***	***TE***	***AI***
DA	-	-	-	-	-	-
SC	**.751****	-	-	-	-	-
SI	**.580****	.494*	-	-	-	-
TP	.494*	.392	.026	-	-	-
TE	.442*	.333	.176	.068	-	-
AI	**.755****	**.636****	.357	.396	.461*	-
ADU	.452*	.197	.106	.469*	.324	.594**

*p<.05
**p<.01
Note: DA (Depressed-Anxious), SC (Somatic Complaints), SI (Suicide Ideation), TD (Thought Disturbance), TP (Thought Problems), ADU (Alcohol-Drug Use), AI (Angry-Irritable).

4. PCL-C (*modified version*): Descriptive Analysis

As stated before, PCL-C is held to screening PTSD, and there are two ways to achieve it. One of them is by calculating the sum of the items, and the alternative is by following the DSM-V, as explained before. First of all, the frequencies of the presence or absence of PTSD were calculated for both criteria of examining. The table 10 (below) shows some

differences in regards to the presence of PTSD. As we can verify, the percentage of PTSD amongst youth, increased when using the DSM-V criteria.

Table 10. The frequencies of diagnose for PTSD having regard both manners of diagnose it

	PTSD	
	Yes	**No**
Sum of the items	**.7%**	**99.3%**
Criteria of DSM-V	**6%**	**94%**

With the aim of achieving the same comparison with the modified version it was necessary to calculate a cutoff, and for that purpose, it was used a Receiver Operating Characteristic (ROC) curve. Those which scores on PCL-C:M are larger than or equal to 82 seem to have criteria for PTSD.

Besides that, mean scores and standard deviations were calculated for the three PLC-C:M subscales, in both samples. Statistically significant differences were found between the samples in all dimensions tested. The homogeneity of variances among groups was assessed by the Levene test.

Table 11. Mean scores and standard deviations in each of the PCL-C: modified version dimensions and the total score for Community sample and YOff Sample, in three sub-groups: Intrusion, Hyperarousal, and Avoidance

	PCL-C:M			
	Community sample N=51	**YOff Forensic sample N=29**	**F**	**p**
Intrusion	M=.63 (1.68)	M=6.25 (6.29)	81.32	.00
Hyperarousal	M=1.65 (4.12)	M=14.92 (12.22)	38.83	.00
Avoidance	M=1.41 (3.44)	M=12.54 (10.94)	73.57	.00
Total	M=3.71 (8.98)	M=33.70 (28.20)	48.30	.00

5. PCL-C (modified version): Internal Consistency

In regards to internal consistency of PCL-C: *modified version* it's worth mentioning that this particular version has its own psychometric properties, in comparison to original the original version.

Taking into consideration the community sample (both male and female gender) the values for the internal consistency of the Intrusion dimension is "moderated" when compared with the original version, whose values are considered "good". In Avoidance dimension the correlations range between r=.407 and r=.782; in Hyperarousal dimension the correlation diverges between r=.553 and r=.823; and finally, in Intrusion dimension the correlation varies between r=.586 and r=.794. The internal consistency was also examined to the set of the 38 items of this experimental measure and reveals to be "good" (α=.957). On the other hand, when considering all participants (N=134) the values of the internal consistency seems to be higher for all dimensions. Differences may not be that significant, although the table below provides additional information.

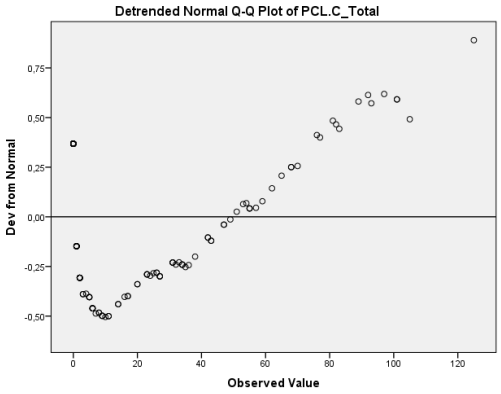
Table 12. The comparison between PCL-C and PCL-C: *modified version* as regards the internal consistency (N=134)

	Campos, 2014	***N***	***Weathers et al, 1993***	***N***
Avoidance	.927	13	.89	7
Hyperarousal	.941	18	.91	5
Intrusion	.920	7	.90	5
Total	.972	38	0.96	17

6. PCL-C (modified version): Validity study

6.1.Construct Validity

As can be seen in the Shapiro-Wilk (.810, p<.01) and Kolmogorov-Smirnov (.205, p<.01) tests, the 38 items of this modified version don't follow a normal distribution. The inter-dimensions correlations are between "moderated" and "good", once the variation ranges between ρ=.514 and ρ=.92.



The tables hereunder provide further information for both samples.

Table 13. Inter-dimensions correlations: community sample (N=51)

	Intrusion	***Hyperarousal***	***Avoidance***
Intrusion	-	-	-
Hyperarousal	.581*	-	-
Avoidance	.597*	.770*	-

*p<.01 (2-tailed)

The inter-dimension correlations are "moderated" and "good", although there appears to be higher correlations in the forensic sample, mainly: *Intrusion* and *Avoidance* (*rho*=.869, p<.01). Therefore, in the community sample *Avoidance* and *Hyperarousal* seem to be the highest correlations (*rho*=.77, p<.01).

Table 14. Inter-dimensions correlations: forensic sample (N=29)

	Intrusion	***Hyperarousal***	***Avoidance***
Intrusion	-	-	-
Hyperarousal	.720*	-	-
Avoidance	.869*	.787*	-

*p<.01 (2-tailed)

7. Concurrent Validity

7.1. Analysis of the MAYSI-2 scales which most contribute to PTSD, symptoms according to the PCL-C:M screening scores.

In accordance with Moeddel (2008), the MAYSI-2 *Anger-Irritable* (AI), *Depression*-Anxiety (DA) and *Traumatic Experiences* (TE) Scales are those which most contribute to diagnose PTSD, in both genders. Similarly

to what was concluded previously (Moeddel, 2008), in both genders the *Anger-Irritable*, *Depression*-Anxiety and *Traumatic Experiences* dimensions are those which results most contribute to the variation of PTSD, with a significance at the .01 level (two-tailed), as well as Drug Use for male group and Suicide Ideation for female. No statistically significant correlations were found for boys from de community. Instead, also on the young offenders group, *Depression-Anxiety* and *Traumatic Experiences* dimensions have higher correlations with the tendency to develop PTSD, as well as *Somatic Complaints* scale (Table 15).

Table 15. The correlations between MAYSI-2 dimensions and PTSD

		MAYSI-2						
		ADU	**AI**	**DA**	**SC**	**SI**	**TD**	TE
PCL-C:M	**Male (N=80)**	.369*	.307**	.306**	.276*	.247**	.128*	.316**
	Female (N=54)	-.067	.467**	.521**	.398**	.541**	.307*	.499**
	YOff (N=29)	.262	.440*	.502*	.512*	.390	.167	.493*

*p<.05**
**p<.01

With regards to the frequency of PTSD taking into consideration the age groups, as the table below shows (Table 16), there are higher rates of the disorder in those who age ranges are between 14 and 17, for both community and forensic samples.

Table 16. The frequency of PTSD by age bracket

		% PTSD	
		No	**Yes**
11-13	**CM**	96.7%	3.3%
	FS	100%	0%
14-17	**CS**	86.7%	13.3%
	FS	84.2%	15.8%
18-19	**CS**	-	-
	FS	100%	0%

7.2. Analysis of the correlations between MAYSI-2 and YSR dimensions for both clinic and control samples.

Once again, regarding the community sample, MAYSI-2 ADU Scale correlates negatively with all of the YSR Scales, except for the TD YSR Scale. On the contrary, the correlations between ADU MAYSI-2 Scale and the YSR dimensions are mostly positive and, besides that, has a "moderated" correlation with SC YSR Scale (rho=.456, p<.05).

As the table illustrates (Table 17), the correlations among MAYSI-2 and YSR dimensions ranges from -.072 to .689, being the *Thought Disturbance* (YSR) and *Traumatic Experiences* (MAYSI-2) the largest correlation (*rho* = .689, p<.01). The negative correlations between ADU (MAYSI-2) and YSR scales mean that

Table 17. The correlations between YSR and MAYSI-2 Scales for the community sample (males only, N=51)

		YSR				
		AD	**WD**	**SC**	**SP**	**TP**
MAYSI-2	**ADU**	-.043	-.205	-.072	-.075	.067
	AI	.409**	.422**	.511**	.382**	.549**
	DA	.612**	.267	.475**	.577**	.558**
	SC	.456**	.453**	.434**	.294*	.626**
	SI	.588**	.295*	.412**	.531**	.349*
	TD	.615**	.291	.427**	.516**	.605**
	TE	.620**	.324*	.452**	.515**	.689*

**p<.05; *p<.01

Note: AD (Anxious/Depressed), WD (Withdraw/Depressed), SC (Somatic Complaints), SP (Social Problems), TD (Thought Disturbance, AI (Angry-Irritable), ADU (Alcohol-Drug Use), DA (Depressed-Anxious), SI (Suicide Ideation), TE (Traumatic Experiences)

On young offenders forensic sample, the correlation ranges between -.094 and .593, which the highest correlation refers to *Depressed-Anxious* (MAYSI-2) (*rho*=.593, p<.01) and *Thought Problems* (YSR), being the correlation *Alcohol/Drug Use* (MAYSI-2) and *Social Problems* (YSR) the lowest. *Suicide Ideation* correlates with: *Anxious/Depressed* (*rho*=.508, p<.05), *Withdrawn-Depressed* (*rho*=.399, p<.05), Social Problems (*rho*=.474, p<.01) and Tho*ught Disturbance* (*rho*=.553, p<.01). The

Traumatic Experiences (MAYSI-2) only correlates with the *Anxious/Depressed* (YSR) (rho=.386, p<.05), by contrast, on community sample TE MAYSI-2 Scale correlates, statistically and significantly, with all YSR scales, specially, *Anxious/Depressed* (*rho*=.620, p<.01) and Tho*ught Disturbance* (*rho*=.689, p<.01). In both samples, MAYSI-2 ADU Scales only correlates positively with one YSR dimension: *Thought Problems*. Such result means that, except for TP scale, higher scores on MAYSI-2 ADU led to reduced scores on YSR sub-scales.

The following tables illustrate clearly the correlations between MAYSI-2 and YSR, for the young offenders' sample.

Table 18. The correlations between YSR and MAYSI-2 Scales for the YOff sample (N=29)

		YSR				
		AD	**WD**	**SC**	**SP**	**TP**
MAYSI-2	**ADU**	.007	-.004	**.456**	-.094	.227
	AI	.247	.307	**.397**	.271	**.348**
	DA	.341	.350	.346	.342	**.593****
	SC	**.407***	.261*	.395	**.418***	.366
	SI	**.508****	**.399***	.206	**.474***	**.553****
	TD	.268	.110	.317	.103	**.367***
	TE	**.386***	.250*	.362	.259	.319

**p<.01

*p<.05

Note: AD (Anxious/Depressed), WD (Withdraw/Depressed), SC (Somatic Complaints), SP (Social Problems), TD (Thought Disturbance, AI (Angry-Irritable), ADU (Alcohol-Drug Use), DA (Depressed-Anxious), SI (Suicide Ideation), TE (Traumatic Experiences)

7.3. Analysis of the internalizing, externalizing and PTSD symptoms (YSR) and the comparison between samples.

In view the above table, youths who are under EGA seems to better demonstrate both their internalizing and externalizing symptoms in relation with the community youths. It is perhaps therefore, there are also higher results for PTSD for the clinic sample. In addition, it seems that the internalization symptomatology prevails over the externalization for both groups. The Kruskal-Wallis test was used to analyze the differences of the

symptomatology according to the sample. No statistically significant differences were found.

Table 19. Mean and standard deviation of the internalizing, externalizing and PTSD symptoms by samples

	Community sample (N=51)	*YOff sample (N=29)*	X^2	*p*
Internalizing	9.33 (7.40)	11.67 (8.55)	1.11	.292
Externalizing	5.33 (4.90)	6.83 (5.18)	1.52	.217
PTSD (YSR)	5.06 (3.97)	7.08 (5.37)	1.99	.158

7.4. Analysis of the PCL-C:M scores taking into account different tests

PCL-C:M (Campos, 2014) demonstrate to have "moderated" and "strong" correlations with all of the other measures, mainly PCL-C (Weathers *et al*, 1993). As a matter of fact, the participants who meet criteria for PTSD are exactly the same for both test, with the difference that PCL-C:M (Campos, 2014) diagnoses three more individuals (rho=.797, p<.01). The YSR and MAYSI-2 TE Scale have "moderated" and statistically significant correlations with PCL-C:M (*rho*=.555, p<.01). However, the correlation between MAYSI-2 TE Scale and PCL-C (Weathers *et al*, 1993) is "weak" and not statistically significant (*rho*=.320, p=.091), as well as, PCL-C (Weathers *et al*, 1993) and diagnose for PTSD according to YSR (*rho*=.381, p=.060).

Table 20. The correlations between the PTSD diagnoses depending on the measured used: PCL-C, PCL-C:M or YSR; and with the MAYSI-2 Scale

	PTSD		
	PCL-C *Weathers et al, 1993*	PCL-C:M Campos, 2014	YSR Achenbach, 1991
MAYSI-2 TE	**.320**	**.493***	**.535****
PTSD (PCL-C)	-	.797**	.381
PTSD (PCL-C:M)	-	-	.555**

**p<.05
*p<.01

7.5. Analysis of the tendency to give responses socially desirable (EDSC)

Considering the value 17 (M=11.28; SD=5.37; CI=5.91-16.65) as the cutoff in EDSC scale for this population studied, it can therefore be concluded that there are 10.2% and 11.1% of the community and young offenders participants, respectively, who has the tendency to give responses in accordance with what is socially desirable. The statistical treatment was given through Mann-Whitney U Test, where we found statistically significant differences only in one MAYSI-2 dimension of the community group: *Thought Disturbance* (U=9.0, p<.05). Such result suggests that those who have high desirability have also widely bigger results on *Thought Disturbance* dimension. No statistically differences were found for the forensic group, which means a lack of correlation between the high or low desirability and the MAYSI-2 dimensions.

Table 21. Socially desirable and the results on MAYSI-2 dimensions

	High Desirability M		*Low Desirability M*		*U*		*Z*		*p*	
	CM	**FS**	**CS**	**FS**	**CS**	**FS**	**CS**	**FS**	**CS**	**FS**
ADU	19.50	10.50	13.56	12.14	14.0	18.0	-1.87	-.337	.062	.736
AI	19.75	16.00	25.47	13.75	69.0	30.0	-.79	-.472	.427	.635
DA	34.25	16.50	24.18	13.69	53.0	28.5	-1.47	-.596	.141	.551
SC	19.63	13.83	25.48	14.02	68.5	35.5	-.82	-.040	.414	.968
SI	35.17	19.00	24.34	13.38	38.5	21.0	-1.64	-1.30	.100	.192
TD	37.75	7.50	21.23	11.90	9.50	12.0	-2.25	-1.07	.024	.285
TE	33.63	15.83	23.67	13.77	51.0	30.5	-1.42	-.442	.156	.658

Note: CM = Community Sample; FS= Forensic Sample

V – Discussion

This new study with the Portuguese version of MAYSI-2 replicated the results of the previous study by Ferreira (2012) and are in accordance with the profile of the results obtained internationally with MAYSI-2. This new study with MAYSI-2 includes not only a new sample of young offenders but also a sample of youth from the community thereby extending the network with the results MAYSI-2.

The present study showed good results for MAYSI-2 internal consistency in the mental health assessment tested. The measure was originally normed on a national sample of youth detained in juvenile justice facilities in 19 states showed values for the MAYSI-2 internal consistency that ranges between .55 (*Thought Disturbance*) and .87. (*Somatic Complaints*). Ferreira (2012) also demonstrated good values for Portuguese version of MAYSI-2 internal consistency, such results vary between .42 (*Thought Disturbance*) and .81 (*Somatic Complaints*). These results are similar with those found in the forensic sample, which values vary between .25 and .84, being the *Thought Disturbance* and *Suicide Ideation* scales, the lowest and the highest results, respectively. Therefore the values vary between .39 (*Somatic Complains*) and .63 (*Angry-Irritable*) in the community sample.

Thought Disturbance, Somatic Complaints and *Depressed-Anxious* are the scales with bigger prevalence's among community youths. *Angry-Irritable, Depressed/Anxious* and *Thought Disturbances* dimensions are those which deserve more concerns given the higher prevalence in the forensic sample. Similarity, Maney (2011) "reported significantly higher scores for youths with violent offenses on AI, DA and SI scales" (McCoy *et al*., 2014). TD and DA scales seem to be the MAYSI-2 dimensions with higher rates of prevalence in the juvenile justice system. According to the current study, young offenders tend to identify feelings, thoughts or behavior characteristics through AI, while children and adolescents from the community demonstrate it through SI. Regardless the sample, TD and SI appeared to be those certainly warrant widespread and priority concern, once the findings for the community indicate that 9.8% and 14.3% of (Grisso & Quinlan, 2005 cit in McCoy *et al*., 2014). It seems that major issues are related with thoughts and intentions of self-injury; mental disorders involving problems with reality orientation; altered perceptions in reality that are frequently associated with psychotic disorders; condition of de-realization, which is a more general abnormality of perception and consciousness. This "condition can sometimes be early indication of a

psychotic state, but may simply arise during anxiety or dissociative states as well" (McCoy *et al*., 2014, p.4). Such explanation may also justify the high rates on DA dimension on both groups, as stated above.

In young offenders' sample, the variation of the inter-correlation coefficient ranges from .026 till.755. Previous research had found an inter-correlation variation ranged from a low of .00 to a high of .40 for various pairs of scales. In the forensic sample, inter-correlations above .40 were reported in about 52% pairs of MAYSI-2 scales. In support of these results, there are two studies that combined probation, detention and correction 11 settings, which out of 21 possible pairs of MAYSI-2 scales; inter-correlations above .40 were reported in about 50% (Archer et al., 2004, 2010; Grisso et al., 2001). Typically the scales most highly correlated with each other were *Depression/Anxious* and *Suicide Ideation*, as well as *Depression/Anxious* and *Angry/Irritable*. In the current study, and similarity to these results, young offenders demonstrates bigger correlations between *Depression/Anxious* and *Angry/Irritable*, *Depression/Anxious* and *Suicide Ideation*, *Depression/Anxious* and *Somatic Complaints;* and finally *Angry/Irritable* and *Somatic Complaints*. In the line with Vance's research (2005) in the community sample, more than 60% of MAYSI-2 inter-correlation is above .40. There are, however, one negative correlation in the community sample: ADU and SC. Ferreira (2012) also found the same negative inter-correlation, more precisely (*rho*= -.014). This may indicate that ADU follow an inverse relation with other SC MAYSI-2 scale, or in other words higher scores in ADU are not associated with greater scores in the MAYSI-2 SC scales.

In a research (McCoy, 2014), which standard ranges for MAYSI-2 distress categories guided a distinction between participants, classifying them in three classes: class 1, low distress; class 2, moderate distress and; class 3, high distress. Significant differences were observed among the latent classes with respect to internalizing and externalizing YSR scales. Comparing to this study, despite the results have proved to be highest on the forensic sample, for both internalizing (M=11.67; SD=8.55) and

externalizing (M= 7.08; SD=5.37) scales, all the results were closer to the results of class 1, low distress (internalizing: M=8.72; SD=5.51; externalizing: M= 11.14; SD= 6.54), with the exception of the results of internalizing scale on forensic sample. Such results appear to be between class 1, low distress, and class 2, moderate distress (M= 11.82; SD=6.98).

Even though the female group is limited to the community sample, statistically significant gender differences were also found. Girls score higher on all scales except the ADU. Females are more likely to report more significant mental health needs and thus may require different services than males. That finding is in accordance with five researches (Cauffman *et al*., 2007; Grisso *et al*., 2001; Hayes *et al*., 2005; Kerig, Ward, Vandersee, & Moeddel, 2009; Maney, 2010).

There are significant positive correlations between conceptually 'parallel' YSR and MAYSI-2 scales, mainly between: AI, SC and TD (MAYSI-2) and TP (YSR); DA, SI, TD (MAYSI-2) and AD (YSR). Despite those results are for general population comparing with research whose participants are young offenders (Lennox and col., 2014), results seem to be very similar. This is in line with previous studies, such as Grisso and Barnum (2006) and suggests that YSR has good convergent validity. The only study to examine TD in relation to other scales (Grisso et al., 2001) found a moderate correlation with the YSR *Thought Problems* scale (r = .40). Grisso et al. (2001). The current study reported strong relations for the community sample between AI, DA, SC, TD, TE, SI (MAYSI-2) and Internalizing and Externalizing YSR scales (See Table 27). Therefore, this research reported strong relations for young offenders only between DA and YSR Externalizing scale (*rho* =.511, p<.05) (See Table 26).

Previous research estimates the internal consistency for PCL-C (Cronbach's alpha) that ranges between .89 (Blanchard *et al.*, 1996) to .90 (Weathers *et al*. 1993). In our study, the internal consistency of PCL-C:M ranges between .920 to .941. Although it seems to exist higher correlations in the forensic sample, mainly: *Intrusion* and *Avoidance* (*rho*=.869, p<.01), the inter-dimension correlations are "moderated" and "good", for

both samples. The correlations between PCL-C:M and MAYSI-2 TE Scale (rho=.493, p<.05) and PCL-C:M and PTSD (YSR) (rho=.535, p<.01) are moderated, while the correlation between PCL-C:M and PCL-C are, as expected, widely higher (rho=.797, p<.01).

Considering the Levene test, there are statistically significant differences between FS and CM regard to the sub-scales descriptive. The sub-scales scores appeared to be higher in YOff, in the three sub-scales.

When it comes to one of the goals of the study, that is, to find a cutoff through the balance of sensitivity and specificity, for the new version of PCL-C (PCL-C:M) it is important to refer that the Positive Predictive Values results (PPV) indicate that sensitivity does not run danger of being affected by the prevalence of PTSD, and therefore allows comparison to other studies. In contrast, the Negative Predictive Values (NPV), specificity seems to be affected by the absence of the disorder. The specificity in the current study is not in balance with the sensitivity (.875 and .033).

PCL-C:M act as a PTSD assessment based on DSM-V and can be used in the community sample, as well as with those who are under Educational Guardianship Act. Similarity to what prior research have concluded (Kerig, Moeddel & Becker, 2010), there are high rates of participants who can meet criteria for PTSD in the forensic sample when compared to the community sample. Such results seems to be associated to the fact that various recent studies have identified several significant moderators against the development of PTSD, such as: family/parental closeness and support, easy temperament, school connectedness, and overall resilience. Those who are in Youth Detention Centers can be more vulnerable due to a lack of the moderators previously referred. As mentioned before, the exposure to a traumatic experience is a crucial condition to meet criteria for PTSD, but is not enough. In fact, the results reported in the present study are in line with previous research (Costello et al., 2002, Copeland and col., 2007, Boney Mc-Coy & Finkelhor, 1995, Giaconia et al., 1995 *cit in* Rosenberg et al., 2013). Self-report rates of trauma exposure among

adolescent's ranges from 13.3% to 35.8%, for boys and girls, respectively. As we can see on Table 25, none of the boys from the community sample appear to develop PTSD, instead 14.8% of the girls seem to meet criteria for PTSD. Such results matches with previously researches that suggests the hypotheses that girls are more vulnerable to the negative effects of traumatic event (Kerig, 2012). In the forensic sample, there is a percentage of traumatic exposure of 53.6% and a prevalence of PTSD around 10% (Table 25). The differences between gender ($t= 3.04$, $p<.01$) and samples ($t= -1.82$, $p<.05$) are statistically significant.

This research found good values for the internal consistency of MAYSI-2, what means that MAYSI-2 works well as a mental health screening either in forensic samples or in general community. The Traumatic Experiences MAYSI-2 scale is not able to decide if a subject meet or not criteria for PTDS, although the present study also suggests a new version of PCL-C (PCL-C:M) which can be used as a PTSD assessment in both samples tested. This modified version showed to have better internal consistency values when compared to the original version. As Ferreira's study (2012) concluded, the present study's findings supported the construct validity of MAYSI-2 amongst detained youths in Portugal. Besides that, the MAYSI-2 works as a mental health screening instrument and serves as a triage intake assessment also amongst the community adolescents. Despite the high rates of false positives, the PCL-C:M seem to be a PTSD screening survey for both groups studied.

Regarding to EDSC there is a lack of correlation between the high or low desirability and the MAYSI-2 dimensions for young offenders. However, statistically significant differences were found in one MAYSI-2 dimension of the community group: *Thought Disturbance* (U=9.0, $p<.05$). Those who have high desirability have also widely bigger results on *Thought Disturbance* dimension. Ferreira (2012) used the Marlow Crowne Social Desirability Scale (MCSDS) in order to analyze the correlation between young offenders and the tendency to give responses considered social acceptable. It was found that those who has lower social desirability

has higher scores on *Depression/Anxious* (U= 898.000, p <.05) and *Somatic Complaints* Scales (*U*= 880.000, *p* <.05).

The present study's finding must be interpreted in the context of several limitations. Firstly, the forensic sample was widely smaller in comparison to the community. Secondly, the forensic sample did not include girls. Thirdly, the current study's sole reliance on the self-report tools can be considered as a limitation. Therefore, whereas the MAYSI-2 was designed for use in adolescents between 12 and 17 years of age, although the present sample counts with participants whose ages range between 11 and 19 Furthermore, the study with the PCL-C: M is the first conducted in our country with this instrument, so other validation studies are also needed with this instrument.

Future studies are crucial to test whether the MAYSI-2 can be validly used with girls in Portugal, for those who are in Youth Detention Centers as well as those who are in the community. It underlined the importance of further validation of PCL-C:M using samples from the community and from detention facilities

VI - References

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VII - Appendix

Appendix A – PCL-C:M

PCL-C (Versão Modificada) (*)

Nome:_____ Data: ___/___/_____

Instruções: O seguinte questionário descreve problemas ou queixas que as pessoas por vezes apresentam após terem vivido uma experiência traumática (*por exemplo:* perda de um ente queridos, abuso sexual, violência ou ameaças). Pedimos-lhe agora que concentre a sua atenção no **acontecimento/experiência** que considera ter sido **a mais traumática** para si.

Por favor, leia cada frase que se segue cuidadosamente e assinale em que medida os seguintes aspetos o incomodaram no **último mês.** Por favor, assinale com um círculo: 1 para "nada", 2 para "pouco", 3 para "nem muito nem pouco", 4 para "muito" e 5 para "muitíssimo".

		Nada	*Pouco*	*Nem muito nem pouco*	*Muito*	*Muitíssimo*
1	Tenho recordações, pensamentos e imagens perturbadoras e repetitivas referentes ao acontecimento traumático.	1	2	3	4	5
2	Tenho sonhos perturbadores e repetitivos; contudo, não sei ao certo com o que sonhei.	1	2	3	4	5
3	Ajo ou sinto-me subitamente como se o acontecimento traumático estivesse a acontecer novamente (como se o estivesse a reviver).	1	2	3	4	5
4	Sinto-me fora do controlo.	1	2	3	4	5
5	Sinto-me triste quando ouço falar no acontecimento traumático.	1	2	3	4	5
6	Sinto-me muitas vezes paralisado, parado/imobilizado.	1	2	3	4	5
7	Sinto-me sobressaltado(a)/assustado(a) quando ouço sons inesperados.	1	2	3	4	5
8	Sou muito crítico de mim mesmo ou atribuo culpas a mim próprio de coisas que me acontecem.	1	2	3	4	5
9	Sinto-me facilmente magoado nos meus sentimentos.	1	2	3	4	5
10	Sinto-me muito chateado(a) ou preocupado(a) quando algo me lembra do acontecimento traumático.	1	2	3	4	5
11	Eu penso no acontecimento perturbador, mesmo quando procuro evitar pensar.	1	2	3	4	5
12	Sinto-me desesperado(a), impotente.	1	2	3	4	5
13	Sinto reações físicas (ex.: coração acelerado, dificuldades respiratórias, transpiração) quando algo me relembra do acontecimento traumático.	1	2	3	4	5
14	Sinto que a minha vida está ameaçada.	1	2	3	4	5
15	Tenho medo de estar sozinho(a).	1	2	3	4	5
16	Evito pensar, falar ou ter sentimentos sobre o acontecimento traumático.	1	2	3	4	5
17	Sinto pavor, como se algo de mau fosse acontecer.	1	2	3	4	5
18	Não tenho força ou energia para viver.	1	2	3	4	5

		Nada	*Pouco*	*Nem muito nem Pouco*	*Muito*	*Muitíssimo*
19	Evito actividades ou situações porque elas lhe relembram o acontecimento traumático.	1	2	3	4	5
20	Falhas de memória, especialmente relacionadas com o evento traumático	1	2	3	4	5
21	Tenho dificuldade em relembrar aspectos importantes do acontecimento traumático.	1	2	3	4	5
22	Tentei remover o acontecimento perturbador da minha memória.	1	2	3	4	5
23	Começo muitos projectos sem os concluir/finalizar.	1	2	3	4	5
24	Perdi o interesse por atividades que antes costumava gostar.	1	2	3	4	5
25	Sinto-me distante ou isolado(a) das outras pessoas.	1	2	3	4	5
26	Não sou capaz de me lembrar de uma parte importante do acontecimento perturbador.	1	2	3	4	5
27	Sinto-me emocionalmente distante ou incapaz de sentir afecto pelas pessoas que me são próximas.	1	2	3	4	5
28	Ninguém entende como eu me sinto, nem mesmo a minha família.	1	2	3	4	5
29	Ajo impulsivamente.	1	2	3	4	5
30	Atiro objectos.	1	2	3	4	5
31	Bato ou pontapeio em pessoas e/ou em objectos.	1	2	3	4	5
32	Grito.	1	2	3	4	5
33	Sinto-me sem expectativas relativamente ao futuro.	1	2	3	4	5
34	Sinto-me irritado ou tenho explosões de raiva.	1	2	3	4	5
35	Sinto dificuldade em me concentrar.	1	2	3	4	5
36	Estou "*superalerta*", vigilante ou "*em guarda*"?	1	2	3	4	5
37	Sinto-me tenso(a) ou facilmente em sobressalto?	1	2	3	4	5
38	Sinto dificuldades em adormecer ou em permanecer a dormir.	1	2	3	4	5

a) Quanto tempo depois do acontecimento traumático é que estes problemas/queixas surgiram?

- ☐ Nos primeiros 6 meses
- ☐ Após 6 meses ou mais
- ☐ Não se aplica

b) Durante quanto tempo, após a ocorrência do acontecimento traumático, teve os problemas acima descritos?

- ☐ Menos de um mês
- ☐ Menos de 3 meses
- ☐ 3 meses ou mais
- ☐ Não se aplica

* Versão portuguesa de Gonçalves, Marques Pinto e Lima (2006) do PCL-C for DSM-IV, desenvolvido por Weathers, F.W., Huska, J.A., Keane, T.M. - Boston: National Center for PTSD – Behavioral Science Division. (Versão modificada: Latães Campos & Simões, 2014. Uso exclusivo para investigação)

Appendix B – Descriptive Statistics

Table 22. MAYSI-2 items descriptive statistics

	N	"Y"	"N"	Min.-Max.	Mean	Std. Deviation
ItemMAYSI_1	134	36	98	0-1	,27	,445
ItemMAYSI_2	134	39	95	0-1	,29	,456
ItemMAYSI_3	133	48	85	0-1	,36	,482
ItemMAYSI_4	133	51	82	0-1	,38	,488
ItemMAYSI_5	133	1	121	0-1	,09	,288
ItemMAYSI_6	134	2	63	0-1	,53	,501
ItemMAYSI_7	133	71	102	0-1	,23	,424
ItemMAYSI_8	134	31	95	0-1	,29	,456
ItemMAYSI_9	132	39	112	0-1	,15	,360
ItemMAYSI_10	129	20	112	0-1	,13	,340
ItemMAYSI_11	134	17	114	0-1	,15	,358
ItemMAYSI_12	134	20	75	0-1	,44	,498
ItemMAYSI_13	134	59	92	0-1	,31	,466
ItemMAYSI_14	134	4	120	0-1	,10	,307
ItemMAYSI_15	133	2	109	0-1	,18	,386
ItemMAYSI_16	133	14	103	0-1	,23	,420
ItemMAYSI_17	134	24	95	0-1	,29	,456
ItemMAYSI_18	134	95	107	0-1	,20	,403
ItemMAYSI_19	130	39	118	0-1	,09	,291
ItemMAYSI_20	134	27	121	0-1	,10	,297
ItemMAYSI_21	134	12	104	0-1	,22	,418
ItemMAYSI_22	134	13	111	0-1	,17	,378
ItemMAYSI_23	129	30	114	0-1	,12	,322
ItemMAYSI_24	84	23	73	0-1	,13	,339
ItemMAYSI_25	131	15	123	0-1	,06	,240
ItemMAYSI_26	120	11	75	0-1	,38	,486
ItemMAYSI_27	134	8	76	0-1	,43	,497
ItemMAYSI_28	133	45	75	0-1	,44	,498
ItemMAYSI_29	134	58	110	0-1	,18	,385
ItemMAYSI_30	134	58	85	0-1	,37	,483
ItemMAYSI_31	134	24	104	0-1	,22	,418
ItemMAYSI_32	134	49	128	0-1	,04	,208
ItemMAYSI_33	134	30	126	0-1	,06	,238
ItemMAYSI_34	134	6	111	0-1	,17	,378
ItemMAYSI_35	134	8	101	0-1	,25	,432
ItemMAYSI_36	134	23	93	0-1	,31	,463
ItemMAYSI_37	132	33	127	0-1	,04	,192
ItemMAYSI_38	134	41	95	0-1	,29	,456
ItemMAYSI_39	134	5	95	0-1	,29	,456
ItemMAYSI_40	131	39	125	0-1	,05	,210
ItemMAYSI_41	134	39	110	0-1	,18	,385
ItemMAYSI_42	133	6	109	0-1	,18	,386
ItemMAYSI_43	134	24	108	0-1	,19	,397
ItemMAYSI_44	134	24	116	0-1	,13	,342
ItemMAYSI_45	129	26	122	0-1	,05	,227
ItemMAYSI_46	132	18	80	0-1	,39	,490

ItemMAYSI_47	134	7	110	0-1	,18	,385
ItemMAYSI_48	134	52	59	0-1	,56	,498
ItemMAYSI_49	133	24	96	0-1	,28	,450
ItemMAYSI_50	133	75	128	0-1	,04	,191
ItemMAYSI_51	133	37	115	0-1	,14	,343
ItemMAYSI_52	132	5	89	0-1	,33	,470

Table 23. PCL-C:M items descriptive statistics

	N	Min.-Max.	0	1	2	3	4	Mean	Std. Deviation
PCL.C_1	133	0-4	68.4%	11.3%	10.5%	9.0%	.8%	,62	1,042
PCL.C_2	133	0-4	67.7%	18.0%	8.3%	5.3%	.8%	,53	,909
PCL.C_3	133	0-4	79.7%	9.8%	6.0%	3.8%	.8%	,36	,820
PCL.C_4	133	0-4	72.2%	15.0%	8.3%	4.5%	0%	,45	,830
PCL.C_5	133	0-4	55.6%	14.3%	9.8%	9.8%	10.5%	1,0	1,416
PCL.C_6	133	0-4	75.2%	12.0%	6.8%	5.3%	.8%	,44	,891
PCL.C_7	133	0-4	57.1%	17.3%	12.8%	10.5%	2.3%	,83	1,143
PCL.C_8	133	0-4	55.6%	13.5%	10.5%	12.8%	7.5%	1,03	1,365
PCL.C_9	133	0-4	49.6%	12.8%	9.8%	17.3%	10.5%	1,26	1,477
PCL.C_10	133	0-4	61.7%	11.3%	9.8%	11.3%	6.0%	,89	1,306
PCL.C_11	133	0-4	60.2%	15.8%	12.0%	6.8%	5.3%	,81	1,201
PCL.C_12	132	0-4	79.5%	8.3%	6.1%	5.3%	.8%	,39	,880
PCL.C_13	133	0-4	76.7%	9.0%	6.0%	5.3%	3.0%	,49	1,027
PCL.C_14	133	0-4	83.5%	6.0%	6.0%	3.0%	1.5%	,33	,841
PCL.C_15	133	0-4	72.2%	10.5%	9.0%	3.8%	4.5%	,58	1,096
PCL.C_16	133	0-4	61.7%	13.5%	6.8%	10.5%	7.5%	,89	1,335
PCL.C_17	133	0-4	68.4%	11.3%	10.5%	8.3%	1.5%	,63	1,062
PCL.C_18	133	0-4	74.4%	11.3%	3.8%	6.8%	3.8%	,54	1,091
PCL.C_19	133	0-4	75.2%	10.5%	4.5%	6.8%	3.0%	,52	1,056
PCL.C_20	133	0-4	66.2%	10.5%	8.3%	9.8%	5.3%	,77	1,253
PCL.C_21	133	0-4	76.7%	8.3%	9.0%	3.8%	2.3%	,47	,966
PCL.C_22	133	0-4	66.2%	5.3%	8.3%	12.0%	8.3%	,91	1,406
PCL.C_23	133	0-4	55.6%	19.5%	12.8%	9.0%	3.0%	,84	1,140
PCL.C_24	132	0-4	67.4%	11.4%	9.1%	6.8%	5.3%	,71	1,201
PCL.C_25	132	0-4	65.9%	12.1%	7.6%	4.5%	9.8%	,80	1,333
PCL.C_26	133	0-4	78.9%	9.0%	4.5%	3.8%	.8%	,35	,800
PCL.C_27	133	0-4	75.9%	9.0%	6.8%	4.5%	3.8%	,51	1,056
PCL.C_28	132	0-4	54.5%	14.4%	7.6%	9.8%	13.6%	1,14	1,497
PCL.C_29	133	0-4	63.2%	13.5%	6.8%	10.5%	6.0%	,83	1,282
PCL.C_30	131	0-4	84.0%	5.3%	6.9%	1.5%	2.3%	,33	,854
PCL.C_31	133	0-4	87.5%	5.3%	4.5%	2.3%	2.3%	,30	,844
PCL.C_32	132	0-4	69.7%	9.8%	10.6%	5.3%	4.5%	,65	1,146
PCL.C_33	133	0-4	66.9%	17.3%	8.3%	2.3%	5.3%	,62	1,085
PCL.C_34	133	0-4	68.4%	15.0%	6.8%	5.3%	4.5%	,62	1,112
PCL.C_35	132	0-4	55.3%	15.9%	12.1%	11.4%	5.3%	,95	1,271
PCL.C_36	133	0-4	64.7%	16.5%	9.8%	6.8%	2.3%	,65	1,052
PCL.C_37	133	0-4	6.9%	11.3%	12.8%	4.5%	1.5%	,56	,980
PCL.C_38	**133**	**0-4**	**12.2%**	**11.3%**	**5.3%**	**4.5**	**6.8%**	**,62**	**1,197**

Table 24. The prevalence of traumatic experience exposure depending on gender and group sample

		Traumatic experience exposure	
		Yes	*No*
Female		35.8%	64.2%
Male	CS	13.3%	86.7%
	FS	53.6%	46.4%

Table 25. PCL-C:M results depending on gender and group sample

		Traumatic experience exposure	
		Yes	*No*
Female		14.8%	85.2%
Male	CS	0%	100%
	FS	10.3%	89.7%

Table 26. The correlations between YSR Internalizing and Externalizing Scales and MAYSI-2 Scales for the YOff sample (N=29)

		ADU	***AI***	***DA***	***SC***	***SI***	***TD***	***TE***
YSR	Internalizing	.024	.293	.338	.380	.433*	.213	.354
	Externalizing	.096	.267	.511*	.357	.486*	.212	.366

*p<.05
**p<.01

Table 27. The correlations between YSR Internalizing and Externalizing Scales and MAYSI-2 Scales for the community sample (N=51)

		ADU	***AI***	***DA***	***SC***	***SI***	***TD***	***TE***
YSR	Internalizing	.092	.534**	.619**	.553**	.604**	.514**	.648**
	Externalizing	.033	.565**	.676**	.533**	.529**	.661**	.726**

*p<.05
**p<.01

Appendix C – Psychometric Characteristics

Table 24. Corrected item-total correlation and cronbach's alpha if item deleted for PCL-C:M items, community sample (N=105)

	Corrected Item-Total Correlation	**α if Item Deleted**
PCL.C_1	,722	,975
PCL.C_2	,743	,975

PCL.C_3	,653	,975
PCL.C_4	,796	,975
PCL.C_5	,722	,975
PCL.C_6	,700	,975
PCL.C_7	,674	,975
PCL.C_8	,758	,975
PCL.C_9	,774	,975
PCL.C_10	,822	,974
PCL.C_11	,837	,974
PCL.C_12	,773	,975
PCL.C_13	,735	,975
PCL.C_14	,651	,975
PCL.C_15	,614	,975
PCL.C_16	,783	,974
PCL.C_17	,842	,974
PCL.C_18	,707	,975
PCL.C_19	,684	,975
PCL.C_20	,713	,975
PCL.C_21	,696	,975
PCL.C_22	,753	,975
PCL.C_23	,653	,975
PCL.C_24	,617	,975
PCL.C_25	,711	,975
PCL.C_26	,639	,975
PCL.C_27	,719	,975
PCL.C_28	,770	,975
PCL.C_29	,771	,974
PCL.C_30	,571	,975
PCL.C_31	,520	,975
PCL.C_32	,680	,975
PCL.C_33	,759	,974
PCL.C_34	,778	,974
PCL.C_35	,732	,975
PCL.C_36	,558	,975
PCL.C_37	,830	,974
PCL.C_38	,645	,975

Table 29. Coordinates of the Curve

Test Result Variable(s): PCL-C:M		
Positive if Greater Than or Equal To[a]	Sensitivity	1 - Specificity
-1,00	1,000	1,000
,50	1,000	,758
1,50	1,000	,692
2,50	1,000	,617
3,50	1,000	,600
4,50	1,000	,592
5,50	1,000	,558
6,50	1,000	,517
7,50	1,000	,508

8,50	1,000	,492
9,50	1,000	,467
10,50	1,000	,458
12,50	1,000	,442
15,00	1,000	,425
16,50	1,000	,417
18,50	1,000	,400
21,50	1,000	,383
23,50	1,000	,358
24,50	1,000	,350
25,50	1,000	,342
26,50	1,000	,325
29,00	1,000	,300
31,50	1,000	,275
32,50	1,000	,267
33,50	1,000	,258
34,50	1,000	,233
35,50	1,000	,225
37,00	1,000	,217
40,00	1,000	,208
42,50	1,000	,192
45,00	1,000	,175
48,00	1,000	,158
50,00	1,000	,150
52,00	1,000	,142
53,50	1,000	,133
54,50	1,000	,125
56,00	1,000	,100
58,00	1,000	,092
60,50	1,000	,083
63,50	1,000	,075
66,50	1,000	,067
69,00	1,000	,058
73,00	1,000	,050
76,50	1,000	,042
79,50	1,000	,033
82,50	**,875**	**,033**
86,00	,875	,025
90,50	,875	,017
92,50	,750	,017
95,00	,625	,017
99,00	,500	,017
101,50	,250	,017
103,50	,250	,008
108,00	,125	,008
118,00	,125	,000
126,00	,000	,000

a. The smallest cutoff value is the minimum observed test value minus 1, and the largest cutoff value is the maximum observed test value plus 1. All the other cutoff values are the averages of two consecutive ordered observed test values.